

## **WHAT IS BITCOIN?**

Bitcoin is a decentralized digital currency, also known as a cryptocurrency, that was invented in 2008 by an unknown person or group of people using the name Satoshi Nakamoto. It was released as an open-source software in 2009, following the global financial collapse of 2008/09.

Bitcoin transactions are verified by network nodes through cryptography and recorded in a public distributed ledger called a Timechain/Blockchain. These transactions, once recorded, are unalterable (immutable).

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## **Key Features of Bitcoin**

### **1. Decentralization:**

Bitcoin is not controlled by any central authority, such as a government or financial institution. Instead, it is maintained by a network of nodes (computers) that participate in the validation and recording of transactions. Thus, there is no central point of dependency, governance, failure, and attack. This Cardinal nomenclature eliminates the role of a 3rd party function and also helps to reduce the cost of financial settlements.

### **2. Limited Supply:**

The total supply of Bitcoin is capped at 21 million coins. This scarcity is designed to mimic precious metals like gold and is intended to create value over time. The limit of available Bitcoin and its programmed rate of generation/issuance are key factors to its price valuation over time when compared to its demand by the over 7 billion global population.

### **3. Pseudonymity:**

While Bitcoin transactions are recorded on a public ledger, the identities of the users involved are not directly revealed. Instead, transactions are linked to Bitcoin addresses, which are alphanumeric strings. Thus, it offers some level of financial privacy.

### **4. Security:**

Bitcoin uses cryptographic techniques to secure transactions and control the creation of new units. Blockchain technology ensures that once a transaction is recorded, it cannot be altered or tampered with. Today, the Bitcoin network is the most secure and decentralized computer architecture in the world.

### **5. Transparency:**

All Bitcoin transactions are recorded on the blockchain, which is publicly accessible. This transparency helps to prevent fraud and ensures the integrity of the system.

**6. Divisibility:**

Bitcoin can be divided into smaller units, with the smallest unit being a satoshi, which is one hundred millionth of a Bitcoin (0.00000001 BTC).

**7. Borderless:**

Bitcoin allows fast, permissionless, and seamless cross-border transactions. Thus, its users are not limited by time, bureaucracy, and location. Indeed, it offers financial inclusion and freedom.

**8. Global Financial Parity:**

Unlike national fiat currencies (e.g., the dollar, pound, euro, naira, etc.), 1 Bitcoin is the same anywhere in the world. For example, 1 Bitcoin in the USA is the same 1 Bitcoin in South Africa.

**9. Neutrality:**

Bitcoin is neutral and does not discriminate. It banks both the banked and unbanked populations of the world.

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## **Uses of Bitcoin**

Bitcoin can be used for various purposes, including as a medium of exchange, a store of value, and an investment. Since its inception in 2009, Bitcoin has gained significant attention and adoption, leading to the development of numerous other cryptocurrencies, blockchain-based technologies, and businesses.

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### **BITCOIN'S FIVE CORE VALUE PROPOSITIONS**

Bitcoin has five core value propositions that make it unique and powerful as a new form of money.

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#### **1. Decentralization – No One Controls Bitcoin**

Imagine a school where there's no single teacher in charge. Every student helps run the school by following shared rules.

That's how Bitcoin works! No single person, bank, or government controls Bitcoin. Instead, thousands of computers (called nodes) around the world work together to keep the system running.

### **Why is this important?**

- No government can shut Bitcoin down.
- No bank can change the rules or create more Bitcoin.
- The system is fair for everyone.

Bitcoin is "money by the people, for the people." It democratizes money.

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## **2. Permissionlessness – Anyone Can Use Bitcoin**

Imagine if you needed special permission to use money or a bank account. That wouldn't be fair, right?

With Bitcoin, you don't need anyone's approval to use it. Whether you are rich or poor, in a big city or a small village, you can send and receive Bitcoin without asking for permission.

### **Why is this important?**

- No bank can block you from using Bitcoin.
- Anyone with internet access can participate in the Bitcoin network.
- It gives financial freedom to people in countries where banks are corrupt or unreliable.

Bitcoin treats everyone equally – no ID, passport, or paperwork needed!

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## **3. Borderlessness – Bitcoin Works Everywhere**

Imagine trying to send money to another country. Banks might delay it for days and charge high fees.

Bitcoin is different. It works the same way in every country, whether you're in the UK, Nigeria, India, or the US. You can send Bitcoin to someone on the other side of the world in minutes without using banks or currency exchanges.

### **Why is this important?**

- There is no need for middlemen (banks, Western Union, PayPal, etc.).

- No waiting days for money transfers—Bitcoin moves 24/7.
- It's useful for businesses and people living in different countries.

Bitcoin is truly global money – it doesn't care about borders!

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## 4. Censorship Resistance – No One Can Stop Bitcoin Transactions

Imagine if someone could freeze your bank account just because they don't like you or your opinions.

With Bitcoin, no one can stop your transactions. The network doesn't rely on a central authority (like a bank or government), so no one can block or reverse a Bitcoin payment.

### Why is this important?

- People in countries with strict financial controls can still access money.
- Journalists, activists, and businesses can operate without fear of financial censorship.
- Governments cannot unfairly block people from using their own money.

Bitcoin gives true financial freedom – your money, your control!

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## 5. Fast, Immutable Financial Transactions – Bitcoin Can't Be Changed or Faked

Imagine writing something in permanent ink—no one can erase it.

That's how Bitcoin transactions work. Once a Bitcoin payment is confirmed, it cannot be changed or reversed.

### Why is this important?

- Fast – Transactions are processed in minutes, not days like traditional banks.
- Immutable – No one can alter the Bitcoin record after a transaction is confirmed.
- Secure – Fraud, chargebacks, and fake transactions are impossible.

There is no risk of fraud like with credit cards or banks.

Businesses can trust Bitcoin payments without worrying about chargebacks.

Bitcoin's ledger (blockchain) keeps a permanent, tamper-proof history of transactions.

Bitcoin is like a financial truth machine—it records everything and cannot be changed!

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## Conclusion

Bitcoin is not just digital money—it's a revolutionary financial system built on fairness, freedom, and security.

Its five core strengths make it superior to traditional fiat currencies.

These qualities make Bitcoin the most powerful form of money ever created. It puts financial control back in the hands of the people.

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### **HOW IS BITCOIN A NEW TYPE OF MONEY?**

Bitcoin follows rules that make it work like "sound money," meaning it cannot be easily created or destroyed. Let's compare it to the money we use every day:

Because Bitcoin has a limited supply and no central control, many people call it "digital gold." Just like gold, it is valuable because:

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#### **1. It's Rare**

Only 21 million Bitcoin will ever exist. Its supply is capped, and the issuance rate halves every 4 years.

#### **2. It's Secure**

Nobody can fake or steal Bitcoin easily.

#### **3. It's Useful**

Bitcoin can be traded globally without borders or restrictions.

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### **Why is Bitcoin Valuable?**

Bitcoin is valuable for many reasons:

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## **1. It Can't Be Controlled by Governments or Banks**

No one can freeze your Bitcoin or stop you from using it.

## **2. It's Easy to Send Money Anywhere**

You can send Bitcoin to someone in another country without waiting for banks or paying high fees.

## **3. It's a Hedge Against Inflation**

Since governments can print more paper money (which reduces its value), Bitcoin protects your savings because no one can create more of it.

## **4. It's Transparent and Secure**

Every transaction is recorded on the blockchain, and no one can secretly change the records.

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### **How Does Bitcoin Technology Work?**

Bitcoin uses a blockchain, which is like a magical notebook shared by millions of computers worldwide. Here's how it works:

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## **1. People Send Bitcoin**

Imagine Alice wants to send 1 Bitcoin to Bob.

## **2. The Transaction is Verified**

Special computers (called miners) check if Alice really has 1 Bitcoin to send.

## **3. The Transaction is Recorded in a Block**

This block joins other blocks, forming a long chain (the blockchain).

## **4. Everyone Updates Their Notebook**

Every computer with a copy of the blockchain updates itself with the new transaction.

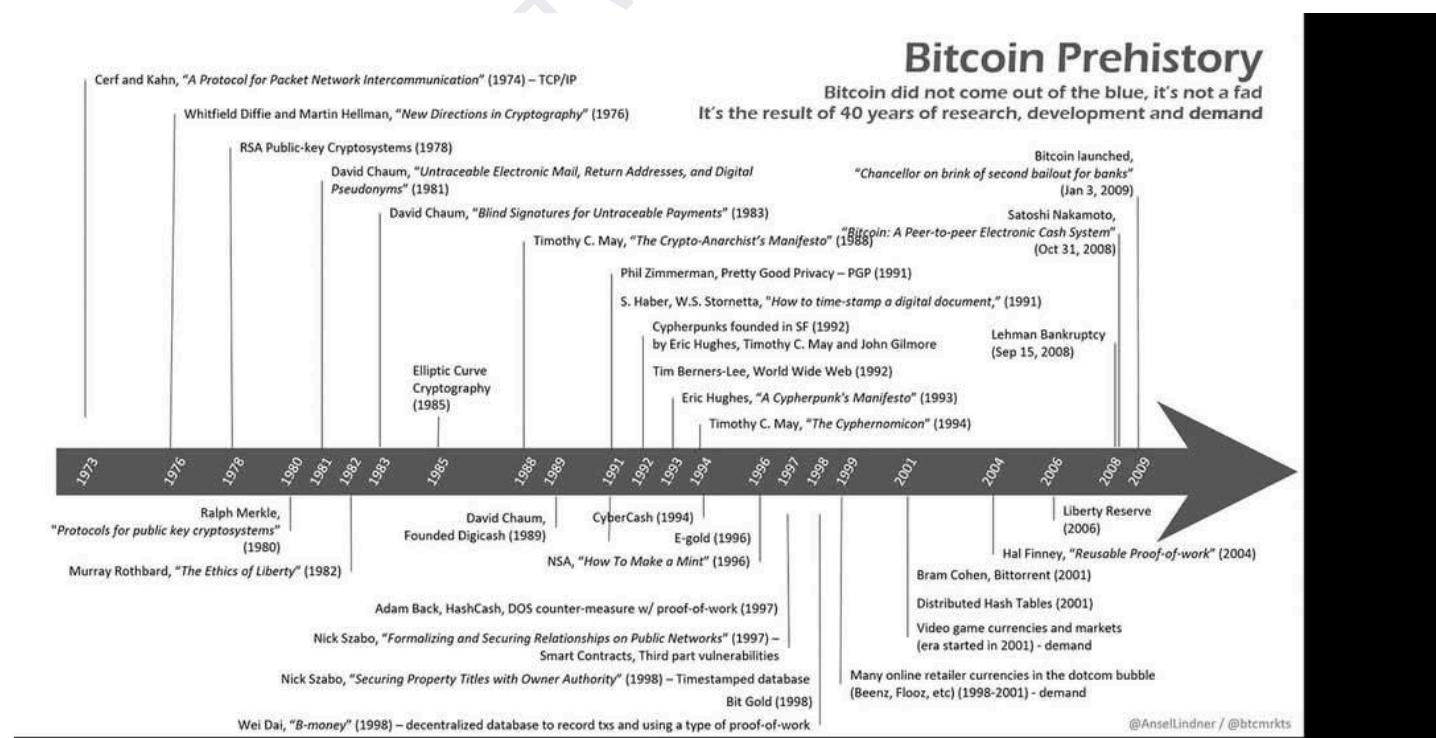
Because of this system, Bitcoin is:

- **Transparent:** Anyone can see transactions happening.
- **Secure:** Changing the records is nearly impossible. There is no history of hacks in its 16 years of enabling financial transactions and settlements.
- **Reliable:** Bitcoin runs 24/7 without needing banks or companies to control it.

## In Summary

Bitcoin is like digital gold—a rare, secure, and powerful form of money that belongs to everyone. The Bitcoin Whitepaper explained how it works, and over time, people realized it could change the way money works around the world.

With Bitcoin, you don't need a bank to save or send money, and no one can stop you from using it. That's why many people believe it's the future of money.



Graphics Of Technological Journey Of Bitcoin

# Bitcoin: A Peer-to-Peer Electronic Cash System

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**Abstract.** A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

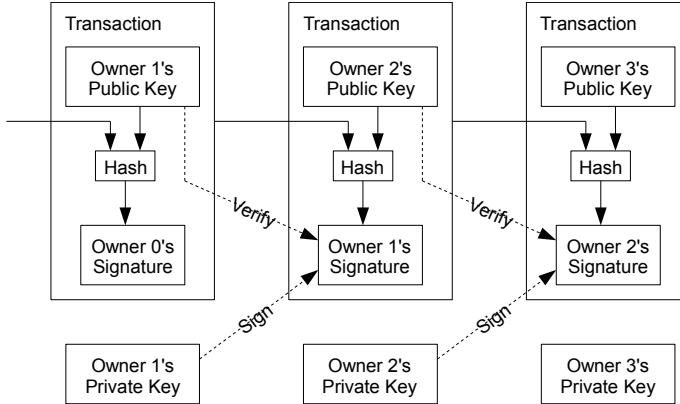
## 1. Introduction

Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility for small casual transactions, and there is a broader cost in the loss of ability to make non-reversible payments for non-reversible services. With the possibility of reversal, the need for trust spreads. Merchants must be wary of their customers, hassling them for more information than they would otherwise need. A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.

What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers. In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions. The system is secure as long as honest nodes collectively control more CPU power than any cooperating group of attacker nodes.

## 2. Transactions

We define an electronic coin as a chain of digital signatures. Each owner transfers the coin to the next by digitally signing a hash of the previous transaction and the public key of the next owner and adding these to the end of the coin. A payee can verify the signatures to verify the chain of ownership.

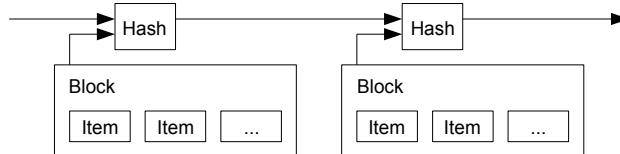


The problem of course is the payee can't verify that one of the owners did not double-spend the coin. A common solution is to introduce a trusted central authority, or mint, that checks every transaction for double spending. After each transaction, the coin must be returned to the mint to issue a new coin, and only coins issued directly from the mint are trusted not to be double-spent. The problem with this solution is that the fate of the entire money system depends on the company running the mint, with every transaction having to go through them, just like a bank.

We need a way for the payee to know that the previous owners did not sign any earlier transactions. For our purposes, the earliest transaction is the one that counts, so we don't care about later attempts to double-spend. The only way to confirm the absence of a transaction is to be aware of all transactions. In the mint based model, the mint was aware of all transactions and decided which arrived first. To accomplish this without a trusted party, transactions must be publicly announced [1], and we need a system for participants to agree on a single history of the order in which they were received. The payee needs proof that at the time of each transaction, the majority of nodes agreed it was the first received.

## 3. Timestamp Server

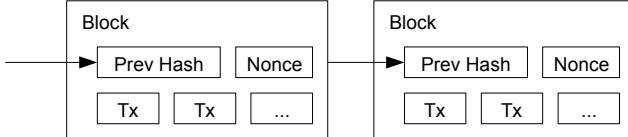
The solution we propose begins with a timestamp server. A timestamp server works by taking a hash of a block of items to be timestamped and widely publishing the hash, such as in a newspaper or Usenet post [2-5]. The timestamp proves that the data must have existed at the time, obviously, in order to get into the hash. Each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp reinforcing the ones before it.



## 4. Proof-of-Work

To implement a distributed timestamp server on a peer-to-peer basis, we will need to use a proof-of-work system similar to Adam Back's Hashcash [6], rather than newspaper or Usenet posts. The proof-of-work involves scanning for a value that when hashed, such as with SHA-256, the hash begins with a number of zero bits. The average work required is exponential in the number of zero bits required and can be verified by executing a single hash.

For our timestamp network, we implement the proof-of-work by incrementing a nonce in the block until a value is found that gives the block's hash the required zero bits. Once the CPU effort has been expended to make it satisfy the proof-of-work, the block cannot be changed without redoing the work. As later blocks are chained after it, the work to change the block would include redoing all the blocks after it.



The proof-of-work also solves the problem of determining representation in majority decision making. If the majority were based on one-IP-address-one-vote, it could be subverted by anyone able to allocate many IPs. Proof-of-work is essentially one-CPU-one-vote. The majority decision is represented by the longest chain, which has the greatest proof-of-work effort invested in it. If a majority of CPU power is controlled by honest nodes, the honest chain will grow the fastest and outpace any competing chains. To modify a past block, an attacker would have to redo the proof-of-work of the block and all blocks after it and then catch up with and surpass the work of the honest nodes. We will show later that the probability of a slower attacker catching up diminishes exponentially as subsequent blocks are added.

To compensate for increasing hardware speed and varying interest in running nodes over time, the proof-of-work difficulty is determined by a moving average targeting an average number of blocks per hour. If they're generated too fast, the difficulty increases.

## 5. Network

The steps to run the network are as follows:

- 1) New transactions are broadcast to all nodes.
- 2) Each node collects new transactions into a block.
- 3) Each node works on finding a difficult proof-of-work for its block.
- 4) When a node finds a proof-of-work, it broadcasts the block to all nodes.
- 5) Nodes accept the block only if all transactions in it are valid and not already spent.
- 6) Nodes express their acceptance of the block by working on creating the next block in the chain, using the hash of the accepted block as the previous hash.

Nodes always consider the longest chain to be the correct one and will keep working on extending it. If two nodes broadcast different versions of the next block simultaneously, some nodes may receive one or the other first. In that case, they work on the first one they received, but save the other branch in case it becomes longer. The tie will be broken when the next proof-of-work is found and one branch becomes longer; the nodes that were working on the other branch will then switch to the longer one.

New transaction broadcasts do not necessarily need to reach all nodes. As long as they reach many nodes, they will get into a block before long. Block broadcasts are also tolerant of dropped messages. If a node does not receive a block, it will request it when it receives the next block and realizes it missed one.

## 6. Incentive

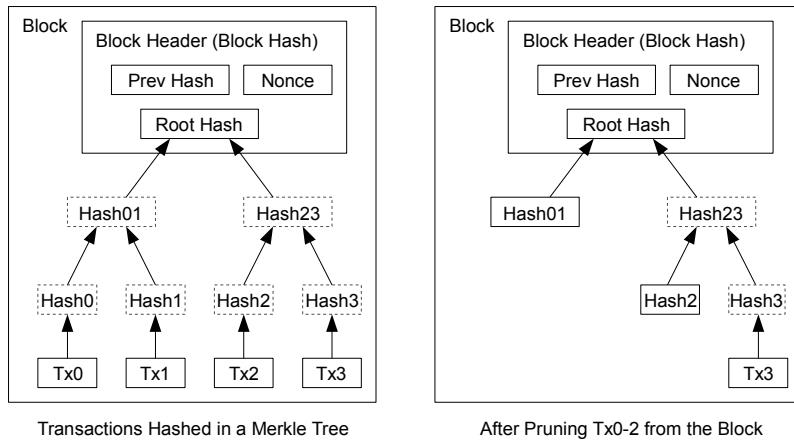
By convention, the first transaction in a block is a special transaction that starts a new coin owned by the creator of the block. This adds an incentive for nodes to support the network, and provides a way to initially distribute coins into circulation, since there is no central authority to issue them. The steady addition of a constant of amount of new coins is analogous to gold miners expending resources to add gold to circulation. In our case, it is CPU time and electricity that is expended.

The incentive can also be funded with transaction fees. If the output value of a transaction is less than its input value, the difference is a transaction fee that is added to the incentive value of the block containing the transaction. Once a predetermined number of coins have entered circulation, the incentive can transition entirely to transaction fees and be completely inflation free.

The incentive may help encourage nodes to stay honest. If a greedy attacker is able to assemble more CPU power than all the honest nodes, he would have to choose between using it to defraud people by stealing back his payments, or using it to generate new coins. He ought to find it more profitable to play by the rules, such rules that favour him with more new coins than everyone else combined, than to undermine the system and the validity of his own wealth.

## 7. Reclaiming Disk Space

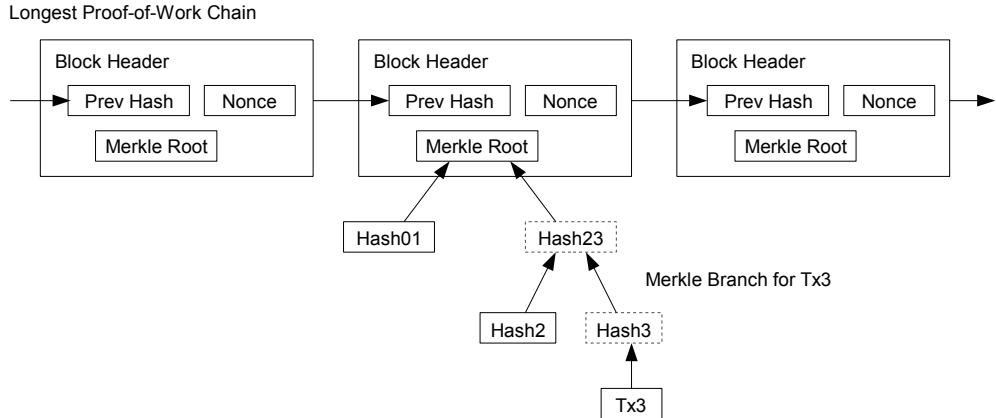
Once the latest transaction in a coin is buried under enough blocks, the spent transactions before it can be discarded to save disk space. To facilitate this without breaking the block's hash, transactions are hashed in a Merkle Tree [7][2][5], with only the root included in the block's hash. Old blocks can then be compacted by stubbing off branches of the tree. The interior hashes do not need to be stored.



A block header with no transactions would be about 80 bytes. If we suppose blocks are generated every 10 minutes,  $80 \text{ bytes} * 6 * 24 * 365 = 4.2\text{MB}$  per year. With computer systems typically selling with 2GB of RAM as of 2008, and Moore's Law predicting current growth of 1.2GB per year, storage should not be a problem even if the block headers must be kept in memory.

## 8. Simplified Payment Verification

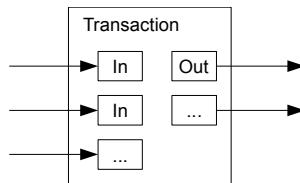
It is possible to verify payments without running a full network node. A user only needs to keep a copy of the block headers of the longest proof-of-work chain, which he can get by querying network nodes until he's convinced he has the longest chain, and obtain the Merkle branch linking the transaction to the block it's timestamped in. He can't check the transaction for himself, but by linking it to a place in the chain, he can see that a network node has accepted it, and blocks added after it further confirm the network has accepted it.



As such, the verification is reliable as long as honest nodes control the network, but is more vulnerable if the network is overpowered by an attacker. While network nodes can verify transactions for themselves, the simplified method can be fooled by an attacker's fabricated transactions for as long as the attacker can continue to overpower the network. One strategy to protect against this would be to accept alerts from network nodes when they detect an invalid block, prompting the user's software to download the full block and alerted transactions to confirm the inconsistency. Businesses that receive frequent payments will probably still want to run their own nodes for more independent security and quicker verification.

## 9. Combining and Splitting Value

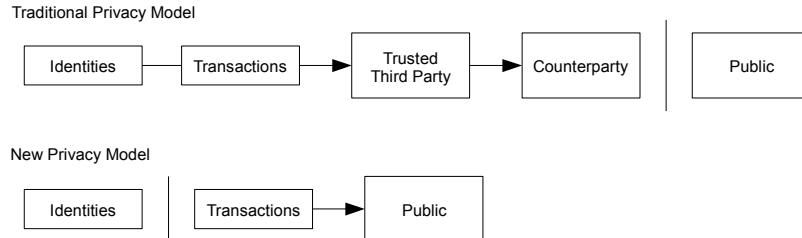
Although it would be possible to handle coins individually, it would be unwieldy to make a separate transaction for every cent in a transfer. To allow value to be split and combined, transactions contain multiple inputs and outputs. Normally there will be either a single input from a larger previous transaction or multiple inputs combining smaller amounts, and at most two outputs: one for the payment, and one returning the change, if any, back to the sender.



It should be noted that fan-out, where a transaction depends on several transactions, and those transactions depend on many more, is not a problem here. There is never the need to extract a complete standalone copy of a transaction's history.

## 10. Privacy

The traditional banking model achieves a level of privacy by limiting access to information to the parties involved and the trusted third party. The necessity to announce all transactions publicly precludes this method, but privacy can still be maintained by breaking the flow of information in another place: by keeping public keys anonymous. The public can see that someone is sending an amount to someone else, but without information linking the transaction to anyone. This is similar to the level of information released by stock exchanges, where the time and size of individual trades, the "tape", is made public, but without telling who the parties were.



As an additional firewall, a new key pair should be used for each transaction to keep them from being linked to a common owner. Some linking is still unavoidable with multi-input transactions, which necessarily reveal that their inputs were owned by the same owner. The risk is that if the owner of a key is revealed, linking could reveal other transactions that belonged to the same owner.

## 11. Calculations

We consider the scenario of an attacker trying to generate an alternate chain faster than the honest chain. Even if this is accomplished, it does not throw the system open to arbitrary changes, such as creating value out of thin air or taking money that never belonged to the attacker. Nodes are not going to accept an invalid transaction as payment, and honest nodes will never accept a block containing them. An attacker can only try to change one of his own transactions to take back money he recently spent.

The race between the honest chain and an attacker chain can be characterized as a Binomial Random Walk. The success event is the honest chain being extended by one block, increasing its lead by +1, and the failure event is the attacker's chain being extended by one block, reducing the gap by -1.

The probability of an attacker catching up from a given deficit is analogous to a Gambler's Ruin problem. Suppose a gambler with unlimited credit starts at a deficit and plays potentially an infinite number of trials to try to reach breakeven. We can calculate the probability he ever reaches breakeven, or that an attacker ever catches up with the honest chain, as follows [8]:

$p$  = probability an honest node finds the next block

$q$  = probability the attacker finds the next block

$q_z$  = probability the attacker will ever catch up from  $z$  blocks behind

$$q_z = \begin{cases} 1 & \text{if } p \leq q \\ (q/p)^z & \text{if } p > q \end{cases}$$

Given our assumption that  $p > q$ , the probability drops exponentially as the number of blocks the attacker has to catch up with increases. With the odds against him, if he doesn't make a lucky lunge forward early on, his chances become vanishingly small as he falls further behind.

We now consider how long the recipient of a new transaction needs to wait before being sufficiently certain the sender can't change the transaction. We assume the sender is an attacker who wants to make the recipient believe he paid him for a while, then switch it to pay back to himself after some time has passed. The receiver will be alerted when that happens, but the sender hopes it will be too late.

The receiver generates a new key pair and gives the public key to the sender shortly before signing. This prevents the sender from preparing a chain of blocks ahead of time by working on it continuously until he is lucky enough to get far enough ahead, then executing the transaction at that moment. Once the transaction is sent, the dishonest sender starts working in secret on a parallel chain containing an alternate version of his transaction.

The recipient waits until the transaction has been added to a block and  $z$  blocks have been linked after it. He doesn't know the exact amount of progress the attacker has made, but assuming the honest blocks took the average expected time per block, the attacker's potential progress will be a Poisson distribution with expected value:

$$\lambda = z \frac{q}{p}$$

To get the probability the attacker could still catch up now, we multiply the Poisson density for each amount of progress he could have made by the probability he could catch up from that point:

$$\sum_{k=0}^{\infty} \frac{\lambda^k e^{-\lambda}}{k!} \begin{cases} (q/p)^{(z-k)} & \text{if } k \leq z \\ 1 & \text{if } k > z \end{cases}$$

Rearranging to avoid summing the infinite tail of the distribution...

$$1 - \sum_{k=0}^z \frac{\lambda^k e^{-\lambda}}{k!} (1 - (q/p)^{(z-k)})$$

Converting to C code...

```
#include <math.h>
double AttackerSuccessProbability(double q, int z)
{
    double p = 1.0 - q;
    double lambda = z * (q / p);
    double sum = 1.0;
    int i, k;
    for (k = 0; k <= z; k++)
    {
        double poisson = exp(-lambda);
        for (i = 1; i <= k; i++)
            poisson *= lambda / i;
        sum -= poisson * (1 - pow(q / p, z - k));
    }
    return sum;
}
```

Running some results, we can see the probability drop off exponentially with  $z$ .

```

q=0.1
z=0    P=1.000000
z=1    P=0.2045873
z=2    P=0.0509779
z=3    P=0.0131722
z=4    P=0.0034552
z=5    P=0.0009137
z=6    P=0.0002428
z=7    P=0.0000647
z=8    P=0.0000173
z=9    P=0.0000046
z=10   P=0.0000012

q=0.3
z=0    P=1.000000
z=5    P=0.1773523
z=10   P=0.0416605
z=15   P=0.0101008
z=20   P=0.0024804
z=25   P=0.0006132
z=30   P=0.0001522
z=35   P=0.0000379
z=40   P=0.0000095
z=45   P=0.0000024
z=50   P=0.0000006

```

Solving for  $P$  less than 0.1%...

```

P < 0.001
q=0.10  z=5
q=0.15  z=8
q=0.20  z=11
q=0.25  z=15
q=0.30  z=24
q=0.35  z=41
q=0.40  z=89
q=0.45  z=340

```

## 12. Conclusion

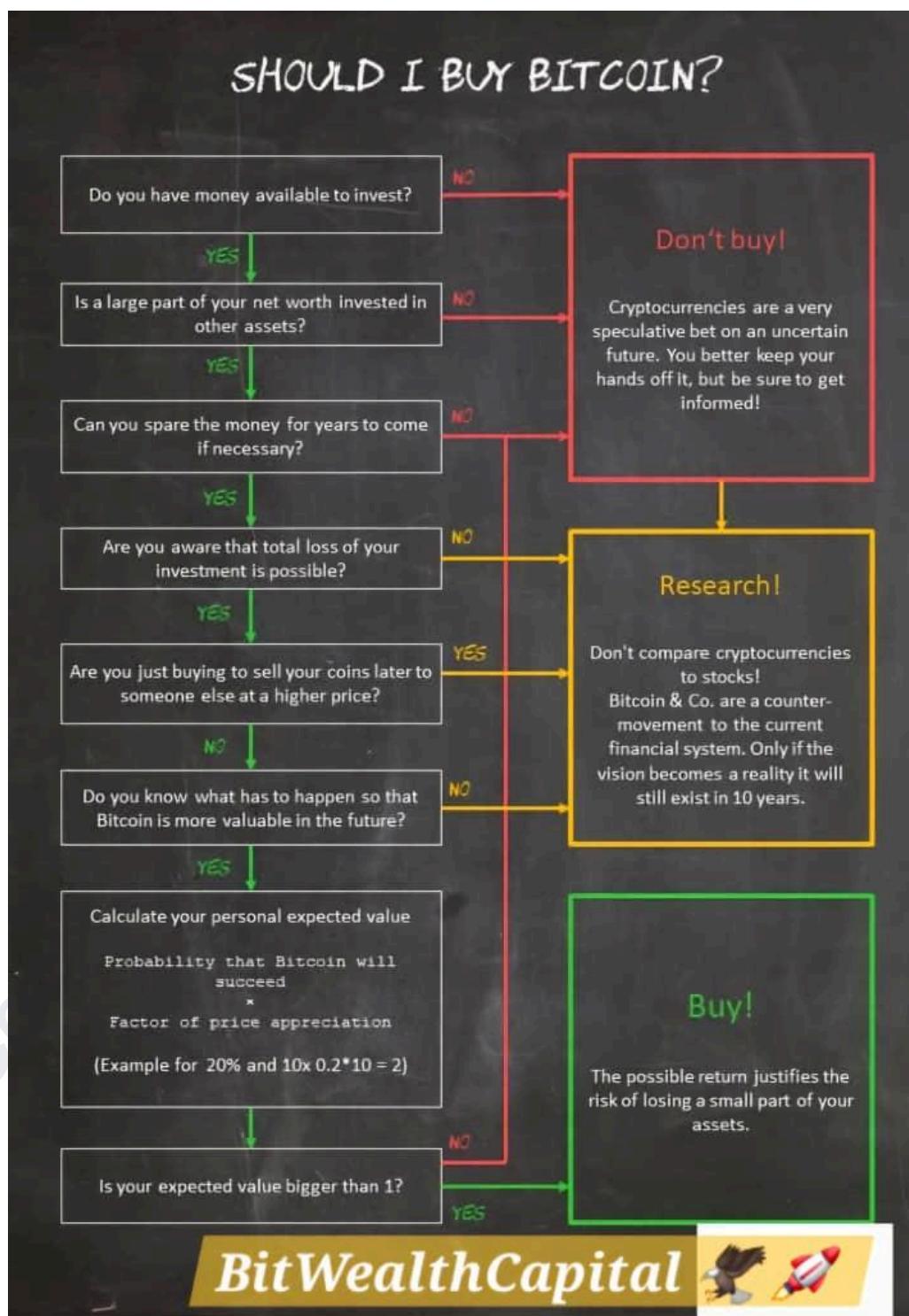
We have proposed a system for electronic transactions without relying on trust. We started with the usual framework of coins made from digital signatures, which provides strong control of ownership, but is incomplete without a way to prevent double-spending. To solve this, we proposed a peer-to-peer network using proof-of-work to record a public history of transactions that quickly becomes computationally impractical for an attacker to change if honest nodes control a majority of CPU power. The network is robust in its unstructured simplicity. Nodes work all at once with little coordination. They do not need to be identified, since messages are not routed to any particular place and only need to be delivered on a best effort basis. Nodes can leave and rejoin the network at will, accepting the proof-of-work chain as proof of what happened while they were gone. They vote with their CPU power, expressing their acceptance of valid blocks by working on extending them and rejecting invalid blocks by refusing to work on them. Any needed rules and incentives can be enforced with this consensus mechanism.

## References

- [1] W. Dai, "b-money," <http://www.weidai.com/bmoney.txt>, 1998.
- [2] H. Massias, X.S. Avila, and J.-J. Quisquater, "Design of a secure timestamping service with minimal trust requirements," In *20th Symposium on Information Theory in the Benelux*, May 1999.
- [3] S. Haber, W.S. Stornetta, "How to time-stamp a digital document," In *Journal of Cryptology*, vol 3, no 2, pages 99-111, 1991.
- [4] D. Bayer, S. Haber, W.S. Stornetta, "Improving the efficiency and reliability of digital time-stamping," In *Sequences II: Methods in Communication, Security and Computer Science*, pages 329-334, 1993.
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- [6] A. Back, "Hashcash - a denial of service counter-measure," <http://www.hashcash.org/papers/hashcash.pdf>, 2002.
- [7] R.C. Merkle, "Protocols for public key cryptosystems," In *Proc. 1980 Symposium on Security and Privacy*, IEEE Computer Society, pages 122-133, April 1980.
- [8] W. Feller, "An introduction to probability theory and its applications," 1957.

**EXTENSIVE DETAILS OF BITCOIN BY A BITCOIN CORE DEVELOPER, the famous Jamieson Lopp.**

<https://lopp.net/bitcoin.html>



## **RECOMMENDED E-BOOKS AND WHERE TO PURCHASE THEM**

### **1. The Internet of Money (Volumes 1 & 2) by Andreas M. Antonopoulos**

- **Author's Website:** Andreas Antonopoulos offers these volumes in multiple formats (PDF, EPUB, MOBI) on his official website.
  - Volume 1: <https://aantonop.com/product/the-internet-of-money-volume-1-english>
  - Volume 2: <https://aantonop.com/product/the-internet-of-money-volume-2-english>

### **2. Digital Gold by Nathaniel Popper**

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SAIFEDEAN AMMOUS

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THE

# BITCOIN

# STANDARD

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The DECENTRALIZED ALTERNATIVE  
to CENTRAL BANKING



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# **THE BITCOIN STANDARD**

***The Decentralized Alternative to Central Banking***

**Saifedean Ammous**

**WILEY**

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*To my wife and daughter, who give me a reason to write.*

*And to Satoshi Nakamoto, who gave me something worth writing about.*

## **About the Author**

Saifedean Ammous is a Professor of Economics at the Lebanese American University and member of the Center on Capitalism and Society at Columbia University. He holds a PhD in Sustainable Development from Columbia University.

# **Foreword**

**by Nassim Nicholas Taleb**

Let us follow the logic of things from the beginning. Or, rather, from the end: modern times. We are, as I am writing these lines, witnessing a complete riot against some class of experts, in domains that are too difficult for us to understand, such as macroeconomic reality, and in which not only is the expert not an expert, but he doesn't know it. That previous Federal Reserve bosses Greenspan and Bernanke, had little grasp of empirical reality is something we only discovered too late: one can macroBS longer than microBS, which is why we need to be careful of whom to endow with centralized macro decisions.

What makes it worse is that all central banks operated under the same model, making it a perfect monoculture.

In complex domains, expertise doesn't concentrate: under organic reality, things work in a distributed way, as F. A. Hayek has convincingly demonstrated. But Hayek used the notion of distributed knowledge. Well, it looks like we do not even need the "knowledge" part for things to work well. Nor do we need individual rationality. All we need is structure.

It doesn't mean all participants have a democratic share in decisions. One motivated participant can disproportionately move the needle (what I have studied as the asymmetry of the minority rule). But every participant has the option to be that player.

Somehow, under scale transformation, a miraculous effect emerges: rational markets do not require any individual trader to be rational. In fact they work well under zero intelligence—a zero-intelligence crowd, under the right design, works better than a Soviet-style management composed of maximally intelligent humans.

Which is why Bitcoin is an excellent idea. It fulfills the needs of the complex system, not because it is a cryptocurrency, but precisely because it has no owner, no authority that can decide on its fate. It is owned by the crowd, its users. And it now has a track record of several years, enough for it to be an animal in its own right.

For other cryptocurrencies to compete, they need to have such a Hayekian property.

Bitcoin is a currency without a government. But, one may ask, didn't we have gold, silver, and other metals, another class of currencies without a government? Not quite. When you trade gold, you trade "loco" Hong Kong and end up receiving a claim on a stock there, which you might need to move to New Jersey. Banks control the custodian game and governments control banks (or, rather, bankers and government officials are, to be polite, tight together). So Bitcoin has a huge advantage over gold in transactions: clearance does not require a specific custodian. No government can control what code you have in your head.

Finally, Bitcoin will go through hiccups. It may fail; but then it will be easily reinvented as we now know how it works. In its present state, it may not be convenient for transactions, not good enough to buy your decaffeinated espresso macchiato at your local virtue-signaling coffee chain. It may be too volatile to be a currency for now. But it is the first organic currency.

But its mere existence is an insurance policy that will remind governments that the last object the establishment could control, namely, the currency, is no longer their monopoly. This gives us, the crowd, an insurance policy against an Orwellian future.

Nassim Nicholas Taleb  
January 22, 2018

# Prologue

On November 1, 2008, a computer programmer going by the pseudonym Satoshi Nakamoto sent an email to a cryptography mailing list to announce that he had produced a “new electronic cash system that's fully peer-to-peer, with no trusted third party.”<sup>1</sup> He copied the abstract of the paper explaining the design, and a link to it online. In essence, Bitcoin offered a payment network with its own native currency, and used a sophisticated method for members to verify all transactions without having to trust in any single member of the network. The currency was issued at a predetermined rate to reward the members who spent their processing power on verifying the transactions, thus providing a reward for their work. The startling thing about this invention was that, contrary to many other previous attempts at setting up a digital cash, it actually worked.

While a clever and neat design, there wasn't much to suggest that such a quirky experiment would interest anyone outside the circles of cryptography geeks. For months this was the case, as barely a few dozen users worldwide were joining the network and engaging in mining and sending each other coins that began to acquire the status of collectibles, albeit in digital form.

But in October 2009, an Internet exchange<sup>2</sup> sold 5,050 bitcoins for \$5.02, at a price of \$1 for 1,006 bitcoins, to register the first purchase of a bitcoin with money.<sup>3</sup> The price was calculated by measuring the value of the electricity needed to produce a bitcoin. In economic terms, this seminal moment was arguably the most significant in Bitcoin's life. Bitcoin was no longer just a digital game being played within a fringe community of programmers; it had now become a market good with a price, indicating that someone somewhere had developed a positive valuation for it. On May 22, 2010, someone else paid 10,000 bitcoins to buy two pizza pies worth \$25, representing the first time that bitcoin was used as a medium of exchange. The token had needed seven months to transition from being a market good to being a medium of exchange.

Since then, the Bitcoin network has grown in the number of users and transactions, and the processing power dedicated to it, while the value of its currency has risen quickly, exceeding \$7,000 per bitcoin as of November 2017.<sup>4</sup> After eight years, it is clear that this invention is no longer just an online game, but a technology that has passed the market test and is being used by many for real-world purposes, with its exchange rate being regularly

featured on TV, in newspapers, and on websites along with the exchange rates of national currencies.

Bitcoin can be best understood as distributed software that allows for transfer of value using a currency protected from unexpected inflation without relying on trusted third parties. In other words, Bitcoin automates the functions of a modern central bank and makes them predictable and virtually immutable by programming them into code decentralized among thousands of network members, none of whom can alter the code without the consent of the rest. This makes Bitcoin the first demonstrably reliable operational example of *digital cash* and *digital hard money*. While Bitcoin is a new invention of the digital age, the problems it purports to solve—namely, providing a form of money that is under the full command of its owner and likely to hold its value in the long run—are as old as human society itself. This book presents a conception of these problems based on years of studying this technology and the economic problems it solves, and how societies have previously found solutions for them throughout history. My conclusion may surprise those who label Bitcoin a scam or ruse of speculators and promoters out to make a quick buck. Indeed, Bitcoin improves on earlier “store of value” solutions, and Bitcoin's suitability as the sound money of a digital age may catch naysayers by surprise.

History can foreshadow what's to come, particularly when examined closely. And time will tell just how sound the case made in this book is. As it must, the first part of the book explains money, its function and properties. As an economist with an engineering background, I have always sought to understand a technology in terms of the problems it purports to solve, which allows for the identification of its functional essence and its separation from incidental, cosmetic, and insignificant characteristics. By understanding the problems money attempts to solve, it becomes possible to elucidate what makes for sound and unsound money, and to apply that conceptual framework to understand how and why various goods, such as seashells, beads, metals, and government money, have served the function of money, and how and why they may have failed at it or served society's purposes to store value and exchange it.

The second part of the book discusses the individual, social, and global implications of sound and unsound forms of money throughout history. Sound money allows people to think about the long term and to save and invest more for the future. Saving and investing for the long run are the key to capital accumulation and the advance of human civilization. Money is the information and measurement system of an economy, and sound money is

what allows trade, investment, and entrepreneurship to proceed on a solid basis, whereas unsound money throws these processes into disarray. Sound money is also an essential element of a free society as it provides for an effective bulwark against despotic government.

The third section of the book explains the operation of the Bitcoin network and its most salient economic characteristics, and analyzes the possible uses of Bitcoin as a form of sound money, discussing some use cases which Bitcoin does not serve well, as well as addressing some of the most common misunderstandings and misconceptions surrounding it.

This book is written to help the reader understand the economics of Bitcoin and how it serves as the digital iteration of the many technologies used to fulfill the functions of money throughout history. This book is not an advertisement or invitation to buy into the bitcoin currency. Far from it. The value of bitcoin is likely to remain volatile, at least for a while; the Bitcoin network may yet succeed or fail, for whatever foreseeable or unforeseeable reasons; and using it requires technical competence and carries risks that make it unsuited for many people. This book does not offer investment advice, but aims at helping elucidate the economic properties of the network and its operation, to allow readers an informed understanding before deciding whether they want to use it.

Only with such an understanding, and only after extensive and thorough research into the practical operational aspects of owning and storing bitcoins, should anyone consider holding value in Bitcoin. While bitcoin's rise in market value may make it appear like a no-brainer as an investment, a closer look at the myriad hacks, attacks, scams, and security failures that have cost people their bitcoins provides a sobering warning to anyone who thinks that owning bitcoins provides a guaranteed profit. Should you come out of reading this book thinking that the bitcoin currency is something worth owning, your first investment should not be in buying bitcoins, but in time spent understanding how to buy, store, and own bitcoins securely. It is the inherent nature of Bitcoin that such knowledge cannot be delegated or outsourced. There is no alternative to personal responsibility for anyone interested in using this network, and that is the real investment that needs to be made to get into Bitcoin.

## Notes

<sup>1</sup> The full email can be found on the Satoshi Nakamoto Institute archive of all known Satoshi Nakamoto writings, available at [www.nakamotoinstitute.org](http://www.nakamotoinstitute.org)

2 The now-defunct New Liberty Standard.

3 Nathaniel Popper, *Digital Gold* (Harper, 2015).

4 In other words, in the eight years it has been a market commodity, a bitcoin has appreciated around almost eight million-fold, or, precisely 793,513,944% from its first price of \$0.000994 to its all-time high at the time of writing, \$7,888.

# Chapter 1

## Money

Bitcoin is the newest technology to serve the function of money—an invention leveraging the technological possibilities of the digital age to solve a problem that has persisted for all of humanity's existence: how to move economic value across time and space. In order to understand Bitcoin, one must first understand money, and to understand money, there is no alternative to the study of the function and history of money.

The simplest way for people to exchange value is to exchange valuable goods with one another. This process of *direct exchange* is referred to as barter, but is only practical in small circles with only a few goods and services produced. In a hypothetical economy of a dozen people isolated from the world, there is not much scope for specialization and trade, and it would be possible for individuals to each engage in the production of the most basic essentials of survival and exchange them among themselves directly. Barter has always existed in human society and continues to this day, but it is highly impractical and remains only in use in exceptional circumstances, usually involving people with extensive familiarity with one another.

In a more sophisticated and larger economy, the opportunity arises for individuals to specialize in the production of more goods and to exchange them with many more people—people with whom they have no personal relationships, strangers with whom it is utterly impractical to keep a running tally of goods, services, and favors. The larger the market, the more the opportunities for specialization and exchange, but also the bigger the problem of *coincidence of wants*—what you want to acquire is produced by someone who doesn't want what you have to sell. The problem is deeper than different requirements for different goods, as there are three distinct dimensions to the problem.

First, there is the lack of coincidence in scales: what you want may not be equal in value to what you have and dividing one of them into smaller units may not be practical. Imagine wanting to sell shoes for a house; you cannot buy the house in small pieces each equivalent in value to a pair of shoes, nor does the homeowner want to own all the shoes whose value is equivalent to that of the house. Second, there is the lack of coincidence in time frames: what you want to sell may be perishable but what you want to buy is more durable and valuable, making it hard to accumulate enough of your perishable good to

exchange for the durable good at one point in time. It is not easy to accumulate enough apples to be exchanged for a car at once, because they will rot before the deal can be completed. Third, there is the lack of coincidence of locations: you may want to sell a house in one place to buy a house in another location, and (most) houses aren't transportable. These three problems make direct exchange highly impractical and result in people needing to resort to performing more layers of exchange to satisfy their economic needs.

The only way around this is through *indirect exchange*: you try to find some other good that another person would want and find someone who will exchange it with you for what you want to sell. That intermediary good is a *medium of exchange*, and while any good could serve as the medium of exchange, as the scope and size of the economy grows it becomes impractical for people to constantly search for different goods that their counterpart is looking for, carrying out several exchanges for each exchange they want to conduct. A far more efficient solution will naturally emerge, if only because those who chance upon it will be far more productive than those who do not: a single medium of exchange (or at most a small number of media of exchange) emerges for everyone to trade their goods for. A good that assumes the role of a widely accepted medium of exchange is called money.

Being a medium of exchange is the quintessential function that defines money—in other words, it is a good purchased not to be consumed (a consumption good), nor to be employed in the production of other goods (an investment, or capital good), but primarily for the sake of being exchanged for other goods. While investment is also meant to produce income to be exchanged for other goods, it is distinct from money in three respects: first, it offers a return, which money does not offer; second, it always involves a risk of failure, whereas money is supposed to carry the least risk; third, investments are less liquid than money, necessitating significant transaction costs every time they are to be spent. This can help us understand why there will always be demand for money, and why holding investments can never entirely replace money. Human life is lived with uncertainty as a given, and humans cannot know for sure when they will need what amount of money.<sup>1</sup> It is common sense, and age-old wisdom in virtually all human cultures, for individuals to want to store some portion of their wealth in the form of money, because it is the most liquid holding possible, allowing the holder to quickly liquidate if she needs to, and because it involves less risk than any investment. The price for the convenience of holding money comes in the form of the forgone consumption that could have been had with it, and in the form of the forgone returns that could have been made from investing it.

From examining such human choices in market situations, Carl Menger, the father of the Austrian school of economics and founder of marginal analysis in economics, came up with an understanding of the key property that leads to a good being adopted freely as money on the market, and that is *salability*—the ease with which a good can be sold on the market whenever its holder desires, with the least loss in its price.<sup>2</sup>

There is nothing in principle that stipulates what should or should not be used as money. Any person choosing to purchase something not for its own sake, but with the aim of exchanging it for something else, is making it de facto money, and as people vary, so do their opinions on, and choices of, what constitutes money. Throughout human history, many things have served the function of money: gold and silver, most notably, but also copper, seashells, large stones, salt, cattle, government paper, precious stones, and even alcohol and cigarettes in certain conditions. People's choices are subjective, and so there is no “right” and “wrong” choice of money. There are, however, consequences to choices.

The relative salability of goods can be assessed in terms of how well they address the three facets of the problem of the lack of coincidence of wants mentioned earlier: their salability across scales, across space, and across time. A good that is salable across scales can be conveniently divided into smaller units or grouped into larger units, thus allowing the holder to sell it in whichever quantity he desires. Salability across space indicates an ease of transporting the good or carrying it along as a person travels, and this has led to good monetary media generally having high value per unit of weight. Both of these characteristics are not very hard to fulfill by a large number of goods that could potentially serve the function of money. It is the third element, salability across time, which is the most crucial.

A good's salability across time refers to its ability to hold value into the future, allowing the holder to store wealth in it, which is the second function of money: *store of value*. For a good to be salable across time it has to be immune to rot, corrosion, and other types of deterioration. It is safe to say anyone who thought he could store his wealth for the long term in fish, apples, or oranges learned the lesson the hard way, and likely had very little reason to worry about storing wealth for a while. Physical integrity through time, however, is a necessary but insufficient condition for salability across time, as it is possible for a good to lose its value significantly even if its physical condition remains unchanged. For the good to maintain its value, it is also necessary that the supply of the good not increase too drastically during the period during which the holder owns it. A common characteristic of forms of

money throughout history is the presence of some mechanism to restrain the production of new units of the good to maintain the value of the existing units. The relative difficulty of producing new monetary units determines the hardness of money: money whose supply is hard to increase is known as *hard money*, while *easy money* is money whose supply is amenable to large increases.

We can understand money's hardness through understanding two distinct quantities related to the supply of a good: (1) the *stock*, which is its existing supply, consisting of everything that has been produced in the past, minus everything that has been consumed or destroyed; and (2) the *flow*, which is the extra production that will be made in the next time period. The ratio between the stock and flow is a reliable indicator of a good's hardness as money, and how well it is suited to playing a monetary role. A good that has a low ratio of stock-to-flow is one whose existing supply can be increased drastically if people start using it as a store of value. Such a good would be unlikely to maintain value if chosen as a store of value. The higher the ratio of the stock to the flow, the more likely a good is to maintain its value over time and thus be more salable across time.<sup>3</sup>

If people choose a hard money, with a high stock-to-flow ratio, as a store of value, their purchasing of it to store it would increase demand for it, causing a rise in its price, which would incentivize its producers to make more of it. But because the flow is small compared to the existing supply, even a large increase in the new production is unlikely to depress the price significantly. On the other hand, if people chose to store their wealth in an easy money, with a low stock-to-flow ratio, it would be trivial for the producers of this good to create very large quantities of it that depress the price, devaluing the good, expropriating the wealth of the savers, and destroying the good's salability across time.

I like to call this the *easy money trap*: anything used as a store of value will have its supply increased, and anything whose supply can be easily increased will destroy the wealth of those who used it as a store of value. The corollary to this trap is that anything that is successfully used as money will have some natural or artificial mechanism that restricts the new flow of the good into the market, maintaining its value across time. It therefore follows that for something to assume a monetary role, it has to be costly to produce, otherwise the temptation to make money on the cheap will destroy the wealth of the savers, and destroy the incentive anyone has to save in this medium.

Whenever a natural, technological, or political development resulted in quickly increasing the new supply of a monetary good, the good would lose its

monetary status and be replaced by other media of exchange with a more reliably high stock-to-flow ratio, as will be discussed in the next chapter. Seashells were used as money when they were hard to find, loose cigarettes are used as money in prisons because they are hard to procure or produce, and with national currencies, the lower the rate of increase of the supply, the more likely the currency is to be held by individuals and maintain its value over time.

When modern technology made the importation and catching of seashells easy, societies that used them switched to metal or paper money, and when a government increases its currency's supply, its citizens shift to holding foreign currencies, gold, or other more reliable monetary assets. The twentieth century provided us an unfortunately enormous number of such tragic examples, particularly from developing countries. The monetary media that survived for longest are the ones that had very reliable mechanisms for restricting their supply growth—in other words, *hard money*. Competition is at all times alive between monetary media, and its outcomes are foretold through the effects of technology on the differing stock-to-flow ratio of the competitors, as will be demonstrated in the next chapter.

While people are generally free to use whichever goods they please as their media of exchange, the reality is that over time, the ones who use hard money will benefit most, by losing very little value due to the negligible new supply of their medium of exchange. Those who choose easy money will likely lose value as its supply grows quickly, bringing its market price down. Whether through prospective rational calculation, or the retrospective harsh lessons of reality, the majority of money and wealth will be concentrated with those who choose the hardest and most salable forms of money. But the hardness and salability of goods itself is not something that is static in time. As the technological capabilities of different societies and eras have varied, so has the hardness of various forms of money, and with it their salability. In reality, the choice of what makes the best money has always been determined by the technological realities of societies shaping the salability of different goods. Hence, Austrian economists are rarely dogmatic or objectivist in their definition of sound money, defining it not as a specific good or commodity, but as whichever money emerges freely chosen on the market by the people who transact with it, not imposed on them by coercive authority, and money whose value is determined through market interaction, and not through government imposition.<sup>4</sup> Free-market monetary competition is ruthlessly effective at producing sound money, as it only allows those who choose the right money to maintain considerable wealth over time. There is no need for government to

impose the hardest money on society; society will have uncovered it long before it concocted its government, and any governmental imposition, if it were to have any effect, would only serve to hinder the process of monetary competition.

The full individual and societal implications of hard and easy money are far more profound than mere financial loss or gain, and are a central theme of this book, discussed thoroughly in [Chapters 5, 6](#), and [7](#). Those who are able to save their wealth in a good store of value are likely to plan for the future more than those who have bad stores of value. The soundness of the monetary media, in terms of its ability to hold value over time, is a key determinant of how much individuals value the present over the future, or their *time preference*, a pivotal concept in this book.

Beyond the stock-to-flow ratio, another important aspect of a monetary medium's salability is its acceptability by others. The more people accept a monetary medium, the more liquid it is, and the more likely it is to be bought and sold without too much loss. In social settings with many peer-to-peer interactions, as computing protocols demonstrate, it is natural for a few standards to emerge to dominate exchange, because the gains from joining a network grow exponentially the larger the size of the network. Hence, Facebook and a handful of social media networks dominate the market, when many hundreds of almost identical networks were created and promoted. Similarly, any device that sends emails has to utilize the IMAP/POP3 protocol for receiving email, and the SMTP protocol for sending it. Many other protocols were invented, and they could be used perfectly well, but almost nobody uses them because to do so would preclude a user from interacting with almost everyone who uses email today, because they are on IMAP/POP3 and SMTP. Similarly, with money, it was inevitable that one, or a few, goods would emerge as the main medium of exchange, because the property of being exchanged easily matters the most. A medium of exchange, as mentioned before, is not acquired for its own properties, but for its salability.

Further, wide acceptance of a medium of exchange allows all prices to be expressed in its terms, which allows it to play the third function of money: *unit of account*. In an economy with no recognized medium of exchange, each good will have to be priced in terms of each other good, leading to a large number of prices, making economic calculations exceedingly difficult. In an economy with a medium of exchange, all prices of all goods are expressed in terms of the same unit of account. In this society money serves as a metric with which to measure interpersonal value; it rewards producers to the extent that they contribute value to others, and signifies to consumers how much

they need to pay to obtain their desired goods. Only with a uniform medium of exchange acting as a unit of account does complex economic calculation become possible, and with it comes the possibility for specialization into complex tasks, capital accumulation, and large markets. The operation of a market economy is dependent on prices, and prices, to be accurate, are dependent on a common medium of exchange, which reflects the relative scarcity of different goods. If this is easy money, the ability of its issuer to constantly increase its quantity will prevent it from accurately reflecting opportunity costs. Every unpredictable change in the quantity of money would distort its role as a measure of interpersonal value and a conduit for economic information.

Having a single medium of exchange allows the size of the economy to grow as large as the number of people willing to use that medium of exchange. The larger the size of the economy, the larger the opportunities for gains from exchange and specialization, and perhaps more significantly, the longer and more sophisticated the structure of production can become. Producers can specialize in producing capital goods that will only produce final consumer goods after longer intervals, which allows for more productive and superior products. In the primitive small economy, the structure of production of fish consisted of individuals going to the shore and catching fish with their bare hands, with the entire process taking a few hours from start to finish. As the economy grows, more sophisticated tools and capital goods are utilized, and the production of these tools stretches the duration of the production process significantly while also increasing its productivity. In the modern world, fish are caught with highly sophisticated boats that take years to build and are operated for decades. These boats are able to sail to seas that smaller boats cannot reach and thus produce fish that would otherwise not be available. The boats can brave inclement weather and continue production in very difficult conditions where less capital-intensive boats would be docked uselessly. As capital accumulation has made the process longer, it has become more productive per unit of labor, and it can produce superior products that were never possible for the primitive economy with basic tools and no capital accumulation. None of this would be possible without money playing the roles of medium of exchange to allow specialization; store of value to create future-orientation and incentivize individuals to direct resources to investment instead of consumption; and unit of account to allow economic calculation of profits and losses.

The history of money's evolution has seen various goods play the role of money, with varying degrees of hardness and soundness, depending on the technological capabilities of each era. From seashells to salt, cattle, silver,

gold, and gold-backed government money, ending with the current almost universal use of government-provided legal tender, every step of technological advance has allowed us to utilize a new form of money with added benefits, but, as always, new pitfalls. By examining the history of the tools and materials that have been employed in the role of money throughout history, we are able to discern the characteristics that make for good money and the ones that make for bad money. Only with this background in place can we then move on to understand how Bitcoin functions and what its role as a monetary medium is.

The next chapter examines the history of obscure artifacts and objects that have been used as money throughout history, from the Rai stones of Yap Island, to seashells in the Americas, glass beads in Africa, and cattle and salt in antiquity. Each of these media of exchange served the function of money for a period during which it had one of the best stock-to-flow ratios available to its population, but stopped when it lost that property. Understanding how and why is essential to understanding the future evolution of money and any likely role Bitcoin will play. [Chapter 3](#) moves to the analysis of monetary metals and how gold came to be the prime monetary metal in the world during the era of the gold standard at the end of the nineteenth century. [Chapter 4](#) analyzes the move to government money and its track record. After the economic and social implications of different kinds of money are discussed in [Chapters 5, 6, and 7](#), [Chapter 8](#) introduces the invention of Bitcoin and its monetary properties.

## Notes

[1](#) See Ludwig von Mises' *Human Action*, p. 250, for a discussion of how uncertainty about the future is the key driver of demand for holding money. With no uncertainty of the future, humans could know all their incomes and expenditures ahead of time and plan them optimally so they never have to hold any cash. But as uncertainty is an inevitable part of life, people must continue to hold money so they have the ability to spend without having to know the future.

[2](#) Carl Menger, "On the Origins of Money," *Economic Journal*, vol. 2 (1892): 239–255; translation by C. A. Foley.

[3](#) Antal Fekete, *Whither Gold?* (1997). Winner of the 1996 International Currency Prize, sponsored by Bank Lips.

[4](#) Joseph Salerno, *Money: Sound and Unsound* (Ludwig von Mises Institute,

2010), pp. xiv–xv.

## Chapter 2

### Primitive Moneys

Of all the historical forms of money I have come across, the one that most resembles the operation of Bitcoin is the ancient system based on Rai stones on Yap Island, today a part of the Federated States of Micronesia.

Understanding how the large circular stones carved from limestone functioned as money will help us explain Bitcoin's operation in [Chapter 8](#).

Understanding the remarkable tale of how the Rai stones lost their monetary role is an object lesson in how money loses its monetary status once it loses its hardness.

The Rai stones that constituted money were of various sizes, rising to large circular disks with a hole in the middle that weighed up to four metric tons. They were not native to Yap, which did not contain any limestone, and all of Yap's stones were brought in from neighboring Palau or Guam. The beauty and rarity of these stones made them desirable and venerable in Yap, but procuring them was very difficult as it involved a laborious process of quarrying and then shipping them with rafts and canoes. Some of these rocks required hundreds of people to transport them, and once they arrived on Yap, they were placed in a prominent location where everyone could see them. The owner of the stone could use it as a payment method without it having to move: all that would happen is that the owner would announce to all townsfolk that the stone's ownership has now moved to the recipient. The whole town would recognize the ownership of the stone and the recipient could then use it to make a payment whenever he so pleased. There was effectively no way of stealing the stone because its ownership was known by everybody.

For centuries, and possibly even millennia, this monetary system worked well for the Yapese. While the stones never moved, they had salability across space, as one could use them for payment anywhere on the island. The different sizes of the different stones provided some degree of salability across scales, as did the possibility of paying with fractions of a single stone. The stones' salability across time was assured for centuries by the difficulty and high cost of acquiring new stones, because they didn't exist in Yap and quarrying and shipping them from Palau was not easy. The very high cost of procuring new stones to Yap meant that the existing supply of stones was always far larger than whatever new supply could be produced at a given period of time,

making it prudent to accept them as a form of payment. In other words, Rai stones had a very high stock-to-flow ratio, and no matter how desirable they were, it was not easy for anyone to inflate the supply of stones by bringing in new rocks. Or, at least, that was the case until 1871, when an Irish-American captain by the name of David O'Keefe was shipwrecked on the shores of Yap and revived by the locals.<sup>1</sup>

O'Keefe saw a profit opportunity in taking coconuts from the island and selling them to producers of coconut oil, but he had no means to entice the locals to work for him, because they were very content with their lives as they were, in their tropical paradise, and had no use for whatever foreign forms of money he could offer them. But O'Keefe wouldn't take no for an answer; he sailed to Hong Kong, procured a large boat and explosives, took them to Palau, where he used the explosives and modern tools to quarry several large Rai stones, and set sail to Yap to present the stones to the locals as payment for coconuts. Contrary to what O'Keefe expected, the villagers were not keen on receiving his stones, and the village chief banned his townsfolk from working for the stones, decreeing that O'Keefe's stones were not of value, because they were gathered too easily. Only the stones quarried traditionally, with the sweat and blood of the Yapes, were to be accepted in Yap. Others on the island disagreed, and they did supply O'Keefe with the coconuts he sought. This resulted in conflict on the island, and in time the demise of Rai stones as money. Today, the stones serve a more ceremonial and cultural role on the island and modern government money is the most commonly used monetary medium.

While O'Keefe's story is highly symbolic, he was but the harbinger of the inevitable demise of Rai stones' monetary role with the encroachment of modern industrial civilization on Yap and its inhabitants. As modern tools and industrial capabilities reached the region, it was inevitable that the production of the stones would become far less costly than before. There would be many O'Keefes, local and foreign, able to supply Yap with an ever-larger flow of new stones. With modern technology, the stock-to-flow ratio for Rai stones decreased drastically: it was possible to produce far more of these stones every year, significantly devaluing the island's existing stock. It became increasingly unwise for anyone to use these stones as a store of value, and thus they lost their salability across time, and with it, their function as a medium of exchange.

The details may differ, but the underlying dynamic of a drop in stock-to-flow ratio has been the same for every form of money that has lost its monetary role, up to the collapse of the Venezuelan bolivar taking place as these lines

are being written.

A similar story happened with the aggy beads used as money for centuries in western Africa. The history of these beads in western Africa is not entirely clear, with suggestions that they were made from meteorite stones, or passed on from Egyptian and Phoenician traders. What is known is that they were precious in an area where glassmaking technology was expensive and not very common, giving them a high stock-to-flow ratio, making them salable across time. Being small and valuable, these beads were salable across scale, because they could be combined into chains, necklaces, or bracelets; though this was far from ideal, because there were many different kinds of beads rather than one standard unit. They were also salable across space as they were easy to move around. In contrast, glass beads were not expensive and had no monetary role in Europe, because the proliferation of glassmaking technology meant that if they were to be utilized as a monetary unit, their producers could flood the market with them—in other words, they had a low stock-to-flow ratio.

When European explorers and traders visited West Africa in the sixteenth century, they noticed the high value given to these beads and so started importing them in mass quantities from Europe. What followed was similar to the story of O'Keefe, but given the tiny size of the beads and the much larger size of the population, it was a slower, more covert process with bigger and more tragic consequences. Slowly but surely, Europeans were able to purchase a lot of the precious resources of Africa for the beads they acquired back home for very little.<sup>2</sup> European incursion into Africa slowly turned beads from hard money to easy money, destroying their salability and causing the erosion of the purchasing power of these beads over time in the hands of the Africans who owned them, impoverishing them by transferring their wealth to the Europeans, who could acquire the beads easily. The aggy beads later came to be known as slave beads for the role they played in fueling the slave trade of Africans to Europeans and North Americans. A one-time collapse in the value of a monetary medium is tragic, but at least it is over quickly and its holders can begin trading, saving, and calculating with a new one. But a slow drain of its monetary value over time will slowly transfer the wealth of its holders to those who can produce the medium at a low cost. This is a lesson worth remembering when we turn to the discussion of the soundness of government money in the later parts of the book.

Seashells are another monetary medium that was widely used in many places around the world, from North America to Africa and Asia. Historical accounts show that the most salable seashells were usually the ones that were scarcer

and harder to find, because these would hold value more than the ones that can be found easily.<sup>3</sup> Native Americans and early European settlers used wampum shells extensively, for the same reasons as aggy beads: they were hard to find, giving them a high stock-to-flow ratio, possibly the highest among durable goods available at the time. Seashells also shared with aggy beads the disadvantage of not being uniform units, which meant prices and ratios could not be easily measured and expressed in them uniformly, which creates large obstacles to the growth of the economy and the degree of specialization. European settlers adopted seashells as legal tender from 1636, but as more and more British gold and silver coins started flowing to North America, these were preferred as a medium of exchange due to their uniformity, allowing for better and more uniform price denomination and giving them higher salability. Further, as more advanced boats and technologies were employed to harvest seashells from the sea, their supply was very highly inflated, leading to a drop in their value and a loss of salability across time. By 1661, seashells stopped being legal tender and eventually lost all monetary role.<sup>4</sup>

This was not just the fate of seashell money in North America; whenever societies employing seashells had access to uniform metal coins, they adopted them and benefited from the switch. Also, the arrival of industrial civilization, with fossil-fuel-powered boats, made scouring the sea for seashells easier, increasing the flow of their production and dropping the stock-to-flow ratio quickly.

Other ancient forms of money include cattle, cherished for their nutritional value, as they were one of the most prized possessions anyone could own and were also salable across space due to their mobility. Cattle continue to play a monetary role today, with many societies using them for payments, especially for dowries. Being bulky and not easily divisible, however, meant cattle were not very useful to solve the problems of divisibility across scales, and so another form of money coexisted along with cattle, and that was salt. Salt was easy to keep for long durations and could be easily divided and grouped into whatever weight was necessary. These historical facts are still apparent in the English language, as the word *pecuniary* is derived from *pecus*, the Latin word for cattle, while the word *salary* is derived from *sal*, the Latin word for salt.<sup>5</sup>

As technology advanced, particularly with metallurgy, humans developed superior forms of money to these artifacts, which began to quickly replace them. These metals proved a better medium of exchange than seashells, stones, beads, cattle, and salt because they could be made into uniform, highly valuable small units that could be moved around far more easily. Another nail

in the coffin of artifact money came with the mass utilization of hydrocarbon fuel energy, which increased our productive capacity significantly, allowing for a quick increase in the new supply (flow) of these artifacts, meaning that the forms of money that relied on difficulty of production to protect their high stock-to-flow ratio lost it. With modern hydrocarbon fuels, Rai stones could be quarried easily, aggy beads could be made for very little cost, and seashells could be collected en masse by large boats. As soon as these monies lost their hardness, their holders suffered significant wealth expropriation and the entire fabric of their society fell apart as a result. The Yap Island chiefs who refused O'Keefe's cheap Rai stones understood what most modern economists fail to grasp: a money that is easy to produce is no money at all, and easy money does not make a society richer; on the contrary, it makes it poorer by placing all its hard-earned wealth for sale in exchange for something easy to produce.

## Notes

- <sup>1</sup> The story of O'Keefe inspired the writing of a novel named *His Majesty O'Keefe* by Laurence Klingman and Gerald Green in 1952, which was made into a Hollywood blockbuster by the same name starring Burt Lancaster in 1954.
- <sup>2</sup> To maximize their profits, Europeans used to fill the hulls of their boats with large quantities of these beads, which also served to stabilize the boat on its trip.
- <sup>3</sup> Nick Szabo, *Shelling Out: The Origins of Money*. (2002) Available at <http://nakamotoinstitute.org/shelling-out/>
- <sup>4</sup> Ibid.
- <sup>5</sup> Antal Fekete, *Whither Gold?* (1997). Winner of the 1996 International Currency Prize, sponsored by Bank Lips.

## Chapter 3

# Monetary Metals

As human technical capacity for the production of goods became more sophisticated, and our utilization of metals and commodities grew, many metals started getting produced at large enough quantities and were in large enough demand to make them highly salable and suited for being used as monetary media. These metals' density and relatively high value made moving them around easy, easier than salt or cattle, making them highly salable across space. The production of metals was initially not easy, making it hard to increase their supply quickly and giving them good salability across time.

Due to their durability and physical properties, as well as their relative abundance in earth, some metals were more valuable than others. Iron and copper, because of their relatively high abundance and their susceptibility to corrosion, could be produced in increasing quantities. Existing stockpiles would be dwarfed by new production, destroying the value in them. These metals developed a relatively low market value and would be used for smaller transactions. Rarer metals such as silver and gold, on the other hand, were more durable and less likely to corrode or ruin, making them more salable across time and useful as a store of value into the future. Gold's virtual indestructibility, in particular, allowed humans to store value across generations, thus allowing us to develop a longer time horizon orientation.

Initially, metals were bought and sold in terms of their weight,<sup>1</sup> but over time, as metallurgy advanced, it became possible to mint them into uniform coins and brand them with their weight, making them far more salable by saving people from having to weigh and assess the metals every time. The three metals most widely used for this role were gold, silver, and copper, and their use as coins was the prime form of money for around 2,500 years, from the time of the Greek king Croesus, who was the first recorded to have minted gold coins, to the early twentieth century. Gold coins were the goods most salable across time, because they could hold their value over time and resist decay and ruin. They were also the goods most salable across space, because they carried a lot of value in small weights, allowing for easy transportation. Silver coins, on the other hand, had the advantage of being the most salable good across scales, because their lower value per weight unit compared to gold allowed for them to conveniently serve as a medium of exchange for small transactions, while bronze coins would be useful for the least valuable

transactions. By standardizing values into easily identifiable units, coins allowed for the creation of large markets, increasing the scope of specialization and trade worldwide. While the best monetary system technologically possible at the time, it still had two major drawbacks: the first was that the existence of two or three metals as the monetary standard created economic problems from the fluctuation of their values over time due to the ebbs of supply and demand, and created problems for owners of these coins, particularly silver, which experienced declines in value due to increases in production and drops in demand. The second, more serious flaw was that governments and counterfeiters could, and frequently did, reduce the precious metal content in these coins, causing their value to decline by transferring a fraction of their purchasing power to the counterfeiters or the government. The reduction in the metal content of the coins compromised the purity and soundness of the money.

By the nineteenth century, however, with the development of modern banking and the improvement in methods of communication, individuals could transact with paper money and checks backed by gold in the treasuries of their banks and central banks. This made gold-backed transactions possible at any scale, thus obviating the need for silver's monetary role, and gathering all essential monetary salability properties in the gold standard. The gold standard allowed for unprecedented global capital accumulation and trade by uniting the majority of the planet's economy on one sound market-based choice of money. Its tragic flaw, however, was that by centralizing the gold in the vaults of banks, and later central banks, it made it possible for banks and governments to increase the supply of money beyond the quantity of gold they held, devaluing the money and transferring part of its value from the money's legitimate holders to the governments and banks.

## Why Gold?

To understand how commodity money emerges, we return in more detail to the easy money trap we first introduced in [Chapter 1](#), and begin by differentiating between a good's *market demand* (demand for consuming or holding the good for its own sake) and its *monetary demand* (demand for a good as a medium of exchange and store of value). Any time a person chooses a good as a store of value, she is effectively increasing the demand for it beyond the regular market demand, which will cause its price to rise. For example, market demand for copper in its various industrial uses is around 20 million tons per year, at a price of around \$5,000 per ton, and a total market valued around \$100 billion. Imagine a billionaire deciding he would like to

store \$10 billion of his wealth in copper. As his bankers run around trying to buy 10% of annual global copper production, they would inevitably cause the price of copper to increase. Initially, this sounds like a vindication of the billionaire's monetary strategy: the asset he decided to buy has already appreciated before he has even completed his purchase. Surely, he reasons, this appreciation will cause more people to buy more copper as a store of value, bringing the price up even more.

But even if more people join him in monetizing copper, our hypothetical copper-obsessed billionaire is in trouble. The rising price makes copper a lucrative business for workers and capital across the world. The quantity of copper under the earth is beyond our ability to even measure, let alone extract through mining, so practically speaking, the only binding restraint on how much copper can be produced is how much labor and capital is dedicated to the job. More copper can always be made with a higher price, and the price and quantity will continue to rise until they satisfy the monetary investors' demand; let's assume that happens at 10 million extra tons and \$10,000 per ton. At some point, monetary demand must subside, and some holders of copper will want to offload some of their stockpiles to purchase other goods, because, after all, that was the point of buying copper.

After the monetary demand subsides, all else being equal, the copper market would go back to its original supply-and-demand conditions, with 20 million annual tons selling for \$5,000 each. But as the holders begin to sell their accumulated stocks of copper, the price will drop significantly below that. The billionaire will have lost money in this process; as he was driving the price up, he bought most of his stock for more than \$5,000 a ton, but now his entire stock is valued below \$5,000 a ton. The others who joined him later bought at even higher prices and will have lost even more money than the billionaire himself.

This model is applicable for all consumable commodities such as copper, zinc, nickel, brass, or oil, which are primarily consumed and destroyed, not stockpiled. Global stockpiles of these commodities at any moment in time are around the same order of magnitude as new annual production. New supply is constantly being generated to be consumed. Should savers decide to store their wealth in one of these commodities, their wealth will only buy a fraction of global supply before bidding the price up enough to absorb all their investment, because they are competing with the consumers of this commodity who use it productively in industry. As the revenue to the producers of the good increases, they can then invest in increasing their production, bringing the price crashing down again, robbing the savers of

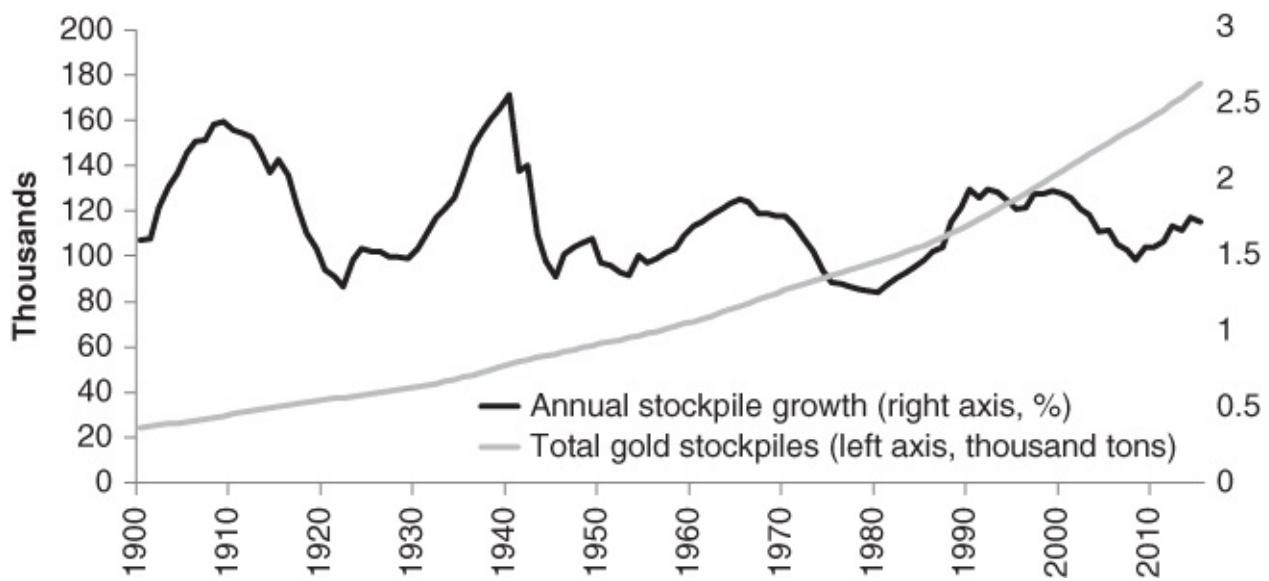
their wealth. The net effect of this entire episode is the transfer of the wealth of the misguided savers to the producers of the commodity they purchased.

This is the anatomy of a market bubble: increased demand causes a sharp rise in prices, which drives further demand, raising prices further, incentivizing increased production and increased supply, which inevitably brings prices down, punishing everyone who bought at a price higher than the usual market price. Investors in the bubble are fleeced while producers of the asset benefit. For copper and almost every other commodity in the world, this dynamic has held true for most of recorded history, consistently punishing those who choose these commodities as money by devaluing their wealth and impoverishing them in the long run, and returning the commodity to its natural role as a market good, and not a medium of exchange.

For anything to function as a good store of value, it has to beat this trap: it has to appreciate when people demand it as a store of value, but its producers have to be constrained from inflating the supply significantly enough to bring the price down. Such an asset will reward those who choose it as their store of value, increasing their wealth in the long run as it becomes the prime store of value, because those who chose other commodities will either reverse course by copying the choice of their more successful peers, or will simply lose their wealth.

The clear winner in this race throughout human history has been gold, which maintains its monetary role due to two unique physical characteristics that differentiate it from other commodities: first, gold is so chemically stable that it is virtually impossible to destroy, and second, gold is impossible to synthesize from other materials (alchemists' claims notwithstanding) and can only be extracted from its unrefined ore, which is extremely rare in our planet.

The chemical stability of gold implies that virtually all of the gold ever mined by humans is still more or less owned by people around the world. Humanity has been accumulating an ever-growing hoard of gold in jewelry, coins, and bars, which is never consumed and never rusts or disintegrates. The impossibility of synthesizing gold from other chemicals means that the only way to increase the supply of gold is by mining gold from the earth, an expensive, toxic, and uncertain process in which humans have been engaged for thousands of years with ever-diminishing returns. This all means that the existing stockpile of gold held by people around the world is the product of thousands of years of gold production, and is orders of magnitude larger than new annual production. Over the past seven decades with relatively reliable statistics, this growth rate has always been around 1.5%, never exceeding 2%. (See [Figure 1.<sup>2</sup>](#))



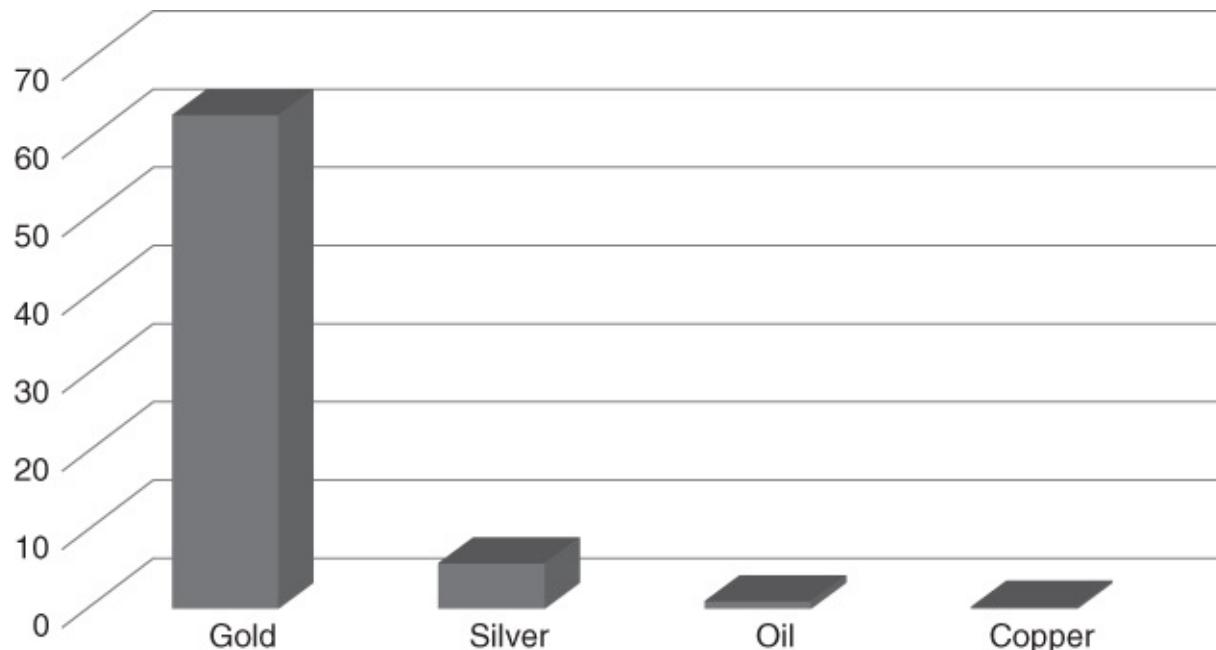
**Figure 1** Global gold stockpiles and annual stockpile growth rate.

To understand the difference between gold and any consumable commodity, imagine the effect of a large increase in demand for it as a store of value that causes the price to spike and annual production to double. For any consumable commodity, this doubling of output will dwarf any existing stockpiles, bringing the price crashing down and hurting the holders. For gold, a price spike that causes a doubling of annual production will be insignificant, increasing stockpiles by 3% rather than 1.5%. If the new increased pace of production is maintained, the stockpiles grow faster, making new increases less significant. It remains practically impossible for goldminers to mine quantities of gold large enough to depress the price significantly.

Only silver comes close to gold in this regard, with an annual supply growth rate historically around 5–10%, rising to around 20% in the modern day. This is higher than that of gold for two reasons: First, silver does corrode and can be consumed in industrial processes, which means the existing stockpiles are not as large relative to annual production as gold's stockpiles are relative to its annual production. Second, silver is less rare than gold in the crust of the earth and easier to refine. Because of having the second highest stock-to-flow ratio, and its lower value per unit of weight than gold, silver served for millennia as the main money used for smaller transactions, complementing gold, whose high value meant dividing it into smaller units, which was not very practical. The adoption of the international gold standard allowed for payments in paper backed by gold at any scale, as will be discussed in more detail later in this chapter, which obviated silver's monetary role. With silver no longer required for smaller transactions, it soon lost its monetary role and became an industrial metal, losing value compared to gold. Silver may

maintain its sporting connotation for second place, but as nineteenth-century technology made payments possible without having to move the monetary unit itself, second place in monetary competition was equivalent to losing out.

This explains why the silver bubble has popped before and will pop again if it ever inflates: as soon as significant monetary investment flows into silver, it is not as difficult for producers to increase the supply significantly and bring the price crashing down, taking the savers' wealth in the process. The best-known example of the easy-money trap comes from silver itself, of all commodities. Back in the late 1970s, the very affluent Hunt brothers decided to bring about the remonetization of silver and started buying enormous quantities of silver, driving the price up. Their rationale was that as the price rose, more people would want to buy, which would keep the price rising, which in turn would lead to people wanting to be paid in silver. Yet, no matter how much the Hunt brothers bought, their wealth was no match for the ability of miners and holders of silver to keep selling silver onto the market. The price of silver eventually crashed and the Hunt brothers lost over \$1bn, probably the highest price ever paid for learning the importance of the stock-to-flow ratio, and why not all that glitters is gold.<sup>3</sup> (See [Figure 2](#).<sup>4</sup>)



[Figure 2](#) Existing stockpiles as a multiple of annual production.

It is this consistently low rate of supply of gold that is the fundamental reason it has maintained its monetary role throughout human history, a role it continues to hold today as central banks continue to hold significant supplies of gold to protect their paper currencies. Official central bank reserves are at around 33,000 tons, or a sixth of total above-ground gold. The high stock-to-

flow ratio of gold makes it the commodity with the lowest *price elasticity of supply*, which is defined as the percentage increase in quantity supplied over the percentage increase in price. Given that the existing supply of gold held by people everywhere is the product of thousands of years of production, an X% increase in price may cause an increase in new mining production, but that increase will be trivial compared to existing stockpiles. For instance, the year 2006 witnessed a 36% rise in the spot price of gold. For any other commodity, this would be expected to increase mining output significantly to flood markets and bring the price down. Instead, annual production in 2006 was 2,370 tons, 100 tons less than in 2005, and it would drop a further 10 tons in 2007. Whereas the new supply was 1.67% of existing stockpiles in 2005, it was 1.58% of existing stockpiles in 2006, and 1.54% of existing stockpiles in 2007. Even a 35% rise in price can lead to no appreciable increase in the supply of new gold onto the market. According to the U.S. Geological Survey, the single biggest annual increase in production was around 15% in the year 1923, which translated to an increase in stockpiles around only 1.5%. Even if production were to double, the likely increase in stockpiles would only be around 3–4%. The highest annual increase in global stockpiles happened in 1940, when stockpiles rose by around 2.6%. Not once has the annual stockpile growth exceeded that number, and not once since 1942 has it exceeded 2%.

As the production of metals began to proliferate, ancient civilizations in China, India, and Egypt began to use copper, and later silver, as money, as these two were relatively hard to manufacture at the time and allowed for good salability across time and space. Gold was highly prized in these civilizations, but its rarity meant its salability for transactions was limited. It was in Greece, the birthplace of modern civilization, where gold was first minted into regular coins for trade, under King Croesus. This invigorated global trade as gold's global appeal saw the coin spread far and wide. Since then, the turns of human history have been closely intertwined with the soundness of money. Human civilization flourished in times and places where sound money was widely adopted, while unsound money all too frequently coincided with civilizational decline and societal collapse.

## Roman Golden Age and Decline

The denarius was the silver coin that traded at the time of the Roman Republic, containing 3.9 grams of silver, while gold became the most valuable money in the civilized areas of the world at the time and gold coins were becoming more widespread. Julius Caesar, the last dictator of the Roman Republic, created the aureus coin, which contained around 8 grams of gold

and was widely accepted across Europe and the Mediterranean, increasing the scope of trade and specialization in the Old World. Economic stability reigned for 75 years, even through the political upheaval of his assassination, which saw the Republic transformed into an Empire under his chosen successor, Augustus. This continued until the reign of the infamous emperor Nero, who was the first to engage in the Roman habit of “coin clipping,” wherein the Emperor would collect the coins of the population and mint them into newer coins with less gold or silver content.

For as long as Rome could conquer new lands with significant wealth, its soldiers and emperors could enjoy spending their loot, and emperors even decided to buy themselves popularity by mandating artificially low prices of grains and other staples, sometimes even granting them for free. Instead of working for a living in the countryside, many peasants would leave their farms to move to Rome, where they could live better lives for free. With time, the Old World no longer had prosperous lands to be conquered, the ever-increasing lavish lifestyle and growing military required some new source of financing, and the number of unproductive citizens living off the emperor's largesse and price controls increased. Nero, who ruled from 54–68 AD, had found the formula to solve this, which was highly similar to Keynes's solution to Britain's and the U.S.'s problems after World War I: devaluing the currency would at once reduce the real wages of workers, reduce the burden of the government in subsidizing staples, and provide increased money for financing other government expenditure.

The aureus coin was reduced from 8 to 7.2 grams, while the denarius's silver content was reduced from 3.9 to 3.41g. This provided some temporary relief, but had set in motion the highly destructive self-reinforcing cycle of popular anger, price controls, coin debasement, and price rises, following one another with the predictable regularity of the four seasons.<sup>5</sup>

Under the reign of Caracalla (AD 211–217), the gold content was further reduced to 6.5 grams, and under Diocletian (AD 284–305) it was further reduced to 5.5g, before he introduced a replacement coin called the solidus, with only 4.5 grams of gold. On Diocletian's watch, the denarius only had traces of silver to cover its bronze core, and the silver would disappear quite quickly with wear and tear, ending the denarius as a silver coin. As inflationism intensified in the third and fourth centuries, with it came the misguided attempts of the emperors to hide their inflation by placing price controls on basic goods. As market forces sought to adjust prices upward in response to the debasement of the currency, price ceilings prevented these price adjustments, making it unprofitable for producers to engage in

production. Economic production would come to a standstill until a new edict allowed for the liberalization of prices upward.

With this fall in the value of its money, the long process of terminal decline of the empire resulted in a cycle that might appear familiar to modern readers: coin clipping reduced the aureus's real value, increasing the money supply, allowing the emperor to continue imprudent overspending, but eventually resulting in inflation and economic crises, which the misguided emperors would attempt to ameliorate via further coin clipping. Ferdinand Lips summarizes this process with a lesson to modern readers:

It should be of interest to modern Keynesian economists, as well as to the present generation of investors, that although the emperors of Rome frantically tried to “manage” their economies, they only succeeded in making matters worse. Price and wage controls and legal tender laws were passed, but it was like trying to hold back the tides. Rioting, corruption, lawlessness and a mindless mania for speculation and gambling engulfed the empire like a plague. With money so unreliable and debased, speculation in commodities became far more attractive than producing them.<sup>6</sup>

The long-term consequences for the Roman Empire were devastating. Although Rome up until the second century AD may not be characterized as a full-fledged free market capitalist economy, because it still had plenty of government restraints on economic activity, with the aureus it nonetheless established what was then the largest market in human history with the largest and most productive division of labor the world had ever known.<sup>7</sup> Citizens of Rome and the major cities obtained their basic necessities by trade with the far-flung corners of the empire, and this helps explain the growth in prosperity, and the devastating collapse the empire suffered when this division of labor fell apart. As taxes increased and inflation made price controls unworkable, the urbanites of the cities started fleeing to empty plots of land where they could at least have a chance of living in self-sufficiency, where their lack of income spared them having to pay taxes. The intricate civilizational edifice of the Roman Empire and the large division of labor across Europe and the Mediterranean began to crumble, and its descendants became self-sufficient peasants scattered in isolation and would soon turn into serfs living under feudal lords.

## Byzantium and the Bezant

The emperor Diocletian has forever had his name associated with fiscal and

monetary chicanery, and the Empire reached a nadir under his rule. A year after he abdicated, however, Constantine the Great took over the reins of the empire and reversed its fortunes by adopting economically responsible polices and reforms. Constantine, who was the first Christian emperor, committed to maintaining the solidus at 4.5 grams of gold without clipping or debasement and started minting it in large quantities in 312 AD. He moved east and established Constantinople at the meeting point of Asia and Europe, birthing the Eastern Roman Empire, which took the solidus as its coin. While Rome continued its economic, social, and cultural deterioration, finally collapsing in 476 AD, Byzantium survived for 1,123 years while the solidus became the longest-serving sound currency in human history.

The legacy of Constantine in maintaining the integrity of the solidus made it the world's most recognizable and widely accepted currency, and it came to be known as the *bezant*. While Rome burned under bankrupt emperors who could no longer afford to pay their soldiers as their currencies collapsed, Constantinople thrived and prospered for many more centuries with fiscal and monetary responsibility. While the Vandals and the Visigoths ran rampage in Rome, Constantinople remained prosperous and free from invasion for centuries. As with Rome, the fall of Constantinople happened only after its rulers had started devaluing the currency, a process that historians believe began in the reign of Constantine IX Monomachos (1042–1055).<sup>8</sup> Along with monetary decline came the fiscal, military, cultural, and spiritual decline of the Empire, as it trudged on with increasing crises until it was overtaken by the Ottomans in 1453.

Even after it was debased and its empire fell, the bezant lived on by inspiring another form of sound money that continues to circulate widely to this day in spite of not being the official currency of any nation anymore, and that is the Islamic dinar. As Islam rose during the golden age of Byzantium, the bezant and coins similar to it in weight and size were circulating in the regions to which Islam had spread. The Umayyad Caliph Abdul-Malik ibn Marwan defined the weight and value of the Islamic dinar and imprinted it with the Islamic *shahada* creed in 697 AD. The Umayyad dynasty fell, and after it several other Islamic states, and yet the dinar continues to be held and to circulate widely in Islamic regions in the original weight and size specifications of the bezant, and is used in dowries, gifts, and various religious and traditional customs to this day. Unlike the Romans and the Byzantines, Arab and Muslim civilizations' collapse was not linked to the collapse of their money as they maintained the integrity of their currencies for centuries. The solidus, first minted by Diocletian in AD 301, has changed its name to the

bezant and the Islamic dinar, but it continues to circulate today. Seventeen centuries of people the world over have used this coin for transactions, emphasizing the salability of gold across time.

## The Renaissance

After the economic and military collapse of the Roman Empire, feudalism emerged as the prime mode of organizing society. The destruction of sound money was pivotal in turning the former citizens of the Roman Empire into serfs under the mercy of their local feudal lords. Gold was concentrated in the hands of the feudal lords, and the main forms of money available for the peasantry of Europe at the time were copper and bronze coins, whose supply was easy to inflate as industrial production of these metals continued to become easier with the advance of metallurgy, making them terrible stores of value, as well as silver coins that were usually debased, cheated, and nonstandardized across the continent, giving them poor salability across space and limiting the scope of trade across the continent.

Taxation and inflation had destroyed the wealth and savings of the people of Europe. New generations of Europeans came to the world with no accumulated wealth passed on from their elders, and the absence of a widely accepted sound monetary standard severely restricted the scope for trade, closing societies off from one another and enhancing parochialism as once-prosperous and civilized trading societies fell into the Dark Ages of serfdom, diseases, closed-mindedness, and religious persecution.

While it is widely recognized that the rise of the city-states dragged Europe out of the Dark Ages and into the Renaissance, the role of sound money in this rise is less recognized. It was in the city-states that humans could live with the freedom to work, produce, trade, and flourish, and that was to a large extent the result of these city-states adopting a sound monetary standard. It all began in Florence in 1252, when the city minted the florin, the first major European sound coinage since Julius Caesar's aureus. Florence's rise made it the commercial center of Europe, with its florin becoming the prime European medium of exchange, allowing its banks to flourish across the entire continent. Venice was the first to follow Florence's example with its minting of the ducat, of the same specifications as the florin, in 1270, and by the end of the fourteenth century more than 150 European cities and states had minted coins of the same specifications as the florin, allowing their citizens the dignity and freedom to accumulate wealth and trade with a sound money that was highly salable across time and space, and divided into small coins, allowing for

easy divisibility. With the economic liberation of the European peasantry came the political, scientific, intellectual, and cultural flourishing of the Italian city-states, which later spread across the European continent. Whether in Rome, Constantinople, Florence, or Venice, history shows that a sound monetary standard is a necessary prerequisite for human flourishing, without which society stands on the precipice of barbarism and destruction.

Although the period following the introduction of the florin witnessed an improvement in the soundness of money, with more and more Europeans able to adopt gold and silver for saving and trade, and the extent of markets expanding across Europe and the world, the situation was far from perfect. There were still many periods during which various sovereigns would debase their people's currency to finance war or lavish expenditure. Given that they were used physically, silver and gold complemented each other: gold's high stock-to-flow ratio meant it was ideal as a long-term store of value and a means of large payments, but silver's lower value per unit of weight made it easily divisible into quantities suitable for smaller transactions and for being held for shorter durations. While this arrangement had benefits, it had one major drawback: the fluctuating rate of exchange between gold and silver created trade and calculation problems. Attempts to fix the price of the two currencies relative to one another were continuously self-defeating, but gold's monetary edge was to win out.

As sovereigns set an exchange rate between the two commodities, they would change holders' incentives to hold or spend them. This inconvenient bimetallism continued for centuries across Europe and the world, but as with the move from salt, cattle, and seashells to metals, the inexorable advance of technology was to provide a solution to it.

Two particular technological advancements would move Europe and the world away from physical coins and in turn help bring about the demise of silver's monetary role: the telegraph, first deployed commercially in 1837, and the growing network of trains, allowing transportation across Europe. With these two innovations, it became increasingly feasible for banks to communicate with each other, sending payments efficiently across space when needed and debiting accounts instead of having to send physical payments. This led to the increased use of bills, checks, and paper receipts as monetary media instead of physical gold and silver coins.

More nations began to switch to a monetary standard of paper fully backed by, and instantly redeemable into, precious metals held in vaults. Some nations would choose gold, and others would choose silver, in a fateful decision that was to have enormous consequences. Britain was the first to adopt a modern

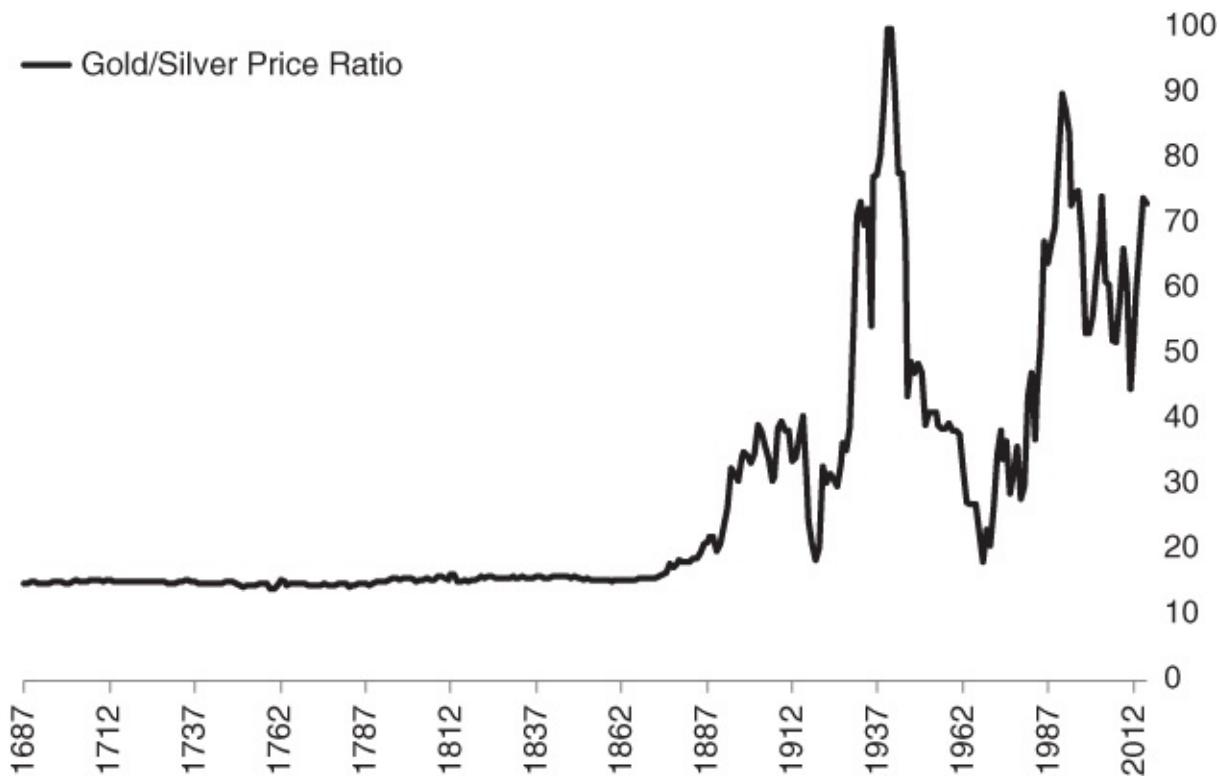
gold standard in 1717, under the direction of physicist Isaac Newton, who was the warden of the Royal Mint, and the gold standard would play a great role in it advancing its trade across its empire worldwide. Britain would remain under a gold standard until 1914, although it would suspend it during the Napoleonic wars from 1797 to 1821. The economic supremacy of Britain was intricately linked to its being on a superior monetary standard, and other European countries began to follow it. The end of the Napoleonic wars heralded the beginning of the golden age of Europe, as, one by one, the major European nations began adopting the gold standard. The more nations officially adopted the gold standard, the more marketable gold became and the larger the incentive became for other nations to join.

Further, instead of individuals having to carry gold and silver coins for large and small transactions, respectively, they could now store their wealth in gold in banks while using paper receipts, bills, and checks to make payments of any size. The holders of paper receipts could just use them to make payment themselves; bills were discounted by banks and used for clearance and checks could be cashed from the banks that issued them. This solved the problem of gold's salability across scales, making gold the best monetary medium—for as long as the banks hoarding people's gold would not increase the supply of papers they issued as receipts.

With these media being backed by physical gold in the vaults and allowing payment in whichever quantity or size, there was no longer a real need for silver's role in small payments. The death knell for silver's monetary role was the end of the Franco-Prussian war, when Germany extracted an indemnity of £200 million in gold from France and used it to switch to a gold standard. With Germany now joining Britain, France, Holland, Switzerland, Belgium, and others on a gold standard, the monetary pendulum had swung decisively in favor of gold, leading to individuals and nations worldwide who used silver to witness a progressive loss of their purchasing power and a stronger incentive to shift to gold. India finally switched from silver to gold in 1898, while China and Hong Kong were the last economies in the world to abandon the silver standard in 1935.

For as long as gold and silver were used for payment directly, they both had a monetary role to play and their price relative to one another remained largely constant across time, at a ratio between 12 and 15 ounces of silver per ounce of gold, in the same range as their relative scarcity in the crust of the earth and the relative difficulty and cost of extracting them. But as paper and financial instruments backed by these metals became more and more popular, there was no more justification for silver's monetary role, and individuals and

nations shifted to holding gold, leading to a significant collapse in the price of silver, from which it would not recover. The average ratio between the two over the twentieth century was 47:1, and in 2017, it stood at 75:1. While gold still has a monetary role to play, as evidenced by central banks' hoarding of it, silver has arguably lost its monetary role. (See [Figure 3](#).<sup>9</sup>)



[Figure 3](#) Price of gold in silver ounces, 1687–2017.

The demonetization of silver had a significantly negative effect on the nations that were using it as a monetary standard at the time. India witnessed a continuous devaluation of its rupee compared to gold-based European countries, which led the British colonial government to increase taxes to finance its operation, leading to growing unrest and resentment of British colonialism. By the time India shifted the backing of its rupee to the gold-backed pound sterling in 1898, the silver backing its rupee had lost 56% of its value in the 27 years since the end of the Franco-Prussian War. For China, which stayed on the silver standard until 1935, its silver (in various names and forms) lost 78% of its value over the period. It is the author's opinion that the history of China and India, and their failure to catch up to the West during the twentieth century, is inextricably linked to this massive destruction of wealth and capital brought about by the demonetization of the monetary metal these countries utilized. The demonetization of silver in effect left the Chinese and Indians in a situation similar to west Africans holding agri beads as

Europeans arrived: domestic hard money was easy money for foreigners, and was being driven out by foreign hard money, which allowed foreigners to control and own increasing quantities of the capital and resources of China and India during the period. This is a historical lesson of immense significance, and should be kept in mind by anyone who thinks his refusal of Bitcoin means he doesn't have to deal with it. History shows it is not possible to insulate yourself from the consequences of others holding money that is harder than yours.

With gold in the hands of increasingly centralized banks, it gained salability across time, scales, and location, but lost its property as cash money, making payments in it subject to the agreement of the financial and political authorities issuing receipts, clearing checks, and hoarding the gold. Tragically, the only way gold was able to solve the problems of salability across scales, space, and time was by being centralized and thus falling prey to the major problem of sound money emphasized by the economists of the twentieth century: individual sovereignty over money and its resistance to government centralized control. We can thus understand why nineteenth-century sound money economists like Menger focused their understanding of money's soundness on its salability as a market good, whereas twentieth-century sound money economists, like Mises, Hayek, Rothbard, and Salerno, focused their analysis of money's soundness on its resistance to control by a sovereign. Because the Achilles heel of 20th century money was its centralization in the hands of the government, we will see later how the money invented in the twenty-first century, Bitcoin, was designed primarily to avoid centralized control.

## **La Belle Époque**

The end of the Franco-Prussian War in 1871, and the consequent shift of all major European powers onto the same monetary standard, namely gold, led to a period of prosperity and flourishing that continues to appear more amazing with time and in retrospect. A case can be made for the nineteenth century—in particular, the second half of it—being the greatest period for human flourishing, innovation, and achievement that the world had ever witnessed, and the monetary role of gold was pivotal to it. With silver and other media of exchange increasingly demonetized, the majority of the planet used the same golden monetary standard, allowing the improvements in telecommunications and transportation to foster global capital accumulation and trade like never before.

Different currencies were simply different weights of physical gold, and the exchange rate between one nation's currency and the other was the simple conversion between different weight units, as straightforward as converting inches to centimeters. The British pound was defined as 7.3 grams of gold, while the French franc was 0.29 grams of gold and the Deutschmark 0.36 grams, meaning the exchange rate between them was necessarily fixed at 26.28 French francs and 24.02 Deutschmark per pound. In the same way metric and imperial units are just a way to measure the underlying length, national currencies were just a way to measure economic value as represented in the universal store of value, gold. Some countries' gold coins were fairly salable in other countries, as they were just gold. Each country's money supply was not a metric to be determined by central planning committees stocked with Ph.D. holders, but the natural working of the market system. People held as much money as they pleased and spent as much as they desired on local or foreign production, and the actual money supply was not even easily measurable.

The soundness of money was reflected in free trade across the world, but perhaps more importantly, was increasing savings rates across most advanced societies that were on the gold standard, allowing for capital accumulation to finance industrialization, urbanization, and the technological improvements that have shaped our modern life. (See [Table 1.<sup>10</sup>](#))

**Table 1** Major European Economies' Periods Under the Gold Standard

Currency	Period Under Gold Standard	Years
French Franc	1814–1914	100 years
Dutch Guilder	1816–1914	98 years
Pound Sterling	1821–1914	93 years
Swiss Franc	1850–1936	86 years
Belgian Franc	1832–1914	82 years
Swedish Krona	1873–1931	58 years
German Mark	1875–1914	39 years
Italian Lira	1883–1914	31 years

By 1900, around 50 nations were officially on the gold standard, including all industrialized nations, while the nations that were not on an official gold standard still had gold coins being used as the main medium of exchange. Some of the most important technological, medical, economic, and artistic human achievements were invented during the era of the gold standard, which

partly explains why it was known as *la belle époque*, or the beautiful era, across Europe. Britain witnessed the peak years of Pax Britannica, where the British Empire expanded worldwide and was not engaged in large military conflicts. In 1899, when American writer Nellie Bly set out on her record-breaking journey around the world in 72 days, she carried British gold coins and Bank of England notes with her.<sup>11</sup> It was possible to circumnavigate the globe and use one form of money everywhere Nellie went.

In the United States this era was called the Gilded Age, where economic growth boomed after the restoration of the gold standard in 1879 in the wake of the American Civil War. It was only interrupted by one episode of monetary insanity, which was effectively the last dying pang of silver as money, discussed in [Chapter 6](#), when the Treasury tried to remonetize silver by mandating it as money. This caused a large increase in the money supply and a bank run by those seeking to sell Treasury notes and silver to gold. The result was the recession of 1893, after which U.S. economic growth resumed.

With the majority of the world on one sound monetary unit, there was never a period that witnessed as much capital accumulation, global trade, restraint on government, and transformation of living standards worldwide. Not only were the economies of the west far freer back then, the societies themselves were far freer. Governments had very few bureaucracies focused on micromanaging the lives of citizens. As Mises described it:

The gold standard was the world standard of the age of capitalism, increasing welfare, liberty, and democracy, both political and economic. In the eyes of the free traders its main eminence was precisely the fact that it was an international standard as required by international trade and the transactions of the international money and capital markets. It was the medium of exchange by means of which Western industrialism and Western capital had borne Western civilization to the remotest parts of the earth's surface, everywhere destroying the fetters of old-aged prejudices and superstitions, sowing the seeds of new life and new well-being, freeing minds and souls, and creating riches unheard of before. It accompanied the triumphal unprecedented progress of Western liberalism ready to unite all nations into a community of free nations peacefully cooperating with one another.

It is easy to understand why people viewed the gold standard as the symbol of this greatest and most beneficial of all historical changes.<sup>12</sup>

This world came crashing down in the catastrophic year 1914, which was not only the year of the outbreak of World War I, but the year that the world's

major economies went off of the gold standard and replaced it with unsound government money. Only Switzerland and Sweden, who remained neutral during World War I, were to remain on a gold standard into the 1930s. The era of government-controlled money was to commence globally after that, with unmitigated disastrous consequences.

While the gold standard of the nineteenth century was arguably the closest thing that the world had ever seen to an ideal sound money, it nonetheless had its flaws. First, governments and banks were always creating media of exchange beyond the quantity of gold in their reserves. Second, many countries used not just gold in their reserves, but also currencies of other countries. Britain, as the global superpower at that time, had benefited from having its money used as a reserve currency all around the world, resulting in its reserves of gold being a tiny fraction of its outstanding money supply. With growing international trade relying on settlement of large quantities of money across the world, the Bank of England's banknotes became, in the minds of many at the time, "as good as gold." While gold was very hard money, the instruments used for settlements of payments between central banks, although nominally redeemable in gold, ended up in practice being easier to produce than gold.

These two flaws meant that the gold standard was always vulnerable to a run on gold in any country where circumstances might lead a large enough percentage of the population to demand redemption of their paper money in gold. The fatal flaw of the gold standard at the heart of these two problems was that settlement in physical gold is cumbersome, expensive, and insecure, which meant it had to rely on centralizing physical gold reserves in a few locations—banks and central banks—leaving them vulnerable to being taken over by governments. As the number of payments and settlements conducted in physical gold became an infinitely smaller fraction of all payments, the banks and central banks holding the gold could create money unbacked by physical gold and use it for settlement. The network of settlement became valuable enough that its owners' credit was effectively monetized. As the ability to run a bank started to imply money creation, governments naturally gravitated to taking over the banking sector through central banking. The temptation was always too strong, and the virtually infinite financial wealth this secured could not only silence dissent, but also finance propagandists to promote such ideas. Gold offered no mechanism for restraining the sovereigns, and had to rely on trust in them not abusing the gold standard and the population remaining eternally vigilant against them doing so. This might have been feasible when the population was highly educated and knowledgeable about the dangers of unsound money, but with every passing

generation displaying the intellectual complacence that tends to accompany wealth,<sup>13</sup> the siren song of con artists and court-jester economists would prove increasingly irresistible for more of the population, leaving only a minority of knowledgeable economists and historians fighting an uphill battle to convince people that wealth can't be generated by tampering with the money supply, that allowing a sovereign the control of the money can only lead to them increasing their control of everyone's life, and that civilized human living itself rests on the integrity of money providing a solid foundation for trade and capital accumulation.

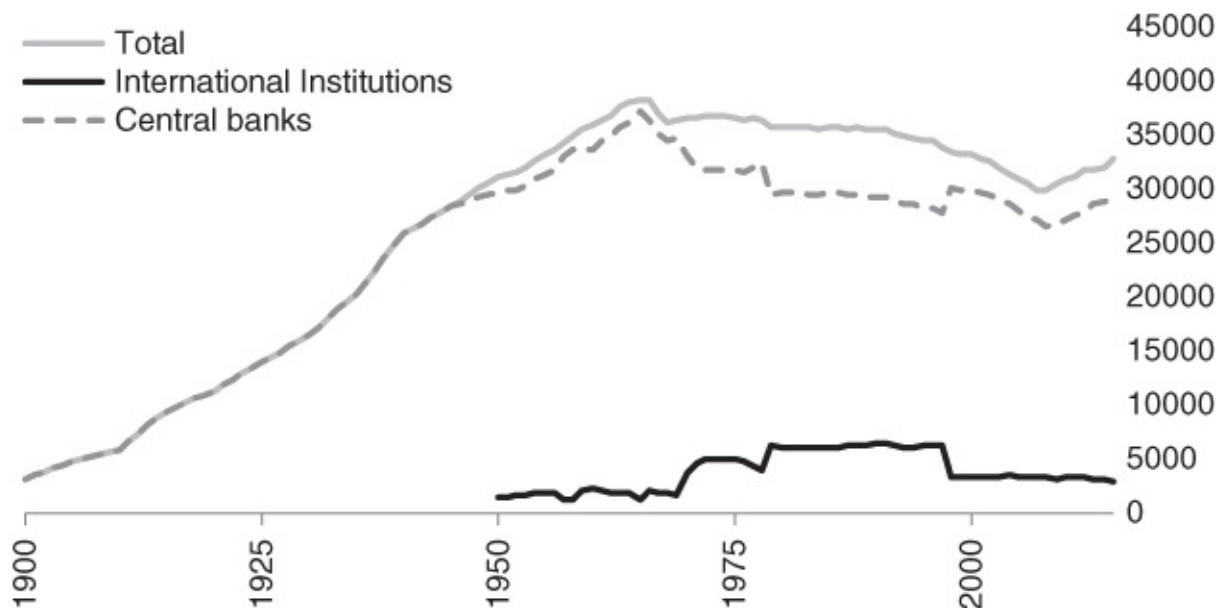
Gold being centralized made it vulnerable to having its monetary role usurped by its enemies, and gold simply had too many enemies, as Mises himself well understood:

The nationalists are fighting the gold standard because they want to sever their countries from the world market and to establish national autarky as far as possible. Interventionist governments and pressure groups are fighting the gold standard because they consider it the most serious obstacle to their endeavours to manipulate prices and wage rates. But the most fanatical attacks against gold are made by those intent upon credit expansion. With them credit expansion is the panacea for all economic ills.<sup>14</sup>

The gold standard removes the determination of cash-induced changes in purchasing power from the political arena. Its general acceptance requires the acknowledgement of the truth that one cannot make all people richer by printing money. The abhorrence of the gold standard is inspired by the superstition that omnipotent governments can create wealth out of little scraps of paper [...] The governments were eager to destroy it, because they were committed to the fallacies that credit expansion is an appropriate means of lowering the rate of interest and of "improving" the balance of trade [...] People fight the gold standard because they want to substitute national autarky for free trade, war for peace, totalitarian government omnipotence for liberty.<sup>15</sup>

The twentieth century began with governments bringing their citizens' gold under their control through the invention of the modern central bank on the gold standard. As World War I started, the centralization of these reserves allowed these governments to expand the money supply beyond their gold reserves, reducing the value of their currency. Yet central banks continued to confiscate and accumulate more gold until the 1960s, where the move toward a U.S. dollar global standard began to shape up. Although gold was

supposedly demonetized fully in 1971, central banks continued to hold significant gold reserves, and only disposed of them slowly, before returning to buying gold in the last decade. Even as central banks repeatedly declared the end of gold's monetary role, their actions in maintaining their gold reserves ring truer. From a monetary competition perspective, keeping gold reserves is a perfectly rational decision. Keeping reserves in foreign governments' easy money only will cause the value of the country's currency to devalue along with the reserve currencies, while the seniorage accrues to the issuer of the reserve currency, not the nation's central bank. Further, should central banks sell all their gold holdings (estimated at around 20% of global gold stockpiles), the most likely impact is that gold, being highly prized for its industrial and aesthetic uses, would be bought up very quickly with little depreciation of its price and the central banks would be left without any gold reserves. The monetary competition between easy government money and hard gold will likely result in one winner in the long-run. Even in a world of government money, governments have not been able to decree gold's monetary role away, as their actions speak louder than their words. (See [Figure 4.<sup>16</sup>](#))



[Figure 4](#) Central bank official gold reserves, tons.

## Notes

<sup>1</sup> Nick Szabo, *Shelling Out: The Origins of Money* (2002). Available at <http://nakamotoinstitute.org/shelling-out/>

2 Source: U.S. Geological Survey.

3 “Big Bill for a Bullion Binge,” *TIME*, August 29, 1989.

4 Source: U.S. Geological Survey data for gold. Silver Institute data for silver, [BP.com](#) statistical review for oil. Author's estimates from various media sources for copper.

5 See Schuettinger and Butler's highly entertaining *Forty Centuries of Wage and Price Controls*.

6 Ferdinand Lips, *Gold Wars: The Battle Against Sound Money as Seen from a Swiss Perspective* (New York: Foundation for the Advancement of Monetary Education, 2001).

7 Ludwig von Mises, *Human Action: The Scholar's Edition* (Auburn, AL: Ludwig von Mises Institute, 1998).

8 David Luscombe and Jonathan Riley-Smith, *The New Cambridge Medieval History: Volume 4, C.1024–1198* (Cambridge University Press, 2004), p. 255.

9 Source: Lawrence H. Officer and Samuel H. Williamson, “The Price of Gold, 1257–Present,” *Measuring Worth* (2017). Available at <http://www.measuringworth.com/gold/>

10 Source: Lips, 2001.

11 Nellie Bly, *Around the World in Seventy-Two Days* (New York: Pictorial Weeklies, 1890).

12 Ludwig von Mises, *Human Action* (pp. 472–473).

13 See John Glubb, *The Fate of Empires and Search for Survival*.

14 Ludwig von Mises, *Human Action* (p. 473).

15 Ludwig von Mises, *Human Action* (p. 474).

16 Source: World Gold Council, Reserve Statistics. Available at <https://www.gold.org/data/gold-reserves>

## Chapter 4

# Government Money

World War I saw the end of the era of monetary media being the choice decided by the free market, and the beginning of the era of government money. While gold continues to underpin the global monetary system to this day, government edicts, decisions, and monetary policy shape the monetary reality of the world more than any aspect of individual choice.

The common name for government money is *fiat money*, from the Latin word for decree, order, or authorization. Two important facts must be understood about government money from the outset. First, there is a very large difference between government money redeemable in gold, and irredeemable government money, even if both are run by the government. Under a gold standard, money is gold, and government just assumes a responsibility of minting standard units of the metal or printing paper backed by the gold. The government has no control over the supply of gold in the economy, and people are able to redeem their paper in physical gold at any time, and use other shapes and forms of gold, such as bullion bars and foreign coins, in their dealings with one another. With irredeemable government money, on the other hand, the government's debt and/or paper is used as money, and the government is able to increase its supply as it sees fit. Should anybody use other forms of money for exchange, or should they attempt to create more of the government's money, they run the risk of punishment.

The second and often overlooked fact, is that, contrary to what the name might imply, no fiat money has come into circulation solely through government fiat; they were all originally redeemable in gold or silver, or currencies that were redeemable in gold or silver. Only through redeemability into salable forms of money did government paper money gain its salability. Government may issue decrees mandating people use their paper for payments, but no government has imposed this salability on papers without these papers having first been redeemable in gold and silver. Until this day, all government central banks maintain reserves to back up the value of their national currency. The majority of countries maintain some gold in their reserves, and those countries which do not have gold reserves maintain reserves in the form of other countries' fiat currencies, which are in turn backed by gold reserves. No pure fiat currency exists in circulation without any form of backing. Contrary to the most egregiously erroneous and central

tenet of the state theory of money, it was not government that decreed gold as money; rather, it is only by holding gold that governments could get their money to be accepted at all.

The oldest recorded example of fiat money was *jiaozi*, a paper currency issued by the Song dynasty in China in the tenth century. Initially, *jiaozi* was a receipt for gold or silver, but then government controlled its issuance and suspended redeemability, increasing the amount of currency printed until it collapsed. The Yuan dynasty also issued fiat currency in 1260, named *chao*, and exceeded the supply far beyond the metal backing, with predictably disastrous consequences. As the value of the money collapsed, the people fell into abject poverty, with many peasants resorting to selling their children into debt slavery.

Government money, then, is similar to primitive forms of money discussed in [Chapter 2](#), and commodities other than gold, in that it is liable to having its supply increased quickly compared to its stock, leading to a quick loss of salability, destruction of purchasing power, and impoverishment of its holders. In this respect it differs from gold, whose supply cannot be increased due to the fundamental chemical properties of the metal discussed above.

That the government demands payment in its money for its taxes may guarantee a longer life for that money, but only if the government is able to prevent the quick expansion of the supply can it protect its value from depreciating quickly. When comparing different national currencies, we find that the major and most widely used national currencies have a lower annual increase in their supply than the less salable minor currencies.

## Monetary Nationalism and the End of the Free World

The many enemies of sound money whom Mises named in the quote referenced at the end of the last chapter were to have their victory over the gold standard with the beginning of a small war in Central Europe in 1914, which snowballed into the first global war in human history. Certainly, when the war started nobody had envisioned it lasting as long, and producing as many casualties, as it did. British newspapers, for example, heralded it as the August Bank Holiday War, expecting it to be a simple triumphant summer excursion for their troops. There was a sense that this would be a limited conflict. And, after decades of relative peace across Europe, a new generation of Europeans had not grown to appreciate the likely consequences of launching war. Today, historians still fail to offer a convincing strategic or

geopolitical explanation for why a conflict between the Austro-Hungarian Empire and Serbian separatists was to trigger a global war that claimed the lives of millions and drastically reshaped most of the world's borders.

In retrospect, the major difference between World War I and the previous limited wars was neither geopolitical nor strategic, but rather, it was monetary. When governments were on a gold standard, they had direct control of large vaults of gold while their people were dealing with paper receipts of this gold. The ease with which a government could issue more paper currency was too tempting in the heat of the conflict, and far easier than demanding taxation from the citizens. Within a few weeks of the war starting, all major belligerents had suspended gold convertibility, effectively going off the gold standard and putting their population on a fiat standard, wherein the money they used was government-issued paper that was not redeemable for gold.

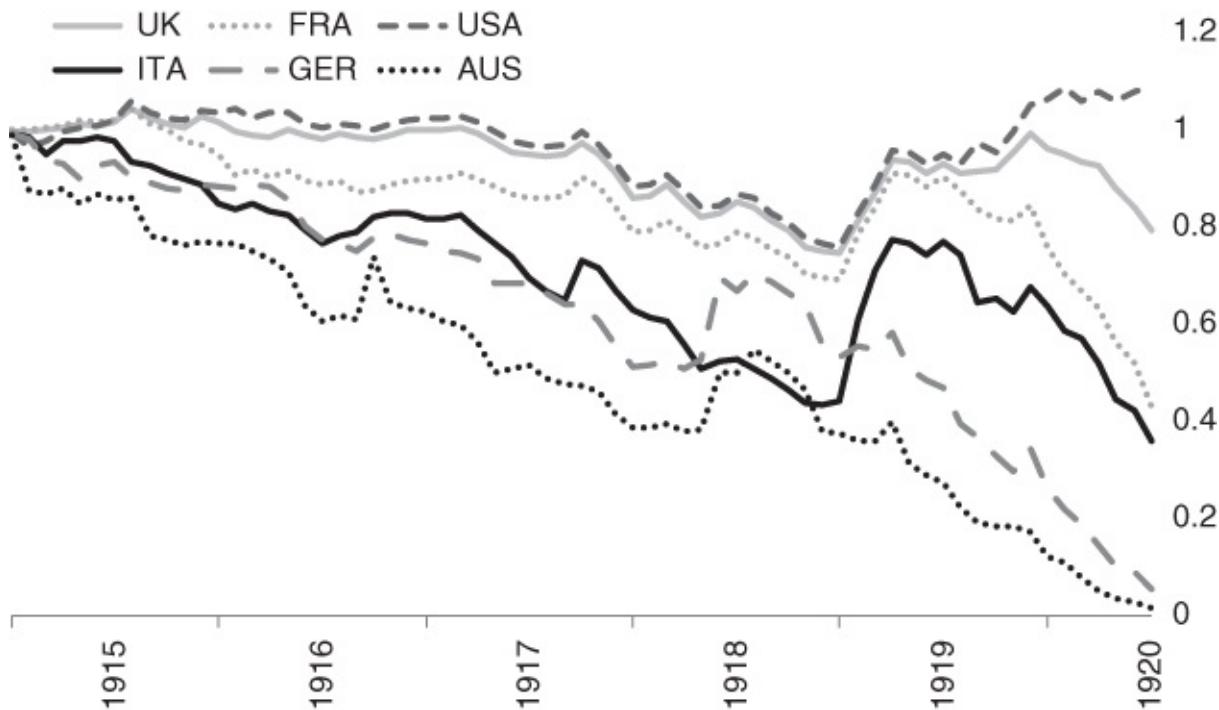
With the simple suspension of gold redeemability, governments' war efforts were no longer limited to the money that they had in their own treasuries, but extended virtually to the entire wealth of the population. For as long as the government could print more money and have that money accepted by its citizens and foreigners, it could keep financing the war. Previously, under a monetary system where gold as money was in the hands of the people, government only had its own treasuries to sustain its war effort, along with any taxation or bond issues to finance the war. This made conflict limited, and lay at the heart of the relatively long periods of peace experienced around the world before the twentieth century.

Had European nations remained on the gold standard, or had the people of Europe held their own gold in their own hands, forcing government to resort to taxation instead of inflation, history might have been different. It is likely that World War I would have been settled militarily within a few months of conflict, as one of the allied factions started running out of financing and faced difficulties in extracting wealth from a population that was not willing to part with its wealth to defend their regime's survival. But with the suspension of the gold standard, running out of financing was not enough to end the war; a sovereign had to run out of its people's accumulated wealth expropriated through inflation.

European countries devaluing their currency allowed the bloody stalemate to continue for four years, with no resolution or advancement. The senselessness of it all was not lost on the populations of these countries, and the soldiers on the front line risking their lives for no apparent reason but the unbounded vanity and ambition of monarchs who were usually related and intermarried.

In the most vivid personification of the absolute senselessness of this war, on Christmas Eve 1914, French, English, and German soldiers stopped following orders to fight, laid down their arms, and crossed the battle lines to mingle and socialize with one another. Many of the German soldiers had worked in England and could speak English, and most soldiers had a fondness for football, and so many impromptu games were organized between the teams.<sup>1</sup> The astounding fact exposed by this truce is that these soldiers had nothing against each other, had nothing to gain from fighting this war, and could see no reason to continue it. A far better outlet for their nations' rivalry would be in football, a universally popular game where tribal and national affiliations can be played out peacefully.

The war was to continue for four more years with barely any progress, until the United States was to intervene in 1917 and swing the war in favor of one party at the expense of the other by bringing in a large amount of resources with which their enemies could no longer keep up. While all governments were funding their war machines with inflation, Germany and the Austro-Hungarian Empire began to witness serious decline in the value of their currency in 1918, making their defeat inevitable. Comparing the belligerents' currencies' exchange rates to the Swiss Franc, which was still on the gold standard at the time, provides a useful measure of the devaluation each currency experienced, as is shown in [Figure 5](#).<sup>2</sup>



[Figure 5](#) Major national exchange rates vs. Swiss Franc during WWI.  
Exchange rate in June 1914 = 1.

After the dust settled, the currencies of all major European powers had declined in real value. The losing powers, Germany and Austria, had their average currency value in November 1918 drop to 51% and 31% of their value in 1913. Italy's currency witnessed a drop to 77% of its original value while France's dropped only to 91%, the U.K.'s to 93%, and the U.S. currency only to 96% of its original value.<sup>3</sup> (See [Table 2](#).<sup>4</sup>)

**Table 2** Depreciation of National Currency Against the Swiss Franc During World War I

Nation	WWI Currency Depreciation
USA	3.44%
UK	6.63%
FRA	9.04%
ITA	22.3%
GER	48.9%
AUS	68.9%

The geographic changes brought about by the war were hardly worth the carnage, as most nations gained or lost marginal lands and no victor could claim to have captured large territories worth the sacrifice. The Austro-Hungarian Empire was broken up into smaller nations, but these remained ruled by their own people, and not the winners of the war. The major adjustment of the war was the removal of many European monarchies and their replacement with republican regimes. Whether such a transition was for the better pales in comparison to the destruction and devastation that the war had inflicted on the citizens of these countries.

With redemption of gold from central banks, and movement of gold internationally suspended or severely restricted in the major economies, governments could maintain the façade of the currency's value remaining at its prewar peg to gold, even as prices were rising. As the war ended, the international monetary system revolving around the gold standard was no longer functional. All countries had gone off gold and had to face the major dilemma of whether they should get back onto a gold standard, and if so, how to revalue their currencies compared to gold. A fair market valuation of their existing stock of currency to their stock of gold would be a hugely unpopular admission of the depreciation that the currency underwent. A return to the old rates of exchange would cause citizens to demand holding gold rather than the ubiquitous paper receipts, and lead to the flight of gold outside the country to

where it was fairly valued.

This dilemma took money away from the market and turned it into a politically controlled economic decision. Instead of market participants freely choosing the most salable good as a medium of exchange, the value, supply, and interest rate for money now became centrally planned by national governments, a monetary system which Hayek named Monetary Nationalism, in a brilliant short book of the same name:

By Monetary Nationalism I mean the doctrine that a country's share in the world's supply of money should not be left to be determined by the same principles and the same mechanism as those which determine the relative amounts of money in its different regions or localities. A truly International Monetary System would be one where the whole world possessed a homogeneous currency such as obtains within separate countries and where its flow between regions was left to be determined by the results of the action of all individuals.<sup>5</sup>

Never again would gold return to being the world's homogeneous currency, with central banks' monopoly position and restrictions on gold ownership forcing people to use national government moneys. The introduction of Bitcoin, as a currency native to the Internet superseding national borders and outside the realm of governmental control, offers an intriguing possibility for the emergence of a new international monetary system, to be analyzed in [Chapter 9](#).

## The Interwar Era

Whereas under the international gold standard money flowed freely between nations in return for goods, and the exchange rate between different currencies was merely the conversion between different weights of gold, under monetary nationalism the money supply of each country, and the exchange rate between them, was to be determined in international agreements and meetings. Germany suffered from hyperinflation after the Treaty of Versailles had imposed large reparations on it and it sought to repay them using inflation. Britain had major problems with the flow of gold from its shores to France and the United States as it attempted to maintain a gold standard but with a rate that overvalued the British pound and undervalued gold.

The first major treaty of the century of monetary nationalism was the 1922 Treaty of Genoa. Under the terms of this treaty, the U.S. dollar and the British pound were to be considered reserve currencies similar to gold in their

position in other countries' reserves. With this move, the U.K. had hoped to alleviate its problems with the overvalued sterling by having other countries purchase large quantities of it to place in their reserves. The world's major powers signaled their departure from the solidity of the gold standard toward inflationism as a solution to economic problems. The insanity of this arrangement was that these governments wanted to inflate while also maintaining the price of their currency stable in terms of gold at prewar levels. Safety was sought in numbers: if everyone devalued their currencies, there would be nowhere for capital to hide. But this did not and could not work and gold continued to flow out of Britain to the United States and France.

The drain of gold from Britain is a little-known story with enormous consequences. Liaquat Ahamed's *Lords of Finance* focuses on this episode, and does a good job of discussing the individuals involved and the drama taking place, but adopts the reigning Keynesian understanding of the issue, putting the blame for the entire episode on the gold standard. In spite of his extensive research, Ahamed fails to comprehend that the problem was not the gold standard, but that post-World War I governments had wanted to return to the gold standard at the pre-World War I rates. Had they admitted to their people the magnitude of the devaluation that took place to fight the war, and re-pegged their currencies to gold at new rates, there would have probably been a recessionary crash, after which the economy would have recovered on a sound monetary basis.

A better treatment of this episode, and its horrific aftermath, can be found in Murray Rothbard's *America's Great Depression*. As Britain's gold reserves were leaving its shores to places where they were better valued, the chief of the Bank of England, Sir Montagu Norman, leaned heavily on his French, German, and American counterparts to increase the money supply in their countries, devaluing their paper currencies in the hope that it would stem the flow of gold away from England. While the French and German bankers were not cooperative, Benjamin Strong, chairman of the New York Federal Reserve, was, and he engaged in inflationary monetary policy throughout the 1920s. This may have succeeded in reducing the outflow of gold from Britain up to a point, but the most important implication of it was that it created a larger bubble in the housing and stock markets in the United States. The U.S. Fed's inflationary policy ended by the end of 1928, at which point the U.S. economy was ripe for the inevitable collapse that follows from the suspension of inflationism. What followed was the 1929 stock market crash, and the reaction of the U.S. government turned that into the longest depression in modern recorded history.

The common story about the Great Depression posits that President Hoover chose to remain inactive in the face of the downturn, due to a misplaced faith in the ability of free markets to bring about recovery, and adherence to the gold standard. Only when he was replaced by Franklin Delano Roosevelt, who moved to an activist governmental role and suspended the gold standard, did the U.S. recovery ensue. This, to put it mildly, is nonsense. Hoover not only increased government spending on public work projects to fight the Depression, but he also leaned on the Federal Reserve to expand credit, and made the focus of his policy the insane quest to keep wages high in the face of declining wage rates. Further, price controls were instituted to keep prices of products, particularly agricultural, at high levels, similar to what was viewed as the fair and correct state that preceded the depression. The United States and all major global economies began to implement protective trade policies that made matters far worse across the world economy.<sup>6</sup>

It is a little-known fact, carefully airbrushed from the history books, that in the 1932 U.S. general election, Hoover ran on a highly interventionist platform while Franklin Delano Roosevelt ran on a platform of fiscal and monetary responsibility. Americans had actually voted against Hoover's policies, but when FDR got into power, he found it more convenient to play along with the interests that had influenced Hoover, and as a result, the interventionist policies of Hoover were amplified into what came to be known as the New Deal. It's important to realize there was nothing unique or new about the New Deal. It was a magnification of the heavily interventionist policies which Hoover had instituted.

A precursory understanding of economics will make it clear that price controls are always counterproductive, resulting in surpluses and shortages. The problems faced by the American economy in the 1930s were inextricably linked to the fixing of wages and prices. Wages were set too high, resulting in a very high unemployment rate, reaching 25% at certain points, while price controls had created shortages and surpluses of various goods. Some agricultural products were even burned in order to maintain their high prices, leading to the insane situation where people were going hungry, desperate for work, while producers couldn't hire them as they couldn't afford their wages, and the producers who could produce some crops had to burn some of them to keep the price high. All of this was done to maintain prices at the pre-1929 boom levels while holding onto the delusion that the dollar had still maintained its value compared to gold. The inflation of the 1920s had caused large asset bubbles to form in the housing and stock markets, causing an artificial rise in wages and prices. After the bubble burst, market prices sought

readjustment via a drop in the value of the dollar compared to gold, and a drop in real wages and prices. The pigheadedness of deluded central planners who wanted to prevent all three from taking place paralyzed the economy: the dollar, wages, and prices were overvalued, leading to people seeking to drop their dollars for gold, as well as massive unemployment and failure of production.

None of this, of course, would be possible with sound money, and only through inflating the money supply did these problems occur. And even after the inflation, the effects would have been far less disastrous had they revalued the dollar to gold at a market-determined price and let wages and prices adjust freely. Instead of learning that lesson, the government economists of the era decided that the fault was not in inflationism, but rather, in the gold standard which restricted government's inflationism. In order to remove the golden fetters to inflationism, President Roosevelt issued an executive order banning the private ownership of gold, forcing Americans to sell their gold to the U.S. Treasury at a rate of \$20.67 per ounce. With the population deprived of sound money, and forced to deal with dollars, Roosevelt then revalued the dollar on the international market from \$20.67 per ounce to \$35 per ounce, a 41% devaluation of the dollar in real terms (gold). This was the inevitable reality of years of inflationism which started in 1914 with the creation of the Federal Reserve and the financing of America's entry into World War II.

It was the abandonment of sound money and its replacement with government-issued fiat which turned the world's leading economies into centrally planned and government-directed failures. As governments controlled money, they controlled most economic, political, cultural, and educational activity. Having never studied economics or researched it professionally, Keynes captured the zeitgeist of omnipotent government to come up with the definitive track that gave governments what they wanted to hear. Gone were all the foundations of economic knowledge acquired over centuries of scholarship around the world, to be replaced with the new faith with the ever-so-convenient conclusions that suited high time-preference politicians and totalitarian governments: the state of the economy is determined by the lever of aggregate spending, and any rise in unemployment or slowdown in production had no underlying causes in the structure of production or in the distortion of markets by central planners; rather it was all a shortage of spending, and the remedy is the debauching of the currency and the increase of government spending. Saving reduces spending and because spending is all that matters, government must do all it can to deter its citizens from saving. Imports drive workers out of work, so spending increases must go on domestic goods. Governments loved this message, and Keynes himself

knew that. His book was translated into German in 1937, at the height of the Nazi era, and in the introduction to the German edition Keynes wrote:

The theory of aggregate production, which is the point of the following book, nevertheless can be much easier adapted to the conditions of a totalitarian state than the theory of production and distribution of a given production put forth under conditions of free competition and a large degree of laissez-faire.<sup>7</sup>

The Keynesian deluge, from which the world is yet to recover, had begun. Universities lost their independence and became part and parcel of the government's ruling apparatus. Academic economics stopped being an intellectual discipline focused on understanding human choices under scarcity to improve their conditions. Instead it became an arm of the government, meant to direct policymakers toward the best policies for managing economic activities. The notion that government management of the economy is necessary became the unquestioned starting point of all modern economic education, as can be gleaned from looking at any modern economics textbook, where government plays the same role that God plays in religious scriptures: an omnipresent, omniscient, omnipotent force that merely needs to identify problems to satisfactorily address them. Government is immune to the concept of opportunity costs, and rarely are the negative results of government intervention in economic activity even considered, and if they are, it is only to justify even more government intervention. The classical liberal tradition that viewed economic freedom as the foundation of economic prosperity was quietly brushed aside as government propagandists masquerading as economists presented the Great Depression, caused and exacerbated by government controls, as the refutation of free markets. Classical liberals were the enemies of the political regimes of the 1930s; murdered and chased away from Russia, Italy, Germany, and Austria, they were fortunate to only be academically persecuted in the United States and the U.K., where these giants struggled to find employment while middling bureaucrats and failed statisticians filled every university economics department with their scientism and fake certainty.

Today government-approved economics curricula still blame the gold standard for the Great Depression. The same gold standard which produced more than four decades of virtually uninterrupted global growth and prosperity between 1870 and 1914 suddenly stopped working in the 1930s because it wouldn't allow governments to expand their money supply to fight the depression, whose causes these economists cannot explain beyond meaningless Keynesian allusions to animal spirits. And none of these

economists seem to notice that if the problem was indeed the gold standard, then its suspension should have caused the beginning of recovery. Instead, it took more than a decade after its suspension for growth to resume. The conclusion obvious to anyone with a basic understanding of money and economics is that the cause of the Great Crash of 1929 was the diversion away from the gold standard in the post-WWI years, and that the deepening of the Depression was caused by government control and socialization of the economy in the Hoover and FDR years. Neither the suspension of the gold standard nor the wartime spending did anything to alleviate the Great Depression.

As the major economies of the world went off the gold standard, global trade was soon to be shipwrecked on the shores of oscillating fiat money. With no standard of value to allow an international price mechanism to exist, and with governments increasingly captured by statist and isolationist impulses, currency manipulation emerged as a tool of trade policy, with countries seeking to devalue their currencies in order to give their exporters an advantage. More trade barriers were erected, and economic nationalism became the ethos of that era, with predictably disastrous consequences. The nations that had prospered together 40 years earlier, trading under one universal gold standard, now had large monetary and trade barriers between them, loud populist leaders who blamed all their failures on other nations, and a rising tide of hateful nationalism that was soon to fulfill Otto Mallery's prophecy: "If soldiers are not to cross international boundaries, goods must do so. Unless the Shackles can be dropped from trade, bombs will be dropped from the sky."<sup>8</sup>

## **World War II and Bretton Woods**

From the sky the bombs did drop, along with countless heretofore unimaginable forms of murder and horror. The war machines that the government-directed economies built were far more advanced than any the world had ever seen, thanks to the popularity of the most dangerous and absurd of all Keynesian fallacies, the notion that government spending on military effort would aid economic recovery. All spending is spending, in the naive economics of Keynesians, and so it matters not if that spending comes from individuals feeding their families or governments murdering foreigners: it all counts in aggregate demand and it all reduces unemployment! As an increasing number of people went hungry during the depression, all major governments spent generously on arming themselves, and the result was a return to the senseless destruction of three decades earlier.

For Keynesian economists, the war was what caused economic recovery, and if one looked at life merely through the lens of statistical aggregates collected by government bureaucrats, such a ridiculous notion is tenable. With government war expenditure and conscription on the rise, aggregate expenditure soared while unemployment plummeted, so all countries involved in World War II had recovered because of their participation in the war. Anybody not afflicted with Keynesian economics, however, can realize that life during World War II, even in countries that did not witness war on their soil, like the United States, cannot by any stretch of the imagination be characterized as “economic recovery.” On top of the death and destruction, the dedication of so much of the capital and labor resources of the belligerent countries to the war effort meant severe shortages of output at home, resulting in rationing and price controls. In the United States, construction of new housing and repair of existing housing were banned.<sup>9</sup> More obviously, one cannot possibly argue that soldiers fighting and dying at warfronts, who constituted a large percentage of the populations of belligerent nations, enjoyed any form of economic recovery, no matter how much aggregate expenditure went into making the weapons they were carrying.

But one of the most devastating blows to Keynesian theories of the aggregate demand as the determinant of the state of the economy came in the aftermath of World War II, particularly in the United States. A confluence of factors had conspired to reduce government spending drastically, leading to Keynesian economists of the era predicting doom and gloom to follow the war: the end of military hostilities reduced government military spending dramatically. The death of the populist and powerful FDR and his replacement by the meeker and less iconic Truman, coming up against a Congress controlled by Republicans, created political deadlock that prevented the renewal of the statutes of the New Deal. All of these factors together, when analyzed by Keynesian economists, would point to impending disaster, as Paul Samuelson, the man who literally wrote the textbooks for economic education in the postwar era, wrote in 1943:

The final conclusion to be drawn from our experience at the end of the last war is inescapable—were the war to end suddenly within the next 6 months, were we again planlessly to wind up our war effort in the greatest haste, to demobilize our armed forces, to liquidate price controls, to shift from astronomical deficits to even the large deficits of the thirties—then there would be ushered in the greatest period of unemployment and industrial dislocation which any economy has ever faced.<sup>10</sup>

The end of World War II and the dismantling of the New Deal meant the U.S.

government cut its spending by an astonishing 75% between 1944 and 1948, and it also removed most price controls for good measure. And yet, the U.S. economy witnessed an extraordinary boom during these years. The roughly 10 million men who were mobilized for the war came back home and were almost seamlessly absorbed into the labor force, as economic production boomed, flying in the face of all Keynesian predictions and utterly obliterating the ridiculous notion that the level of spending is what determines output in the economy. As soon as governmental central planning had abated for the first time since the 1929 crash, and as soon as prices were allowed to adjust freely, they served their role as the coordinating mechanism for economic activity, matching sellers and buyers, incentivizing the production of goods demanded by consumers and compensating workers for their effort. The situation was far from perfect, though, as the world remained off the gold standard, leading to ever-present distortions of the money supply which would continue to dog the world economy with crisis after crisis.

It is well-known that history is written by the victors, but in the era of government money, victors get to decide on the monetary systems, too. The United States summoned representatives of its allies to Bretton Woods in New Hampshire to discuss formulating a new global trading system. History has not been very kind to the architects of this system. Britain's representative was none other than John Maynard Keynes, whose economic teachings were to be wrecked on the shores of reality in the decades following the war, while America's representative, Harry Dexter White, would later be uncovered as a Communist who was in contact with the Soviet regime for many years.<sup>11</sup> In the battle for centrally planned global monetary orders, White was to emerge victorious with a plan that even made Keynes's look not entirely unhinged. The United States was to be the center of the global monetary system, with its dollars being used as a global reserve currency by other central banks, whose currencies would be convertible to dollars at fixed exchange rates, while the dollar itself would be convertible to gold at a fixed exchange rate. To facilitate this system, the United States would take gold from other countries' central banks.

Whereas the American people were still prohibited from owning gold, the U.S. government promised to redeem dollars in gold to other countries' central banks at a fixed rate, opening what was known as the gold exchange window. In theory, the global monetary system was still based on gold, and if the U.S. government had maintained convertibility to gold by not inflating the dollar supply beyond their gold reserves while other countries had not inflated their money supply beyond their dollar reserves, the monetary system would have

effectively been close to the gold standard of the pre-World War I era. They did not, of course, and in practice, the exchange rates were anything but fixed and provisions were made for allowing governments to alter these rates to address a “fundamental disequilibrium.”<sup>12</sup>

In order to manage this global system of hopefully fixed exchange rates, and address any potential fundamental disequilibrium, the Bretton Woods conference established the International Monetary Fund, which acted as a global coordination body between central banks with the express aim of achieving stability of exchange rates and financial flows. In essence, Bretton Woods attempted to achieve through central planning what the international gold standard of the nineteenth century had achieved spontaneously. Under the classical gold standard the monetary unit was gold while capital and goods flowed freely between countries, spontaneously adjusting flows without any need for central control or direction, and never resulting in balance of payment crises: whatever amount of money or goods moved across borders did so at the discretion of its owners and no macroeconomic problems could emerge.

In the Bretton Woods system, however, governments were dominated by Keynesian economists who viewed activist fiscal and monetary policy as a natural and important part of government policy. The constant monetary and fiscal management would naturally lead to the fluctuation of the value of national currencies, resulting in imbalances in trade and capital flows. When a country's currency is devalued, its products become cheaper to foreigners, leading to more goods leaving the country, while holders of the currency seek to purchase foreign currencies to protect themselves from devaluation. As devaluation is usually accompanied by artificially low interest rates, capital seeks exit from the country to go where it can be better rewarded, exacerbating the devaluation of the currency. On the other hand, countries which maintained their currency better than others would thus witness an influx of capital whenever their neighbors devalued, leading to their currency appreciating further. Devaluation would sow the seeds of more devaluation, whereas currency appreciation would lead to more appreciation, creating a problematic dynamic for the two governments. No such problems could exist with the gold standard, where the value of the currency in both countries was constant, because it was gold, and movements of goods and capital would not affect the value of the currency.

The automatic adjustment mechanisms of the gold standard had always provided a constant measuring rod against which all economic activity was measured, but the floating currencies gave the world economy imbalances.

The International Monetary Fund's role was to perform an impossible balancing act between all the world's governments to attempt to find some form of stability or "equilibrium" in this mess, keeping exchange rates within some arbitrary range of predetermined values while trade and capital flows were moving and altering them. But without a stable unit of account for the global economy, this was a task as hopeless as attempting to build a house with an elastic measuring tape whose own length varied every time it was used.

Along with the establishment of the World Bank and IMF in Bretton Woods, the United States and its allies wanted to establish another international financial institution to specialize in arranging trade policy. The initial attempt to establish an International Trade Organization failed after the U.S. Congress refused to ratify the treaty, but a replacement was sought in the General Agreement on Trade and Tariffs, commencing in 1948. GATT was meant to help the IMF in the impossible task of balancing budgets and trade to ensure financial stability—in other words, centrally planning global trade and fiscal and monetary policy to remain in balance, as if such a thing were possible.

An important, but often overlooked, aspect of the Bretton Woods system was that most of the member countries had moved large amounts of their gold reserves to the United States and received dollars in exchange, at a rate of \$35 per ounce. The rationale was that the U.S. dollar would be the global currency for trade and central banks would trade through it and settle their accounts in it, obviating the need for the physical movement of gold. In essence, this system was akin to the entire world economy being run as one country on a gold standard, with the U.S. Federal Reserve acting as the world's central bank and all the world's central banks as regional banks, the main difference being that the monetary discipline of the gold standard was almost entirely lost in this world where there were no effective controls on all central banks in expanding the money supply, because no citizens could redeem their government money for gold. Only governments could redeem their dollars in gold from the United States, but that was to prove far more complicated than expected. Today, each ounce of gold for which foreign central banks received \$35 is worth in excess of \$1,200.

Monetary expansionism became the new global norm, and the tenuous link that the system had to gold proved powerless to stop the debauching of global currencies and the constant balance of payment crises affecting most countries. The United States, however, was put in a remarkable position, similar to, though massively exceeding in scope, the Roman Empire's pillaging and inflating the money supply used by most of the Old World. With its

currency distributed all over the world, and central banks having to hold it as a reserve to trade with one another, the U.S. government could accrue significant seniorage from expanding the supply of dollars, and also had no reason to worry about running a balance of payment deficit. French economist Jacques Reuff coined the phrase “deficit without tears” to describe the new economic reality that the United States inhabited, where it could purchase whatever it wanted from the world and finance it through debt monetized by inflating the currency that the entire world used.

The relative fiscal restraint of the first few years after World War II soon gave way to the politically irresistible temptation of buying free lunches through inflation, particularly to the warfare and welfare states. The military industry that prospered during World War II grew into what President Eisenhower called the Military–Industrial Complex—an enormous conglomerate of industries that was powerful enough to demand ever more funding from the government, and drive U.S. foreign policy toward an endless series of expensive conflicts with no rational end goal or clear objective. The doctrine of violent militant Keynesianism claimed this spending would be good for the economy, which made the millions of lives it destroyed easier to stomach for the American electorate.

This war machine was also made more palatable for the American people because it came from the same politicians who intensified government welfare in various shapes and forms. From The Great Society to affordable housing, education, and healthcare, fiat money allowed the American electorate to ignore the laws of economics and believe that a free lunch, or at least a perpetually discounted one, was somehow possible. In the absence of gold convertibility and with the ability to disperse the costs of inflation on the rest of the world, the only winning political formula consisted of increasing government spending financed by inflation, and every single presidential term in the postwar era witnessed a growth in government expenditure and the national debt and a loss of the purchasing power of the dollar. In the presence of fiat money to finance government, political differences between parties disappear as politics no longer contains trade-offs and every candidate can champion every cause.

## **Government Money's Track Record**

The tenuous link of gold exchangeability was an annoying detail for the U.S. government's inflationism, and it manifested in two symptoms: first, the global gold market was always seeking to reflect the reality of inflationism

through a higher gold price. This was addressed through the establishment of the London Gold Pool, which sought to drop the price of gold by offloading some of the gold reserves that governments held onto the market. This worked only temporarily, but in 1968, the U.S. dollar had to start getting revalued compared to gold to acknowledge the years of inflation it had suffered. The second problem was that some countries started trying to repatriate their gold reserves from the United States as they started to recognize the diminishing purchasing power of their paper money. French president Charles de Gaulle even sent a French military carrier to New York to get his nation's gold back, but when the Germans attempted to repatriate their gold, the United States had decided it had had enough. Gold reserves were running low, and on August 15, 1971, President Richard Nixon announced the end of dollar convertibility to gold, thus letting the gold price float in the market freely. In effect, the United States had defaulted on its commitment to redeem its dollars in gold. The fixed exchange rates between the world's currencies, which the IMF was tasked with maintaining, had now been let loose to be determined by the movement of goods and capital across borders and in ever-more-sophisticated foreign exchange markets.

Freed from the final constraints of the pretense of gold redemption, the U.S. government expanded its monetary policy in unprecedented scale, causing a large drop in the purchasing power of the dollar, and a rise in prices across the board. Everyone and everything was blamed for the rise in prices by the U.S. government and its economists, except for the one actual source of the price rises, the increase in the supply of the U.S. dollar. Most other currencies fared even worse, as they were the victim of inflation of the U.S. dollars backing them, as well as the inflation by the central banks issuing them.

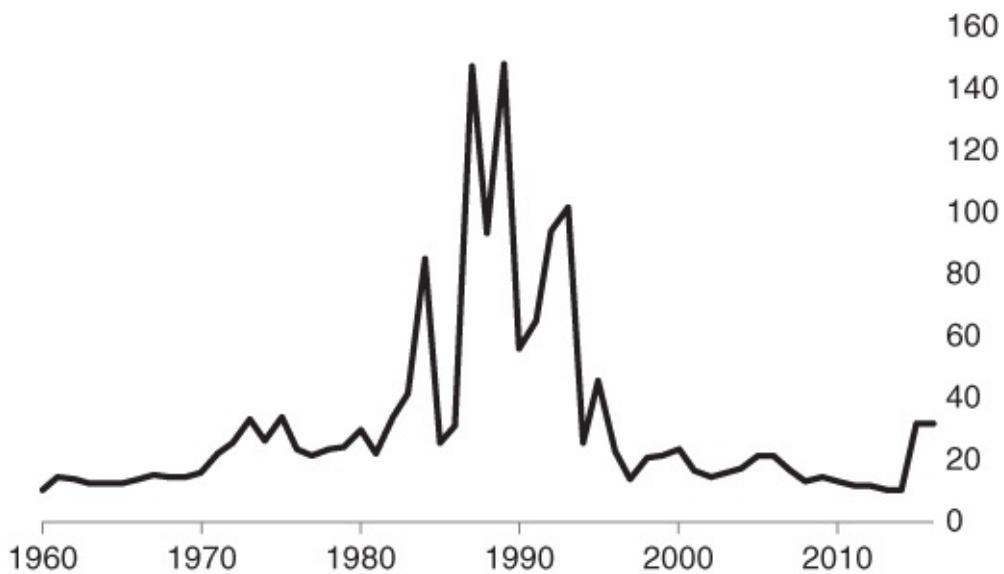
This move by President Nixon completed the process begun with World War I, transforming the world economy from a global gold standard to a standard based on several government-issued currencies. For a world that was growing increasingly globalized along with advancements in transportation and telecommunications, freely fluctuating exchange rates constituted what Hoppe termed “a system of partial barter.”<sup>13</sup> Buying things from people who lived on the other side of imaginary lines in the sand now required utilizing more than one medium of exchange and reignited the age-old problem of lack of coincidence of wants. The seller does not want the currency held by the buyer, and so the buyer must purchase another currency first, and incur conversion costs. As advances in transportation and telecommunications continue to increase global economic integration, the cost of these inefficiencies just keeps getting bigger. The market for foreign exchange, at \$5 trillion of daily volume,

exists purely as a result of this inefficiency of the absence of a single global homogeneous international currency.

While most governments produce their own currencies, the U.S. government was the one that produced the prime reserve currency with which other governments backed theirs. This was the first time in human history that the entire planet had run on government money, and while such an idea is considered normal and unquestionable in most academic circles, it is well worth examining the soundness of this predominant form of money.

It is theoretically possible to create an artificially scarce asset to endow it with a monetary role. Governments around the world did this after abandoning the gold standard, as did Bitcoin's creator, with contrasting results. After the link between fiat money and gold was severed, paper monies have had a higher growth in their supply rate than gold, and as a result have seen a collapse in their value compared to gold. The total U.S. M2 measure of the money supply in 1971 was around \$600 billion, while today it is in excess of \$12 trillion, growing at an average annual rate of 6.7%. Correspondingly, in 1971, 1 ounce of gold was worth \$35, and today it is worth more than \$1,200.

Looking at the track record of government money paints a mixed picture about the stock-to-flow ratio of different currencies across time. The relatively stable and strong currencies of the developed countries have usually had growth rates in the single digits, but with a much higher variance, including contractions of the supply during deflationary recessions.<sup>14</sup> Developing country currencies have at many times experienced supply growth rates closer to those of consumable commodities, leading to disastrous hyperinflation and the destruction of the wealth of holders. The World Bank provides data on broad money growth for 167 countries for the period between 1960 and 2015. The data for the annual average for all countries is plotted in [Figure 6](#). While the data is not complete for all countries and all years, the average growth of money supply is 32.16% per year per country.



**Figure 6** Broad money average annual growth rate for 167 currencies, 1960–2015.

The 32.16% figure does not include several hyperinflationary years during which a currency is completely destroyed and replaced by a new one, and so the results of this analysis cannot definitively tell us which currencies fared worst, as some of the most significant data cannot be compared. But a look at the countries that have had the highest average increase of the money supply will show a list of countries that had several highly publicized episodes of inflationary struggle throughout the period covered. [Table 3<sup>15</sup>](#) shows the ten countries with the highest annual average increase in the money supply.

**Table 3** The Ten Countries with Highest Average Annual Broad Money Supply Growth, 1960–2015

Country	Average
Nicaragua	480.24
Congo, Dem. Rep.	410.92
Angola	293.79
Brazil	266.57
Peru	198.00
Bolivia	184.28
Argentina	148.17
Ukraine	133.84
Azerbaijan	109.25

During hyperinflationary periods, people in developing countries sell their national currency and buy durable items, commodities, gold, and foreign currencies. International reserve currencies, such as the dollar, euro, yen, and Swiss franc, are available in most of the world, even if in black markets, and meet a significantly high portion of the global demand for a store of value. The reason for that becomes apparent when one examines the rates of growth of their supply, which have been relatively low over time. Seeing as they constitute the main store-of-value options available for most people around the world, it is worth examining their supply growth rates separately from the less stable currencies. The current ten largest currencies in the foreign exchange markets are listed in [Table 4](#), along with their annual broad money supply increase for the periods between 1960–2015 and 1990–2015.<sup>16</sup> The average for the ten most internationally liquid currencies is 11.13% for the period 1960–2015, and only 7.79% for the period between 1990 and 2015. This shows that the currencies that are most accepted worldwide, and have the highest salability globally, have a higher stock-to-flow ratio than the other currencies, as this book's analysis would predict.

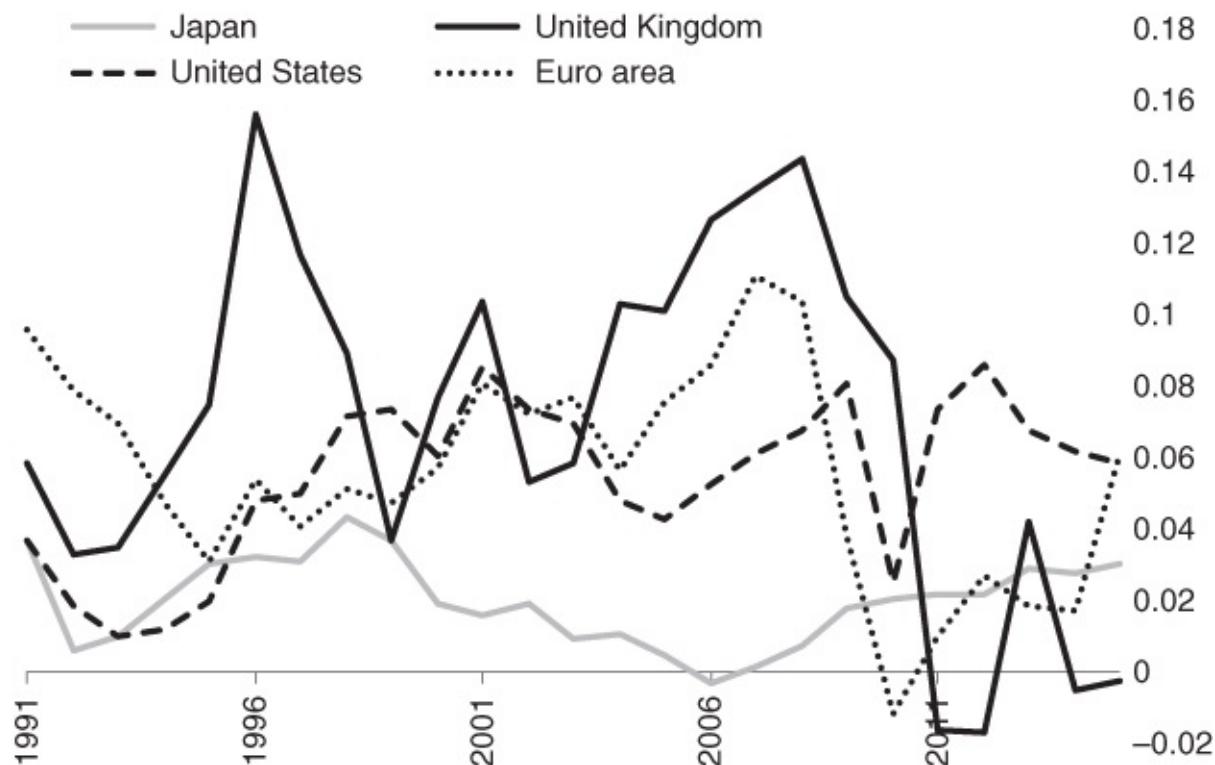
**Table 4** Average Annual Percent Increase in Broad Money Supply for the Ten Largest Global Currencies

<b>Country/Region</b>	<b>Annual Money Supply Growth Rate</b>	
	<b>1960–2015</b>	<b>1990–2015</b>
United States	7.42	5.45
Euro Area (19 countries)		5.55
Japan	10.27	1.91
United Kingdom	11.30	7.28
Australia	10.67	9.11
Canada	11.92	10.41
Switzerland	6.50	4.88
China	21.82	20.56
Sweden	7.94	6.00
New Zealand	12.30	6.78

The period of the 1970s and 1980s, which contained the beginning of the floating national currencies era, was one in which most countries experienced

high inflation. Things got better after 1990, and average supply growth rates dropped. OECD data shows that for OECD countries over the period between 1990 and 2015, annual broad money supply growth rate averaged 7.17%.

We can see that the world's major national currencies generally have their supply grow at predictably low rates. Developed economies have had slower increases in the supply of their currencies than developing economies, which have witnessed faster price rises and several hyperinflationary episodes in recent history. The advanced economies have had their broad money grow at rates usually between 2% and 8%, averaging around 5%, and rarely climbing into double digits or dropping into negative territory. Developing countries have far more erratic growth rates, which fluctuate into the double digits, sometimes triple digits, and sometimes even quadruple digits, while occasionally dropping into negative territory, reflecting the higher financial instability in these countries and currencies. (See [Figure 7.<sup>17</sup>](#))



**Figure 7** Annual broad money growth rate in Japan, U.K., United States, and Euro area.

Growth at 5% per year may not sound like much, but it will double the money supply of a country in only 15 years. This was the reason silver lost out in the monetary race to gold, whose lower supply growth rate meant a far slower erosion of purchasing power.

Hyperinflation is a form of economic disaster unique to government money.

There was never an example of hyperinflation with economies that operated a gold or silver standard, and even when artifact money like seashells and beads lost its monetary role over time, it usually lost it slowly, with replacements taking over more and more of the purchasing power of the outgoing money. But with government money, whose cost of production tends to zero, it has become quite possible for an entire society to witness all of its savings in the form of money disappear in the space of a few months or even weeks.

Hyperinflation is a far more pernicious phenomenon than just the loss of a lot of economic value by a lot of people; it constitutes a complete breakdown of the structure of economic production of a society built up over centuries and millennia. With the collapse of money, it becomes impossible to trade, produce, or engage in anything other than scraping for the bare essentials of life. As the structures of production and trade that societies have developed over centuries break down due to the inability of consumers, producers, and workers to pay one another, the goods which humans take for granted begin to disappear. Capital is destroyed and sold off to finance consumption. First go the luxury goods, but soon follow the basic essentials of survival, until humans are brought back to a barbaric state wherein they need to fend for themselves and struggle to secure the most basic needs of survival. As the individual's quality of life degenerates markedly, despair begins to turn to anger, scapegoats are sought, and the most demagogic and opportunistic politicians take advantage of this situation, stoking people's anger to gain power. The most vivid example of this is inflation of the Weimar Republic in the 1920s, which not only led to the destruction and breakdown of one of the world's most advanced and prosperous economies, but also fueled the rise of Adolf Hitler to power.

Even if the textbooks were correct about the benefits of government management of the money supply, the damage from one episode of hyperinflation anywhere in the world far outweighs them. And the century of government money had far more than one of these calamitous episodes.

As these lines are written, it is Venezuela's turn to go through this travesty and witness the ravages of the destruction of money, but this is a process that has occurred 56 times since the end of World War I, according to research by Steve Hanke and Charles Bushnell, who define hyperinflation as a 50% increase in the price level over a period of a month. Hanke and Bushnell have been able to verify 57 episodes of hyperinflation in history,<sup>18</sup> only one of which occurred before the era of monetary nationalism, and that was the inflation in France in 1795, in the wake of the Mississippi Bubble, which was also produced through government money and engineered by the honorary father

of modern government money, John Law.

The problem with government-provided money is that its hardness depends entirely on the ability of those in charge to not inflate its supply. Only political constraints provide hardness, and there are no physical, economic, or natural constraints on how much money government can produce. Cattle, silver, gold, and seashells all require serious effort to produce them and can never be generated in large quantities at the drop of a hat, but government money requires only the fiat of the government. The constantly increasing supply means a continuous devaluation of the currency, expropriating the wealth of the holders to benefit those who print the currency, and those who receive it earliest.<sup>19</sup> History has shown that governments will inevitably succumb to the temptation of inflating the money supply. Whether it's because of downright graft, "national emergency," or an infestation of inflationist schools of economics, government will always find a reason and a way to print more money, expanding government power while reducing the wealth of the currency holders. This is no different from copper producers mining more copper in response to monetary demand for copper; it rewards the producers of the monetary good, but punishes those who choose to put their savings in copper.

Should a currency credibly demonstrate its supply cannot be expanded, it would immediately gain value significantly. In 2003, when the United States invaded Iraq, aerial bombardment destroyed the Iraqi central bank and with it the capability of the Iraqi government to print new Iraqi dinars. This led to the dinar drastically appreciating overnight as Iraqis became more confident in the currency given that no central bank could print it anymore.<sup>20</sup> A similar story happened to Somali shillings after their central bank was destroyed.<sup>21</sup> Money is more desirable when demonstrably scarce than when liable to being debased.

A few reasons keep government money as the prime money of our time. First, governments mandate that taxes are paid in government money, which means individuals are highly likely to accept it, giving it an edge in its salability. Second, government control and regulation of the banking system means that banks can only open accounts and transact in government-sanctioned money, thus giving government money a much higher degree of salability than any other potential competitor. Third, legal tender laws make it illegal in many countries to use other forms of money for payment. Fourth, all government moneys are still backed by gold reserves, or backed by currencies backed by gold reserves. According to data from the World Gold Council, central banks currently have around 33,000 tons of gold in their reserves. Central bank gold

reserves rose quickly in the early part of the twentieth century as many governments confiscated their people's and banks' gold and forced them to use their money. In the late 1960s, with the Bretton Woods system straining under the pressure of increased money supply, governments began to offload some of their gold reserves. But in 2008 that trend reversed and central banks returned to buying gold and the global supply has increased. It is ironic, and very telling, that in the era of government money, governments themselves own far more gold in their official reserves than they did under the international gold standard of 1871–1914. Gold has clearly not lost its monetary role; it remains the only final extinguisher of debt, the one money whose value is not a liability of anyone else, and the prime global asset which carries no counterparty risk. Access to its monetary role, however, has been restricted to central banks, while individuals have been directed toward using government money.

Central banks' large reserves of gold can be used as an emergency supply to sell or lease on the gold market to prevent the price of gold from rising during periods of increased demand, to protect the monopoly role of government money. As Alan Greenspan once explained: "Central banks stand ready to lease gold in increasing quantities should the price rise."<sup>22</sup> (See [Figure 4](#).<sup>23</sup>)

As technology has progressed to allow for ever-more-sophisticated forms of money, including paper money that is easy to carry around, a new problem of salability has been introduced, and that is the ability of the seller to sell her good without the intervention of any third parties that might place restraints on the salability of that money. This is not an issue that exists with commodity moneys, whose market value is emergent from the market and cannot be dictated by third parties to the transaction: cattle, salt, gold, and silver all have a market and willing buyers. But with government-issued money with negligible value as a commodity, salability can be compromised by the governments that issued it, declaring it no longer suitable as legal tender.

Indians who woke up on November 8, 2016, to hear that their government had suspended the legal tender status of 500 and 1,000 rupee notes can certainly relate. In the blink of an eye, what was highly salable money lost its value and had to be exchanged at banks with very long lines. And as more of the world heads toward reducing its reliance on cash, more of people's money is being placed in government-supervised banks, making it vulnerable to confiscation or capital controls. The fact that these procedures generally happen during times of economic crisis, when individuals need that money most, is a major impediment to the salability of government-issued money.

Government control of money has turned money from being the reward for

producing value to the reward for obedience to government officials. It is impractical for anyone to develop wealth in government money without government acceptance. Government can confiscate money from the banking monopolies it controls, inflate the currency to devalue holders' wealth and reward it to the most loyal of its subjects, impose draconian taxes and punish those who avoid them, and even confiscate bills.

Whereas in Austrian economist Menger's time the criteria for determining what is the best money revolved around understanding salability and what the market would choose as money, in the twentieth century, government control of money has meant a new and very important criterion being added to salability, and that is the salability of money according to the will of its holder and not some other party. Combining these criteria together formulates a complete understanding of the term *sound money* as the money that is chosen by the market freely and the money completely under the control of the person who earned it legitimately on the free market and not any other third party.

While a staunch defender of the role of gold as money during his time, Ludwig von Mises understood that this monetary role was not something inherent or intrinsic to gold. As one of the deans of the Austrian tradition in economics, Mises well understood that value does not exist outside of human consciousness, and that metals and substances had nothing inherent to them that could assign to them a monetary role. For Mises, gold's monetary status was due to its fulfillment of the criteria for sound money as he understood them:

[T]he sound money principle has two aspects. It is affirmative in approving the market's choice of a commonly used medium of exchange. It is negative in obstructing the government's propensity to meddle with the currency system.<sup>24</sup>

Sound money, then, according to Mises, is what the market freely chooses to be money, and what remains under the control of its owner, safe from coercive meddling and intervention. For as long as the money was controlled by anyone other than the owner, whoever controlled it would always face too strong an incentive to pilfer the value of the money through inflation or confiscation, and to use it as a political tool to achieve their political goals at the expense of the holders. This, in effect, takes wealth away from people who produce it and gives it to people who specialize in the control of money without actually producing things valued by society, in the same way European traders could pilfer African society by flooding them with cheap beads as mentioned in [Chapter 2](#). No society could prosper when such an

avenue for riches remained open, at the cost of impoverishing those who seek productive avenues for wealth. A sound money, on the other hand, makes service valuable to others the only avenue open for prosperity to anyone, thus concentrating society's efforts on production, cooperation, capital accumulation, and trade.

The twentieth century was the century of unsound money and the omnipotent state, as a market choice in money was denied by government diktat, and government-issued paper money was forced on people with the threat of violence. As time passed, governments moved away from sound money ever more as their spending and deficits increased, their currencies continuously devalued, and an ever-larger share of national income was controlled by the government. With government increasing its meddling in all aspects of life, it increasingly controlled the educational system and used it to imprint in people's minds the fanciful notion that the rules of economics did not apply to governments, which would prosper the more they spent. The work of monetary cranks like John Maynard Keynes taught in modern universities the notion that government spending only has benefits, never costs. The government, after all, can always print money and so faces no real constraints on its spending, which it can use to achieve whichever goal the electorate sets for it.

For those who worship government power and take joy in totalitarian control, such as the many totalitarian and mass-murdering regimes of the twentieth century, this monetary arrangement was a godsend. But for those who valued human liberty, peace, and cooperation among humans, it was a depressing time with the prospects of economic reform receding ever more with time and the prospects of the political process ever returning us to monetary sanity becoming an increasingly fanciful dream. As Friedrich Hayek put it:

I don't believe we shall ever have a good money again before we take the thing out of the hands of government, that is, we can't take it violently out of the hands of government, all we can do is by some sly roundabout way introduce something that they can't stop.<sup>25</sup>

Speaking in 1984, completely oblivious to the actual form of this “something they can't stop”, Friedrich Hayek's prescience sounds outstanding today. Three decades after he uttered these words, and a whole century after governments destroyed the last vestige of sound money that was the gold standard, individuals worldwide have the chance to save and transact with a new form of money, chosen freely on the market and outside government control. In its infancy, Bitcoin already appears to satisfy all the requirements of Menger, Mises, and Hayek: it is a highly salable free-market option that is

resistant to government meddling.

## Notes

- 1 Malcolm Brown and Shirley Seaton, *Christmas Truce: The Western Front December 1914* (London: Pan Macmillan, 2014).
- 2 Source: George Hall, “Exchange Rates and Casualties During the First World War,” *Journal of Monetary Economics*.
- 3 I have wondered if the proximity of Germany and Austria to Switzerland, and the close relations between these populations, may have led to more Germans and Austrians exchanging their currencies for the Swiss Franc, which hastened the fall of these currencies, stretching the economic resources of the governments, and playing a decisive role in the outcome of World War I. I have never come across any research on this question, but if you do, dear reader, please do get in touch.
- 4 From July 1914 to November 1918. Source: George Hall, “Exchange Rates and Casualties During the First World War,” *Journal of Monetary Economics*.
- 5 Friedrich Hayek, *Monetary Nationalism and International Stability* (Fairfield, NJ: Augustus Kelley, 1989 [1937]).
- 6 A thorough accounting of Hoover's interventionist policies can be found in Murray Rothbard's *America's Great Depression*.
- 7 Quoted in Henry Hazlitt, *The Failure of the New Economics*. p. 277.
- 8 Otto Mallery, *Economic Union and Durable Peace* (Harper and Brothers, 1943), p. 10.
- 9 Robert Higgs, “World War II and the Triumph of Keynesianism” (2001), Independent Institute research article. Available at <http://www.independent.org/publications/article.asp?id=317>
- 10 Paul Samuelson, “Full Employment after the War,” in Seymour Harris, *Postwar Economic Problems* (New York: McGraw-Hill, 1943).
- 11 After being investigated and testifying in front of Congress, White suffered two heart attacks and died from an overdose of medication, which may have been suicide. A good treatment of this episode can be found in Benn

Steil's *The Battle of Bretton Woods*, which pushes the view that White was a Soviet spy. An alternative reading of the situation can produce a more nuanced perspective, though hardly more flattering. The links between American progressives and Russian Communists precede the 1917 Russian putsch, and included significant U.S. funding to the Bolsheviks to depose the Russian monarchy, as thoroughly detailed by British-American historian Antony Sutton. Wilsonian American progressives, who were behind the League of Nations and later the United Nations, had sought a global democratic progressive technocratic managerial world government, and sought cooperation with global forces that would be supportive of this goal, and to depose reactionary monarchies that would not cooperate with this world order. Hence, American interests played a leading role in promoting the Bolsheviks and helping them take power, particularly through Leon Trotsky, who was in New York during the revolution, channeling funding and arms to his comrades in Russia. Whereas Trotsky was an internationalist socialist who would have cooperated with American interests, he was not to gain power in Russia, and instead Stalin was to succeed Lenin, and head in a more parochial direction, prioritizing socialism at home over global cooperation. From then on, American progressives maintained contact with Russian interests, attempting to sway Russia back into cooperation with American progressive interests, but to no avail. We can thus better understand White not as a Communist spy, but as an American progressive who sought cooperation with Russian Bolsheviks for the grand project of the postwar economic order the American progressives sought.

<sup>12</sup> U.S. Department of State, “Volume I” in *Proceedings and Documents of the United Nations Monetary and Financial Conference*, Bretton Woods, New Hampshire, July 1–22, 1944.

<sup>13</sup> Hans-Hermann Hoppe, “How Is Fiat Money Possible?” *Review of Austrian Economics*, vol. 7, no. 2 (1994).

<sup>14</sup> This is an important but often underappreciated feature of government money. Because banks create money when they issue loans, the repayment of loans or the bankruptcy of the borrower leads to a reduction in the money supply. Money can have its supply increase or decrease depending on a variety of government and central bank decisions.

<sup>15</sup> Source: World Bank.

<sup>16</sup> Source: World Bank for all countries, and OECD.Stat for Euro area.

17 Source: OECD.Stat.

18 Steve Hanke and Charles Bushnell, “Venezuela Enters the Record Book: The 57th Entry in the Hanke-Krus World Hyperinflation Table,” *Studies in Applied Economics*, no. 69 (December 2016).

19 This is termed the Cantillon Effect, after the Irish-French economist Richard Cantillon, who explained it in the eighteenth century. According to Cantillon, the beneficiaries from the expansion of the money supply are the first recipients of the new money, who are able to spend it before it has caused prices to rise. Whoever receives it from them is then able to spend it facing a small increase in the price level. As the money is spent more, the price level rises, until the later recipients suffer a reduction in their real purchasing power. This is the best explanation for why inflation hurts the poorest and helps the richest in the modern economy. Those who benefit from it most are the ones with the best access to government credit, and the ones who are hurt the most are those on fixed incomes or minimum wages.

20 “Dollar or Dinar?” *Mises Daily*. Available at  
<https://mises.org/library/dollar-or-dinar>

21 J. P. Koning, “Orphaned Currency: Odd Case of Somali Shillings.” Available at <https://jpkoning.blogspot.ca/2013/03/orphaned-currency-odd-case-of-somali.html?m=1>

22 “Regulation of OTC Derivatives.” Testimony of Chairman Alan Greenspan before the Committee on Banking and Financial Services, U.S. House of Representatives, July 24, 1998.

23 Source: World Gold Council, Reserve Statistics. Available at:  
<https://www.gold.org/data/gold-reserves>

24 Ludwig von Mises, *The Theory of Money and Credit*, 2nd ed. (Irvington-on-Hudson, NY: Foundation for Economic Education, 1971), pp. 414–416.

25 Excerpt from a video interview conducted in 1984 with James U. Blanchard at the University of Freiburg.

## Chapter 5

# Money and Time Preference

Sound money is chosen freely on the market for its salability, because it holds its value across time, because it can transfer value effectively across space, and because it can be divided and grouped into small and large scales. It is money whose supply cannot be manipulated by a coercive authority that imposes its use on others. From the preceding discussion, and from the understanding of monetary economics afforded to us by Austrian economics, the importance of sound money can be explained for three broad reasons: first, it protects value across time, which gives people a bigger incentive to think of their future, and lowers their time preference. The lowering of the time preference is what initiates the process of human civilization and allows for humans to cooperate, prosper, and live in peace. Second, sound money allows for trade to be based on a stable unit of measurement, facilitating ever-larger markets, free from government control and coercion, and with free trade comes peace and prosperity. Further, a unit of account is essential for all forms of economic calculation and planning, and unsound money makes economic calculation unreliable and is the root cause of economic recessions and crises. Finally, sound money is an essential requirement for individual freedom from despotism and repression, as the ability of a coercive state to create money can give it undue power over its subjects, power which by its very nature will attract the least worthy, and most immoral, to take its reins.

Sound money is a prime factor in determining individual *time preference*, an enormously important and widely neglected aspect of individual decision making. Time preference refers to the ratio at which individuals value the present compared to the future. Because humans do not live eternally, death could come to us at any point in time, making the future uncertain. And because consumption is necessary for survival, people always value present consumption more than future consumption, as the lack of present consumption could make the future never arrive. In other words, time preference is positive for all humans; there is always a discount on the future compared to the present.

Further, because more goods can be produced with time and resources, rational individuals would always prefer to have a given quantity of resources in the present than in the future, as they could use them to produce more. For an individual to be willing to defer her receipt of a good by a year, she would

have to be offered a larger quantity of the good. The increase necessary to tempt an individual to delay her receipt of the good is what determines her time preference. All rational individuals have a nonzero time preference, but the time preference varies from one individual to another.

Animals' time preference is far higher than humans', as they act to the satisfaction of their immediate instinctive impulses and have little conception of the future. A few animals are capable of building nests or homes that can last for the future, and these have a lower time preference than the animals that act to the satisfaction of their immediate needs such as hunger and aggression. Human beings' lower time preference allows us to curb our instinctive and animalistic impulses, think of what is better for our future, and act rationally rather than impulsively. Instead of spending all our time producing goods for immediate consumption, we can choose to spend time engaged in production of goods that will take longer to complete, if they are superior goods. As humans reduce their time preference, they develop the scope for carrying out tasks over longer time horizons, for satisfaction of ever-more remote needs, and they develop the mental capacity to create goods not for immediate consumption but for the production of future goods, in other words, to create *capital goods*.

Whereas animals and humans can both hunt, humans differentiated themselves from animals by spending time developing tools for hunting. Some animals may occasionally use a tool in hunting another animal, but they have no capacity for owning these tools and maintaining them for long-term use. Only through a lower time preference can a human decide to take time away from hunting and dedicate that time to building a spear or fishing rod that cannot be eaten itself, but can allow him to hunt more proficiently. This is the essence of *investment*: as humans delay immediate gratification, they invest their time and resources in the production of capital goods which will make production more sophisticated or technologically advanced and extend it over a longer time-horizon. The only reason that an individual would choose to delay his gratification to engage in risky production over a longer period of time is that these longer processes will generate more output and superior goods. In other words, *investment raises the productivity of the producer*.

Economist Hans-Hermann Hoppe explains that once time preference drops enough to allow for any savings and capital or durable consumer-goods formation at all, the tendency is for time preference to drop even further as a “process of civilization” is initiated.<sup>1</sup>

The fisherman who builds a fishing rod is able to catch more fish per hour than the fisherman hunting with his bare hands. But the only way to build the

fishing rod is to dedicate an initial amount of time to work that does not produce edible fish, but instead produces a fishing rod. This is an uncertain process, for the fishing rod might not work and the fisherman will have wasted his time to no avail. Not only does investment require delaying gratification, it also always carries with it a risk of failure, which means the investment will only be undertaken with an expectation of a reward. The lower an individual's time preference, the more likely he is to engage in investment, to delay gratification, and to accumulate capital. The more capital is accumulated, the higher the productivity of labor, and the longer the time horizon of production.

To understand the difference more vividly, contrast two hypothetical individuals who start off with nothing but their bare hands, and differing time preferences: Harry has a higher time preference than Linda. Harry chooses to only spend his time catching fish with his hands, needing about eight hours a day to catch enough fish to feed himself for the day. Linda, on the other hand, having a lower time preference, spends only six hours catching fish, making do with a smaller amount of fish every day, and spends the other two hours working on building a fishing rod. After a week has passed, Linda has succeeded in building a working fishing rod. In the second week, she can catch in eight hours double the quantity of fish which Harry catches. Linda's investment in the fishing rod could allow her to work for only four hours a day and eat the same amount of fish Harry eats, but because she has a lower time preference, she will not rest on her laurels. She will instead spend four hours catching as many fish as Harry catches in eight hours, and then spend another four hours engaged in further capital accumulation, building herself a fishing boat, for instance. A month later, Linda has a fishing rod and a boat that allows her to go deeper into the sea, to catch fish that Harry had never even seen. Linda's productivity is not just higher per hour; her fish are different from, and superior to, the ones Harry catches. She now only needs one hour of fishing to secure her food for a day, and so she dedicates the rest of her time to even more capital accumulation, building better and bigger fishing rods, nets, and boats, which in turn increases her productivity further and improves the quality of her life.

Should Harry and his descendants continue to work and consume with the same time preference, they will continue to live the same life he lived, with the same level of consumption and productivity. Should Linda and her descendants continue with the same lower time preference, they will continuously improve their quality of life over time, increasing their stock of capital and engaging in labor with ever-higher levels of productivity, in processes that take far longer to complete. The real-life equivalents of the

descendants of Linda would today be the owners of *Annelies Ilena*, the world's largest fishing trawler. This formidable machine took decades to conceive, design, and build before it was completed in the year 2000, and it will continue to operate for decades to offer the lower-time-preference investors in it a return on the capital they provided to the building process many decades ago. The process of producing fish for Linda's descendants has become so long and sophisticated it takes decades to complete, whereas Harry's descendants still complete their process in a few hours every day. The difference, of course, is that Linda's descendants have vastly higher productivity than Harry's, and that's what makes engaging in the longer process worthwhile.

An important demonstration of the importance of time preference comes from the famous Stanford marshmallow experiment,<sup>2</sup> conducted in the late 1960s. Psychologist Walter Mischel would leave children in a room with a piece of marshmallow or a cookie, and tell the kids they were free to have it if they wanted, but that he will come back in 15 minutes, and if the children had not eaten the candy, he would offer them a second piece as a reward. In other words, the children had the choice between the immediate gratification of a piece of candy, or delaying gratification and receiving two pieces of candy. This is a simple way of testing children's time preference: students with a lower time preference were the ones who could wait for the second piece of candy, whereas the students with the higher time preference could not. Mischel followed up with the children decades later and found significant correlation between having a low time preference as measured with the marshmallow test and good academic achievement, high SAT score, low body mass index, and lack of addiction to drugs.

As an economics professor, I make sure to teach the marshmallow experiment in every course I teach, as I believe it is the single most important lesson economics can teach to individuals, and am astounded that university curricula in economics have almost entirely ignored this lesson, to the point that many academic economists have no familiarity with the term *time preference* altogether or its significance.

While microeconomics has focused on transactions between individuals, and macroeconomics on the role of government in the economy, the reality is that the most important economic decisions to any individual's well-being are the ones they conduct in their trade-offs with their future self. Every day, an individual will conduct a few economic transactions with other people, but they will partake in a far larger number of transactions with their future self. The examples of these trades are infinite: deciding to save money rather than spend it; deciding to invest in acquiring skills for future employment rather

than seeking immediate employment with low pay; buying a functional and affordable car rather than getting into debt for an expensive car; working overtime rather than going out to party with friends; or, my favorite example to use in class: deciding to study the course material every week of the semester rather than cramming the night before the final exam.

In each of these examples, there is nobody forcing the decision on the individual, and the prime beneficiary or loser from the consequences of these choices is the individual himself. The main factor determining a man's choices in life is his time preference. While people's time preference and self-control will vary from one situation to the other, in general, a strong correlation can be found across all aspects of decision making. The sobering reality to keep in mind is that a man's lot in life will be largely determined by these trades between him and his future self. As much as he'd like to blame others for his failures, or credit others with his success, the infinite trades he took with himself are likely to be more significant than any outside circumstances or conditions. No matter how circumstances conspire against the man with a low time preference, he will probably find a way to keep prioritizing his future self until he achieves his objectives. And no matter how much fortune favors the man with a high time preference, he will find a way to continue sabotaging and shortchanging his future self. The many stories of people who have triumphed against all odds and unfavorable circumstances stand in stark contrast to the stories of people blessed with skills and talent that rewarded them handsomely, who nonetheless managed to waste all that talent and achieve no lasting good for themselves. Many professional athletes and entertainers, gifted with talents that earn them large sums of money, nevertheless die penniless as their high time preference gets the better of them. On the other hand, many ordinary people with no special talents work diligently and save and invest for a lifetime to achieve financial security and bequeath their children a life better than the one they inherited.

It is only through the lowering of time preference that individuals begin to appreciate investing in the long run and start prioritizing future outcomes. A society in which individuals bequeath their children more than what they received from their parents is a civilized society: it is a place where life is improving, and people live with a purpose of making the next generation's lives better. As society's capital levels continue to increase, productivity increases and, along with it, quality of life. The security of their basic needs assured, and the dangers of the environment averted, people turn their attention toward more profound aspects of life than material well-being and the drudgery of work. They cultivate families and social ties; undertake cultural, artistic, and literary projects; and seek to offer lasting contributions

to their community and the world. Civilization is not about more capital accumulation per se; rather, it is about what capital accumulation allows humans to achieve, the flourishing and freedom to seek higher meaning in life when their base needs are met and most pressing dangers averted.

There are many factors that come into play in determining the time preference of individuals.<sup>3</sup> Security of people in their person and property is arguably one of the most important. Individuals who live in areas of conflict and crime will have a significant chance of losing their life and are thus likely to more highly discount the future, resulting in a higher time preference than those who live in peaceful societies. Security of property is another major factor influencing individuals' time preference: societies where governments or thieves are likely to expropriate individuals' property capriciously would have higher time preference, as such actions would drive individuals to prioritize spending their resources on immediate gratification rather than investing them in property which could be appropriated at any time. Tax rates will also adversely affect time preference: the higher the taxes, the less of their income that individuals are allowed to keep; this would lead to individuals working less at the margin and saving less for their future, because the burden of taxes is more likely to reduce savings than consumption, particularly for those with a low income, most of which is needed for basic survival.

The factor affecting time preference that is most relevant to our discussion, however, is the expected future value of money. In a free market where people are free to choose their money, they will choose the form of money most likely to hold its value over time. The better the money is at holding its value, the more it incentivizes people to delay consumption and instead dedicate resources for production in the future, leading to capital accumulation and improvement of living standards, while also engendering in people a low time preference in other, non-economic aspects of their life. When economic decision making is geared toward the future, it is natural that all manner of decisions are geared toward the future as well. People become more peaceful and cooperative, understanding that cooperation is a far more rewarding long-term strategy than any short-term gains from conflict. People develop a strong sense of morality, prioritizing the moral choices that will cause the best long-term outcomes for them and their children. A person who thinks of the long run is less likely to cheat, lie, or steal, because the reward for such activities may be positive in the short run, but can be devastatingly negative in the long run.

The reduction in the purchasing power of money is similar to a form of taxation or expropriation, reducing the real value of one's money even while

the nominal value is constant. In modern economies government-issued money is inextricably linked to artificially lower interest rates, which is a desirable goal for modern economists because it promotes borrowing and investing. But the effect of this manipulation of the price of capital is to artificially reduce the interest rate that accrues to savers and investors, as well as the one paid by borrowers. The natural implication of this process is to reduce savings and increase borrowing. At the margin, individuals will consume more of their income and borrow more against the future. This will not just have implications on their time preference in financial decisions; it will likely reflect on everything in their lives.

The move from money that holds its value or appreciates to money that loses its value is very significant in the long run: society saves less, accumulates less capital, and possibly begins to consume its capital; worker productivity stays constant or declines, resulting in the stagnation of real wages, even if nominal wages can be made to increase through the magical power of printing ever more depreciating pieces of paper money. As people start spending more and saving less, they become more present-oriented in all their decision making, resulting in moral failings and a likelihood to engage in conflict and destructive and self-destructive behavior.

This helps explain why civilizations prosper under a sound monetary system, but disintegrate when their monetary systems are debased, as was the case with the Romans, the Byzantines, and modern European societies. The contrast between the nineteenth and twentieth centuries can be understood in the context of the move away from sound money and all the attendant problems that creates.

## **Monetary Inflation**

The simple reality, demonstrated throughout history, is that any person who finds a way to create the monetary medium will try to do it. The temptation to engage in this is too strong, but the creation of the monetary medium is not an activity that is productive to society, as any supply of money is sufficient for any economy of any size. The more that a monetary medium restrains this drive for its creation, the better it is as a medium of exchange and stable store of value. Unlike all other goods, money's functions as a medium of exchange, store of value, and unit of account are completely orthogonal to its quantity. What matters in money is its purchasing power, not its quantity, and as such, any quantity of money is enough to fulfil the monetary functions, as long as it is divisible and groupable enough to satisfy holders' transaction and storage

needs. Any quantity of economic transactions could be supported by a money supply of any size as long as the units are divisible enough.

A theoretically ideal money would be one whose supply is fixed, meaning nobody could produce more of it. The only noncriminal way to acquire money in such a society would be to produce something of value to others and exchange it with them for money. As everyone seeks to acquire more money, everyone works more and produces more, leading to improving material well-being for everyone, which in turn allows people to accumulate more capital and increase their productivity. Such a money would also work perfectly well as a store of value, by preventing others from increasing the money supply; the wealth stored into it would not depreciate over time, incentivizing people to save and allowing them to think more of the future. With growing wealth and productivity and an increased ability to focus on the future, people begin to reduce their time preference and can focus on improving non-material aspects of their life, including spiritual, social, and cultural endeavors.

It had, however, proved impossible to come up with a form of money of which more cannot be created. Whatever gets chosen as a medium of exchange will appreciate in value and lead to more people trying to produce more of it. The best form of money in history was the one that would cause the new supply of money to be the least significant compared to the existing stockpiles, and thus make its creation not a good source of profit. Seeing as gold is indestructible, it is the one metal whose stockpiles have only been growing since the first human mined it. Seeing as this mining has been going on for thousands of years, and alchemy has yet to prove large-scale commercial viability, new mining supply continues to be a reliably tiny fraction of existing stockpiles.

This property is why gold has been synonymous with sound money: it is money whose supply is guaranteed, thanks to the ironclad rules of physics and chemistry, to never be significantly increased. Try as they might, humans have for centuries failed to produce a form of money more sound than gold, and that is why it has been the prime monetary instrument used by most human civilizations throughout history. Even as the world has transitioned to government money as a store of value, medium of exchange, and unit of account, governments themselves continue to hold a significant percentage of their reserves in gold, constituting a significant percentage of total gold supply.

Keynes complained about goldmining being a wasteful activity that consumed a lot of resources while adding nothing to real wealth. While his critique does contain a kernel of truth, in the sense that increasing the supply of the monetary medium does not increase the wealth of the society using it, he

misses the point that gold's monetary role is a result of it being the metal likely to attract the *least* human and capital resources toward its mining and prospecting, compared to all others. Because the supply of gold can only be increased by very small quantities, even with price spikes, and as gold is very rare and difficult to find, mining monetary gold would be less profitable than mining any other metal assuming a monetary role, leading to the least amount of human time and resources going to mining it. Were any other metal used as the monetary medium, whenever society's time preference drops and more people purchase the metal for savings, raising its price, there would be a significant opportunity for profit in producing more of the metal. Because the metal is perishable, the new production will always be far larger (relative to gold) as a percentage of existing stockpiles, as in the copper example above, bringing the price down and devaluing the savings of the holders. In such a society, savings would be effectively stolen from savers to reward people who engage in mining metals at quantities far beyond their economic use. Little saving and useful production would take place in such a society, impoverishment would ensue from the obsession with producing monetary media, and the society would be ripe for being overtaken and conquered by more productive societies whose individuals have better things to do than produce more monetary media.

The reality of monetary competition constantly has disadvantaged individuals and societies that invest their savings in metals other than gold while rewarding those who invest their savings in gold, because it cannot be inflated easily and because it forces people to direct their energies away from producing a monetary good and toward producing more useful goods and services. This helps explain why Arab polymath Ibn Khaldun referred to gold prospecting and mining as the least respectable of professions, after kidnapping for ransom.<sup>4</sup> The folly of Keynes condemning gold as money because its mining is wasteful is that it is the *least* wasteful of all potential metals to use as money. But the folly is doubly compounded by Keynes's "solution" to this shortcoming of gold being to propose a fiat monetary standard which has ended up dedicating far more human time, labor, and resources toward the management of the issuance of the money supply and the profiting from it. Never in the history of gold as a monetary medium did it employ as many miners and workers as today's central banks and all the associated banks and businesses profiting from having close access to the monetary printing presses, as will be discussed in [Chapter 7](#).

When new supply is insignificant compared to existing supply, the market value of a form of money is determined through people's willingness to hold

money and their desire to spend it. Such factors will vary significantly with time for each individual, as individuals' personal circumstances go from periods where they prioritize holding a lot of money to periods of holding less. But in the aggregate, they will vary slightly for society as a whole, because money is the market good with the least diminishing *marginal utility*. One of the fundamental laws of economics is the law of diminishing marginal utility, which means that acquiring more of any good reduces the marginal utility of each extra unit. Money, which is held not for its own sake, but for the sake of being exchanged with other goods, will have its utility diminish slower than any other good, because it can always be exchanged for any other good. As an individual's holdings of houses, cars, TVs, apples, or diamonds increases, the marginal valuation they put on each extra unit decreases, leading to a decreasing desire to accumulate more of each. But more money is not like any of these goods, because as more of it is held, the holder can simply exchange the money for more of the next good they value the most. The marginal utility of money does in fact decline, as evidenced by the fact that an extra dollar of income means a lot more to a person whose daily income is \$1 than one whose daily income is \$1,000. But money's marginal utility declines far slower than any other good, because it declines along with the utility of wanting any good, not one particular good.

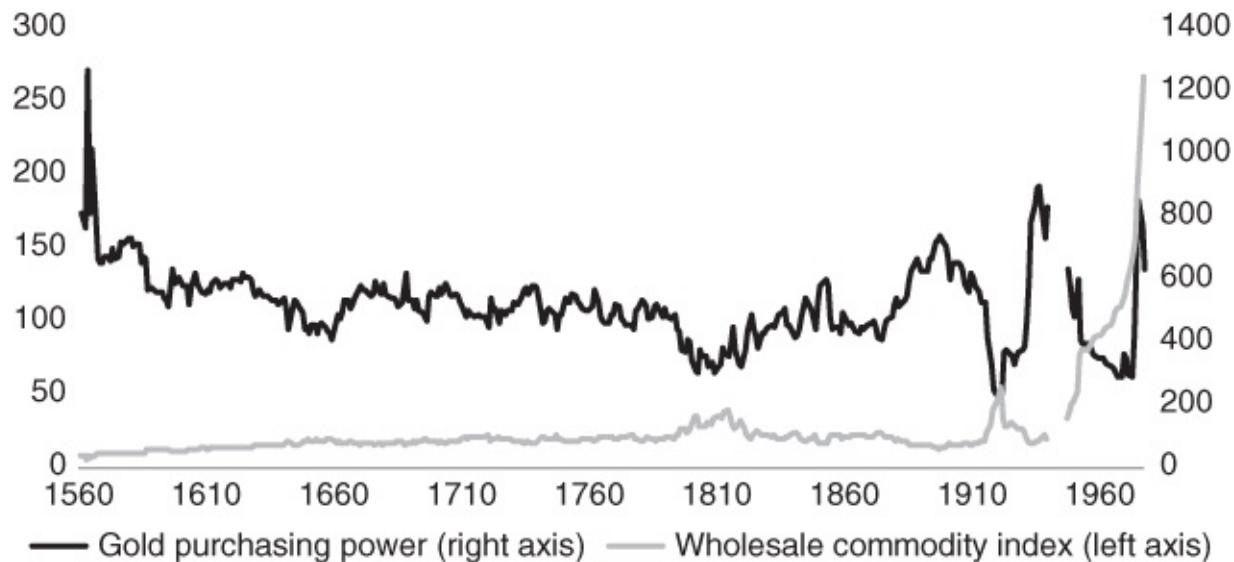
The slowly declining marginal utility of holding money means demand for money at the margin will not vary significantly. Combining this with an almost constant supply results in a relatively stable market value for money in terms of goods and services. This means money is unlikely to appreciate or depreciate significantly, making it a lousy long-term investment but a good store of value. An investment would be expected to have a significant appreciation potential, but also carry a significant risk of loss or depreciation. Investment is a reward for taking risk, but sound money, having the least risk, offers no reward.

In the aggregate, demand for money will likely vary only with variance in time preference. As people develop a lower time preference overall, more people are likely to want to hold money, causing a rise in its market value compared to other goods and services, further rewarding its holders. A society that develops a higher time preference, on the other hand, would tend to decrease its holdings of money, slightly dropping its market value at the margin. In either case, holding money would remain the least risky and rewarding asset overall, and that in essence is the root cause for demand for it.

This analysis helps explain the remarkable ability of gold to hold its value over years, decades, and centuries. Observing prices of agricultural commodities in

the Roman empire in terms of grams of gold shows they bear remarkable similarity to prices today. Examining Diocletian's edict<sup>5</sup> of prices from 301 AD and converting gold prices to their modern-day U.S. dollar equivalent, we find that a pound of beef cost around \$4.50, while a pint of beer cost around \$2, a pint of wine around \$13 for high quality wine and \$9 for lower quality, and a pint of olive oil cost around \$20. Comparisons of various data for salaries of certain professions shows similar patterns, but these individual data points, while indicative, cannot be taken as a definitive settlement of the question.

Roy Jastram has produced a systematic study of the purchasing power of gold over the longest consistent datasets available.<sup>6</sup> Observing English data from 1560 to 1976 to analyze the change in gold's purchasing power in terms of commodities, Jastram finds gold dropping in purchasing power during the first 140 years, but then remaining relatively stable from 1700 to 1914, when Britain went off the gold standard. For more than two centuries during which Britain primarily used gold as money, its purchasing power remained relatively constant, as did the price of wholesale commodities. After Britain effectively went off the gold standard in the wake of World War I, the purchasing power of gold increased, as did the index of wholesale prices. (See [Figure 8.<sup>7</sup>](#))

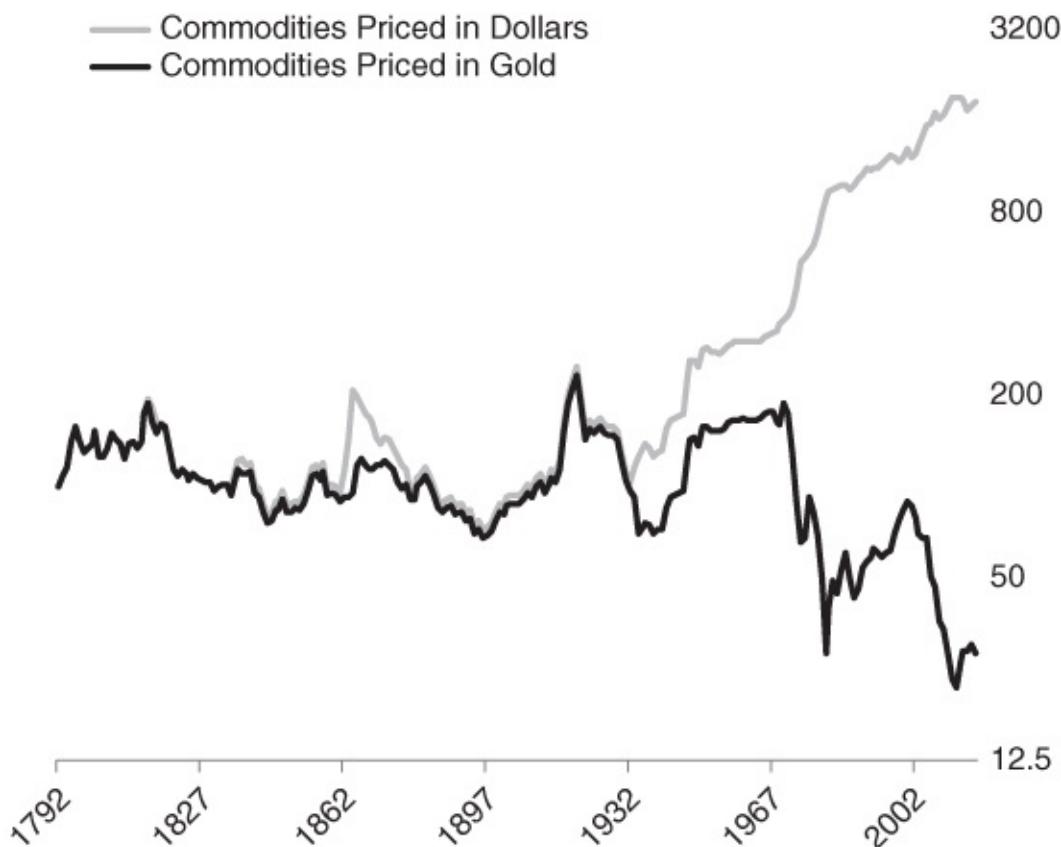


**Figure 8** Purchasing power of gold and wholesale commodity index in England, 1560–1976.

It's important to understand that for a monetary medium to remain perfectly constant in value is not even theoretically possible or determinable. Goods and services which money purchases will change over time as new technologies introduce new goods that replace old ones, and as the conditions

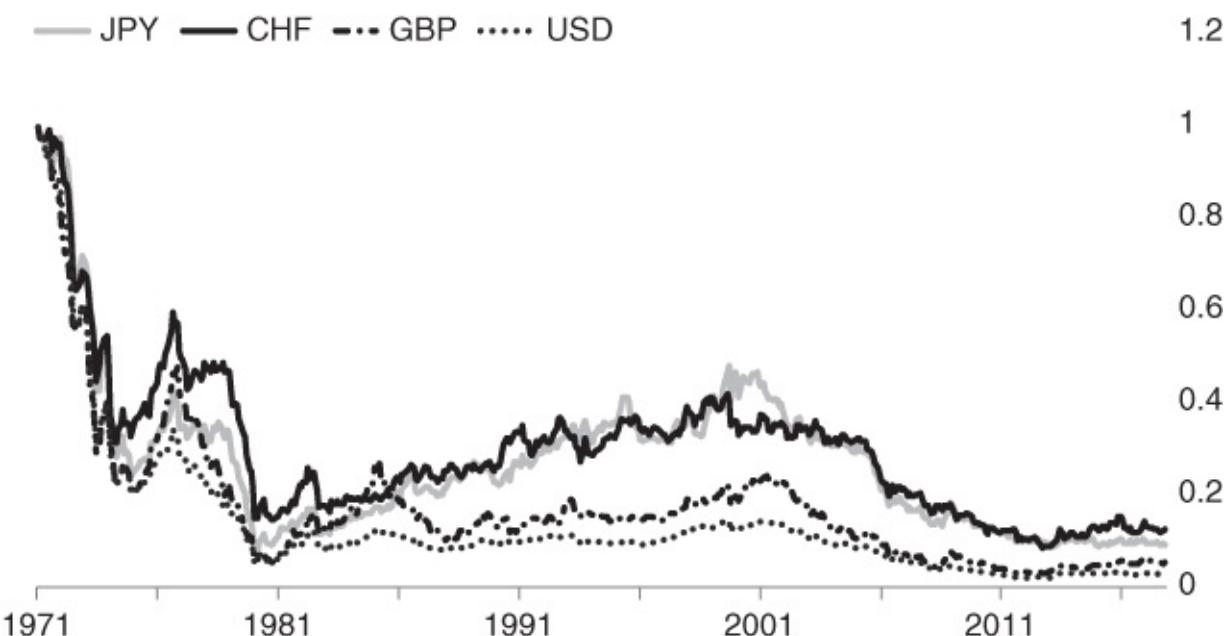
of supply and demand of different goods will vary over time. One of the prime functions of the monetary unit is to serve as the unit of measure for economic goods, whose value is constantly changing. It is thus not possible to satisfactorily measure the price of a monetary good precisely, although over long time horizons, studies similar to Jastram's can be indicative of an overall trend for a medium of exchange to hold its value, particularly when compared to other forms of money.

More recent data from the United States, focused on the last two centuries, which witnessed faster economic growth than the period covered in Jastram's data, shows that gold has even increased in value in terms of commodities, whose prices rose dramatically in terms of U.S. dollars. This is perfectly consistent with gold being the hardest money available. It is easier to keep increasing the supply of all commodities than gold, and so over time, all these other commodities will become relatively more abundant than gold, causing a rise in gold's purchasing power over time. As can be seen in [Figure 9](#),<sup>8</sup> the U.S. dollar was also gaining value against commodities whenever it was tied to gold, but lost value significantly when its connection to gold was severed, as was the case during the U.S. Civil War and the printing of greenbacks, and in the period after the 1934 devaluation of the dollar and confiscation of citizen gold.



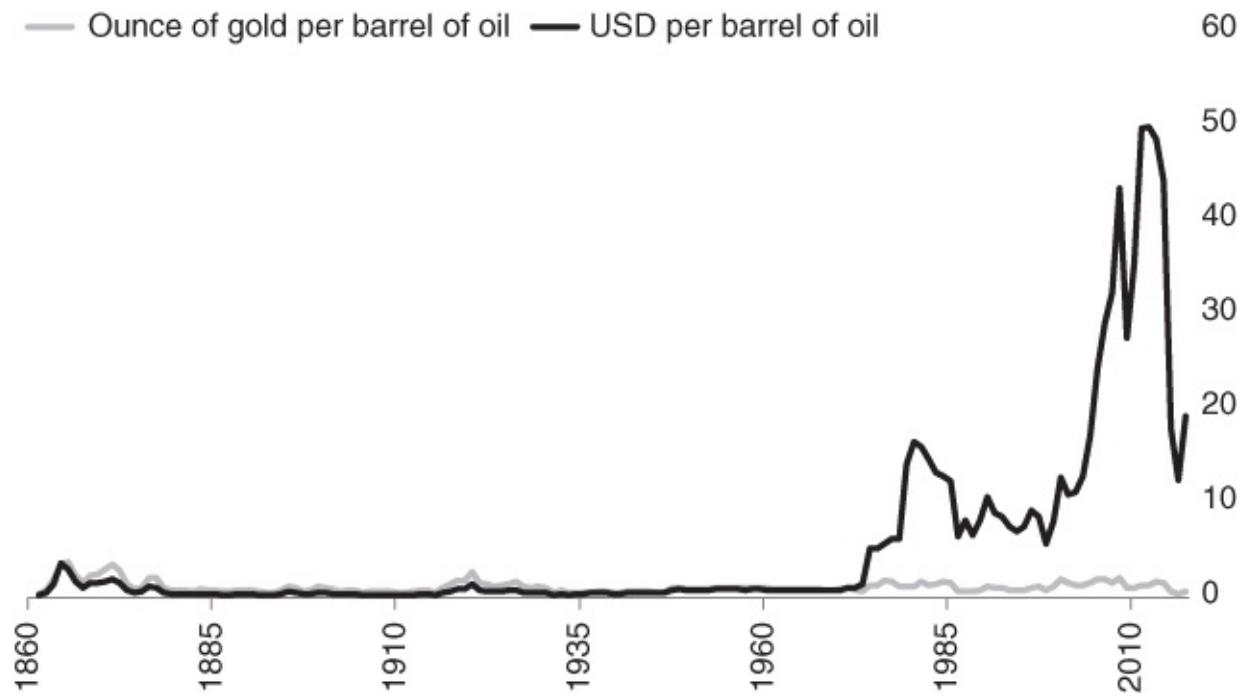
[\*\*Figure 9\*\*](#) Price of commodities in gold and in U.S. dollars, in log scale, 1792–2016.

The period between 1931 and 1971 was one in which money was nominally linked to gold, but only through various government arrangements that allowed for the exchange of gold for paper money under arcane conditions. This period witnessed instability in the value of both government money and gold along with the policy changes. For a comparison between gold and government money, it is more useful to look at the period from 1971 to the modern day, where free-floating national currencies have traded in markets with central banks tasked with guaranteeing their purchasing power. (See [Figure 10.<sup>9</sup>](#))



[\*\*Figure 10\*\*](#) Major currencies priced in gold, 1971–2017.

Even the best-performing and most stable government forms of money have witnessed their value decimated compared to gold, with their value currently running at around 2–3% of their value in 1971 when they were all delinked from gold. This does not represent a rise in the market value of gold, but rather a drop in the value of fiat currencies. When comparing prices of goods and services to the value of government money and gold, we find a significant rise in their prices as expressed in government money, but relative stability in their prices in gold. The price of a barrel of oil, for instance, which is one of the key commodities of modern industrial society, has been relatively constant in terms of gold since 1971, while increasing by several orders of magnitude in terms of government money. (See [Figure 11.<sup>10</sup>](#))



**Figure 11** Oil priced in U.S. dollars and ounces of gold, 1861–2017, as multiple of price in 1971.

Hard money, whose supply cannot be expanded easily, will likely be more stable in value than easy money because its supply is largely inelastic while societal demand for money varies little over time as time preference varies. Easy money, on the other hand, because of the ability of its producers to vary its quantity drastically, will engender widely fluctuating demand from holders as the quantity varies and its reliability as a store of value falls and rises.

Relative stability of value is not just important to preserve the purchasing power of holders' savings, it is arguably more important for preserving the integrity of the monetary unit as a unit of account. When money is predictably stable in value due to the small variation in supply and demand, it can act as a reliable signal for changes in prices of other goods and services, as was the case with gold.

In the case of government money, on the other hand, the money supply increases through the expansion of the supply by the central bank and commercial banks, and contracts through deflationary recessions and bankruptcies, while the demand for money can vary even more unpredictably depending on people's expectations of the value of the money and the policies of the central bank. This highly volatile combination results in government money being unpredictable in value over the long term. Central banks' mission of ensuring price stability has them constantly managing the supply of money through their various tools to ensure price stability, making many

major currencies appear less volatile in the short run compared to gold. But in the long run, the constant increase in the supply of government money compared to gold's steady and slow increase makes gold's value more predictable.

Sound money, chosen on a free market precisely for its likelihood to hold value over time, will naturally have a better stability than unsound money whose use is enforced through government coercion. Had government money been a superior unit of account and store of value, it would not need government legal tender laws to enforce it, nor would governments worldwide have had to confiscate large quantities of gold and continue to hold them in their central bank reserves. The fact that central banks continue to hold onto their gold, and have even started increasing their reserves, testifies to the confidence they have in their own currencies in the long term, and in the inescapable monetary role of gold as the value of paper currencies continues to plumb new depths.

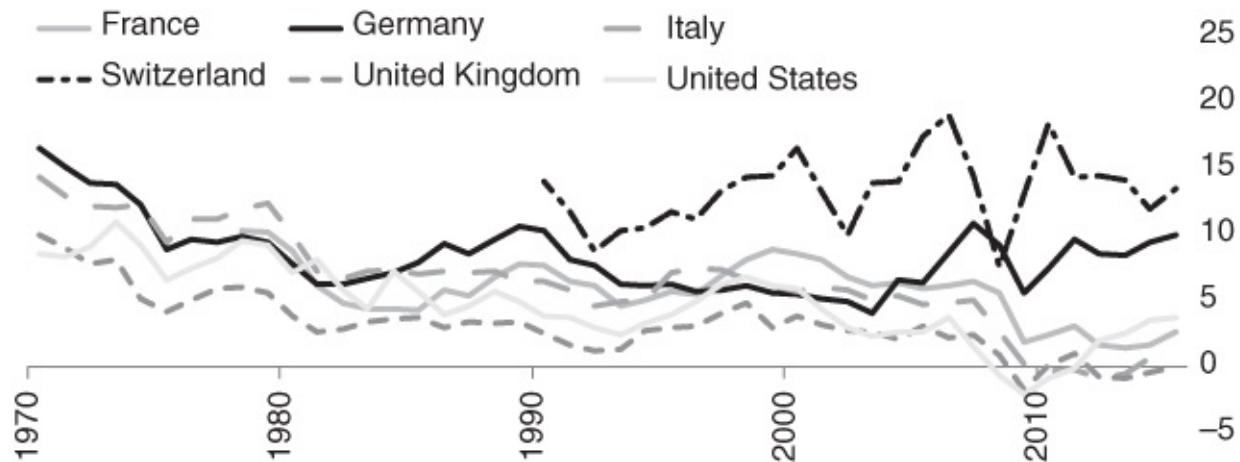
## Saving and Capital Accumulation

One of the key problems caused by a currency whose value is diminishing is that it negatively incentivizes saving for the future. Time preference is universally positive: given the choice between the same good today or in the future, any sane person would prefer to have it today. Only by increasing the return in the future will people consider delaying gratification. Sound money is money that gains in value slightly over time, meaning that holding onto it is likely to offer an increase in purchasing power. Unsound money, being controlled by central banks whose express mission is to keep inflation positive, will offer little incentive for holders to keep it, as they become more likely to spend it or to borrow it.

When it comes to investment, sound money creates an economic environment where any positive rate of return will be favorable to the investor, as the monetary unit is likely to hold onto its value, if not appreciate, thus strengthening the incentive to invest. With unsound money, on the other hand, only returns that are higher than the rate of depreciation of the currency will be positive in real terms, creating incentives for high-return but high-risk investment and spending. Further, as increases in the money supply effectively mean low interest rates, the incentive to save and invest is diminished while the incentive to borrow increases.

The track record of the 46-year experiment with unsound money bears out this conclusion. Savings rates have been declining across the developed

countries, dropping to very low levels, while personal, municipal, and national debts have increased to levels which would have seemed unimaginable in the past. (See [Figure 12.<sup>11</sup>](#))



**Figure 12** National savings rates in major economies, 1970–2016, %.

Only Switzerland, which remained on an official gold standard until 1934, and continued to back its currency with large reserves of gold until the early 1990s, has continued to have a high savings rate, standing as the last bastion of low-time-preference Western civilization with a savings rate in the double digits, as every other Western economy has plummeted into the single digits and even to negative saving rates in some cases. The average savings rate of the seven largest advanced economies<sup>12</sup> was 12.66% in 1970, but has dropped to 3.39% in 2015, a fall of almost three-quarters.

While savings rates have plummeted across the western world, indebtedness continues to rise. The average household in the West is indebted by more than 100% of its annual income, while the total debt burden of the various levels of government and households exceeds GDP by multiples, with significant consequences. Such numbers have become normalized as Keynesian economists assure citizens that debt is good for growth and that saving would result in recessions. One of the most mendacious fantasies that pervades Keynesian economic thought is the idea that the national debt “does not matter, since we owe it to ourselves.” Only a high-time-preference disciple of Keynes could fail to understand that this “ourselves” is not one homogeneous blob but is differentiated into several generations—namely, the current ones which consume recklessly at the expense of future ones. To make matters worse, this phrase is usually followed by emotional blackmail along the lines of “we would be short-changing ourselves if we didn’t borrow to invest for our future.”

Many pretend this is a miraculous modern discovery from Keynes's brilliant insight that spending is all that matters, and that by ensuring spending remains high, debts can continue to grow indefinitely and savings can be eliminated. In reality, there is nothing new in this policy, which was employed by the decadent emperors of Rome during its decline, except that it is being applied with government-issued paper money. Indeed, paper money allows it to be managed a little more smoothly, and less obviously, than the metallic coins of old. But the results are the same.

The twentieth century's binge on conspicuous consumption cannot be understood separately from the destruction of sound money and the outbreak of Keynesian high-time-preference thinking, in vilifying savings and deifying consumption as the key to economic prosperity. The reduced incentive to save is mirrored with an increased incentive to spend, and with interest rates regularly manipulated downwards and banks able to issue more credit than ever, lending stopped being restricted to investment, but has moved on to consumption. Credit cards and consumer loans allow individuals to borrow for the sake of consumption without even the pretense of performing investment in the future. It is an ironic sign of the depth of modern-day economic ignorance fomented by Keynesian economics that capitalism—an economic system based on *capital accumulation* from saving—is blamed for unleashing conspicuous consumption—the exact opposite of capital accumulation. Capitalism is what happens when people drop their time preference, defer immediate gratification, and invest in the future. Debt-fueled mass consumption is as much a normal part of capitalism as asphyxiation is a normal part of respiration.

This also helps explain one of the key Keynesian misunderstandings of economics, which considers that delaying current consumption by saving will put workers out of work and cause economic production to stall. Keynes viewed the level of spending at any point in time as being the most important determinant of the state of the economy because, having studied no economics, he had no understanding of capital theory and how employment does not only have to be in final goods, but can also be in the production of capital goods which will only produce final goods in the future. And having lived off of his family's considerable fortune without having to work real jobs, Keynes had no appreciation of saving or capital accumulation and their essential role in economic growth. Hence, Keynes would observe a recession concurrently with a fall in consumer spending and increase in saving, and assume the causality runs from increased savings to decreased consumption to recession. Had he had the temperament to study capital theory, he would have understood that the decreased consumption was a natural reaction to the

business cycle, which was in turn caused by the expansion of the money supply, as will be discussed in [Chapter 6](#). He would also have understood that the only cause of economic growth in the first place is delayed gratification, saving, and investment, which extend the length of the production cycle and increase the productivity of the methods of production, leading to better standards of living. He would have realized the only reason he was born into a rich family in a rich society was that his ancestors had spent centuries accumulating capital, deferring gratification and investing in the future. But, like the Roman emperors during the decay of the empire, he could never understand the work and sacrifice needed to build his affluence and believed instead that high consumption is the cause of prosperity rather than its consequence.

Debt is the opposite of saving. If saving creates the possibility of capital accumulation and civilizational advance, debt is what can reverse it, through the reduction in capital stocks across generations, reduced productivity, and a decline in living standards. Whether it is housing debt, Social Security obligations, or government debt that will require ever-higher taxes and debt monetization to refinance, the current generations may be the first in the western world since the demise of the Roman Empire (or, at least, the Industrial Revolution) to come into the world with less capital than their parents. Rather than witness their savings accumulate and raise the capital stock, this generation has to work to pay off the growing interest on its debt, working harder to fund entitlement programs they will barely get to enjoy while paying higher taxes and barely being able to save for their old age.

This move from sound money to depreciating money has led to several generations of accumulated wealth being squandered on conspicuous consumption within a generation or two, making indebtedness the new method for funding major expenses. Whereas 100 years ago most people would pay for their house, education, or marriage from their own labor or accumulated savings, such a notion seems ridiculous to people today. Even the wealthy will not live within their means and will instead use their wealth to allow them larger loans to finance large purchases. This sort of arrangement can last for a while, but its lasting cannot be mistaken for sustainability, as it is no more than the systematic consumption of the capital stock of society—the eating of the seed crop.

When money was nationalized, it was placed under the command of politicians who operate over short time-horizons of a few years, trying their best to get reelected. It was only natural that such a process would lead to short-term decision making where politicians abuse the currency to fund their

reelection campaigns at the expense of future generations. As H. L. Mencken put it: "Every election is an advanced auction on stolen goods."<sup>13</sup> In a society where money is free and sound, individuals have to make decisions with their capital that affect their families in the long run. While it is likely that some would make irresponsible decisions that hurt their offspring, those who wanted to make responsible decisions had the choice to do so. With nationalized money, that became an increasingly harder choice to make, as central governmental control of money supply inevitably destroys incentives to save while increasing the incentive to borrow. No matter how prudent a person, his children will still witness their savings lose value and have to pay taxes to cover for the inflationary largesse of their government.

As the reduction in intergenerational inheritance has reduced the strength of the family as a unit, government's unlimited checkbook has increased its ability to direct and shape the lives of people, allowing it an increasingly important role to play in more aspects of individuals' lives. The family's ability to finance the individual has been eclipsed by the state's largesse, resulting in a declining incentives for maintaining a family.

In a traditional society, individuals are aware that they will need children to support them in the future, and so will spend their healthy young years starting a family and investing in giving their children the best life possible. But if long-term investment in general is disincentivized, if saving is likely to be counterproductive as money depreciates, this investment becomes less profitable. Further, as politicians sell people the lie that eternal welfare and retirement benefits are possible through the magic of the monetary printing press, the investment in a family becomes less and less valuable. Over time, the incentive to start a family declines and more and more people end up leading single lives. More marriages are likely to break down as partners are less likely to put in the necessary emotional, moral, and financial investment to make them work, while marriages that do survive will likely produce fewer children. The well-known phenomenon of the modern breakdown of the family cannot be understood without recognizing the role of unsound money allowing the state to appropriate many of the essential roles that the family has played for millennia, and reducing the incentive of all members of a family to invest in long-term familial relations.

Substituting the family with government largesse has arguably been a losing trade for individuals who have partaken in it. Several studies show that life satisfaction depends to a large degree on establishing intimate long-term familial bonds with a partner and children.<sup>14</sup> Many studies also show that rates of depression and psychological diseases are rising over time as the

family breaks down, particularly for women.<sup>15</sup> Cases of depression and psychological disorders very frequently have family breakdown as a leading cause.

It is no coincidence that the breakdown of the family has come about through the implementation of the economic teachings of a man who never had any interest in the long term. A son of a rich family that had accumulated significant capital over generations, Keynes was a libertine hedonist who wasted most his adult life engaging in sexual relationships with children, including traveling around the Mediterranean to visit children's brothels.<sup>16</sup> Whereas Victorian Britain was a low-time-preference society with a strong sense of morality, low interpersonal conflict, and stable families, Keynes was part of a generation that rose against these traditions and viewed them as a repressive institution to be brought down. It is impossible to understand the economics of Keynes without understanding the kind of morality he wanted to see in a society he increasingly believed he could shape according to his will.

## Innovations: “Zero to One” versus “One to Many”

The impact of sound money on time preference and future orientation can be seen in more than just the level of savings, but also in the type of projects in which a society invests. Under a sound money regime, similar to what the world had in the late nineteenth century, individuals are far more likely to engage in long-term investments and to have large amounts of capital available to finance the sort of projects that will require a long time to pay off. As a result, some of the most important innovations in human history were born in the golden era at the end of the nineteenth century.

In their seminal work, *The History of Science and Technology*, Bunch and Hellemans compile a list of the 8,583 most important innovations and inventions in the history of science and technology. Physicist Jonathan Huebner<sup>17</sup> analyzed all these events along with the years in which they happened and global population at that year, and measured the rate of occurrence of these events per year per capita since the Dark Ages. Huebner found that while the total number of innovations rose in the twentieth century, the number of innovations per capita peaked in the nineteenth century.

A closer look at the innovations of the pre-1914 world lends support to Huebner's data. It is no exaggeration to say that our modern world was invented in the gold standard years preceding World War I. The twentieth century was the century that refined, improved, optimized, economized, and

popularized the inventions of the nineteenth century. The wonders of the twentieth century's improvements make it easy to forget that the actual inventions—the transformative world-changing innovations—almost all came in the golden era.

In his popular book, *From Zero to One*, Peter Thiel discusses the impact of the visionaries who create a new world by producing the first successful example of a new technology. The move from having “zero to one” successful example of a technology, as he terms it, is the hardest and most significant step in an invention, whereas the move from “one to many” is a matter of scaling, marketing, and optimization. Those of us who are enamored with the concept of progress might find it hard to swallow the fact that the world of sound money pre-1914 was the world of zero to one, whereas the post-1914 world of government-produced money is the world of moving from one to many. There is nothing wrong with the move from one to many, but it certainly gives us plenty of food for thought to consider why we do not have many more zero-to-one transformations under our modern monetary system.

The majority of the technology we use in our modern life was invented in the nineteenth century, under the gold standard, financed with the ever-growing stock of capital accumulated by savers storing their wealth in a sound money and store of value which did not depreciate quickly. A summary of some of the most important innovations of the period is provided here:

- Hot and cold running water, indoor toilets, plumbing, central heating:

These inventions, taken for granted today by anyone living in a civilized society, are the difference between life and death for most of us. They have been the main factor in the elimination of most infectious diseases across the globe, and allowed for the growth of urban areas without the ever-present scourge of diseases.

- Electricity, internal combustion engine, mass production:

Our modern industrial society was built around the growth in utilization of hydrocarbon energy, without which none of the trappings of modern civilization would be possible. These foundational technologies of energy and industry were invented in the nineteenth century.

- Automobile, airplane, city subway, electric elevator:

We have *la belle époque* to thank for our cities' streets not being littered with horse manure, and for our ability to travel around the world. The automobile was invented by Karl Benz in 1885, the airplane by the Wright brothers in 1906, the subway by Charles Pearson in 1843, and the electric

elevator by Elisha Otis in 1852.

- Heart surgery; organ transplant; appendectomy; baby incubator; radiation therapy; anesthetics, aspirin, blood types and blood transfusions, vitamins, electrocardiograph, stethoscope:

Surgery and modern medicine owe their most significant advances to *la belle époque* as well. The introduction of modern sanitation and reliable hydrocarbon energy allowed doctors to transform the way they cared for their patients after centuries of largely counterproductive measures.

- Petroleum-derived chemicals, stainless steel, nitrogen-based fertilizers:

The industrial substances and materials which make our modern life possible all derive from the transformative innovations of *la belle époque*, which allowed for mass industrialization, as well as mass agriculture.

Plastics, and everything that comes from them, are a product of the utilization of petroleum-derived chemicals.

- Telephone, wireless telegraphy, voice recording, color photography, movies:

While we like to think of our modern era as being the era of mass telecommunication, in reality, most of what we have achieved in the twentieth century was to improve on the innovations of the nineteenth. The first computer was the Babbage computer, designed in 1833 by Charles Babbage, but completed by his son Henry in 1888. It might be an exaggeration to say that the Internet and all it contains are bells and whistles added onto the invention of the telegraph in 1843, but it does contain a kernel of truth. It was the telegraph which fundamentally transformed human society by allowing for communication without the need for the physical transport of letters or messengers. That was telecommunication's zero-to-one moment, and everything that followed, for all its wonders, has been a one-to-many improvement.

## Artistic Flourishing

The contributions of sound money to human flourishing are not restricted to scientific and technological advance; they can also be vividly seen in the art world. It is no coincidence that Florentine and Venetian artists were the leaders of the Renaissance, as these were the two cities which led Europe in the adoption of sound money. The Baroque, Neoclassical, Romantic, Realistic, and post-Impressionistic schools were all financed by wealthy patrons holding sound money, with a very low time preference and the patience to wait for

years, or even decades, for the completion of masterpieces meant to survive for centuries. The astonishing domes of Europe's churches, built and decorated over decades of inspired meticulous work by incomparable architects and artists like Filippo Brunelleschi and Michelangelo, were all financed with sound money by patrons with very low time preference. The only way to impress these patrons was to build artwork that would last long enough to immortalize their names as the owners of great collections and patrons of great artists. This is why Florence's Medicis are perhaps better remembered for their patronage of the arts than for their innovations in banking and finance, though the latter may be far more consequential.

Similarly, the musical works of Bach, Mozart, Beethoven, and the composers of the Renaissance, Classical, and Romantic eras put to shame today's animalistic noises recorded in batches of a few minutes, churned out by the ton by studios profiting from selling to man the titillation of his basest instincts. Whereas the music of the golden era spoke to man's soul and awakened him to think of higher callings than the mundane grind of daily life, today's musical noises speak to man's most base animalistic instincts, distracting him from the realities of life by inviting him to indulge in immediate sensory pleasures with no concern for long-term consequences or anything more profound. It was hard money that financed Bach's *Brandenburg Concertos* while easy money financed Miley Cyrus's twerks.

In times of sound money and low time preference, artists worked on perfecting their craft so they could produce valuable works in the long run. They spent years learning the intricate details and techniques of their work, perfecting it and excelling in developing it beyond the capabilities of others, to the astonishment of their patrons and the general public. Nobody stood a chance of being called an artist without years of hard work on developing their craft. Artists did not condescendingly lecture the public on what art is and why their lazy productions that took a day to make are profound. Bach never claimed to be a genius or spoke at length about how his music was better than that of others; he instead spent his life perfecting his craft. Michelangelo spent four years hanging from the ceiling of the Sistine Chapel working for most of the day with little food in order to paint his masterpiece. He even wrote a poem to describe the ordeal:<sup>18</sup>

I've grown a goitre by dwelling in this den—  
As cats from stagnant streams in Lombardy,  
Or in what other land they hap to be—  
Which drives the belly close beneath the chin:

My beard turns up to heaven; my nape falls in,  
Fixed on my spine: my breast-bone visibly  
Grows like a harp: a rich embroidery  
Bedews my face from brush-drops thick and thin.

My loins into my paunch like levers grind:  
My buttock like a crupper bears my weight;  
My feet unguided wander to and fro;  
In front my skin grows loose and long; behind,  
By bending it becomes more taut and strait;  
Crosswise I strain me like a Syrian bow:  
Whence false and quaint, I know,  
Must be the fruit of squinting brain and eye;  
For ill can aim the gun that bends awry.

Come then, Giovanni, try  
To succour my dead pictures and my fame;  
Since foul I fare and painting is my shame.

Only with such meticulous and dedicated effort over many decades did these geniuses succeed in producing these masterpieces, immortalizing their names as the masters of their craft. In the era of unsound money, no artist has the low time preference to work as hard or as long as Michelangelo or Bach to learn their craft properly or spend any significant amount of time perfecting it. A stroll through a modern art gallery shows artistic works whose production requires no more effort or talent than can be mustered by a bored 6-year-old. Modern artists have replaced craft and long hours of practice with pretentiousness, shock value, indignation, and existential angst as ways to cow audiences into appreciating their art, and often added some pretense to political ideals, usually of the puerile Marxist variety, to pretend-play profundity. To the extent that anything good can be said about modern “art,” it is that it is clever, in the manner of a prank or practical joke. There is nothing beautiful or admirable about the output or the process of most modern art, because it was produced in a matter of hours by lazy talentless hacks who never bothered to practice their craft. Only cheap pretentiousness, obscenity, and shock value attract attention to the naked emperor of modern art, and only long pretentious diatribes shaming others for not understanding

the work give it value.

As government money has replaced sound money, patrons with low time preference and refined tastes have been replaced by government bureaucrats with political agendas as crude as their artistic taste. Naturally, then, neither beauty nor longevity matters anymore, replaced with political prattling and the ability to impress bureaucrats who control the major funding sources to the large galleries and museums, which have become a government-protected monopoly on artistic taste and standards for artistic education. Free competition between artists and donors is now replaced with central planning by unaccountable bureaucrats, with predictably disastrous results. In free markets, the winners are always the ones who provide the goods deemed best by the public. When government is in charge of deciding winners and losers, the sort of people who have nothing better to do with their life than work as government bureaucrats are the arbiters of taste and beauty. Instead of art's success being determined by the people who have succeeded in attaining wealth through several generations of intelligence and low time preference, it is instead determined by the people with the opportunism to rise in the political and bureaucratic system best. A passing familiarity with this kind of people is enough to explain to anyone how we can end up with the monstrosities of today's art.

In their fiat-fueled ever-growing realm of control, almost all modern governments dedicate budgets to finance art and artists in various media. But as time has gone by, bizarre and barely believable stories have emerged about covert government meddling in arts for political agendas. While the Soviets funded and directed communist "art" to achieve political and propaganda goals, it has recently emerged that the CIA retorted by financing and promoting the work of abstract expressionist mattress and cardboard molesters such as Mark Rothko and Jackson Pollock to serve as an American counter.<sup>19</sup> Only with unsound money could we have reached this artistic calamity where the two largest economic, military, and political behemoths in the world were actively promoting and funding tasteless trash picked by people whose artistic tastes qualify them for careers in Washington and Moscow spy agencies and bureaucracies.

As the Medicis have been replaced with the artistic equivalents of DMV workers, the result is an art world teeming with visually repulsive garbage produced in a matter of minutes by lazy talentless hacks looking for a quick paycheck by scamming the world's aspirants to artistic class with concocted nonsensical stories about it symbolizing anything more than the utter depravity of the scoundrel pretending to be an artist who made it. Mark

Rothko's "art" took mere hours to produce, but was sold to gullible collectors holding millions of today's unsound money, clearly solidifying modern art as the most lucrative get-rich-quick scam of our age. No talent, hard work, or effort is required on the part of a modern artist, just a straight face and a snobby attitude when recounting to the nouveau riche why the splatter of paint on a canvas is anything more than a hideous thoughtless splatter of paint, and how their inability to understand the work of art unexplained can be easily remedied with a fat check.

What is astounding is not just the preponderance of garbage like Rothko's in the modern art world; it is the conspicuous absence of great masterpieces that can compare with the great works of the past. One cannot help but notice that there aren't too many Sistine Chapels being constructed today anywhere; nor are there many masterpieces to compare with the great paintings of Leonardo, Rafael, Rembrandt, Carvaggio, or Vermeer. This is even more astonishing when one realizes that advances in technology and industrialization would make producing such artwork far easier to accomplish than it was in the golden era.

The Sistine Chapel will leave its viewer in awe, and any further explanation of its content, method, and history will transform the awe into appreciation of the depth of thought, craft, and hard work that went into it. Before they became famous, even the most pretentious of art critics could have passed by a Rothko painting neglected on a sidewalk and not even noticed it, let alone bothered to pick it up and take it home. Only after a circle jerk of critics have spent endless hours pontificating to promote this work will the hangers-on and aspirant nouveau riche begin to pretend there is deeper meaning to it and spend modern unsound money on it.

Several stories have surfaced over the years of pranksters leaving random objects in modern art museums, only for modern art lovers to swarm around them in admiration, illustrating the utter vacuity of our era's artistic tastes. But there is perhaps no more fitting tribute to the value of modern art than the many janitors at art exhibits worldwide who, demonstrating admirable perceptiveness and dedication to their job, have repeatedly thrown expensive modern art installations into the dustbins to which they belong. Some of the most iconic "artists" of our era, such as Damien Hirst, Gustav Metzger, Tracey Emin, and Italian duo Sara Goldschmied and Eleonora Chiara, have received this critical appraisal by janitors more discerning than the insecure nouveau riche who spent millions of dollars on what the janitors threw away.

A case can be made for ignoring all this worthless scribbling as just a government-funded embarrassment to our era and looking beyond it for what

is worthwhile. Nobody, after all, would judge a country like America by the behavior of its incompetent DMV employees napping on their shifts as they take out their frustrations on their hapless customers, and perhaps we shouldn't judge our era by the work of government workers spinning stories about piles of worthless cardboard as if they were artistic achievements. But even then, we find less and less that can hold a candle to the past. In *From Dawn to Decadence*, a devastating critique of modern "demotic" culture, Jacques Barzun concludes: "All that the 20C has contributed and created since is refinement by ANALYSIS or criticism by pastiche and parody." Barzun's work has resonated with many of this generation because it contains a large degree of depressing truth: once one overcomes one's inherent bias to believe in the inevitability of progress, there is no escaping the conclusion that ours is a generation that is inferior to its ancestors in culture and refinement, in the same way the Roman subjects of Diocletian, living off his inflationary spending and drunk on the barbaric spectacles of the Colosseum, could not hold a candle to the great Romans of Caesar's era, who had to earn their aureus coins with sober hard work.

## Notes

[1](#) Hans-Hermann Hoppe, *Democracy: The God That Failed*, p. 6.

[2](#) Walter Mischel, Ebbe B. Ebbesen, and Antonette Raskoff Zeiss, "Cognitive and Attentional Mechanisms in Delay of Gratification," *Journal of Personality and Social Psychology*, vol. 21, no. 2 (1972): 204–218.

[3](#) The reader is referred to the first chapter of Hoppe's *Democracy: The God That Failed* for an excellent discussion of these factors. More foundational and technical discussions can be found in [Chapter 6](#) of Murray Rothbard's *Man, Economy, and State*, Chapters 18 and 19 in Mises' *Human Action*, and Eugen von Böhm-Bawerk's *Capital and Interest*.

[4](#) Ibn Khaldun, *Al-Muqaddima*.

[5](#) R. Kent, "The Edict of Diocletian Fixing Maximum Prices," *University of Pennsylvania Law Review*, vol. 69 (1920): 35.

[6](#) Roy Jastram, *The Golden Constant: The English and American Experience 1560–2007* (Cheltenham, UK: Edward Elgar, 2009).

[7](#) Source: Jastram, *The Golden Constant*.

8 Source: Historical statistics of the United States, Series E 52-63 and E 23-3. Available at <https://fred.stlouisfed.org>

9 Source: U.S. Federal Reserve statistics. Available at <https://fred.stlouisfed.org>. Gold price data from World Gold Council, [www.gold.org](http://www.gold.org)

10 Source: BP statistical review & World Gold Council.

11 Source: OECD statistics.

12 These are the United States, Japan, Germany, U.K., France, Italy, and Canada.

13 H. L. Mencken and Malcolm Moos (eds.), *A Carnival of Buncombe* (Baltimore: Johns Hopkins Press, 1956), p. 325.

14 George Vaillant, *Triumphs of Experience: The Men of the Harvard Grant Study*. (Cambridge, MA: Harvard University Press, 2012).

15 Betsy Stevenson and Justin Wolfers, “The Paradox of Declining Female Happiness.” *American Economic Journal: Economic Policy*, vol. 1, no. 2 (2009): 190–225.

16 See Michael Holroyd, *Lytton Strachey: The New Biography*, vol. I, p. 80, in which a letter sent by Keynes to his friend Lytton Strachey in the Bloomsbury set advised them to visit Tunis “where bed and boy were not expensive.” See also David Felix, *Keynes: A Critical Life*, p. 112, which quotes a letter from Keynes in which he informs a friend, “I’m leaving for Egypt ... I just learned that ‘bed and boy’ is prepared.” In another letter, he recommended Strachey go to Tunis and Sicily “if you want to go to where the naked boys dance.”

17 Jonathan Huebner, “A Possible Declining Trend for Worldwide Innovation,” *Technological Forecasting and Social Change*, vol. 72 (2005): 980–986.

18 John Addington Symonds, *The Sonnets of Michael Angelo Buonarroti* (London: Smith Elder & Co., 1904).

19 See Frances Stonor Saunders, *The Cultural Cold War: The CIA and the World of Arts and Letters* (The New Press, 2000, ISBN 1-56584-596-X).

# Chapter 6

## Capitalism's Information System

“The cause of waves of unemployment is not ‘capitalism’ but governments denying enterprise the right to produce good money.”

—Friedrich Hayek

Money's primary function as a medium of exchange is what allows economic actors to engage in economic planning and calculation. As economic production moves from the very primitive scale, it becomes harder for individuals to make production, consumption, and trade decisions without having a fixed frame of reference with which to compare the value of different objects to one another. This property, the unit of account, is the third function of money after being a medium of exchange and store of value. To understand the significance of this property to an economic system, we do what wise people always do when seeking to understand economic questions: turn to the work of dead Austrian economists.

*The Use of Knowledge in Society*, by Friedrich Hayek, is arguably one of the most important economic papers to have ever been written. Unlike highly theoretical, inconsequential, and esoteric modern academic research that is read by nobody, the 11 pages of this paper continue to be read widely 70 years after its publication, and have had a lasting impact on the lives and businesses of many people worldwide, perhaps none as significant as its role in the founding of one of the most important websites on the Internet, and the largest single body of knowledge assembled in human history. Jimmy Wales, Wikipedia's founder, has stated that the idea for establishing Wikipedia came to him after he read this paper by Hayek and his explanation of knowledge.

Hayek explained that contrary to popular and elementary treatments of the topic, the economic problem is not merely the problem of allocating resources and products, but more accurately, the problem of allocating them using knowledge that is not given in its totality to any single individual or entity. Economic knowledge of the conditions of production, the relative availability and abundance of the factors of production, and the preferences of individuals, is not objective knowledge that can be fully known to a single entity. Rather, the knowledge of economic conditions is by its very nature *distributed* and situated with the people concerned by their individual decisions. Every human's mind is consumed in learning and understanding

the economic information relevant to them. Highly intelligent and hardworking individuals will spend decades learning the economic realities of their industries in order to reach positions of authority over the production processes of one single good. It is inconceivable that all these individual decisions being carried out by everyone could be substituted by aggregating all that information into one individual's mind to perform the calculations for everyone. Nor is there a need for this insane quest to centralize all knowledge into one decision maker's hands.

In a free market economic system, prices are knowledge, and the signals that communicate information. Each individual decision maker is only able to carry out her decisions by examining the prices of the goods involved, which carry in them the distillation of all market conditions and realities into one actionable variable for that individual. In turn, each individual's decisions will in turn play a role in shaping the price. No central authority could ever internalize all the information that goes into forming a price or replace its function.

To understand Hayek's point, picture the scenario of an earthquake badly damaging the infrastructure of a country that is the world's major producer of a commodity, such as the 2010 earthquake in Chile, which is the world's largest producer of copper. As the earthquake hit a region with extensive copper mines, it caused damage to these mines and to the seaport from which they are exported. This meant a reduction in the supply of copper to the world markets and immediately resulted in a 6.2% rise in the price of copper.<sup>1</sup> Anybody in the world involved in the copper market will be affected by this, but they do not need to know anything about the earthquake, Chile, and the conditions of the market in order to decide how to act. The rise in the price itself contains all the relevant information they need. Immediately, all the firms demanding copper now have an incentive to demand a smaller quantity of it, delay purchases that weren't immediately necessary, and find substitutes. On the other hand, the rising price gives all firms that produce copper anywhere around the world an incentive to produce more of it, to capitalize on the price rise.

With the simple increase in the price, everyone involved in the copper industry around the world now has the incentive to act in a way that alleviates the negative consequences of the earthquake: other producers supply more while consumers demand less. As a result, the shortage caused by the earthquake is not as devastating as it could be, and the extra revenue from the rising prices can help the miners rebuild their infrastructure. Within a few days, the price was back to normal. As global markets have become more

integrated and larger, such individual disruptions are becoming less impactful than ever, as market makers have the depth and liquidity to get around them quickly with the least disruption.

To understand the power of prices as a method of communicating knowledge, imagine that the day before the earthquake, the entirety of the global copper industry stopped being a market institution and was instead given over to be under the command of a specialized agency, meaning production is allocated without any recourse to prices. How would such an agency react to the earthquake? Of all the many copper producers worldwide, how would they decide which producers should increase their production and by how much? In a price system, each firm's own management will look at the prices of copper and the prices of all inputs into its production and come up with an answer to the most efficient new level of production. Many professionals work for decades in a firm to arrive at these answers with the help of prices, and they know their own firm far more than the central planners, who cannot resort to prices. Further, how will the planners decide on which consumers of copper should reduce their consumption and by how much, when there are no prices allowing these consumers to reveal their preferences?

No matter how much objective data and knowledge the agency might collect, it can never know all the dispersed knowledge that bears on the decisions that each individual carries out, and that includes their own preferences and valuations of objects. Prices, then, are not simply a tool to allow capitalists to profit; they are the information system of economic production, communicating knowledge across the world and coordinating the complex processes of production. Any economic system that tries to dispense with prices will cause the complete breakdown of economic activity and bring a human society back to a primitive state.

Prices are the only mechanism that allows trade and specialization to occur in a market economy. Without resort to prices humans could not benefit from the division of labor and specialization beyond some very primitive small scale. Trade allows producers to increase their living standards through specialization in the goods in which they have a *comparative advantage*—goods which they can produce at a lower relative cost. Only with accurate prices expressed in a common medium of exchange is it possible for people to identify their comparative advantage and specialize in it. Specialization itself, guided by price signals, will lead to producers further improving their efficiency in the production of these goods through learning by doing, and more importantly, accumulating capital specific to it. In fact, even without inherent differences in the relative costs, specialization would allow each

producer to accumulate capital relevant to their production and thus increase their marginal productivity in it, allowing them to decrease their marginal cost of production, and trade with those who accumulate capital to specialize in other goods.

## Capital Market Socialism

While most understand the importance of the price system to the division of labor, few get the crucial role it plays in capital accumulation and allocation, for which we need to turn to the work of Mises. In his 1922 book, *Socialism*, Mises explained the quintessential reason why socialist systems must fail, and it was *not* the commonly held idea that socialism simply had an incentive problem (Why would anyone work if everyone got the same rewards regardless of effort?). Given that lack of application to one's job was usually punished with government murder or imprisonment, socialism arguably overcame the incentive problem successfully, regardless of how bloody the process. After a century in which around 100 million people worldwide were murdered by socialist regimes,<sup>2</sup> this punishment was clearly not theoretical, and the incentives to work were probably stronger than in a capitalist system. There must be more to socialist failure than just incentives, and Mises was the first to precisely explicate why socialism would fail even if it were to successfully overcome the incentive problem by creating “the new socialist man.”

The fatal flaw of socialism that Mises exposed was that without a price mechanism emerging on a free market, socialism would fail at economic calculation, most crucially in the allocation of capital goods<sup>3</sup>. As discussed earlier, capital production involves progressively sophisticated methods of production, longer time horizons, and a larger number of intermediate goods not consumed for their own sake, but only produced so as to take part in the production of final consumer goods in the future. Sophisticated structures of production only emerge from an intricate web of individual calculations by producers of each capital and consumer good buying and selling inputs and outputs to one another<sup>4</sup>. The most productive allocation is determined only through the price mechanism allowing the most productive users of capital goods to bid highest for them. The supply and demand of capital goods emerges from the interaction of the producers and consumers and their iterative decisions.

In a socialist system, government owns and controls the means of production, making it at once the sole buyer and seller of all capital goods in the economy.

That centralization stifles the functioning of an actual market, making sound decisions based on prices impossible. Without a market for capital where independent actors can bid for capital, there can be no price for capital overall or for individual capital goods. Without prices of capital goods reflecting their relative supply and demand, there is no rational way of determining the most productive uses of capital, nor is there a rational way of determining how much to produce of each capital good. In a world in which the government owns the steel factory, as well as all the factories that will utilize steel in the production of various consumer and capital goods, there can be no price emerging for steel, or for the goods it is used to produce, and hence, no possible way of knowing which uses of steel are the most important and valuable. How can the government determine whether its limited quantities of steel should be utilized in making cars or trains, given that it also owns the car and train factories and allocates by diktat to citizens how many cars and trains they can have? Without a price system for citizens to decide between trains and cars, there is no way of knowing what the optimal allocation is and no way of knowing where the steel would be most necessary. Asking citizens in surveys is a meaningless exercise, because people's choices are meaningless without a price to reflect the real opportunity cost involved in trade-offs between choices. A survey without prices would find that everyone would like their own Ferrari, but of course, when people have to pay, very few choose Ferraris. Central planners can never know the preferences of each individual nor allocate resources in the way that satisfies that individual's needs best.

Further, when the government owns all inputs into all the production processes of the economy, the absence of a price mechanism makes it virtually impossible to coordinate the production of various capital goods in the right quantities to allow all the factories to function. Scarcity is the starting point of all economics, and it is not possible to produce unlimited quantities of all inputs; trade-offs need to be made, so allocating capital, land, and labor to the production of steel must come at the expense of creating more copper. In a free market, as factories compete for the acquisition of copper and steel, they create scarcity and abundance in these markets and the prices allow copper and steel makers to compete for the resources that go into making them. A central planner is completely in the dark about this web of preferences and opportunity costs, of trains, cars, copper, steel, labor, capital, and land. Without prices, there is no way to calculate how to allocate these resources to produce the optimal products, and the result is a complete breakdown in production.

And yet all of this is but one aspect of the calculation problem, pertaining merely to the production of existing goods in a static market. The problem is

far more pronounced when one considers that nothing is static in human affairs, as humans are eternally seeking to improve their economic situation, to produce new goods, and find more and better ways of producing goods. The ever-present human impulse to tinker, improve, and innovate gives socialism its most intractable problem. Even if the central planning system succeeded in managing a static economy, it is powerless to accommodate change or to allow entrepreneurship. How can a socialist system make calculations for technologies and innovations that do not exist, and how can factors of production be allocated for them when there is yet no indication whether these products can even work?

“Those who confuse entrepreneurship and management close their eyes to the economic problem.... The capitalist system is not a managerial system; it is an entrepreneurial system.”

—Ludwig von Mises<sup>5</sup>

The point of this exposition is not to argue against the socialist economic system, which no serious adult takes seriously in this day and age, after the catastrophic, bloody and comprehensive failure it has achieved in every society in which it has been tried over the last century. The point rather is to explicate clearly the difference between two ways of allocating capital and making production decisions: prices and planning. While most of the world's countries today do not have a central planning board responsible for the direct allocation of capital goods, it is nonetheless the case in every country in the world that there is a central planning board for the most important market of all, the market for capital. A free market is understood as one in which the buyers and sellers are free to transact on terms determined by them solely, and where entry and exit into the market are free: no third parties restrict sellers or buyers from entering the market, and no third parties stand to subsidize buyers and sellers who cannot transact in the market. No country in the world has a capital market that has these characteristics today.

The capital markets in a modern economy consist of the markets for loanable funds. As the structure of production becomes more complicated and long-term, individuals no longer invest their savings themselves, but lend them out, through various institutions, to businesses specialized in production. The interest rate is the price that the lender receives for lending their funds, and the price that the borrower pays to obtain them.

In a free market for loanable funds, the quantity of these funds supplied, like all supply curves, rises as the interest rate rises. In other words, the higher the interest rate, the more people are inclined to save and offer their savings to

entrepreneurs and firms. The demand for loans, on the other hand, is negatively related to the interest rate, meaning that entrepreneurs and firms will want to borrow less when the interest rate rises.

The interest rate in a free market for capital is positive because people's positive time preference means that nobody would part with money unless he could receive more of it in the future. A society with a lot of individuals with low time preference is likely to have plenty of savings, bringing the interest rate down and providing for plenty of capital for firms to invest, generating significant economic growth for the future. As a society's time preference increases, people are less likely to save, interest rates would be high, and producers find less capital to borrow. Societies that live in peace and have secure property rights and a large degree of economic freedom are likely to have low time preference as they provide a strong incentive for individuals to discount their future less. Another Austrian economist, Eugen von Böhm-Bawerk, even argued that the interest rate in a nation reflected its cultural level: the higher a people's intelligence and moral strength, the more they save and the lower the rate of interest.

But this is not how a capital market functions in any modern economy today, thanks to the invention of the modern central bank and its incessant interventionist meddling in the most critical of markets. Central banks determine the interest rate and the supply of loanable funds through a variety of monetary tools, operating through their control of the banking system.<sup>6</sup>

A fundamental fact to understand about the modern financial system is that banks create money whenever they engage in lending. In a fractional reserve banking system similar to the one present all over the world today, banks not only lend the savings of their customers, but also their demand deposits. In other words, the depositor can call on the money at any time while a large percentage of that money has been issued as a loan to a borrower. By giving the money to the borrower while keeping it available to the depositor, the bank effectively creates new money and that results in an increase in the money supply. This underlies the relationship between money supply and interest rates: when interest rates drop, there is an increase in lending, which leads to an increase in money creation and a rise in the money supply. On the other hand, a rise in interest rates causes a reduction in lending and contraction in the money supply, or at least a reduction in the rate of its growth.

## Business Cycles and Financial Crises

Whereas in a free market for capital the supply of loanable funds is determined by the market participants who decide to lend based on the interest rate, in an economy with a central bank and fractional reserve banking, the supply of loanable funds is directed by a committee of economists under the influence of politicians, bankers, TV pundits, and sometimes, most spectacularly, military generals.

Any passing familiarity with economics will make the dangers of price controls clear and discernable. Should a government decide to set the price of apples and prevent it from moving, the outcome will be either a shortage or a surplus and large losses to society overall from overproduction or underproduction. In the capital markets, something similar happens, but the effects are far more devastating as they affect every sector of the economy, because capital is involved in the production of every economic good.

It is first important to understand the distinction between loanable funds and actual capital goods. In a free market economy with sound money, savers have to defer consumption in order to save. Money that is deposited in a bank as savings is money taken away from consumption by people who are delaying the gratification that consumption could give them in order to gain more gratification in the future. The exact amount of savings becomes the exact amount of loanable funds available for producers to borrow. The availability of capital goods is inextricably linked to the reduction of consumption: actual physical resources, labor, land, and capital goods will move from being employed in the provision of final consumption goods to the production of capital goods. The marginal worker is directed away from car sales and toward a job in the car factory; the proverbial corn seed will go into the ground instead of being eaten.

Scarcity is the fundamental starting point of all economics, and its most important implication is the notion that everything has an opportunity cost. In the capital market, the opportunity cost of capital is forgone consumption, and the opportunity cost of consumption is forgone capital investment. The interest rate is the price that regulates this relationship: as people demand more investments, the interest rate rises, incentivizing more savers to set aside more of their money for savings. As the interest rate drops, it incentivizes investors to engage in more investments, and to invest in more technologically advanced methods of production with a longer time horizon. A lower interest rate, then, allows for the engagement of methods of production that are longer and more productive: society moves from fishing with rods to fishing with oil-powered large boats.

As an economy advances and becomes increasingly sophisticated, the

connection between physical capital and the loanable funds market does not change in reality, but it does get obfuscated in the minds of people. A modern economy with a central bank is built on ignoring this fundamental trade-off and assuming that banks can finance investment with new money without consumers having to forgo consumption. The link between savings and loanable funds is severed to the point where it is not even taught in the economics textbooks any more,<sup>7</sup> let alone the disastrous consequences of ignoring it.

As the central bank manages the money supply and interest rate, there will inevitably be a discrepancy between savings and loanable funds. Central banks are generally trying to spur economic growth and investment and to increase consumption, so they tend to increase the money supply and lower the interest rate, resulting in a larger quantity of loanable funds than savings. At these artificially low interest rates, businesses take on more debt to start projects than savers put aside to finance these investments. In other words, the value of consumption deferred is less than the value of the capital borrowed.

Without enough consumption deferred, there will not be enough capital, land, and labor resources diverted away from consumption goods toward higher-order capital goods at the earliest stages of production. There is no free lunch, after all, and if consumers save less, there will have to be less capital available for investors. Creating new pieces of paper and digital entries to paper over the deficiency in savings does not magically increase society's physical capital stock; it only devalues the existing money supply and distorts prices.

This shortage of capital is not immediately apparent, because banks and the central bank can issue enough money for the borrowers—that is, after all, the main perk of using unsound money. In an economy with sound money, such manipulation of the price of capital would be impossible: as soon as the interest rate is set artificially low, the shortage in savings at banks is reflected in reduced capital available for borrowers, leading to a rise in the interest rate, which reduces demand for loans and raises the supply of savings until the two match.

Unsound money makes such manipulation possible, but only for a short while, of course, as reality cannot be deceived forever. The artificially low interest rates and the excess printed money deceive the producers into engaging in a production process requiring more capital resources than is actually available. The excess money, backed by no actual deferred consumption, initially makes more producers borrow, operating under the delusion that the money will allow them to buy all the capital goods necessary for their production process. As more and more producers are bidding for fewer capital goods and

resources than they expect there to be, the natural outcome is a rise in the price of the capital goods during the production process. This is the point at which the manipulation is exposed, leading to the simultaneous collapse of several capital investments which suddenly become unprofitable at the new capital good prices; these projects are what Mises termed *malinvestments*—investments that would not have been undertaken without the distortions in the capital market and whose completion is not possible once the misallocations are exposed. The central bank's intervention in the capital market allows for more projects to be undertaken because of the distortion of prices that causes investors to miscalculate, but the central bank's intervention cannot increase the amount of actual capital available. So these extra projects are not completed and become an unnecessary waste of capital. The suspension of these projects at the same time causes a rise in unemployment across the economy. This economy-wide simultaneous failure of overextended businesses is what is referred to as a *recession*.

Only with an understanding of the capital structure and how interest rate manipulation destroys the incentive for capital accumulation can one understand the causes of recessions and the swings of the business cycle. The business cycle is the natural result of the manipulation of the interest rate distorting the market for capital by making investors imagine they can attain more capital than is available with the unsound money they have been given by the banks. Contrary to Keynesian animist mythology, business cycles are not mystic phenomena caused by flagging “animal spirits” whose cause is to be ignored as central bankers seek to try to engineer recovery<sup>8</sup>. Economic logic clearly shows how recessions are the inevitable outcome of interest rate manipulation in the same way shortages are the inevitable outcome of price ceilings.

An analogy can be borrowed from Mises's work<sup>9</sup> (and embellished) to illustrate the point: imagine the capital stock of a society as building bricks, and the central bank as a contractor responsible for constructing them into houses. Each house requires 10,000 bricks to construct, and the developer is looking for a contractor who will be able to build 100 houses, requiring a total of 1 million. But a Keynesian contractor, eager to win the contract, realizes his chances of winning the contract will be enhanced if he can submit a tender promising to build 120 of the same house while only requiring 800,000 bricks. This is the equivalent of the interest rate manipulation: it reduces the supply of capital while increasing the demand for it. In reality, the 120 houses will require 1.2 million bricks, but there are only 800,000 available. The 800,000 bricks are sufficient to begin the construction of the 120 houses, but

they are not sufficient to complete them. As the construction begins, the developer is very happy to see 20% more houses for 80% of the cost, thanks to the wonders of Keynesian engineering, which leads him to spend the 20% of the cost he saved on buying himself a new yacht. But the ruse cannot last as it will eventually become apparent that the houses cannot be completed and the construction must come to a halt. Not only has the contractor failed to deliver 120 houses, he will have failed to deliver any houses whatsoever, and instead, he's left the developer with 120 half-houses, effectively useless piles of bricks with no roofs. The contractor's ruse reduced the capital spent by the developer and resulted in the construction of fewer houses than would have been possible with accurate price signals. The developer would have had 100 houses if he went with an honest contractor. By going with a Keynesian contractor who distorts the numbers, the developer continues to waste his capital for as long as the capital is being allocated on a plan with no basis in reality. If the contractor realizes the mistake early on, the capital wasted on starting 120 houses might be very little, and a new contractor will be able to take the remaining bricks and use them to produce 90 houses. If the developer remains ignorant of the reality until the capital runs out, he will only have 120 unfinished homes that are worthless as nobody will pay to live in a roofless house.

When the central bank manipulates the interest rate lower than the market clearing price by directing banks to create more money by lending, they are at once reducing the amount of savings available in society and increasing the quantity demanded by borrowers while also directing the borrowed capital toward projects which cannot be completed. Hence, the more unsound the form of money, and the easier it is for central banks to manipulate interest rates, the more severe the business cycles are. Monetary history testifies to how much more severe business cycles and recessions are when the money supply is manipulated than when it isn't.

While most people imagine that socialist societies are a thing of the past and that market systems rule capitalist economies, the reality is that a capitalist system cannot function without a free market in capital, where the price of capital emerges through the interaction of supply and demand and the decisions of capitalists are driven by accurate price signals. The central bank's meddling in the capital market is the root of all recessions and all the crises which most politicians, journalists, academics, and leftist activists like to blame on capitalism. Only through the central planning of the money supply can the price mechanism of the capital markets be corrupted to cause wide disruptions in the economy.

Whenever a government has started on the path of inflating the money supply, there is no escaping the negative consequences. If the central bank stops the inflation, interest rates rise, and a recession follows as many of the projects that were started are exposed as unprofitable and have to be abandoned, exposing the misallocation of resources and capital that took place. If the central bank were to continue its inflationary process indefinitely, it would just increase the scale of misallocations in the economy, wasting even more capital and making the inevitable recession even more painful. There is no escape from paying a hefty bill for the supposed free lunch that Keynesian cranks foisted upon us.

“We now have a tiger by the tail: how long can this inflation continue? If the tiger (of inflation) is freed he will eat us up; yet if he runs faster and faster while we desperately hold on, we are still finished! I'm glad I won't be here to see the final outcome.”

—Friedrich Hayek<sup>10</sup>

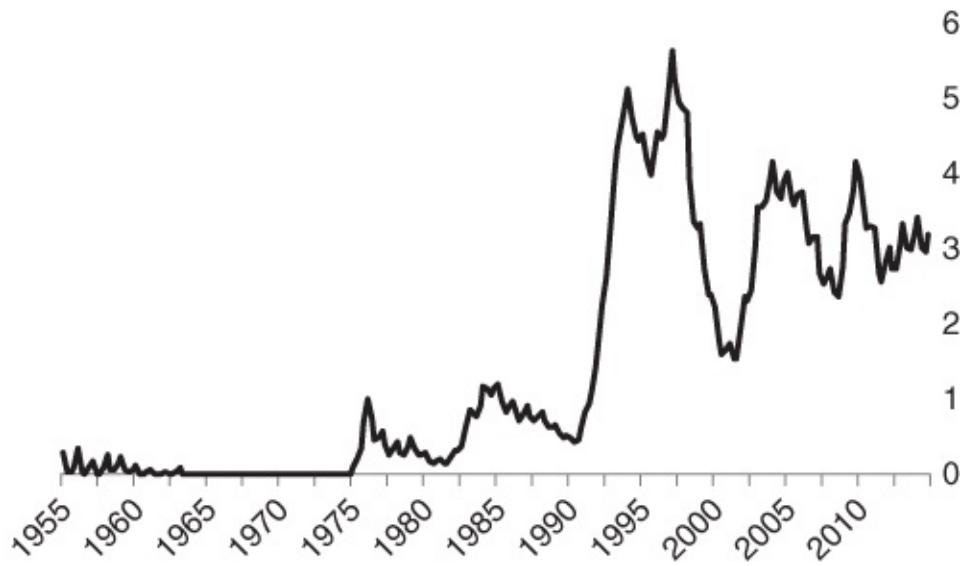
Central bank planning of the money supply is neither desirable nor possible. It is rule by the most conceited, making the most important market in an economy under the command of the few people who are ignorant enough of the realities of market economies to believe they can centrally plan a market as large, abstract, and emergent as the capital market. Imagining that central banks can “prevent,” “combat,” or “manage” recessions is as fanciful and misguided as placing pyromaniacs and arsonists in charge of the fire brigade.

The relative stability of sound money, for which it is selected by the market, allows for the operation of a free market through price discovery and individual decision making. Unsound money, whose supply is centrally planned, cannot allow for the emergence of accurate price signals, because it is by its very nature controlled. Through centuries of price controls, central planners have tried to find the elusive best price to achieve the goals they wanted, to no avail.<sup>11</sup> The reason that price controls must fail is not that the central planners cannot pick the right price, but rather that by merely imposing a price—any price—they prevent the market process from allowing prices to coordinate consumption and production decisions among market participants, resulting in inevitable shortages or surpluses. Equivalently, central planning of credit markets must fail because it destroys markets' mechanisms for price-discovery providing market participants with the accurate signals and incentives to manage their consumption and production.

The form of failure that capital market central planning takes is the boom-and-bust cycle, as explained in Austrian business cycle theory. It is thus no

wonder that this dysfunction is treated as a normal part of market economies, because, after all, in the minds of modern economists a central bank controlling interest rates is a normal part of a modern market economy. The track record of central banks in this area has been quite abject, especially when compared to periods with no central planning and directing of the money supply. Established in 1914, the U.S. Federal Reserve was in charge of a sharp contraction in reserves in 1920–21, and then the sharp bust of 1929, whose fallout lasted until the end of 1945. From then on, economic depressions became a regular and painful part of the economy, recurring every few years and providing justification for growing government intervention to handle their fallout.

A good example of the benefits of sound money can be found looking at the fate of the Swiss economy, the last bastion of sound money, which had kept its currency pegged to gold until its ill-fated decision to abandon global neutrality and join the International Monetary Fund in 1992. Before that date, the unemployment rate had always been practically zero, virtually never exceeding 1%. After they joined the IMF, whose rules prevent governments from tying their currency's value to gold, the Swiss economy began to experience the pleasures of Keynesian funny money, with unemployment rate rising to 5% within a few years, rarely ever dropping below 2%. (See [Figure 13.<sup>12</sup>](#))



**Figure 13** Unemployment rate in Switzerland, %.

When comparing depressions to periods of the gold standard, it must be remembered that the gold standard in Europe and the United States in the nineteenth century was far from a perfect form of sound money, as there were several flaws in it, most importantly, that banks and governments could often

expand their supply of money and credit beyond the gold held in their reserves, causing booms and busts similar to those seen in the twentieth century, though to a much lesser degree.

With this background in mind, we can get a far clearer idea of modern monetary history than what is commonly taught in academic textbooks since the Keynesian deluge. The founding text of Monetarist thought is what is considered the definitive work of U.S. monetary history: *The Monetary History of the United States* by Milton Friedman and Anna Schwartz. A giant tome of 888 pages, the book is astounding in its ability to marshal endless facts, details, statistics, and analytical tools without once providing the unfortunate reader with an understanding of one key issue: the causes of financial crises and recessions.

The fundamental flaw of Friedman and Schwartz's book is typical of modern academic scholarship: it is an elaborate exercise in substituting rigor for logic. The book systematically and methodically avoids ever questioning the causes of the financial crises that have affected the U.S. economy over a century, and instead inundates the reader with impressively researched data, facts, trivia, and minutiae.

The central contention of the book is that recessions are the result of the government not responding quickly enough to a financial crisis, bank run, and deflationary collapse by increasing the money supply to re-inflate the banking sector. It is typical of the Milton Friedman band of libertarianism in that it blames the government for an economic problem, but the flawed reasoning leads to suggesting even more government intervention as the solution. The glaring error in the book is that the authors never once discuss what causes these financial crises, bank runs, and deflationary collapses of the money supply. As we saw from the discussion of the Austrian business cycle theory, the only cause of an economy-wide recession is the inflation of the money supply in the first place. Relieved of the burden of understanding the cause, Friedman and Schwartz can then safely recommend the cause itself as the cure: governments need to step in to aggressively recapitalize the banking system and increase liquidity at the first sign of economic recession. You can begin to see why modern economists loathe understanding logical causality so much; it would debunk almost all their solutions.

Friedman and Schwartz begin their book in the year 1867, so that when analyzing the causes of the recession of 1873, they completely ignore the small matter of the U.S. government's printing of greenbacks to finance the Civil War, which was the ultimate cause of that recession. This is a pattern that will recur throughout the book.

Friedman and Schwartz barely discuss the causes of the 1893 recession, alluding to a drive for silver due to gold not being sufficient to cover the monetary needs of the economy, and then inundating the reader with trivia about the recession in that year. They fail to mention the Sherman Silver Purchase Act of 1890 approved by the U.S. Congress, which required the U.S. Treasury to buy large quantities of silver with a new issue of Treasury notes. Seeing as silver had been almost entirely demonetized worldwide at that point, people who held silver or Treasury notes sought to convert them to gold, leading to a drain on the Treasury's gold reserves. Effectively, the Treasury had engaged in a large misguided dose of monetary expansionism by increasing the money supply to try to pretend that silver was still money. All that did was devalue U.S. Treasury notes, creating a financial bubble which crashed as withdrawals of gold accelerated. Any history book of the period could make this clear to anyone with a cursory understanding of monetary theory, but Friedman and Schwartz impressively avoid any mention of this.

The book's treatment of the 1920 recession ignores the large dose of monetary expansion that had to happen to finance U.S. entry into World War I. Despite not mentioning it in their analysis, their data<sup>13</sup> tells you that there was a 115% increase in the money stock between June 1914 and May 1920. Only 26% of that increase was due to increases in gold holdings, meaning that the rest was driven by the government, banks, and the Federal Reserve. This was the central cause of the 1920 depression, but this, too, goes unmentioned.

Most curiously, however, is how they completely ignore the recovery from the depression of 1920–21, which was termed the “last natural recovery to full employment” by economist Benjamin Anderson, where taxes and government expenditures were reduced and wages were left to adjust freely, leading to a swift return to full employment in less than a year.<sup>14</sup> The 1920 depression saw one of the fastest contractions of output in American history (9% drop in a 10-month period from September 1920 to July 1921), and also the fastest recovery. In other depressions, with Keynesians and Monetarists injecting liquidity, increasing the money supply, and increasing government spending, the recovery was slower.

While everyone tries to learn the lesson of the Great Depression, mainstream economics textbooks never mention the 1920 depression, and never try to learn why it is that this depression was so quick to recover.<sup>15</sup> The president at the time, Warren Harding, had a strong commitment to free markets and refused to heed the call of interventionist economists. The malinvestments were liquidated, and the labor and capital employed in them was reallocated to new investments very quickly. Unemployment soon returned to normal

levels precisely as a result of the absence of government intervention to deepen the distortions it had caused in the first place. This is the glaring opposite of everything Friedman and Schwartz recommend, and so it, too, does not even get a mention in their work.

The most famous chapter of the book (and the only one that anyone seems to have read) is [Chapter 7](#), which focuses on the Great Depression. The chapter begins *after* the stock market crash of October 1929, while [Chapter 6](#) ends in the year 1921. The entirety of the period from 1921 to October 1929, which would have to contain any cause of the Great Depression, is not deemed worthy of a single page of the 888 pages in the book.

Only briefly, Friedman and Schwartz mention that the price level had not risen too quickly during the 1920s, and thus conclude that the period was not inflationary and so the causes of the depression could not have been inflationary. But the 1920s witnessed very fast economic growth, which would lead to a drop in prices. There was also heavy monetary expansion, caused by the U.S. Federal Reserve attempting to help the Bank of England stem the flow of gold from its shores, which was in turn caused by the Bank of England inflating instead of letting wages adjust downward. The net effect of a rise in the money supply and fast economic growth was that the price level did not rise a lot, but that asset prices rose heavily—mainly housing and stocks; the increased money supply had not translated to a rise in consumer good prices because it had mainly been directed by the Federal Reserve to stimulate the stock and housing markets. The money supply expanded by 68.1% over the period of 1921–29 while the gold stock only expanded by 15%.<sup>16</sup> It is this increase of the dollar stock, beyond the stock of gold, which is the root cause of the Great Depression.

An honorable mention has to go to the father of the Monetarists, Irving Fisher, who spent the 1920s engaged in the “scientific management of the price level”. Fisher had imagined that as the United States was expanding the money supply, his extensive data collection and scientific management would allow him to control the growth in the money supply and asset prices to ensure that the price level remained stable. On October 16, 1929, Fisher proudly proclaimed in the *New York Times* that stocks had reached a “permanently high plateau.”<sup>17</sup> The stock market was to crash starting October 24, 1929, and as the Depression deepened, it would not be until the mid-1950s, years after Fisher died, that the stock market would get back to the “permanently high plateau” Fisher had proclaimed in 1929. It is no wonder, then, that Milton Friedman would later proclaim Irving Fisher as the greatest economist America had produced.

The crash resulted from the monetary expansion of the 1920s, which generated a massive bubble of illusory wealth in the stock market. As soon as the expansion slowed down, the bubble was inevitably going to burst. Once it burst, this meant a deflationary spiral where all the illusory wealth of the bubble disappears. As wealth disappears, a run on banks is inevitable as banks struggle to meet their obligations. This exposes the problem of having a system of fractional reserve banking—it's a disaster waiting to happen. Given that, it would have been appropriate for the Fed to guarantee people's deposits—though not guarantee the losses of businesses and the stock market. Leaving the banks alone to suffer from this, allowing the liquidation to take place and prices to fall, is the only solution. It is true that this solution would have involved a painful recession—but that is exactly why the monetary expansion should not have happened in the first place! Attempting to avert the recession by pouring more liquidity into it will only exacerbate the distortions which caused the crisis in the first place.

The monetary expansion created illusory wealth that misallocated resources, and that wealth must disappear for the market to go back to functioning properly with a proper price mechanism. It was this illusory wealth that caused the collapse in the first place. Returning that illusory wealth to its original location is simply reassembling the house of cards again and preparing it for another, bigger and stronger fall.

Having summarily dismissed the era leading up to 1929 as having anything to do with the stock market crash, Friedman and Schwartz then conclude that it was merely the Fed's reaction to the crash which caused it to turn into a Great Depression. Had the Federal Reserve opened the monetary spigots to drench the banking system with liquidity, they argue, then the stock market losses would have been largely inconsequential to the wider economy and there would not have been a larger depression. The fact that the Fed was in fact expansionary in response to this crisis is ignored in the deluge of data. While the Federal Reserve did attempt to alleviate the liquidity shortages in the banking sector, it could not stem the collapse, not because of a shortage of resolve, but rather due to the economy-wide collapse of misallocated capital investments, and the heavily interventionist policies discussed in [Chapter 4](#).

Three important questions remain unanswered in this gigantic work, exposing a glaring hole in its logic. First, why is there no comparison of the 1920 and 1929 depressions? The former didn't last long even though the Fed did not intervene in the way the authors recommend. Second, why is it that the United States had never suffered a financial crisis in the nineteenth century during the period when there was no central bank, except in the two instances when

Congress had directed the Treasury to act like a central bank: during the Civil War with the printing of the greenbacks, and in 1890 after the monetization of silver? Third, and most tellingly, how did the United States manage one of its longest periods of sustained economic growth without any financial crises between 1873 and 1890 when there was no central bank at all, and the money supply was restricted, and the price level continued to drop? Friedman and Schwartz only mention this era in passing, remarking that the economy grew impressively “in spite” of the price level dropping, without caring to comment on how such a fact flies in the face of their price-level-drop phobia.

As Rothbard explained, there is nothing inherent about the workings of a market economy that will create a persistent problem of unemployment. The normal workings of a free market will witness many people lose or quit their jobs, and many businesses will go bankrupt or shut down for a wide variety of reasons, but these job losses will roughly cancel out with newly created jobs and businesses, leading to a negligibly small number of people being involuntarily unemployed at any point in time, as was the case during the years in which the gold standard was not abused in the nineteenth century, and as was the case with Switzerland pre-1992. Only when a central bank manipulates the money supply and interest rate does it become possible for large-scale failures across entire sectors of the economy to happen at the same time, causing waves of mass layoffs in entire industries, leaving a large number of workers jobless at the same time, with skills that are not easily transferrable to other fields.<sup>18</sup> As Hayek put it: “The cause of waves of unemployment is not ‘capitalism’ but governments denying enterprise the right to produce good money.”<sup>19</sup>

## Sound Basis for Trade

In the world of sound money, goods and capital flowed between different countries almost in the same way they flowed between different regions of the same country: according to the desires of their rightful owners as agreed upon in mutually beneficial exchange. Under Julius Caesar's aureus, or under the gold standard of the Bank of Amsterdam in the seventeenth century, or under the nineteenth century gold standard, physically moving a good from one location to the other was the most significant barrier to trade. Tariffs and trade barriers hardly existed, and if they did, they constituted little more than fees to pay for the management and maintenance of border crossing points and seaports.

In the era of unsound money, such as in Europe's descent into feudalism or in

the modern world's descent into monetary nationalism, trade stops being the prerogative of the transacting individuals and starts becoming a matter of national importance, requiring the oversight of the feudal lords or governments claiming sovereignty over the trading individuals. So ridiculously complete has this transformation of the nature of trade been that, in the twentieth century, the term *free trade* came to refer to trade carried out between two individuals across borders, according to terms agreed upon by their respective governments, not by the concerned individuals!

The abandonment of the gold standard in 1914 through the suspension and limitation of exchanging paper money for gold by most governments began the period Hayek named Monetary Nationalism. Money's value stopped being a fixed unit of gold, which was the commodity with the highest stock-to-flow ratio, and hence the lowest price elasticity of supply, keeping its value predictable and relatively constant. Instead, the value of money oscillated along with the vagaries of monetary and fiscal policy as well as international trade. Lower interest rates or increased money supply would drop the value of money, as would government spending financed by central bank lending to the government. While these two factors were nominally under the control of governments, who could at least delude themselves into thinking they could manage them to achieve stability, the third factor was a complex emergent outcome of the actions of all citizens and many foreigners. When a country's exports grew larger than its imports (a trade surplus), its currency would appreciate on the international exchange markets, whereas it would depreciate when its imports grew larger than exports (trade deficit). Policymakers, instead of taking this as a sign to stop tinkering with the value of money and allow people the freedom to use the least volatile commodity as money, took it as an invitation to micromanage the smallest details of global trade.

The value of money, supposed to be the unit of account with which all economic activity is measured and planned, went from being the value of the least volatile good on the market to being determined through the sum of three policy tools of the government—monetary, fiscal, and trade policy—and most unpredictably, through the reactions of individuals to these policy tools. Governments deciding to dictate the measure of value makes as much sense as governments attempting to dictate the measure of length based on the heights of individuals and buildings in their territories. One can only imagine the sort of confusion that would happen to all engineering projects were the length of the meter to oscillate daily with the pronouncements of a central measurements office.

Only the vanity of the insane can be affected by changing the unit with which they're measured. Making the meter shorter might make someone whose house's area is 200 square meters believe it is actually 400 square meters, but it would still be the same house. All that this redefinition of the meter has caused is ruin an engineer's ability to properly build or maintain a house. Similarly, devaluing a currency may make a country richer nominally, or increase the nominal value of its exports, but it does nothing to make the country more prosperous.

Modern economics has formulated “The Impossible Trinity” to express the plight of modern central bankers, which states: No government can successfully achieve all three goals of having a fixed foreign exchange rate, free capital flows, and an independent monetary policy. Should a government have a fixed exchange rate and free capital flows, it cannot have its own monetary policy, as altering the interest rate will cause capital to flow in or out to the point where the exchange rate becomes indefensible, and we all know how much modern economists appreciate having a monetary policy to “manage” the economy. Having an independent monetary policy and a fixed exchange rate can only be achieved by limiting capital flows, which was the situation prevalent in the period between 1946 and 1971. But even that was not sustainable as the flow of goods became the way in which exchange rates would try to redress the imbalance, with some countries exporting too much and others importing too much, leading to political negotiations to recalibrate the exchange rate. There can be no rational ground for determining the outcome of these negotiations in international organizations, as each country's government attempts to pursue its own special groups' interest and will do whatever it takes to do just that. After 1971, the world predominantly moved to having an independent monetary policy and free capital flows, but floating exchange rates between currencies.

This arrangement has the advantage of allowing Keynesian economists to play with their favorite tools for “managing” economies while also keeping international financial institutions and large capital owners happy. It is also a huge boon for large financial institutions which have generated a foreign exchange market worth trillions of dollars *a day*, where currencies and their futures are trading. But this arrangement is likely not to the benefit of almost everyone else, particularly for people who actually have productive enterprises that offer valuable goods to society.

In a highly globalized world where foreign exchange rates are dependent upon a plethora of domestic and international variables, running a productive business becomes challenging completely unnecessarily. A successful firm

likely has inputs and outputs from its business come and go to multiple countries. Every single purchase and sale decision is dependent on the foreign exchange between the countries involved. In this world, a highly competitive firm could suffer high losses through nothing more than a shift in exchange rates, not even necessarily involving its own country. If the firm's major supplier's country witnesses a rise in the value of its currency, the firm's input costs could rise enough to destroy the firm's profitability. The same thing could happen if the currency of the main market to which it exports drops in value. Firms that have spent decades working on a competitive advantage could see it wiped out in 15 minutes of unpredictable foreign exchange volatility. This usually gets blamed on free trade, and economists and politicians likewise will use it as an excuse for implementing popular but destructive protectionist trade policies.

With free capital flows and free trade built on a shaky foundation of floating exchange rate quicksand, a much higher percentage of the country's businesses and professionals need to concern themselves with the movements of the currency. Every business needs to dedicate resources and manpower toward studying an issue of extreme importance over which they have no control. More and more people work in speculating on the actions of central banks, national governments, and currency movement. This elaborate apparatus of central planning and its attendant rituals tends to eventually get in the way of economic activity. Perhaps one of the most astonishing facts about the modern world economy is the size of the foreign exchange market compared to productive economic activity. The Bank of International Settlements<sup>20</sup> estimates the size of the foreign exchange market to be \$5.1 trillion per day for April 2016, which would come out to around \$1,860 trillion per year. The World Bank estimates the GDP of all the world's countries combined at around \$75 trillion for the year 2016. This means that the foreign exchange market is around 25 times as large as all the economic production that takes place in the entire planet.<sup>21</sup> It's important to remember here that foreign exchange is not a productive process, which is why its volume isn't counted in GDP statistics; there is no economic value being created in transferring one currency to another; it is but a cost paid to overcome the large inconvenience of having different national currencies for different nations. What economist Hans-Hermann Hoppe has termed "a global system of partial barter"<sup>22</sup> across international borders is crippling the ability of global trade to benefit people, exacting a high amount of transaction costs to attempt to ameliorate its consequences. Not only is the world wasting large amounts of capital and labor attempting to overcome these barriers, businesses and individuals worldwide frequently incur significant losses

through economic miscalculation caused by the quicksand of exchange rate volatility.

In a free market for money, individuals would choose the currencies they want to use, and the result would be that they would choose the currency with the reliably lowest stock-to-flow ratio. This currency would oscillate the least with changes in demand and supply, and it would become a globally sought medium of exchange, allowing all economic calculation to be carried out with it, becoming a common unit of measure across time and space. The higher the salability of a good, the more suited it is for this role. The Roman aureus, Byzantine solidus, or the U.S. dollar were all examples of this to a limited extent, though each had its drawbacks. The money that came closest to this was gold in the latter years of the international gold standard, although even then, some countries and societies remained on silver or other primitive forms of money.

It is an astonishing fact of modern life that an entrepreneur in the year 1900 could make global economic plans and calculations all denominated in any international currency, with no thought whatsoever given to exchange rate fluctuations. A century later, the equivalent entrepreneur trying to make an economic plan across borders faces an array of highly volatile exchange rates that might make him think he has walked into a Salvador Dali painting. Any sane analyst looking at this mess would conclude it would be best to just tie the value of money to gold again and be rid of this juggling act, thus solving the Impossible Trinity by eliminating the need for government-controlled monetary policy, and having free capital movement and free trade. This would at once create economic stability and free up a large amount of capital and resources to the production of valuable goods and services, rather than speculation on complex exchange rate oscillations.

Unfortunately, however, the people in charge of the current monetary system have a vested interest in it continuing, and have thus preferred to try to find ways to manage it, and to find ever-more-creative ways of vilifying and dismissing the gold standard. This is entirely understandable given their jobs depend on a government having access to a printing press to reward them.

The combination of floating exchange rates and Keynesian ideology has given our world the entirely modern phenomenon of currency wars: because Keynesian analysis says that increasing exports leads to an increase in GDP, and GDP is the holy grail of economic well-being, it thus follows, in the mind of Keynesians, that anything that boosts exports is good. Because a devalued currency makes exports cheaper, any country facing an economic slowdown can boost its GDP and employment by devaluing its currency and increasing

its exports.

There are many things wrong with this worldview. Reducing the value of the currency does nothing to increase the competitiveness of the industries in real terms. Instead, it only creates a one-time discount on their outputs, thus offering them to foreigners at a lower price than locals, impoverishing locals and subsidizing foreigners. It also makes all the country's assets cheaper for foreigners, allowing them to come in and purchase land, capital, and resources in the country at a discount. In a liberal economic order, there is nothing wrong with foreigners buying local assets, but in a Keynesian economic order, foreigners are actively subsidized to come buy the country at a discount. Further, economic history shows that the most successful economies of the postwar era, such as Germany, Japan, and Switzerland, grew their exports significantly as their currency continued to appreciate. They did not need constant devaluation to make their exports grow; they developed a competitive advantage that made their products demanded globally, which in turn caused their currencies to appreciate compared to their trade partners, increasing the wealth of their population. It is counterproductive for the countries importing from them to think they can boost their exports by simply devaluing the currency. They would be destroying their people's wealth by simply allowing foreigners to purchase it at a discount. It is no coincidence that the countries that have seen their currencies devalue the most in the postwar period were also the ones that suffered economic stagnation and decline.

But even if all of these problems with devaluation as the route to prosperity were inaccurate, there is one simple reason why it cannot work, and that is: if it worked, and all countries tried it, all currencies would devalue and no single country would have an advantage over the others. This brings us to the current state of affairs in the global economy, where most governments attempt to devalue their currencies in order to boost their exports, and all complain about one another's "unfair" manipulation of their currencies. Effectively, each country is impoverishing its citizens in order to boost its exporters and raise GDP numbers, and complaining when other countries do the same. The economic ignorance is only matched by the mendacious hypocrisy of the politicians and economists parroting these lines. International economic summits are convened where world leaders try to negotiate each other's acceptable currency devaluation, making the value of the currency an issue of geopolitical importance.

None of this would be necessary if only the world were to be based on a sound global monetary system that serves as a global unit of account and measure of

value, allowing producers and consumers worldwide to have an accurate assessment of their costs and revenues, separating economic profitability from government policy. Hard money, by taking the question of supply out of the hands of governments and their economist-propagandists, would force everyone to be productive to society instead of seeking to get rich through the fool's errand of monetary manipulation.

## Notes

<sup>1</sup> Ben Rooney, “Copper Strikes After Chile Quake,” *CNN Money* (March 1, 2010). Available at <http://money.cnn.com/2010/03/01/markets/copper/>

<sup>2</sup> Stephane Courtois, Nicolas Werth, Karel Bartosek, Andrzej Paczkowski, Jean-Louis Panné, and Jean-Louis Margolin, *The Black Book of Communism: Crimes, Terror, Repression* (Harvard University Press, 1997).

<sup>3</sup> Ludwig von Mises. *Socialism: An Economic and Sociological Analysis*. Ludwig von Mises Institute. Auburn, AL. 2008 (1922).

<sup>4</sup> There is a lot wrong with Keynesian economics, but perhaps nothing is as ridiculous as the complete absence of any conception of how the structure of capital production functions.

<sup>5</sup> Ludwig von Mises, *Human Action*, pp. 703–704.

<sup>6</sup> The main tools that central banks use are: setting the Federal Funds rate, setting the required reserve ratio, engaging in open market operations, and determining lending eligibility criteria. A detailed explanation of the mechanism of operation of these tools can be found in any preliminary macroeconomics textbook. To summarize: the central bank can engage in expansionary monetary policy by (1) reducing interest rates, which stimulates lending and increases money creation; (2) lowering the required reserve ratio, allowing banks to increase their lending, increasing money creation; (3) purchasing treasuries or financial assets, which also leads to money creation; and (4) relaxing lending eligibility criteria, allowing banks to increase lending and thus money creation. Contractionary monetary policy is conducted by reversing these steps, leading to a reduction of the money supply, or at least a reduction in the rate of growth in the money supply.

<sup>7</sup> It is always fun to teach my senior students about a hypothetical free market

in capital, if only for watching the reaction on their faces when they compare the neat logic of how a free market in capital could work, versus the pseudoscientific Keynesian central planning theories they had the misfortune of learning in their monetary theory class.

8 There is no shortage of alternatives to the Austrian capital theory as an explanation of recessions, yet all of these are largely just the rehashed arguments of monetary cranks from the early 20th century. One does not even need to read modern rebuttals of the latest line of Keynesian and pop psychology theories. Reading Hayek's *Monetary Theory and the Trade Cycle*, from 1933, or Rothbard's *America's Great Depression*, from 1963, is sufficient.

9 Ludwig von Mises, *Human Action*, p. 560.

10 Friedrich Hayek, *A Tiger by the Tail*, p. 126.

11 A highly recommended historical account of the disastrous and yet grimly hilarious consequences of price controls across history is *Forty Centuries of Price and Wage Controls: How Not to Fight Inflation*, by Robert Schuettinger and Eamonn Butler.

12 Source: Federal Reserve Economic Data, available at <https://fred.stlouisfed.org>

13 See Table 10 on p. 206 of the Friedman and Schwartz book.

14 Murray Rothbard, *America's Great Depression*, 5th ed., p. 186.

15 An excellent detailed treatment of this depression is found in James Grant's book, *The Forgotten Depression: 1921: The Crash That Cured Itself* (Simon & Schuster, 2014).

16 Murray Rothbard, *America's Great Depression*.

17 "Fisher Sees Stocks Permanently High," *New York Times*, October 16, 1929, p. 8.

18 See Murray Rothbard, *Economic Depressions: Their Cause and Cure* (2009).

19 Friedrich Hayek, *Denationalization of Money* (1976).

20 Bank of International Settlements (2016), *Triennial Central Bank Survey. Foreign Exchange Turnover in April 2016*.

[21](#) For more on this, see George Gilder, *The Scandal of Money: Why Wall Street Recovers but the Economy Never Does* (Washington, D.C. Regnery, 2016).

[22](#) Hans-Hermann Hoppe, “How Is Fiat Money Possible?” *The Review of Austrian Economics*, vol. 7, no. 2 (1994).

## Chapter 7

# Sound Money and Individual Freedom

“[G]overnments believe that ... when there is a choice between an unpopular tax and a very popular expenditure, there is a way out for them —the way toward inflation. This illustrates the problem of going away from the gold standard.”

—*Ludwig von Mises*<sup>1</sup>

Under a sound monetary system, government had to function in a way that is unimaginable to generations reared on the twentieth-century news cycle: they had to be fiscally responsible. Without a central bank capable of increasing the money supply to pay off the government debt, government budgets had to obey the regular rules of financial responsibility which apply to every healthy normal entity, and which monetary nationalism has attempted to repeal and state education attempted to obfuscate.

For those of us alive today, raised on the propaganda of the omnipotent governments of the twentieth century, it is often hard to imagine a world in which individual freedom and responsibility supersede government authority. Yet such was the state of the world during the periods of greatest human progress and freedom: government was restrained to the scope of protection of national borders, private property, and individual freedoms, while leaving to individuals a very large magnitude of freedom to make their own choices and reap the benefits or bear the costs. We start by critically examining the question of whether the money supply needs to be managed by the government in the first place, before moving to consider the consequences of what happens when it is.

## Should Government Manage the Money Supply?

The fundamental scam of modernity is the idea that government needs to manage the money supply. It is an unquestioned starting assumption of all mainstream economic schools of thought and political parties. There isn't a shred of real-world evidence to support this contention, and every attempt to manage the money supply has ended with economic disaster. Money supply management is the problem masquerading as its solution; the triumph of emotional hope over hard-headed reason; the root of all political free lunches

sold to gullible voters. It functions like a highly addictive and destructive drug, such as crystal meth or sugar: it causes a beautiful high at the beginning, fooling its victims into feeling invincible, but as soon as the effect subsides, the come-down is devastating and has the victim begging for more. This is when the hard choice needs to be made: either suffer the withdrawal effects of ceasing the addiction, or take another hit, delay the reckoning by a day, and sustain severe long-term damage.

For Keynesian and Marxist economists, and other proponents of the state theory of money, money is whatever the state says is money, and therefore it is the prerogative of the state to do with it as it pleases, which is going to inevitably mean printing it to spend on achieving state objectives. The aim of economic research, then, is to decide how best to expand the money supply and to what ends. But the fact that gold has been used as money for thousands of years, from before nation states were ever invented, is itself enough refutation of this theory. The fact that central banks still hold large amounts of gold reserves and are still accumulating more of it testifies to gold's enduring monetary nature, in spite of no government mandating it. But whatever historical quibbles the proponents of the state theory of money may have with these facts, their theory has been obliterated before our very eyes over the last decade by the continued success and growth of Bitcoin, which has achieved monetary status and gained value exceeding that of most state-backed currencies, purely due to its reliable salability in spite of no authority mandating its use as money.<sup>2</sup>

There are today two main government-approved mainstream schools of economic thought: Keynesians and Monetarists. While these two schools have widely disparate methodologies and analytical frameworks, and while they are engaged in bitter academic fights accusing each other of not caring about the poor, the children, the environment, inequality, or the buzzword *du jour*, they both agree on two unquestionable truths: first, the government has to expand the money supply. Second, both schools deserve more government funding to continue researching really important Big Questions which will lead them to find ever-more-creative ways of arriving at the first truth.

It's important to understand the different rationales for the two schools of thought in order to understand how they can both arrive at the same conclusion and be equally wrong. Keynes was a failed investor and statistician who never studied economics but was so well-connected with the ruling class in Britain that the embarrassing drivel he wrote in his most famous book, *The General Theory of Employment, Money, and Interest*, was immediately elevated into the status of founding truths of macroeconomics. His theory

begins with the (completely unfounded and unwarranted) assumption that the most important metric in determining the state of the economy is the level of aggregate spending across society. When society collectively spends a lot, the spending incentivizes producers to create more products, thus employing more workers and reaching full-employment equilibrium. If spending rises too much, beyond the capacity of producers to keep up, it would lead to inflation and a rise in the overall price level. On the other hand, when society spends too little, producers reduce their production, firing workers and increasing unemployment, resulting in a recession.

Recessions, for Keynes, are caused by abrupt reductions in the aggregate level of spending. Keynes was not very good with grasping the concept of causality and logical explanations, so he never quite bothered to explain *why* it is that spending levels might suddenly drop, instead just coining another of his famous clumsy and utterly meaningless figures of speech to save him the hassle of an explanation. He blamed it on the flagging of “animal spirits.” To this day, nobody knows exactly what these animal spirits are or why they might suddenly flag, but that of course has only meant that an entire cottage industry of state-funded economists have made a career out of attempting to explain them or finding real-world data that can correlate to them. This research has been very good for academic careers, but is of no value to anyone actually trying to understand business cycles. Put bluntly, pop psychology is no substitute for capital theory.<sup>3</sup>

Freed from the restraint of having to find a cause of the recession, Keynes can then happily recommend the solution he is selling. Whenever there is a recession, or a rise in the unemployment level, the cause is a drop in the aggregate level of spending and the solution is for the government to stimulate spending, which will in turn increase production and reduce unemployment. There are three ways of stimulating aggregate spending: increasing the money supply, increasing government spending, or reducing taxes. Reducing taxes is generally frowned upon by Keynesians. It is viewed as the least effective method, because people will not spend all the taxes they don't have to pay—some of that money will be saved, and Keynes absolutely detested saving. Saving would reduce spending, and reducing spending would be the worst thing imaginable for an economy seeking recovery. It was government's role to impose high time preference on society by spending more or printing money. Seeing as it is hard to raise taxes during a recession, government spending would effectively translate to increasing the money supply. This, then, was the Keynesian Holy Grail: whenever the economy was not at full employment, an increase of the money supply would fix the problem. There is no point

worrying about inflation, because as Keynes had “showed” (i.e., baselessly assumed) inflation only happens when spending is too high, and because unemployment is high, that means spending is too low. There may be consequences in the long run, but there was no point worrying about long-term consequences, because “in the long run, we are all dead,”<sup>4</sup> as Keynes’s most famous defense of high-time-preference libertine irresponsibility famously stated.

The Keynesian view of the economy is, of course, at complete odds with reality. If Keynes’s model had any truth to it, it would then necessarily follow that there can be no example of a society experiencing high inflation and high unemployment at the same time. But this has in fact happened many times, most notably in the United States in the 1970s, when, in spite of the assurances of Keynesian economists to the contrary, and in spite of the entire U.S. establishment, from President Nixon down to “free market economist” Milton Friedman, adopting the refrain, “We’re all Keynesians now” as the government took it upon itself to eliminate unemployment with increased inflation, unemployment kept on rising as inflation soared, destroying the theory that there is a trade-off between these two. In any sane society, Keynes’s ideas should have been removed from the economics textbooks and confined to the realm of academic comedy, but in a society where government controls academia to a very large degree, the textbooks continued to preach the Keynesian mantra that justified ever more money printing. Having the ability to print money, literally and figuratively, increases the power of any government, and any government looks for anything that gives it more power.

The other main school of government-approved economic thought in our day and age is the Monetarist school, whose intellectual father is Milton Friedman. Monetarists are best understood as the battered wives of the Keynesians: they are there to provide a weak, watered-down strawman version of a free market argument to create the illusion of a climate of intellectual debate, and to be constantly and comprehensively rebutted to safely prevent the intellectually curious from thinking of free markets seriously. The percentage of economists who are actually Monetarists is minuscule compared to Keynesians, but they are given far too much space to express their ideas as if there are two equal sides. Monetarists largely agree with Keynesians on the basic assumptions of the Keynesian models, but find elaborate and sophisticated mathematical quibbles with some conclusions of the model, which exceptions always lead them to dare to suggest a slightly reduced role for government in the macroeconomy, which immediately gets them dismissed as heartless evil capitalist scum who do not care about the poor.

Monetarists generally oppose Keynesian efforts to spend money to eliminate unemployment, arguing that in the long run, the effect on unemployment will be eliminated while causing inflation. Instead, Monetarists prefer tax cuts to stimulate the economy, because they argue that the free market will better allocate resources than government spending. While this debate over tax cuts versus spending increases rages on, the reality is that both policies result in increased government deficits which can only be financed with monetized debt, effectively an increase in the money supply. However, the central tenet of Monetarist thought is for the pressing need for governments to prevent collapses in the money supply and/or drops in the price level, which they view as the root of all economic problems. A decline in the price level, or *deflation* as the Monetarists and Keynesians like to call it, would result in people hoarding their money, reducing their spending, causing increases in unemployment, causing a recession. Most worryingly for Monetarists, deflation is usually accompanied by collapses in the banking sector balance sheets, and because they, too, share an aversion for understanding cause and effect, it thus follows that central banks must do everything possible to ensure that deflation never happens. For the canonical treatment of why Monetarists are so scared of deflation, see a 2002 speech by former Chairman of the Federal Reserve Ben Bernanke entitled *Deflation: Making Sure “It” Doesn’t Happen Here.*<sup>5</sup>

The sum total of the contribution of both these schools of thought is the consensus taught in undergraduate macroeconomics courses across the world: that the central bank should be in the business of expanding the money supply at a controlled pace, to encourage people to spend more and thus keep the unemployment level sufficiently low. Should a central bank contract the money supply, or fail to expand it adequately, then a deflationary spiral can take place, which would discourage people from spending their money and thus harm employment and cause an economic downturn.<sup>6</sup> Such is the nature of this debate that most mainstream economists and textbooks do not even consider the question of whether the money supply should be increased at all, assuming that its increase is a given and discussing how central banks need to manage this increase and dictate its rates. The creed of Keynes, which is universally popular today, is the creed of consumption and spending to satisfy immediate wants. By constantly expanding the money supply, central banks' monetary policy makes saving and investment less attractive and thus it encourages people to save and invest less while consuming more. The real impact of this is the widespread culture of conspicuous consumption, where people live their lives to buy ever-larger quantities of crap they do not need. When the alternative to spending money is witnessing your savings lose value

over time, you might as well enjoy spending it before it loses its value. The financial decisions of people also reflect on all other aspects of their personality, engendering a high time preference in all aspects of life: depreciating currency causes less saving, more borrowing, more short-termism in economic production and in artistic and cultural endeavors, and perhaps most damagingly, the depletion of the soil of its nutrients, leading to ever-lower levels of nutrients in food.

In contrast to these two schools of thought stands the classical tradition of economics, which is the culmination of hundreds of years of scholarship from around the world. Commonly referred to today as the Austrian school, in honor of the last great generation of economists from Austria in its golden age pre-World War I, this school draws on the work of Classical Scottish, French, Spanish, Arab, and Ancient Greek economists in explicating its understanding of economics. Unlike Keynesian and Monetarist fixation on rigorous numerical analysis and mathematical sophistry, the Austrian school is focused on establishing an *understanding* of phenomena in a causal manner and logically deducing implications from demonstrably true axioms.

The Austrian theory of money posits that money emerges in a market as the most marketable commodity and most salable asset, the one asset whose holders can sell with the most ease, in favorable conditions.<sup>7</sup> An asset that holds its value is preferable to an asset that loses value, and savers who want to choose a medium of exchange will gravitate toward assets that hold value over time as monetary assets. Network effects mean that eventually only one, or a few, assets can emerge as media of exchange. For Mises, the absence of control by government is a necessary condition for the soundness of money, seeing as government will have the temptation to debase its money whenever it begins to accrue wealth as savers invest in it.

By placing a hard cap on the total supply of bitcoins, as discussed in [Chapter 8](#), Nakamoto was clearly unpersuaded by the arguments of the standard macroeconomics textbook and more influenced by the Austrian school, which argues that the quantity of money itself is irrelevant, that any supply of money is sufficient to run an economy of any size, because the currency units are infinitely divisible, and because it is only the purchasing power of money in terms of real goods and services that matters, and not its numerical quantity. As Ludwig von Mises put it:<sup>8</sup>

The services money renders are conditioned by the height of its purchasing power. Nobody wants to have in his cash holding a definite number of pieces of money or a definite weight of money; he wants to

keep a cash holding of a definite amount of purchasing power. As the operation of the market tends to determine the final state of money's purchasing power at a height at which the supply of and the demand for money coincide, there can never be an excess or a deficiency of money. Each individual and all individuals together always enjoy fully the advantages which they can derive from indirect exchange and the use of money, no matter whether the total quantity of money is great or small ... the services which money renders can be neither improved nor impaired by changing the supply of money.... The quantity of money available in the whole economy is always sufficient to secure for everybody all that money does and can do.

Murray Rothbard concurs with Mises:<sup>9</sup>

A world of constant money supply would be one similar to that of much of the eighteenth and nineteenth centuries, marked by the successful flowering of the Industrial Revolution with increased capital investment increasing the supply of goods and with falling prices for those goods as well as falling costs of production.

According to the Austrian view, if the money supply is fixed, then economic growth will cause prices of real goods and services to drop, allowing people to purchase increasing quantities of goods and services with their money in the future. Such a world would indeed discourage immediate consumption as the Keynesians fear, but encourage saving and investment for the future where more consumption can happen. For a school of thought steeped in high time preference, it is understandable that Keynes could not understand that increased savings' impact on consumption in any present moment is more than outweighed by the increases in spending caused by the increased savings of the past. A society which constantly defers consumption will actually end up being a society that consumes more in the long run than a low savings society, since the low-time-preference society invests more, thus producing more income for its members. Even with a larger percentage of their income going to savings, the low-time-preference societies will end up having higher levels of consumption in the long run as well as a larger capital stock.

If society were a little girl in that marshmallow experiment, Keynesian economics seeks to alter the experiment so that waiting would punish the girl by giving her half a marshmallow instead of two, making the entire concept of self-control and low time preference appear counterproductive. Indulging immediate pleasures is the more likely course of action economically, and that will then reflect on culture and society at large. The Austrian school, on the other hand, by preaching sound money, recognizes the reality of the trade-off

that nature provides humans, and that if the child waits, there will be more reward for her, making her happier in the long run, encouraging her to defer her gratification to increase it.

When the value of money appreciates, people are likely to be far more discerning with their consumption and to save far more of their income for the future. The culture of conspicuous consumption, of shopping as therapy, of always needing to replace cheap plastic crap with newer, flashier cheap plastic crap will not have a place in a society with a money which appreciates in value over time. Such a world would cause people to develop a lower time preference, as their monetary decisions will orient their actions toward the future, teaching them to value the future more and more. We can thus see how such a society would cause people not only to save and invest more, but also to be morally, artistically, and culturally oriented toward the long-term future.

A currency that appreciates in value incentivizes saving, as savings gain purchasing power over time. Hence, it encourages deferred consumption, resulting in lower time preference. A currency that depreciates in value, on the other hand, leaves citizens constantly searching for returns to beat inflation, returns that must come with a risk, and so leads to an increase in investment in risky projects and an increased risk tolerance among investors, leading to increased losses. Societies with money of stable value generally develop a low time preference, learning to save and think of the future, while societies with high inflation and depreciating economies will develop high time preference as people lose track of the importance of saving and concentrate on immediate enjoyment.

Further, an economy with an appreciating currency would witness investment only in projects that offer a positive real return over the rate of appreciation of money, meaning that only projects expected to increase society's capital stock will tend to get funded. By contrast, an economy with a depreciating currency incentivizes individuals to invest in projects that offer positive returns in terms of the depreciating currency, but negative real returns. The projects that beat inflation but do not offer positive real returns effectively reduce society's capital stock, but are nonetheless a rational alternative for investors because they reduce their capital slower than the depreciating currency. These investments are what Ludwig von Mises terms *malinvestments*—unprofitable projects and investments that only appear profitable during the period of inflation and artificially low interest rates, and whose unprofitability will be exposed as soon as inflation rates drop and interest rates rise, causing the bust part of the boom-and-bust cycle. As Mises puts it, “The boom squanders through malinvestment scarce factors of production and reduces the stock

available through overconsumption; its alleged blessings are paid for by impoverishment.”<sup>10</sup>

This exposition helps explain why Austrian school economists are more favorable to the use of gold as money while Keynesian mainstream economists support the government's issuance of elastic money that can be expanded at the government's behest. For Keynesians, the fact that the whole world's central banks run on fiat currencies is testament to the superiority of their ideas. For Austrians, on the other hand, the fact that governments have to resort to coercive measures of banning gold as money and enforcing payment in fiat currencies is at once testament to the inferiority of fiat money and its inability to succeed in a free market. It is also the root cause of all business cycles' booms and busts. While the Keynesian economists have no explanation for why recessions happen other than invoking “animal spirits,” Austrian school economists have developed the only coherent theory that explains the cause of business cycles: the Austrian Theory of the Business Cycle.<sup>11</sup>

## Unsound Money and Perpetual War

As discussed in [Chapter 4](#) on the history of money, it was no coincidence that the era of central bank-controlled money was inaugurated with the first world war in human history. There are three fundamental reasons that drive the relationship between unsound money and war. First, unsound money is itself a barrier to trade between countries, because it distorts value between the countries and makes trade flows a political issue, creating animosity and enmity between governments and populations. Second, government having access to a printing press allows it to continue fighting until it completely destroys the value of its currency, and not just until it runs out of money. With sound money, the government's war effort was limited by the taxes it could collect. With unsound money, it is restrained by how much money it can create before the currency is destroyed, making it able to appropriate wealth far more easily. Third, individuals dealing with sound money develop a lower time preference, allowing them to think more of cooperation rather than conflict, as discussed in [Chapter 5](#).

The larger the extent of the market with which individuals can trade, the more specialized they can be in their production, and the larger their gains from trade. The same amount of labor expended working in a primitive economy of 10 people would lead to a far lower material living standard than if it had been expended within a larger market of 1,000 or 1,000,000 people. The modern individual living in a free-trading society is able to work for a few hours a day

in a highly specialized job, and with the money she makes she is able to purchase the goods she wants from whichever producers in the entire planet make them with the lowest cost and best quality. To fully appreciate the gains from trade that accrue to you, just imagine trying to live your life in self-sufficiency. Basic survival would become a very hard task for any of us, as our time is spent inefficiently and fruitlessly attempting to provide the very basics of survival to ourselves.

Money is the medium through which trade takes place, and the only tool through which trade can expand beyond the scope of small communities with close personal relationships. For the price mechanism to work, prices need to be denominated in a sound form of money across the community that trades with it. The larger the area using a common currency, the easier and the larger the scope of trade within the area. Trade between peoples creates peaceful coexistence by giving them a vested interest in each other's prosperity. When communities use different kinds of unsound money, trade becomes more complicated, as prices vary along with the variation in the value of the currencies, making the terms of trade unpredictable, and making it often counterproductive to plan economic activity across borders.

Being predisposed to focus on the future, individuals with a low time preference are less likely to engage in conflict than those with a present orientation. Conflict is by its very nature destructive, and in most cases, intelligent and future-oriented people understand that there are no winners in violent conflict, because the winners will likely suffer more losses than if they had just abstained from taking part in the conflict in the first place. Civilized societies function on the premise that people respect one another's wills, and if there are conflicts, they attempt a peaceful resolution. Should an amicable solution not be found, people are more likely to part ways and avoid each other than continue to agitate and remain in conflict. This helps explain why prosperous civilized societies generally do not witness much crime, violence, or conflict.

On a national level, nations using sound money are far more likely to stay peaceful, or to have limited conflict with one another, because sound money places real constraints on the ability of government to finance its military operations. In nineteenth-century Europe, kings who wanted to fight each other had to tax their populations in order to finance their militaries. In the long run, such a strategy could only be profitable for kings who would employ their military defensively, not offensively. Defensive military action always has a stronger advantage than offensive military nature, because the defender is fighting on its own soil, near its people and its supply lines. A monarch who

focused the military on defensive action would find his citizens willing to pay taxes to defend themselves from foreign invaders. But a monarch who engaged in protracted foreign adventures to enrich himself would likely face resentment from his population and incur significant costs in fighting other armies on their home soil.

This can help explain why the twentieth century was the deadliest in recorded history. The 2005 United Nations Human Development Report<sup>12</sup> analyzed death from conflicts over the past five centuries, and found the twentieth century to be the deadliest. Even when major European nations went to war with one another in the gold standard era, the wars were usually brief and fought in battlefields between professional armies. A major war of the nineteenth century in Europe was the Franco-Prussian war of 1870–1871, which lasted for 9 months and killed around 150,000 people, roughly an average week's tally in World War II, financed by the easy government money of the twentieth century. With the gold standard restricting them to finance war from taxation, European governments had to have their expenses prepared before battle, spend them on preparing their military as effectively as possible, and attempt a decisive victory. As soon as the tide of the battle began to turn against one of the armies, it was a logically and economically losing battle to try to increase taxes to rearm the military and turn the tide—better to try to negotiate a peace with as few losses as possible. The deadliest wars of the nineteenth century were the Napoleonic wars, which were carried out before the gold standard was formally adopted across the continent, after the French revolution's foolish experiments with inflation. (See [Table 5](#).<sup>13</sup>)

**Table 5** Conflict Deaths in the Last Five Centuries

Conflicts Steadily Cost More in Human Lives			
Period	Conflict-Related Deaths (millions)	World Population, Midcentury (millions)	Conflict-Related Deaths as Share of World Population (%)
16th century	1.6	493.3	0.32
17th century	6.1	579.1	1.05
18th century	7.0	757.4	0.92
19th	19.4	1,172.9	1.65

<b>century</b>			
<b>20th century</b>	109.7	2,519.5	4.35

As it stands, a large number of firms in all advanced economies specialize in warfare as a business, and are thus reliant on perpetuating war to continue being in business. They live off government spending exclusively, and have their entire existence reliant on there being perpetual wars necessitating ever-larger arms spending. In the United States, whose defense spending is almost equal to that of the rest of the planet combined, these industries have a vested interest in keeping the U.S. government involved in some form of military adventure or other. This, more than any strategic, cultural, ideological, or security operations, explains why the United States has been involved in so many conflicts in parts of the world that cannot possibly have any bearing on the life of the average American. Only with unsound money can these firms grow to such enormous magnitude that they can influence the press, academia, and think tanks to continuously beat the drums of more war.

## Limited versus Omnipotent Government

In his sweeping history of five centuries of Western civilization, *From Dawn to Decadence*, Jacques Barzun identifies the end of World War I as the crucial turning point to begin the decadence, decay, and demise of the West. It was after this war that the West suffered from what Barzun terms “The Great Switch,” the replacement of liberalism by liberality, the impostor claiming its mantle but in reality being its exact opposite.<sup>14</sup>

Liberalism triumphed on the principle that the best government is that which governs least; now for all the western nations political wisdom has recast this ideal of liberty into liberality. The shift has thrown the vocabulary into disorder.

Whereas liberalism held the role of government as allowing individuals to live in liberty and enjoy the benefits, and suffer the consequences, of their actions, liberality was the radical notion that it was government's role to allow individuals to indulge in all their desires while protecting them from the consequences. Socially, economically, and politically, the role of government was recast as the wish-granting genie, and the population merely had to vote for what it wanted to have it fulfilled.

French historian Élie Halévy defined the Era of Tyrannies as having begun in 1914 with World War I, when the major powers of the world shifted toward

economic and intellectual nationalization. They nationalized the means of production and shifted to syndicalist and corporatist modes of societal organization, all while suppressing ideas viewed as opposed to the national interest, as well as the promotion of nationalism in what he termed “the organization of enthusiasm.”<sup>15</sup>

This classical liberal conception of government is only possible in a world with sound money, which acted as a natural restraint against government authoritarianism and overreach. As long as government had to tax its people to finance its operations, it had to restrict its operations to what its subjects deemed tolerable. Governments had to keep a balanced budget by always keeping consumption within the limits of earnings from taxation. In a society of sound money, government is reliant on the consent of its population to finance its operations. Every new proposal for government action will have to be paid for upfront in taxes or by the sale of long-term government bonds, giving the population an accurate measure of the true costs of this strategy, which they could easily compare to the benefits. A government seeking funding for legitimate national defense and infrastructure projects would have little trouble imposing taxes on, and selling bonds to, the population that saw the benefits before their eyes. But a government which raises taxes to fund a monarch's lavish lifestyle will engender mass resentment among his population, endangering the legitimacy of his rule and making it ever more precarious. The more onerous the taxation and impositions of the government, the more likely the population is to refuse to pay taxes, make tax collection costs rise significantly, or rise up against the government and replace it, whether by ballot or bullet.

Sound money, then, enforced a measure of honesty and transparency on governments, restricting their rule to within what was desirable and tolerable to the population. It allowed for society-wide honest accounting of costs and benefits of actions, as well as the economic responsibility necessary for any organization, individual, or living being to succeed in life: consumption must come after production.

Unsound money, on the other hand, allows governments to buy allegiance and popularity by spending on achieving popular objectives without having to present the bill to their people. Government simply increases the money supply to finance any harebrained scheme it concocts, and the true cost of such schemes is only felt by the population in years to come when the inflation of the money supply causes prices to rise, at which point the destruction of the value of the currency can be easily blamed on myriad factors, usually involving some nefarious plots by foreigners, bankers, local ethnic minorities, or

previous or future governments. Unsound money is a particularly dangerous tool in the hands of modern democratic governments facing constant reelection pressure. Modern voters are unlikely to favor the candidates who are upfront about the costs and benefits of their schemes; they are far more likely to go with the scoundrels who promise a free lunch and blame the bill on their predecessors or some nefarious conspiracy. Democracy thus becomes a mass delusion of people attempting to override the rules of economics by voting themselves a free lunch and being manipulated into violent tantrums against scapegoats whenever the bill for the free lunch arrives via inflation and economic recessions.

Unsound money is at the heart of the modern delusion believed by most voters and those unfortunate enough to study modern macroeconomics at university level: that government actions have no opportunity costs, and that government can act with an omnipotent magic wand to create the reality it wants. Whether it's poverty reduction, morality enforcement, healthcare, education, infrastructure, reforming other countries' political and economic institutions, or overriding the rules of supply and demand for any emotionally important good, most modern citizens live in the delusional dreamland wherein none of these have actual costs, and all that is needed for these goals to be achieved is "political will," "strong leadership," and an absence of corruption. Unsound money has eradicated the notion of trade-offs and opportunity costs from the mind of individuals thinking of public affairs. It will shock the average citizen to have the startlingly obvious pointed out to them: all of these nice things you want cannot be summoned costlessly out of thin air by your favorite politician, or his opponent. They all need to be provided by real people—people who need to wake up in the morning and spend days and years toiling at giving you what you want, denying themselves the chance to work on other things they might prefer to produce. Though no politician has ever been elected by acknowledging this reality, the ballot box cannot overturn the fundamental scarcity of human time. Any time governments decide to provide something it does not increase economic output; it just means more central planning of economic output with predictable consequences.<sup>16</sup>

Unsound money was a boon to tyrants, repressive regimes, and illegitimate governments by allowing them to avoid the reality of costs and benefits by increasing the money supply to finance their undertakings first, and letting the population handle the consequences later as they witness their wealth and purchasing power evaporate. History is replete with examples of how governments that have the prerogative to create money out of thin air have

almost always abused this privilege by turning it against their own people. It is no coincidence that when recounting the most horrific tyrants of history, one finds that every single one of them operated a system of government-issued money which was constantly inflated to finance government operation. There is a very good reason that Vladimir Lenin, Joseph Stalin, Mao Ze Dong, Adolf Hitler, Maximilien Robespierre, Pol Pot, Benito Mussolini, Kim Jong Il, and many other notorious criminals all ruled in periods of unsound government-issued money which they could print at will to finance their genocidal and totalitarian megalomania. It is the same reason that the same societies which birthed these mass murderers did not produce anyone close to their level of criminality when living under sound monetary systems which required governments to tax before they spent. None of these monsters ever repealed sound money in order to fund their mass murder. The destruction of sound money had come before, hailed with wonderful feel-good stories involving children, education, worker liberation, and national pride. But once sound money was destroyed, it became very easy for these criminals to take over power and take command of all of their society's resources by increasing the supply of unsound money.

Unsound money makes government power potentially unlimited, with large consequences to every individual, forcing politics to the center stage of their life and redirecting much of society's energy and resources to the zero-sum game of who gets to rule and how. Sound money, on the other hand, makes the form of government a question with limited consequences. A democracy, republic, or monarchy are all restrained by sound money, allowing most individuals a large degree of freedom in their personal life.

Whether in the Soviet or capitalist economies, the notion of the government "running" or "managing" the economy to achieve economic goals is viewed as good and necessary. It is worth returning here to the views of John Maynard Keynes to understand the motivations of the economic system he proposes, with which humanity has had to contend for the past decades. In one of his lesser-known papers, *The End of Laissez-Faire*, Keynes offers his conception of what the role of government in a society should be. Keynes expresses his opposition of liberalism and individualism, which one would expect, but also presents the grounds of his opposition to socialism, stating:

Nineteenth-century State Socialism sprang from Bentham, free competition, etc., and is in some respects a clearer, in some respects a more muddled, version of just the same philosophy as underlies nineteenth-century individualism. Both equally laid all their stress on freedom, the one negatively to avoid limitations on existing freedom, the

other positively to destroy natural or acquired monopolies. They are different reactions to the same intellectual atmosphere.

Keynes's problem with socialism, then, is that its end goal was increasing individual freedom. For Keynes, the end goal should not be concerned with trivial issues like individual freedom, but for government to control aspects of the economy to his liking. He outlines three main arenas where he views government's role to be vital: first, “the deliberate control of the currency and of credit by a central institution,” the belief that laid the groundwork for modern central banking. Second, and relatedly, Keynes believed it was the role of the government to decide on “the scale on which it is desirable that the community as a whole should save, the scale on which these savings should go abroad in the form of foreign investments, and whether the present organization of the investment market distributes savings along the most nationally productive channels. I do not think that these matters should be left entirely to the chances of private judgement and private profits, as they are at present.” And finally, Keynes believed it was the role of the government to devise “a considered national policy about what size of population, whether larger or smaller than at present or the same, is most expedient. And having settled this policy, we must take steps to carry it into operation. The time may arrive a little later when the community as a whole must pay attention to the innate quality as well as to the mere numbers of its future members.”<sup>17</sup>

In other words, the Keynesian conception of the state, from which came the modern central banking doctrines held widely by all central bankers, and which shape the vast majority of economic textbooks written worldwide, comes from a place of a man who wanted government direction of two important areas of life: first, the control of money, credit, saving, and investment decisions, which meant the totalitarian centralization of capital allocation and destruction of free individual enterprise, making individuals utterly dependent on government for their basic survival, and second, the control of population quantity and quality, which meant eugenics. And unlike socialists, Keynes did not seek this level of control over individuals in order to enhance their freedom in the long run, but rather to develop a grander vision of society as he sees fit. While socialists may have had the decency to at least pretend to want to enslave man for his own good, to free him in the future, Keynes wanted government enslavement for its own sake, as the ultimate end. This may help explain why Murray Rothbard said, “There is only one good thing about Marx, at least he was not a Keynesian.”<sup>18</sup>

While such a conception might appeal to ivory-tower idealists who imagine it will only lead to positive outcomes, in reality this leads to the destruction of

the market mechanisms necessary for economic production to take place. In such a system, money stops functioning as an information system for production, but rather as a government loyalty program.

## The Bezzle

[Chapter 3](#) explained how any commodity acquiring a monetary role would incentivize people to produce more of that commodity. A money which can be easily produced will lead to more economic resources and human time being dedicated toward its production. As money is acquired not for its own properties, but to be exchanged for other goods and services, its purchasing power is important, not its absolute quantity. There is therefore no societal benefit from any activity which increases the supply of money. This is why in a free market, whatever assumes a monetary role will have a reliably high stock-to-flow ratio: the new supply of the money is small compared to the overall existing supply. This ensures that the least possible amount of society's labor and capital resources is dedicated toward producing more monetary media, and is instead dedicated toward the production of useful goods and services whose absolute quantity, unlike that of money, matters. Gold became the leading global monetary standard because its new production was always a reliably tiny percentage of its existing supply, making goldmining a highly uncertain and unprofitable business, thus forcing more and more of the world's capital and labor to be directed toward the production of nonmonetary goods.

For John Maynard Keynes and Milton Friedman, one of the main attractions of moving away from the gold standard was the reduction in the costs of goldmining that would ensue from switching to government-issued paper money, whose cost of production is far lower than that of gold. They not only misunderstood that gold has very few resources going to its production compared to other goods whose supply can be inflated far more easily, they also severely underestimated the real costs to society from a form of money whose supply can be expanded at the will of a government susceptible to democratic and special-interest politics. The real cost is not in the direct cost of running the printing presses, but from all the economic activity forgone as productive resources chase after the new government-issued money rather than engage in economic production.

Inflationary credit creation can be understood as a society-wide example of what economist John Kenneth Galbraith<sup>19</sup> called “the bezzle” in his book on the Great Depression. As credit expansion in the 1920s soared, corporations

were awash with money, and it was very easy for people to embezzle that money in various ways. For as long as the credit keeps flowing, the victims are oblivious, and an illusion of increased wealth is created across society as both the victim and the robber think they have the money. Credit creation by central banks causes unsustainable booms by allowing the financing of unprofitable projects and allowing them to continue consuming resources on unproductive activities.

In a sound monetary system, any business that survives does so by offering value to society, by receiving a higher revenue for its products than the costs it incurs for its inputs. The business is productive because it transforms inputs of a certain market price into outputs with a higher market price. Any firm that produces outputs valued at less than its inputs would go out of business, its resources freed up to be used by other, more productive firms, in what economist Joseph Schumpeter termed *creative destruction*. There can be no profit in a free market without the real risk of loss, and everyone is forced to have skin in the game: failure is always a real possibility, and can be costly. Government-issued unsound money, however, can stall this process, keeping unproductive firms undead but not truly alive, the economic equivalent of zombies or vampires drawing on the resources of the alive and productive firms to produce things of less value than the resources needed to make them. It creates a new societal caste that exists according to rules different from those of everyone else, with no skin in the game. Facing no market test for their work, they are insulated from consequences to their actions. This new caste exists in every economic sector supported by government money.

It is not possible to estimate with any degree of accuracy what percentage of the economic activity in the modern world economy goes toward pursuing government-printed money rather than the production of goods and services useful to society, but it is possible to get an idea by looking at which firms and sectors survive because of succeeding in the test of the free market, and which are only alive thanks to government largesse—be it fiscal or monetary.

Fiscal support is the more straightforward of zombie-creation methods to detect. Any firms that receive direct government support, and the vast majority of firms that are alive thanks to selling their products to the public sector, are effectively zombies. Had these firms been productive to society, free individuals would have willingly parted with their money to pay for their products. That they cannot survive on voluntary payments shows that these firms are a burden and not a productive asset for society.

But the more pernicious method of creating zombies is not through direct government payments, but through access to low-interest-rate credit. As fiat

money has slowly eroded society's ability to save, capital investments no longer come from savers' savings, but from government-created debt, which devalues existing money holdings. In a society with sound money, the more a person saves, the more he is able to accumulate capital and the more he can invest, meaning that capital owners tend to be those with lower time preference. But when capital comes from government credit creation, the allocators of capital are no longer the future-oriented, but members of various bureaucratic agencies.

In a free market with sound money, capital owners choose to allocate their capital to the investments they find most productive, and can utilize investment banks to manage this allocation process. The process rewards firms that serve customers successfully, and the investors who identify them, while punishing mistakes. In a fiat monetary system, however, the central bank is de facto responsible for the entirety of the credit allocation process. It controls and supervises the banks that allocate capital, sets the lending eligibility criteria, and attempts to quantify risks in a mathematical manner that ignores how real-world risks work.<sup>20</sup> The test of the free market is suspended as central bank direction of credit can overrule the economic reality of profit and loss.

In the world of fiat money, having access to the central bank's monetary spigots is more important than serving customers. Firms that can get low-interest-rate credit to operate will have a persistent advantage over competitors that cannot. The criteria for success in the market becomes more and more related to being able to secure funding at lower interest rates than to providing services to society.

This simple phenomenon explains much of modern economic reality, such as the large number of industries that make money but produce nothing of value to anyone. Government agencies are the prime example, and the global notoriety they have earned for their employees' incompetence can only be understood as a function of the bezzle funding that finances them being completely detached from economic reality. Instead of the hard test of market success by serving citizens, government agencies test themselves and invariably conclude the answer to all their failings lies in more funding. No matter the level of incompetence, negligence, or failure, government agencies and employees rarely ever face real consequences. Even after the rationale for a government agency's existence has been removed, the agency will continue operating and find itself more duties and responsibility. Lebanon, for instance, continues to have a train authority decades after its trains were decommissioned and the tracks rusted into irrelevance.<sup>21</sup>

In a globalized world, the bezzle is not restricted to national governmental organizations, but has grown to include international governmental organizations, a globally renowned drain of time and effort to no conceivable benefit to anyone but those employed in them. Being located away from the taxpayers that fund them, these organizations face even less scrutiny than national governmental organizations, and as such function with even less accountability and a more relaxed approach toward budgets, deadlines, and work.

Academia is another good example, where students pay ever-more-exorbitant fees to enter universities only to be taught by professors who spend very little time and effort on the teaching and mentoring of students, focusing most their time on publishing unreadable research to get government grants and climb the corporate academic ladder. In a free market, academics would have to contribute value by teaching or writing things people actually read and benefit from. But the average academic paper is rarely ever read by anyone except the small circle of academics in each discipline who approve each other's grants and enforce the standards of groupthink and politically motivated conclusions masquerading as academic rigor.

The most popular and influential economics textbook in the postwar period was written by Nobel Laureate Paul Samuelson. We saw in [Chapter 4](#) how Samuelson predicted that ending World War II would cause the biggest recession in world history, only for one of the biggest booms in U.S. history to ensue. But it gets better: Samuelson wrote the most popular economics textbook of the postwar era, *Economics: An Introductory Analysis*, which has sold millions of copies over six decades.<sup>22</sup> Levy and Peart<sup>23</sup> studied the different versions of Samuelson's textbook to find him repeatedly presenting the Soviet economic model as being more conducive to economic growth, predicting in the fourth edition in 1961 that the Soviet Union's economy would overtake that of the United States sometime between 1984 and 1997. These forecasts for Soviets overtaking the United States continued to be made with increasing confidence through seven editions of the textbook, until the eleventh edition in 1980, with varying estimates for when the overtaking would occur. In the thirteenth edition, published in 1989, which hit the desks of university students as the Soviet Union was beginning to unravel, Samuelson and his then-co-author William Nordhaus wrote, "The Soviet economy is proof that, contrary to what many skeptics had earlier believed, a socialist command economy can function and even thrive."<sup>24</sup> Nor was this confined to one textbook, as Levy and Peart show that such insights were common in the many editions of what is probably the second most popular

economics textbook, McConnell's *Economics: Principles, Policies and Problems*, as well as several other textbooks. Any student who learned economics in the postwar period in a university following an American curriculum (the majority of the world's students) learned that the Soviet model is a more efficient way of organizing economic activity. Even after the collapse and utter failure of the Soviet Union, the same textbooks continued to be taught in the same universities, with the newer editions removing the grandiose proclamations about Soviet success, without questioning the rest of their economic worldview and methodological tools. How is it that such patently failed textbooks continue to be taught, and how is the Keynesian worldview, so brutally assaulted beyond repair by reality over the past seven decades—from the boom after World War II, to the stagflation of the seventies, to the collapse of the Soviet Union—still taught in universities? The dean of today's Keynesian economists, Paul Krugman, has even written of how an alien invasion would be great for the economy as it would force government to spend and mobilize resources.<sup>25</sup>

In a free market economic system, no self-respecting university would want to teach its students things that are so patently wrong and absurd, as it strives to arm its students with the most useful knowledge. But in an academic system completely corrupted by government money, the curriculum is not determined through its accordance with reality, but through its accordance with the political agenda of the governments funding it. And governments, universally, love Keynesian economics today for the same reason they loved it in the 1930s: it offers them the sophistry and justification for acquiring ever more power and money.

This discussion can continue to include many other fields and disciplines in modern academia, where the same pattern repeats: funding coming from government agencies is monopolized by groups of likeminded scholars sharing fundamental biases. You do not get a job or funding in this system by producing important scholarship that is productive and useful to the real world, but by furthering the agenda of the funders. That the funding comes from one source only eliminates the possibility for a free marketplace of ideas. Academic debates concern ever-more-arcane minutiae, and all parties in these fraternal disputes can always agree that both parties need more funding to continue these important disagreements. The debates of academia are almost entirely irrelevant to the real world, and its journals' articles are almost never read by anyone except the people who write them for job promotion purposes, but the government bezzle indefinitely rolls on because there is no mechanism by which government funding can ever be reduced when it does not benefit

anybody.

In a society with sound money, banking is a very important and productive job, where bankers perform two highly pivotal functions for economic prosperity: the safekeeping of assets as deposits, and the matching of maturity and risk tolerance between investors and investment opportunities. Bankers make their money by taking a cut from the profits if they succeed in their job, but make no profit if they fail. Only the successful bankers and banks stay in their job, as those that fail are weeded out. In a society of sound money, there are no liquidity concerns over the failure of a bank, as all banks hold all their deposits on hand, and have investments of matched maturity. In other words, there is no distinction between illiquidity and insolvency, and there is no systemic risk that could make any bank “too big to fail.” A bank that fails is the problem of its shareholders and lenders, and nobody else.

Unsound money allows the possibility of mismatching maturity, of which fractional reserve banking is but a subset, and this leaves banks always liable to a liquidity crisis, or a bank run. Maturity mismatching, or fractional reserve banking as a special case of it, is always liable to a liquidity crisis if lenders and depositors were to demand their deposits at the same time. The only way to make maturity mismatching safe is with the presence of a lender of last resort standing ready to lend to banks in case of a bank run.<sup>26</sup> In a society with sound money, a central bank would have to tax everyone not involved in the bank in order to bail out the bank. In a society with unsound money, the central bank is simply able to create new money supply and use it to support the bank's liquidity. Unsound money thus creates a distinction between liquidity and solvency: a bank could be solvent in terms of the net present value of its assets but face a liquidity problem that prevents it from meeting its financial obligations within a certain period of time. But the lack of liquidity itself could trigger a bank run as depositors and lenders seek to get their deposits out of the bank. Worse, the lack of liquidity in one bank could lead to a lack of liquidity in other banks dealing with this bank, creating systemic risk problems. If the central bank credibly commits to providing liquidity in such cases, however, there will be no fear of a liquidity crisis, which in turn averts the scenario of a bank run and leaves the banking system safe.

Fractional reserve banking, or maturity mismatching more generally, is likely to continue to cause financial crises without a central bank using an elastic money supply to bail out these banks. But the presence of a central bank able to bail out the banks creates a major problem of moral hazard for these banks. They can now take excessive risks knowing that the central bank will be inclined to bail them out to avert a systemic crisis. From this we see how

banking has evolved into a business that generates returns without risks to bankers and simultaneously creates risks without returns for everyone else.

Banking is an industry that seemingly only grows these days, and banks cannot go out of business. Due to the systemic risks involved in running a bank, any failure of a bank can be viewed as a liquidity problem and will very likely get the support of the central bank. No other ostensibly private industry enjoys such an exorbitant privilege, combining the highest rates of profitability in the private sector with the protection of the public sector. This combination has made bankers' work as creative and productive as that of public sector employees, but more rewarding than most other jobs. As a result, the financial industry just keeps growing as the U.S. economy becomes ever more "financialized." Since the repeal of the Glass-Steagall Act in 1999, the separation between deposit and investment banking has been removed, and so the deposit banks who had FDIC deposit guarantee can now also engage in investment financing, having the FDIC guarantee protect them from investment losses. An investor who has a loss guarantee has a free option, effectively, a license to print money. Making profitable investments allows them to accrue all the gains, whereas losses can be socialized. Anybody with such a guarantee can make large amounts of money by simply borrowing and investing his money. He gets to keep the profits, but will have his losses covered. It is no wonder that this has led to an ever-larger share of the capital and labor resources gravitating toward finance, as it's the closest thing the world has to a free lunch.

Economist Thomas Philippon<sup>27</sup> has produced detailed studies of the size of the financial sector as a percentage of GDP over the past 150 years. The ratio was less than 3% during the years preceding World War I, but was to shoot up afterwards, collapsing during the Great Depression, but growing seemingly in an unstoppable manner since the end of World War II. Anecdotally, one can see this reflected in the high percentage of university students who are interested in pursuing careers in finance, rather than in engineering, medicine, or other more productive industries.

As telecommunications have advanced, one would expect that more and more of the financial industry's work can be automated and done mechanistically, leading to the industry shrinking in size over time. But in reality it continues to mushroom, not because of any fundamental demand, but because it is protected from losses by government and allowed to thrive.

The bezzle may be most pronounced in the financial industry, but it does not stop at the banking industry. It arguably constitutes a longstanding competitive advantage for firms of larger size over those of a smaller size. In a

society in which capital investments are financed from savings, capital is owned by those with a lower time preference, and they allocate it based on their own estimation of the likelihoods of market success, receiving rewards for being correct and losses for being wrong. But with unsound money, savings are destroyed and capital is instead created from inflationary bank credit, and its allocation is decided by the central bank and its member banks. Instead of the allocation being decided by the most prudent members of society with the lowest time preference and best market foresight, it is decided by government bureaucrats whose incentive is to lend as much as possible, not be correct, as they are significantly protected from the downside.

Centrally planning credit allocation is no different from any kind of central planning. It results in bureaucrats checking boxes and filling in paperwork to ensure they meet their bosses' requirements while the ostensible purpose of the work is lost. The insight of the banker and the diligence of examining the real value of investments is replaced with the box-ticking of meeting central bank lending requirements. A major advantage in securing centralized credit is scale, as it appears quantitatively less risky to lend to large-scale lenders. The larger the firm, the more predictable the formula for its success, the larger the collateral in case it fails, and the more secure bank bureaucrats feel when making loans according to central bank lending criteria. While many industries could benefit from economies of scale, centralized credit issuance accentuates the advantages of size above and beyond what would be the case in a free market. Any industry that can borrow more money than it knows what to do with is a good candidate, seeing as such a scenario cannot possibly materialize in a world of savings-financed capital.

The larger the firm, the easier it is for it to secure low-interest funding, giving it a large advantage over smaller independent producers. In a society where investment is financed from savings, a small mom-and-pop diner competes for customers and financing with a fast-food giant on an equal footing: customers and investors have a free choice in allocating their money between the two industries. The benefits of economies of scale are up against the benefits of the personal attention and relationship between cook and customer of the small diner, and the market test decides. But in a world where central banks allocate credit, the larger firm has an advantage in being able to secure funding at a low rate which its smaller competitors cannot get.<sup>28</sup> This helps explain why large-scale food producers proliferate so widely around the world, as their lower interest rates allow them higher margins. The triumph of bland, mass-produced junk food cannot be understood outside the great benefits that large scale affords to producers.

In a world in which almost all firms are financed through central bank credit expansion, there can be no simple way of discerning which industries are growing because of the injection of bezzle steroids, but there are some telltale symptoms. Any industry in which people complain about their asshole boss is likely part of the bezzle, because bosses can only really afford to be assholes in the economic fake reality of the bezzle. In a productive firm offering valuable service to society, success depends on pleasing customers. Workers are rewarded for how well they do that essential task, and bosses who mistreat their workers will either lose the workers to competitors or destroy their business quickly. In an unproductive firm that does not serve society and relies on bureaucratic largesse for its survival, there is no meaningful standard by which to reward or punish workers. The bezzle can appear seductive from outside, thanks to the generous regular paychecks and the lack of actual work involved, but if there's one lesson economics teaches us, it is that there is no such a thing as a free lunch. Money being handed out to unproductive people will attract a lot of people who want to do these jobs, driving up the cost of doing these jobs in time and dignity. Hiring, firing, promotion, and punishment all happen at the discretion of layer upon layer of bureaucrats. No work is valuable to the firm, everyone is dispensable, and the only way anyone maintains a job is by proving valuable to the layer above him. A job in these firms is a full-time game of office politics. Such jobs are only appealing to shallow materialistic people who enjoy having power over others, and years of being maltreated are endured for the paycheck and the hope of being able to inflict this maltreatment on others. It is no wonder that people who work these jobs are regularly depressed and in need of constant medication and psychotherapy to maintain basic functionality. No amount of bezzle money is worth the spiritual destruction that such an environment creates in people. While these organizations face no real accountability, the flipside of having no productivity is that it is quite possible for a newly elected official to come into office and completely defund them out of existence in a matter of weeks. This is a far more tragic fate for the workers in these organizations as they generally have no useful skills whatsoever that can be transferred to other avenues of work.

The only cure that can work for these pathologies is sound money, which will eradicate the notion of people working for the sake of ticking boxes and pleasing sadistic bosses, and make market discipline the only arbiter for anyone's income. If you find yourself toiling away in one of these industries, where the stress of your job centers purely on pleasing your boss rather than producing something of value, and are not happy with this reality, you may be relieved or frightened to realize the world doesn't have to be this way, and

your job may not survive forever, as your government's printing press might not continue working forever. Read on, because the virtues of sound money may inspire a new world of opportunity for you.

## Notes

- [1](#) Bettina Bien Greaves, *Ludwig von Mises on Money and Inflation: A Synthesis of Several Lectures*, p. 32.
- [2](#) John Matonis, “Bitcoin Obliterates ‘The State Theory of Money,’” *Forbes* (April 2, 2013). Available at <http://www.forbes.com/sites/jonmatonis/2013/04/03/bitcoin-obliterates-the-state-theory-of-money/#6b93e45f4b6d>
- [3](#) And in capital theory, accept no substitutes for Austrian Capital Theory, as expounded by Böhm-Bawerk, Mises, Hayek, Rothbard, Huerta de Soto, Salerno, among others.
- [4](#) J. M. Keynes, *A Tract on Monetary Reform* (1923), Ch. 3, p. 80. It is worth remarking that modern-day Keynesians reject the interpretation of this quote as signifying Keynes's concern for the present at the expense of the future. Instead, Keynesians like Simon Taylor argue that this signifies Keynes's prioritizing of tackling unemployment immediately rather than worrying about the remote threat of inflation. This defense unfortunately serves only to expose Keynes's modern disciples to be as short-termist as he, and exactly as ignorant of the fundamental reality that it is precisely the inflationist policies that cause the unemployment in the first place. See “The True Meaning of ‘In the Long Run We Are All Dead.’” Available at <http://www.simontaylorsblog.com/2013/05/05/the-true-meaning-of-in-the-long-run-we-are-all-dead/>
- [5](#) “Remarks by Governor Ben S. Bernanke Before the National Economists Club,” Washington, D.C., November 21, 2002, *Deflation: Making Sure “It Doesn’t Happen Here.*
- [6](#) See Campbell McConnell, Stanley Brue, and Sean Flynn, *Economics* (New York: McGraw-Hill, 2009), p. 535.
- [7](#) Carl Menger, *On the Origins of Money* (1892).
- [8](#) Ludwig von Mises, *Human Action* (1949). p. 421.
- [9](#) Rothbard, Murray. “The Austrian Theory of Money.” *The Foundations of*

*Modern Austrian Economics* (1976): 160 C184.

[10](#) Ludwig von Mises, *Human Action* (1949), p. 575.

[11](#) See Murray N. Rothbard, *Economic Depressions: Their Cause and Cure* (Ludwig von Mises Institute, 2009).

[12](#) *Human Development Report 2005* (New York: United Nations Development Programme, 2005).

[13](#) Source: United Nations Development Programme's Human Development Report (2005).

[14](#) Jacques Barzun, *From Dawn to Decadence*.

[15](#) Élie Halévy and May Wallas. "The Age of Tyrannies," *Economica*, New Series, vol. 8, no. 29 (February 1941): 77–93.

[16](#) Murray Rothbard, "The End of Socialism and the Calculation Debate Revisited," *The Review of Austrian Economics*, vol. 5, no. 2 (1991).

[17](#) J. M. Keynes, "The End of Laissez-Faire," in *Essays in Persuasion*, pp. 272–295.

[18](#) Murray Rothbard, "A Conversation with Murray Rothbard," *Austrian Economics Newsletter*, vol. 11, no. 2 (Summer 1990).

[19](#) John Kenneth Galbraith, *The Great Crash 1929* (Boston, Ma: Houghton Mifflin Harcourt, 1997), p. 133.

[20](#) If for some reason you haven't already, you really should read Nassim Nicholas Taleb's works on this: *Fooled by Randomness*, *The Black Swan*, *Antifragility*, and *Skin in the Game*.

[21](#) For more on this topic, see James M. Buchanan and Gordon Tullock, *The Calculus of Consent: Logical Foundations of Constitutional Democracy* (1962).

[22](#) Mark Skousen, "The Perseverance of Paul Samuelson's Economics," *Journal of Economic Perspectives*, vol. 11, no. 2 (1997): 137–152.

[23](#) David Levy and Sandra Peart, "Soviet Growth and American Textbooks: An Endogenous Past," *Journal of Economic Behavior & Organization*, vol. 78, issues 1–2 (April 2011): 110–125.

[24](#) Mark Skousen, "The Perseverance of Paul Samuelson's Economics,"

*Journal of Economic Perspectives*, vol. 11, no. 2 (1997): 137–152.

25 Paul Krugman, “Secular Stagnation, Coalmines, Bubbles, and Larry Summers,” *New York Times*, November 16, 2003.

26 For a formal modeling of this statement, see D. W. Diamond and P. H. Dybvig, “Bank Runs, Deposit Insurance, and Liquidity,” *Journal of Political Economy*, vol. 91, no. 3 (1983): 401–419.

27 Thomas Philippon and Ariell Reshef. “An International Look at the Growth of Modern Finance,” *Journal of Economic Perspectives*, vol. 27, no. 2 (2013): 73–96.

28 The centralization of credit issuance can be viewed as a government intervention in the operation of Coase's Law, described by Coase in his essay: “The Nature of the Firm,” *Economica*, vol. 4, no. 16 (1937): 386–405. According to Coase, the reason firms exist is that the individual contracting of tasks can be more expensive because it involves transaction costs, such as search and information, bargaining, contracting, and enforcement costs. A firm will thus grow for as long as it can benefit from doing activities in-house to overcome higher external contracting costs. In a world of depreciating currency and centrally allocated credit, achieving financing becomes one of the main cost advantages of growing in size. Large firms have more capital goods and collateral, which allows them lower funding terms. The incentive for every business is thus to grow beyond what consumers would prefer. In a free market for capital where firms had to rely much more on their revenues and securing credit on free markets, the output will favor the scale of production most suited to consumers' preferences.

## Chapter 8

# Digital Money

The global telecommunication revolution, starting with the production of the first fully programmable computer in the 1950s, has encroached on an increasing number of material aspects of life, providing engineering solutions to hitherto age-old problems. While banks and startup firms increasingly utilized computer and network technology for payments and recordkeeping, the innovations that succeeded did not provide a new form of money, and the innovations that tried to provide a new form of money all failed. Bitcoin represents the first truly digital solution to the problem of money, and in it we find a potential solution to the problems of salability, soundness, and sovereignty. Bitcoin has operated with practically no failure for the past 9 years, and if it continues to operate like this for the next 90, it will be a compelling solution to the problem of money, offering individuals sovereignty over money that is resistant to unexpected inflation while also being highly salable across space, scale, and time. Should Bitcoin continue to operate as it already has, all the previous technologies humans have employed as money—shells, salt, cattle, precious metals, and government paper—may appear quaint anachronisms in our modern world—abacuses next to our modern computers.

We saw how the introduction of metallurgy produced solutions to the problem of money that were superior to beads, shellfish, and other artifacts, and how the emergence of regular coinage allowed gold and silver coins to emerge as superior forms of money to irregular lumps of metal. We further saw how gold-backed banking allowed gold to dominate as the global monetary standard and led to the demonetization of silver. From the necessity of centralizing gold arose government money backed by gold, which was more salable in scale, but with it came government expansion of the money supply and coercive control which eventually destroyed money's soundness and sovereignty. Every step of the way, technological advances and realities shaped the monetary standards that people employed, and the consequences to economies and society were enormous. Societies and individuals who chose a sound monetary standard, such as the Romans under Caesar, the Byzantines under Constantine, or Europeans under the gold standard, benefited immensely. Those who had unsound or technologically inferior money, such as Yap Islanders with the arrival of O'Keefe, West Africans using glass beads, or the Chinese on a silver standard in the nineteenth century, paid a heavy price.

Bitcoin represents a new technological solution to the money problem, born out of the digital age, utilizing several technological innovations that were developed over the past few decades and building on many attempts at producing digital money to deliver something which was almost unimaginable before it was invented. To understand why, we will focus on the monetary properties of Bitcoin as well as the economic performance of the network since its inception. In the same way that a book on the gold standard would not discuss the chemical properties of gold, this chapter will not delve too much into the technical details of the operation of the Bitcoin network, instead focusing on the monetary properties of the bitcoin currency.

## Bitcoin as Digital Cash

To understand the significance of a technology for digital cash, it is instructive to look at the world before Bitcoin was invented, when one could neatly divide payment methods into two distinct non-overlapping categories:

1. Cash payments, which are carried out in person between two parties. These payments have the convenience of being immediate and final, and require no trust on the part of either transacting party. There is no delay in the execution of the payment, and no third party can effectively intervene to stop such payments. Their main drawback is the need for the two parties to be physically present in the same place at the same time, a problem which becomes more and more pronounced as telecommunication makes it more likely for individuals to want to transact with persons who are not in their immediate vicinity.
2. Intermediated payments, which require a trusted third party, and comprise cheques, credit cards, debit cards, bank wire transfers, money transfer services, and more recent innovations such as PayPal. By definition, intermediated payment involves a third party handling the money transfer between the two transacting parties. The main advantages of intermediated payments are allowing payments without the two parties having to be at the same place at the same time, and allowing the payer to make payment without having to carry her money on her. Their main drawback is the trust that is required in execution of the transactions, the risk of the third party being compromised, and the costs and time required for the payment to be completed and cleared to allow the recipient to spend it.

Both forms of payment have their advantages and drawbacks, and most people resort to a combination of the two in their economic transactions.

Before the invention of Bitcoin, intermediated payments included (though were not limited to) all forms of digital payment. The nature of digital objects, since the inception of computers, is that they are not scarce. They can be reproduced endlessly, and as such it was impossible to make a currency out of them, because sending them will only duplicate them. Any form of electronic payment had to be carried out via an intermediary because of the danger of double-spending: there was no way of guaranteeing that the payer was being honest with his funds, and not using them more than once, unless there was a trusted third party overseeing the account and able to verify the integrity of the payments carried out. Cash transactions were confined to the physical realm of direct contact, while all digital forms of payments had to be supervised by a third party.

After years of innovative trial and error by many programmers, and through relying on a wide range of technologies, Bitcoin was the first engineering solution that allowed for digital payments without having to rely on a trusted third-party intermediary. By being the first digital object that is verifiably scarce, Bitcoin is the first example of *digital cash*.

There are several drawbacks to transacting through trusted third parties which make digital cash a valuable proposition for many. Third parties are by their very nature an added security weakness<sup>1</sup>—involving an extra party in your transaction inherently introduces risk, because it opens up new possibilities for theft or technical failure. Further, payment through intermediaries leaves the parties vulnerable to surveillance and bans by political authorities. In other words, when resorting to any form of digital payment, there was no alternative to trusting in a third party, and whichever political authorities rule over it, and being subject to the risk of the political authority stopping the payment under pretexts of security, terrorism, or money laundering. To make matters worse, intermediated payments always involve a risk of fraud, which raises transaction costs and delays final settlement of payments.

In other words, intermediated payments take away a significant share of the properties of money as a medium of exchange controlled by its owner, with high liquidity for him to sell whenever he wants. Of the most persistent characteristics of money historically are fungibility (any unit of money is equivalent to any other unit), and liquidity (ability of the owner to sell quickly at market price). People choose moneys that are fungible and liquid because they want sovereignty over their money. Sovereign money contains within it all the permission needed to spend it; the desire for others to hold it exceeds the ability of others to impose controls on it.

While intermediated payments compromise some of the desirable features of money, these shortcomings are not present in physical cash transactions. But as more trade and employment takes place over long distances thanks to modern telecommunication, physical cash transactions become prohibitively impractical. The move toward digital payments was reducing the amount of sovereignty people have over their own money and leaving them subject to the whims of the third parties they had no choice but to trust. Further, the move from gold, which is money that nobody can print, toward fiat currencies whose supply is controlled by central banks further reduced people's sovereignty over their wealth and left them helpless in the face of the slow erosion of the value of their money as central banks inflated the money supply to fund government operation. It became increasingly impractical to accumulate capital and wealth without the permission of the government issuing that money.

Satoshi Nakamoto's motivation for Bitcoin was to create a “purely peer-to-peer form of electronic cash” that would not require trust in third parties for transactions and whose supply cannot be altered by any other party. In other words, Bitcoin would bring the desirable features of physical cash (lack of intermediaries, finality of transactions) to the digital realm and combine them with an ironclad monetary policy that cannot be manipulated to produce unexpected inflation to benefit an outside party at the expense of holders. Nakamoto succeeded in achieving this through the utilization of a few important though not widely understood technologies: a distributed peer-to-peer network with no single point of failure, hashing, digital signatures, and proof-of-work.<sup>2</sup>

Nakamoto removed the need for trust in a third party by building Bitcoin on a foundation of very thorough and ironclad *proof* and *verification*. It is fair to say that the central operational feature of Bitcoin is verification, and only because of that can Bitcoin remove the need for trust completely.<sup>3</sup> Every transaction has to be recorded by every member of the network so that they all share one common ledger of balances and transactions. Whenever a member of the network transfers a sum to another member, all network members can verify the sender has a sufficient balance, and nodes compete to be the first to update the ledger with a new block of transactions every ten minutes. In order for a node to commit a block of transactions to the ledger, it has to expend processing power on solving complicated mathematical problems that are hard to solve but whose correct solution is easy to verify. This is the proof-of-work (PoW) system, and only with a correct solution can a block be committed and verified by all network members. While these mathematical problems are

unrelated to the Bitcoin transactions, they are indispensable to the operation of the system as they force the verifying nodes to expend processing power which would be wasted if they included fraudulent transactions. Once a node solves the proof-of-work correctly and announces the transactions, other nodes on the network vote for its validity, and once a majority has voted to approve the block, nodes begin committing transactions to a new block to be amended to the previous one and solving the new proof-of-work for it.

Crucially, the node that commits a valid block of transactions to the network receives a *block reward* consisting of brand-new bitcoins added to the supply along with all the transaction fees paid by the people who are transacting.

This process is what is referred to as *mining*, analogous to the mining of precious metals, and is why nodes that solve proof-of-work are known as miners. This block reward compensates the miners for the resources they committed to proof-of-work. Whereas in a modern central bank the new money created goes to finance lending and government spending, in Bitcoin the new money goes only to those who spend resources on updating the ledger. Nakamoto programmed Bitcoin to produce a new block roughly every ten minutes, and for each block to contain a reward of 50 coins in the first four years of Bitcoin's operation, to be halved afterwards to 25 coins, and further halved every four years.

The quantity of bitcoins created is preprogrammed and cannot be altered no matter how much effort and energy is expended on proof-of-work. This is achieved through a process called difficulty adjustment, which is perhaps the most ingenious aspect of Bitcoin's design. As more people choose to hold Bitcoin, this drives up the market value of Bitcoin and makes mining new coins more profitable, which drives more miners to expend more resources on solving proof-of-work problems. More miners means more processing power, which would result in the solutions to the proof-of-work being arrived at faster, thus increasing the rate of issuance of new bitcoins. But as the processing power rises, Bitcoin will raise the difficulty of the mathematical problems needed to unlock the mining rewards to ensure blocks will continue to take around ten minutes to be produced.

Difficulty adjustment is the most reliable technology for making hard money and limiting the stock-to-flow ratio from rising, and it makes Bitcoin fundamentally different from every other money. Whereas the rise in value of any money leads to more resources dedicated to its production and thus an increase in its supply, as Bitcoin's value rises, more effort to produce bitcoins does not lead to the production of more bitcoins. Instead, it just leads to an increase in the processing power necessary to commit valid transactions to the

Bitcoin network, which only serves to make the network more secure and difficult to compromise. Bitcoin is the hardest money ever invented: growth in its value cannot possibly increase its supply; it can only make the network more secure and immune to attack.

For every other money, as its value rises, those who can produce it will start producing more of it. Whether it is Rai stones, seashells, silver, gold, copper, or government money, everyone will have an incentive to try to produce more. The harder it was to produce new quantities of the money in response to price rises, the more likely it was to be adopted widely and used, and the more a society would prosper because it would mean individuals' efforts at producing wealth will go toward serving one another, not producing money, an activity with no added value to society because any supply of money is enough to run any economy. Gold became the prime money of every civilized society precisely because it was the hardest to produce, but Bitcoin's difficulty adjustment makes it even harder to produce. A massive increase in the price of gold will, in the long run, lead to larger quantities being produced, but no matter how high the price of bitcoins rises, the supply stays the same and the safety of the network only increases.

The security of Bitcoin lies in the asymmetry between the cost of solving the proof-of-work necessary to commit a transaction to the ledger and the cost of verifying its validity. It costs ever-increasing quantities of electricity and processing power to record transactions, but the cost of verifying the validity of the transactions is close to zero and will remain at that level no matter how much Bitcoin grows. To try to commit fraudulent transactions to the Bitcoin ledger is to deliberately waste resources on solving the proof-of-work only to watch nodes reject it at almost no cost, thereby withholding the block reward from the miner.

As time goes by, it becomes increasingly difficult to alter the record, as the energy needed is larger than the energy already expended, which only grows with time. This highly complex iterative process has grown to require vast quantities of processing power and electricity but produces a ledger of ownership and transactions that is beyond dispute, without having to rely on the trustworthiness of any single third party. Bitcoin is built on 100% verification and 0% trust.<sup>4</sup>

Bitcoin's shared ledger can be likened to the Rai stones of Yap Island discussed in [Chapter 2](#), in that the money does not actually move for transactions to take place. Whereas in Yap the islanders would meet to announce the transfer of the ownership of a stone from one person to the other, and the entire town would know who owned which stone, in Bitcoin

members of the network would broadcast their transaction to all network members, who would verify that the sender has the balance necessary for the transaction, and credit it to the recipient. To the extent that the digital coins exist, they are simply entries on a ledger, and a verified transaction changes the ownership of the coins on the ledger from the sender to the recipient. Ownership of the coins is assigned through public addresses, not by name of the holder, and access to the coins owned by an address is secured through the ownership of the private key, a string of characters analogous to a password.<sup>5</sup>

Whereas the Rai stones' physical heft makes their divisibility highly impractical, Bitcoin faces no such problem. Bitcoin's supply is made up of a maximum of 21,000,000 coins, each of which is divisible into 100,000,000 satoshis, making it highly salable across scales. Whereas the Yapese stones were only practical for a few transactions in a small island with a small population who knew each other very well, Bitcoin has far superior salability across space, because the digital ledger is accessible by anyone worldwide with an Internet connection.

What keeps Bitcoin nodes honest, individually, is that if they were dishonest, they would be discovered immediately, making dishonesty exactly as effective as doing nothing but involving a higher cost. Collectively, what prevents a majority from colluding to be dishonest is that if they were to succeed in compromising the integrity of the ledger of transactions, the entire value proposition of Bitcoin would be destroyed and the bitcoin tokens' value would collapse to nothing. Collusion costs a lot, but it would itself lead to its loot becoming worthless. In other words, Bitcoin relies on economic incentives, making fraud far costlier than its rewards.

No single entity is relied upon for maintaining the ledger and no single individual can alter the record on it without the consent of a majority of network members. What determines the validity of the transaction is not the word of a single authority, but the software running the individual nodes on the network.

Ralph Merkle, inventor of the Merkle tree data structure, which is utilized by Bitcoin to record transactions, had a remarkable way of describing Bitcoin:

Bitcoin is the first example of a new form of life. It lives and breathes on the internet. It lives because it can pay people to keep it alive. It lives because it performs a useful service that people will pay it to perform. It lives because anyone, anywhere, can run a copy of its code. It lives because all the running copies are constantly talking to each other. It lives because if any one copy is corrupted it is discarded, quickly and without

any fuss or muss. It lives because it is radically transparent: anyone can see its code and see exactly what it does.

It can't be changed. It can't be argued with. It can't be tampered with. It can't be corrupted. It can't be stopped. It can't even be interrupted.

If nuclear war destroyed half of our planet, it would continue to live, uncorrupted. It would continue to offer its services. It would continue to pay people to keep it alive.

The only way to shut it down is to kill every server that hosts it. Which is hard, because a lot of servers host it, in a lot of countries, and a lot of people want to use it.

Realistically, the only way to kill it is to make the service it offers so useless and obsolete that no one wants to use it. So obsolete that no one wants to pay for it. No one wants to host it. Then it will have no money to pay anyone. Then it will starve to death.

But as long as there are people who want to use it, it's very hard to kill, or corrupt, or stop, or interrupt.<sup>6</sup>

Bitcoin is a technology that survives for the very same reason the wheel, knife, phone, or any technology survives: it offers its users benefits from using it. Users, miners, and node operators are all rewarded economically from interacting with Bitcoin, and that is what keeps it going. It's worth adding that all the parties that make Bitcoin work are individually dispensable to its operation. Nobody is essential to Bitcoin, and if anybody wants to alter Bitcoin, Bitcoin is perfectly capable of continuing to operate as it is without whatever input anyone has on this. This will help us understand the immutable nature of Bitcoin in [Chapter 10](#), and why attempts at making serious changes to the Bitcoin code will almost inevitably lead to the creation of a knockoff version of Bitcoin, but one that cannot possibly recreate the economic balance of incentives that keeps Bitcoin operational and immutable.

Bitcoin can also be understood as a spontaneously emergent and autonomous firm which provides a new form of money and a new payments network. There is no management or corporate structure to this firm, as all decisions are automated and preprogrammed. Volunteer coders in an open source project can present changes and improvements to the code, but it is up to users to choose to adopt them or not. The value proposition of this firm is that its money supply is completely inelastic in response to increased demand and price; instead, increased demand just leads to a safer network due to the mining difficulty adjustment. Miners invest electricity and processing power

in the mining infrastructure that protects the network because they are rewarded for it. Bitcoin users pay transaction fees and buy the coins from the miners because they want to utilize digital cash and benefit from the appreciation over time, and in the process they finance the miners' investment in operating the network. The investment in PoW mining hardware makes the network more secure and can be understood as the firm's capital. The more the demand for the network grows, the more valuable the miners' rewards and transaction fees become, which necessitates more processing power to generate new coins, increasing the company's capital, making the network more secure and the coins harder to produce. It is an economic arrangement that has been productive and lucrative to everyone involved, which in turn leads to the network continuing to grow at an astonishing pace.

With this technological design, Nakamoto was able to invent *digital scarcity*. Bitcoin is the first example of a digital good that is scarce and cannot be reproduced infinitely. While it is trivial to send a digital object from one location to another in a digital network, as is done with email, text messaging, or file downloads, it is more accurate to describe these processes as *copying* rather than *sending*, because the digital objects remain with the sender and can be reproduced infinitely. Bitcoin is the first example of a digital good whose transfer stops it from being owned by the sender.

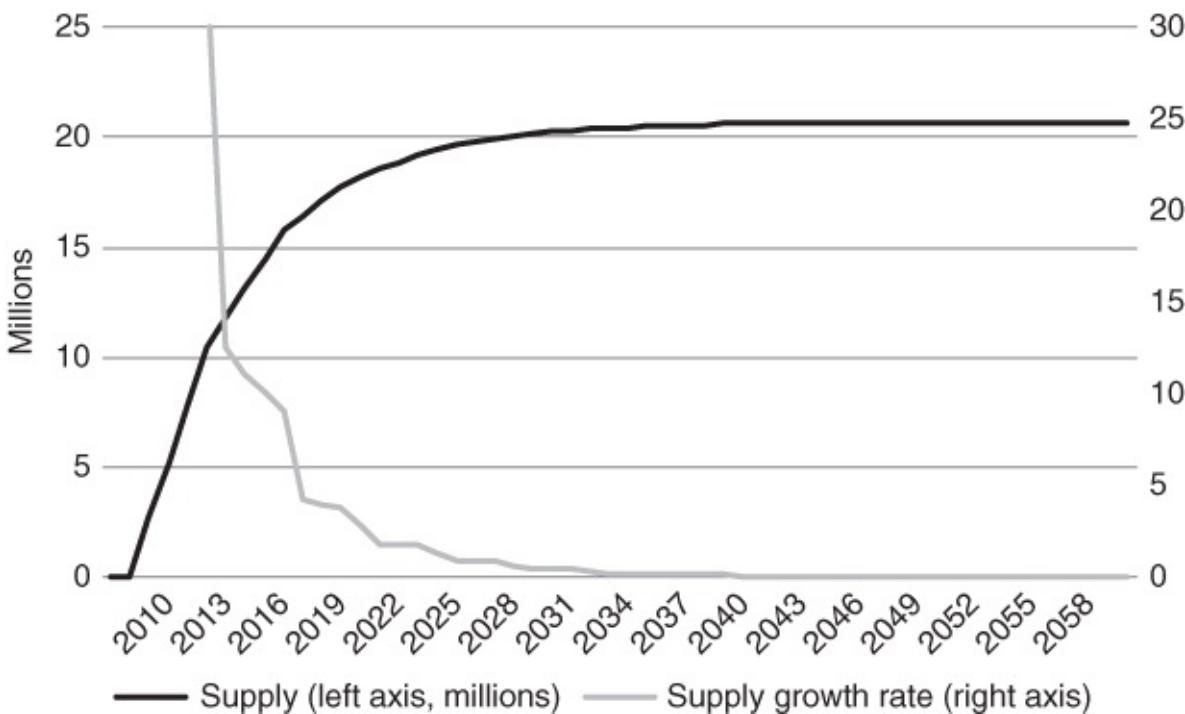
Beyond digital scarcity, Bitcoin is also the first example of *absolute scarcity*, the only liquid commodity (digital or physical) with a set fixed quantity that cannot conceivably be increased. Until the invention of Bitcoin, scarcity was always relative, never absolute. It is a common misconception to imagine that any physical good is finite, or absolutely scarce, because the limit on the quantity we can produce of any good is never its prevalence in the planet, but the effort and time dedicated to producing it. With its absolute scarcity Bitcoin is highly salable across time. This is a critical point which will be explicated further in [Chapter 9](#) on Bitcoin's role as a store of value.

## Supply, Value, and Transactions

It had always been theoretically possible to produce an asset with a predictably constant or low rate of supply growth to allow it to maintain its monetary role, but reality, as always, had proven far trickier than theory. Governments would never allow private parties to issue their own private currencies and transgress on the main way in which government funds itself and grows. So government would always want to monopolize money production and face too strong a temptation to engage in the increase of the

money supply. But with the invention of Bitcoin, the world had finally arrived at a synthetic form of money that had an ironclad guarantee governing its low rate of supply growth. Bitcoin takes the macroeconomists, politicians, presidents, revolutionary leaders, military dictators, and TV pundits out of monetary policy altogether. Money supply growth is determined by a programmed function adopted by all members of the network. There may have been a time at the start of this currency when this inflation schedule could have been conceivably changed, but that time has well passed. For all practical intents and purposes, Bitcoin's inflation schedule, like its record of transactions, is immutable.<sup>7</sup> While for the first few years of Bitcoin's existence the supply growth was very high, and the guarantee that the supply schedule would not be altered was not entirely credible, as time went by the supply growth rate dropped and the credibility of the network in maintaining this supply schedule has increased and continues to rise with each passing day in which no serious changes are made to the network.

Bitcoin blocks are added to the shared ledger roughly every ten minutes. At the birth of the network, the block reward was programmed to be 50 bitcoins per block. Every four years, roughly, or after 210,000 blocks have been issued, the block reward drops by half. The first halving happened on November 28, 2012, after which the issuance of new bitcoins dropped to 25 per block. On July 9, 2016, it dropped again to 12.5 coins per block, and will drop to 6.25 in 2020. According to this schedule, the supply will continue to increase at a decreasing rate, asymptotically approaching 21 million coins sometime around the year 2140, at which point there will be no more bitcoins issued. (See [Figure 14](#).)



**Figure 14** Bitcoin supply and supply growth rate assuming blocks are issued exactly every ten minutes.

Because new coins are only produced with the issuance of a new block, and each new block requires the solving of the proof-of-work problems, there is a real cost to the production of new bitcoins. As the price of bitcoins rises in the market, more nodes enter to compete for the solution of the PoW to obtain the block reward, which raises the difficulty of the PoW problems, making it more costly to obtain the reward. The cost of producing a bitcoin will thus generally rise along with the market price.

After setting this supply growth schedule, Satoshi divided each bitcoin into 100,000,000 units, which were later named satoshis in his pseudonymous honor. Dividing each bitcoin into 8 digits means that the supply will continue to grow at a decreasing rate until around the year 2140, when the digits all fill up and we reach 21,000,000 coins. The decreasing rate of growth, however, means that the first 20 million coins will be mined by around the year 2025, leaving 1 million coins to be mined over one more century.

The number of new coins issued is not exactly as predicted from the algorithm, because new blocks are not mined precisely every ten minutes, because the difficulty adjustment is not a precise process but a calibration that adjusts every two weeks and can overshoot or undershoot its target depending on how many new miners enter the mining business. In 2009, when very few people had used Bitcoin at all, the issuance was far below schedule, while in 2010 it was above the theoretical number predicted from the supply. The exact

numbers will vary, but this variance from the theoretical growth will decrease as the supply grows. What will not vary is the maximum cap of coins and the fact that the supply growth rate will continue to decline as an ever-decreasing number of coins is added onto an ever-increasing stock of coins.

By the end of 2017, 16.775 million coins were already mined, constituting 79.9% of all coins that will ever exist. The annual supply growth in 2017 was 4.35%, coming down from 6.8% in 2016. [Table 6](#) shows the actual supply growth of BTC and its growth rate.<sup>8</sup>

**Table 6** Bitcoin Supply and Growth Rate

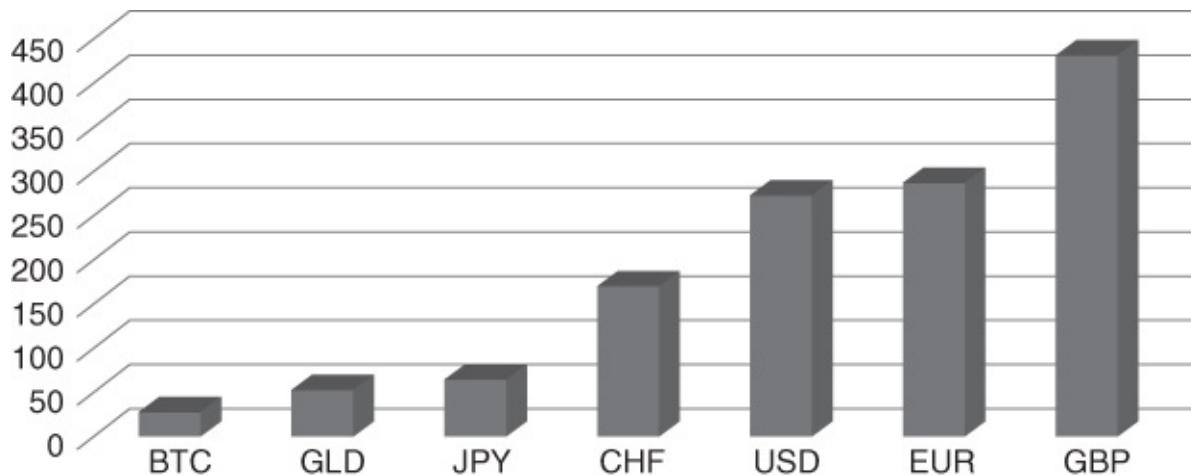
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Total BTC supply, millions</b>	1.623	5.018	8.000	10.613	12.199	13.671	15.029	16.075	16.775
<b>Annual growth rate, %</b>		209.13	59.42	32.66	14.94	12.06	9.93	6.80	4.35

A closer look at the Bitcoin supply schedule over the coming years would give us these estimates for the supply and growth rate. The actual numbers will surely vary from this, but not by much. (See [Table 7](#).<sup>9</sup>)

**Table 7** Bitcoin Supply and Growth Rate (Projected)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>Total BTC supply, millions</b>	17.415	18.055	18.527	18.855	19.184	19.512	19.758	19.923	20.087
<b>Annual growth rate, %</b>	3.82	3.68	2.61	1.77	1.74	1.71	1.26	0.83	0.82

[Figure 15](#) extrapolates the growth rate of the main global reserve currencies' broad money supply and gold over the past 25 years into the next 25 years, and increases the supply of bitcoins by the programmed growth rates. By these calculations, the bitcoin supply will increase by 27% in the coming 25 years, whereas the supply for gold will increase by 52%, the Japanese yen by 64%, the Swiss franc by 169%, the U.S. dollar by 272%, the euro by 286%, and the British pound by 429%.



**Figure 15** Projected Bitcoin and national currency percentage growth in supply over 25 years.

This exposition can help us appreciate the salability of bitcoin and how it fulfills the functions of money. With its supply growth rate dropping below that of gold by the year 2025, Bitcoin has the supply restrictions that could make it have considerable demand as a store of value; in other words, it can have salability across time. Its digital nature that makes it easy to safely send worldwide makes it salable in space in a way never seen with other forms of money, while its divisibility into 100,000,000 satoshis makes it salable in scale. Further, Bitcoin's elimination of intermediary control and the near-impossibility of any authority debasing or confiscating it renders it free of the main drawbacks of government money. As the digital age has introduced improvements and efficiencies to most aspects of our life, Bitcoin presents a tremendous technological leap forward in the monetary solution to the indirect exchange problem, perhaps as significant as the move from cattle and salt to gold and silver.

Whereas traditional currencies are continuously increasing in supply and decreasing in purchasing power, bitcoin has so far witnessed a large increase in real purchasing power despite a moderate, but decreasing and capped, increase in its supply. Because miners who verify transactions are rewarded with bitcoins, these miners have a strong vested interest in maintaining the integrity of the network, which in turn causes the value of the currency to rise.

The Bitcoin network began operating in January 2009 and was for a while an obscure project used by a few people in a cryptography mailing list. Perhaps the most important milestone in Bitcoin's life was the first day that the tokens in this network went from being economically worthless to having a market value, validating that Bitcoin had passed the market test: the network had operated successfully enough for someone to be willing to part with actual

money to own some of its tokens. This happened in October 2009, when an online exchange named New Liberty Standard sold bitcoins at a price of \$0.000994. In May 2010, the first real-world purchase with bitcoin took place, as someone paid 10,000 bitcoins for two pizza pies worth \$25, putting the price of a bitcoin at \$0.0025. With time, more and more people heard of Bitcoin and became interested in purchasing it and the price continued to rise further.<sup>[10](#)</sup>

The market demand for a bitcoin token comes from the fact that it is needed to operate the first (and so far, arguably only) functional and reliable digital cash system.<sup>[11](#)</sup> The fact that this network was successfully operational in its early days gave its digital token a collectible value among tiny communities of cryptographers and libertarians, who tried mining it with their own PCs, and eventually even started purchasing it from one another.<sup>[12](#)</sup> That the tokens were strictly limited and could not be replicated helped create this initial collectible status. After being acquired by individuals to use on the Bitcoin network, and gaining economic value, Bitcoin began to get monetized through more people demanding it as a store of value. This sequence of activities conforms to Ludwig von Mises' Theory of Regression on the origins of money, which states that a monetary good begins as a market good and is then used as a medium of exchange. Bitcoin's collectible status among small communities is no different from seashells', Rai stones', and precious metals' ornamental value, from which they were to acquire a monetary role that raised their value significantly.

Being new and only beginning to spread, Bitcoin's price has fluctuated wildly as demand fluctuates, but the impossibility of increasing the supply arbitrarily by any authority in response to price spikes explains the meteoric rise in the purchasing power of the currency. When there is a spike in demand for bitcoins, bitcoin miners cannot increase production beyond the set schedule like copper miners can, and no central bank can step in to flood the market with increasing quantities of bitcoins, as Greenspan suggested central banks do with their gold. The only way for the market to meet the growing demand is for the price to rise enough to incentivize the holders to sell some of their coins to the newcomers. This helps explain why in eight years of existence, the price of a bitcoin has gone from \$0.000994 on October 5, 2009, in its first recorded transaction, to \$4,200 on October 5, 2017, an increase of 422,520,000% in eight years and a compound annual growth rate of 573% per year. (See [Figure 16.](#)<sup>[13](#)</sup>)



**Figure 16** Price of Bitcoin in US dollars.

For the bitcoin price to rise, people must hold it as a store of value, and not just spend it. Without a number of people willing to hold the currency for a significant period of time, continued selling of the currency will keep its price down and prevent it from appreciating. By November 2017, the total market value of all the bitcoins in circulation was in the range of \$110 billion, giving it a value larger than the broad money supply of the national currencies of most countries. If Bitcoin were a country, the value of its currency would be the 56th largest national currency worldwide, roughly in the range of the size of the money supply of Kuwait or Bangladesh, larger than that of Morocco and Peru, but smaller than Colombia and Pakistan. If it were to be compared to the narrow money supply, Bitcoin's supply value would be ranked around the 33rd in the world, with a value similar to the narrow money supply of Brazil, Turkey, and South Africa.<sup>14</sup> It is perhaps one of the most remarkable achievements of the Internet that an online economy that spontaneously and voluntarily emerged around a network designed by an anonymous programmer has grown, in nine years, to hold more value than is held in the money supply of most nation-states and national currencies<sup>15</sup>.

This conservative monetary policy and the pursuant appreciation in the market value of bitcoins is vital to the successful operation of Bitcoin, as it is the reason that miners have an incentive to expend electricity and processing

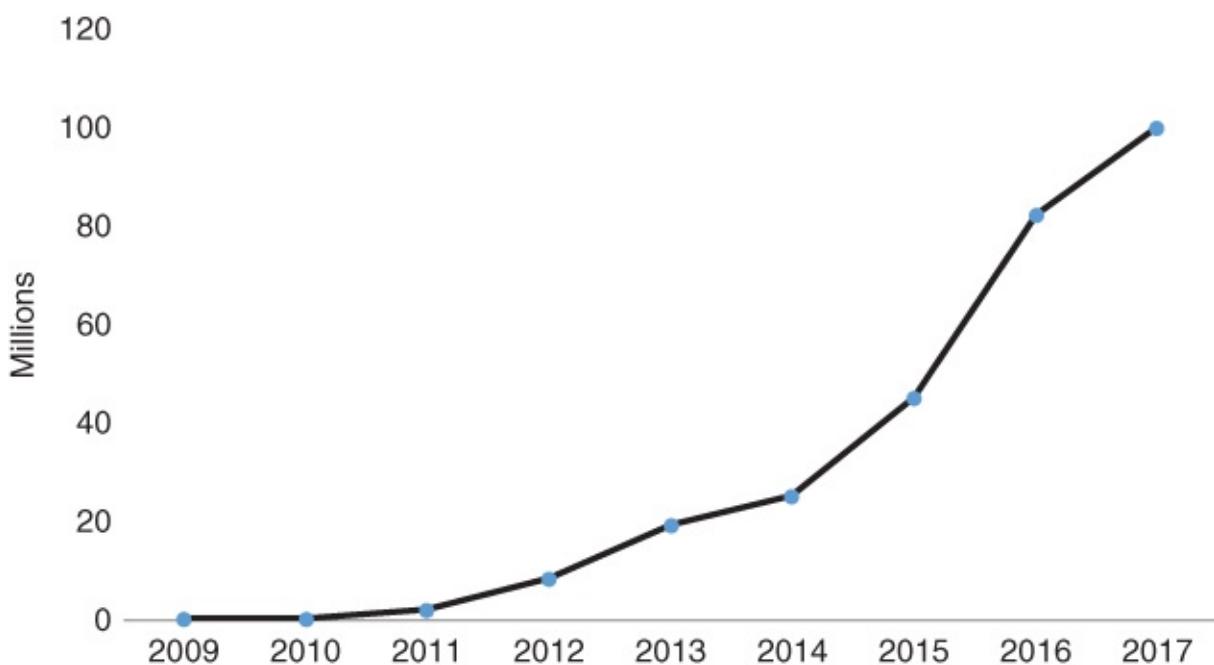
power on honestly verifying transactions. Had Bitcoin been created with an easy-money policy, such as what a Keynesian or Monetarist economist would recommend, it would have had its money supply grow in proportion to the number of users or transactions, but in that case it would have remained a marginal experiment among cryptography enthusiasts online. No serious amount of processing power would have gone to mining it, as there would be no point in investing heavily in verifying transactions and solving proof-of-work in order to get tokens that will get devalued as more people use the system. The expansionary monetary policies of modern fiat economies and economists have never won the market test of adoption freely, but have instead been imposed through government laws, as discussed earlier. As a voluntary system with no mechanism for forcing people to use it, Bitcoin would fail to attract significant demand, and as a result its status as a successful digital cash would not be guaranteed. While the transactions could be carried out without need for trust in a third party, the network would be vulnerable to attack by any malicious actor mobilizing large amounts of processing power. In other words, without a conservative monetary policy and difficulty adjustment, Bitcoin would only have succeeded theoretically as digital cash, but remained too insecure to be used widely in practice. In that case, the first competitor to Bitcoin that introduced a hard money policy would make the updating of the ledger and production of new units progressively more expensive. The high cost of updating the ledger would give miners an incentive to be honest with their updating of the ledger, making the network more secure than easy money contenders.

The growth in the price is a reflection of the growing use and utility that the network offers its users. The number of transactions on the network has also grown rapidly: whereas 32,687 transactions were carried out in 2009 (at a rate of 90 transactions per day), the number grew to more than 103 million transactions in 2017 (at a daily rate of 284,797 transactions). The cumulative number of transactions is approaching 300 million transactions in January 2018. [Table 8<sup>16</sup>](#) and [Figure 17<sup>17</sup>](#) show the annual growth.

**Table 8** Annual Transactions and Average Daily Transactions

<b>Year</b>	<b>Transactions</b>	<b>Average Daily Transactions</b>
2009	32,687	90
2010	185,212	507
2011	1,900,652	5,207
2012	8,447,785	23,081

2013	19,638,728	53,805
2014	25,257,833	69,200
2015	45,661,404	125,100
2016	82,740,437	226,067
2017	103,950,926	284,797



**Figure 17** Annual transactions on the Bitcoin network.

While the growth in transactions is impressive, it does not match the growth in the value of the total stock of the Bitcoin currency, as can be evidenced by the fact that the number of transactions is far less than what would be transacted in an economy whose currency had the value of the bitcoin supply; 300,000 daily transactions is the number of transactions that takes place in a small town, not in a medium-sized economy, which is around the value of the supply of Bitcoin. Further, with the current size of Bitcoin blocks being limited to 1 megabyte, 500,000 transactions per day is close to the upper limit that can be carried out by the Bitcoin network and recorded by all peers on the network. Even as this limit is reached and its presence is well-publicized, the growth in the value of the currency and the value of daily transactions has not abated. This suggests that Bitcoin adopters value it more as a store of value than a medium of exchange, as will be discussed in [Chapter 9](#).

The market value of transactions has also increased over the network's lifetime. The peculiar nature of Bitcoin transactions makes it hard to precisely estimate the exact value of transactions in bitcoins or U.S. dollars, but a lower-

bound estimate sees an average daily volume of around 260,000 bitcoins in 2017, with highly volatile growth over Bitcoin's lifetime. While the bitcoin value of transactions has not increased appreciably over time, the market value of these transactions in U.S. dollars has. The volume of transactions was \$375.6 billion U.S. dollars in 2017. In total, by its ninth birthday, Bitcoin had processed half a trillion US dollars' worth of transactions, with USD value calculated at the time of the transaction. (See [Table 9](#).<sup>18</sup>)

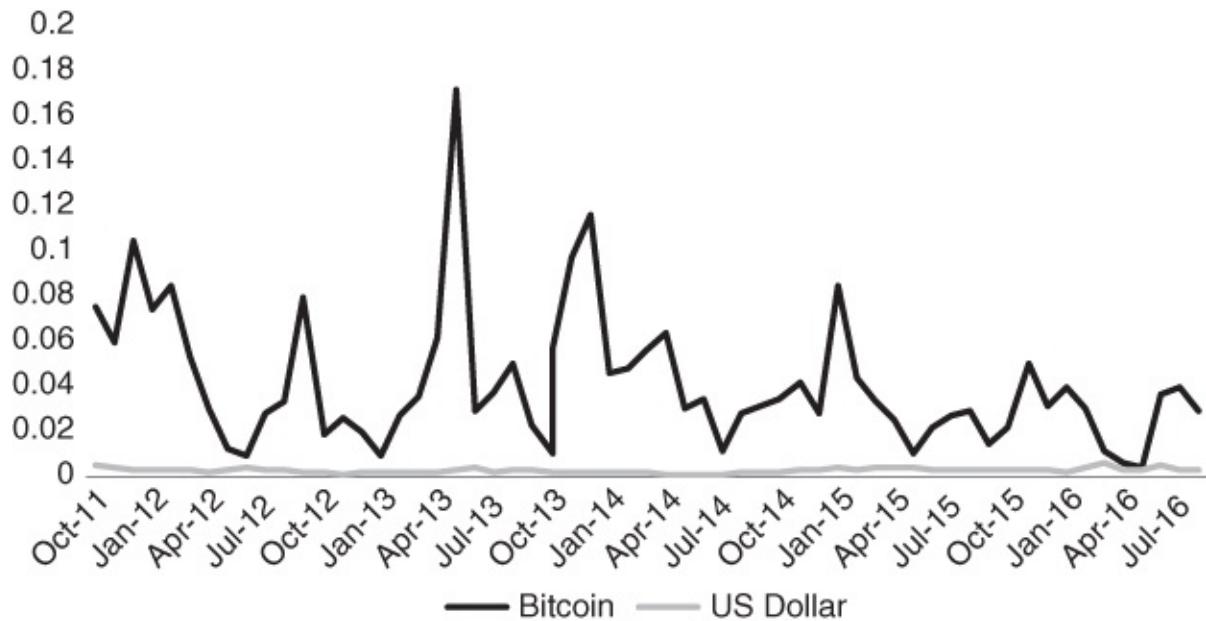
**Table 9** Total Annual US Dollar Value of All Bitcoin Network Transactions

<b>Year</b>	<b>Total USD Value Transacted</b>
2009	0
2010	985,887
2011	417,634,730
2012	607,221,228
2013	14,767,371,941
2014	23,159,832,297
2015	26,669,252,582
2016	58,188,957,445
2017	375,590,943,877
<b>Total</b>	<b>499,402,199,987</b>

Another measure of the growth of the Bitcoin network is the value of the transaction fees required to process the transactions. Whereas Bitcoin transactions can theoretically be processed for free, it is incumbent on the miners to process them, and the higher the fee, the faster they are likely to pick them up. In the early days when the number of transactions was small, miners would process transactions that did not include a fee because the block subsidy of new coins itself was worth the effort. As demand for Bitcoin transactions grew, miners could afford to be more selective and prioritize transactions with higher fees. Fees were under \$0.1 per transaction up until late 2015, and started rising above \$1 per transaction around early 2016. With the quick rise in Bitcoin's price in 2017, the average daily transaction fee had reached \$7 by the end of November. (See [Figure 18](#).<sup>19</sup>)



**Figure 18** Average U.S. dollar value of transaction fees on Bitcoin network, logarithmic scale.



**Figure 19** Monthly 30-day volatility for Bitcoin and the USD Index.

While the price of bitcoin has generally risen over time, this rise has been highly volatile. [Figure 19](#) shows the 30-day standard deviation of daily returns for the past five years of bitcoin trading.<sup>20</sup> While the volatility appears to be

declining, it remains very high compared to that of national currencies and gold, and the trend is still too weak to conclusively determine if it will continue to decline. The 30-day volatility of the U.S. Dollar Index is included in [Figure 19](#) to provide perspective.

Examining price data for gold and major national and crypto currencies shows a marked difference in the volatility in the market price of these currencies. Daily returns were collected for the previous five years for gold, major fiat currencies, and bitcoin. The major national currencies each had a standard deviation more than seven times larger than that of Bitcoin. (See [Table 10](#).<sup>21</sup>)

**Table 10** Average Daily Percentage Change and Standard Deviation in the Market Price of Currencies per USD over the Period of September 1, 2011, to September 1, 2016

	Average Daily % Change	Standard Deviation
CNY	0.00002	0.00136
USD	0.00015	0.00305
GBP	0.00005	0.00559
INR	0.00019	0.00560
EUR	-0.00013	0.00579
JPY	0.00020	0.00610
CHF	0.00003	0.00699
Gold	-0.00018	0.01099
Bitcoin	0.00370	0.05072

Bitcoin's volatility derives from the fact that its supply is utterly inflexible and not responsive to demand changes, because it is programmed to grow at a predetermined rate. For any regular commodity, the variation in demand will affect the production decisions of producers of the commodity: an increase in demand causes them to increase their production, moderating the rise in the price and allowing them to increase their profitability, while a decrease in demand would cause producers to decrease their supply and allow them to minimize losses. A similar situation exists with national currencies, where central banks are expected to maintain relative stability in the purchasing power of their currencies by setting the parameters of their monetary policy to counteract market fluctuations. With a supply schedule utterly irresponsible to demand, and no central bank to manage the supply, there will likely be volatility, particularly at the early stages when demand varies very erratically

from day to day, and the financial markets that deal with Bitcoin are still infant.

But as the size of the market grows, along with the sophistication and the depth of the financial institutions dealing with Bitcoin, this volatility will likely decline. With a larger and more liquid market, the daily variations in demand are likely to become relatively smaller, allowing market makers to profit from hedging price variations and smoothing the price. This will only be achieved if and when a large number of market participants hold bitcoins with the intent of holding onto them for the long term, raising the market value of the supply of bitcoins significantly and making a large liquid market possible with only a fraction of the supply. Should the network reach a stable size at any point, the flow of funds in and out of it would be relatively equal and the price of bitcoin can stabilize. In such a case, Bitcoin would gain more stability while also having enough liquidity to not move significantly with daily market transactions. But as long as Bitcoin continues to grow in adoption, its appreciation attracts more adopters to it, leading to further appreciation, making this drop in volatility further away. As long as Bitcoin is growing, its token price will behave like that of a stock of a start-up achieving very fast growth. Should Bitcoin's growth stop and stabilize, it would stop attracting high-risk investment flows, and become just a normal monetary asset expected to appreciate slightly every year.

## Appendix to Chapter 8

The following is a brief description of three technologies utilized by Bitcoin:

**Hashing** is a process that can take any stream of data as an input and transform it into a dataset of fixed size (known as a hash) using a non-reversible mathematical formula. In other words, it is trivial to use this function to generate a uniform-sized hash for any piece of data, but it is not possible to determine the original string of data from the hash. Hashing is essential for the operation of Bitcoin as it is used in digital signatures, proof-of-work, Merkle trees, transaction identifiers, Bitcoin addresses, and various other applications. Hashing in essence allows identifying a piece of data in public without revealing anything about that data, which can be used to securely and trustlessly see if multiple parties have the same data.

**Public key cryptography** is a method for authentication that relies on a set of mathematically related numbers: a private key, a public key, and one or more signatures. The private key, which must be kept secret, can generate a public key that can be distributed freely because it is not possible to determine the private key by examining the public key. This method is used for authentication: after someone publicizes his public key, he can hash some data and then sign that hash with his private key to create a signature. Anyone with the same data can create the same hash and see that it was used to create the signature; then she can compare the signature to the public key she previously received and see that they're both mathematically related, proving that the person with the private key signed the data covered by the hash. Bitcoin utilizes public key cryptography to allow secure value exchange over an open unsecured network. A bitcoin holder can only access his bitcoins if he has the private keys attached to them, while the public address associated with them can be distributed widely. All network members can verify the validity of the transaction by verifying that the transactions sending the money came from the owner of the right private key. In Bitcoin, the only form of ownership that exists is through the ownership of the private keys.

**Peer-to-peer network** is a network structure in which all members have equal privileges and obligations toward one another. There are no central coordinators who can change the rules of the network. Node operators that disagree with how the network functions cannot impose their opinions on other members of the network or override their privileges. The most well-known example of a peer-to-peer network is BitTorrent, a protocol for sharing files online. Whereas in centralized networks members download files from a

central server that hosts them, in BitTorrent, users download files from each other directly, divided into small pieces. Once a user has downloaded a piece of the file, they can become a seed for that file, allowing others to download it from them. With this design, a large file can spread relatively quickly without the need for large servers and extensive infrastructure to distribute it, while also protecting against the possibility of a single point of failure compromising the process. Every file that is shared on the network is protected by a cryptographic hash that can be easily verified to ensure that any nodes sharing it have not corrupted it. After law enforcement had cracked down on centralized file-sharing websites such as Napster, BitTorrent's decentralized nature meant law enforcement could never shut it down. With a growing network of users worldwide, BitTorrent at some point represented about a third of all Internet traffic worldwide. Bitcoin utilizes a network similar to BitTorrent, but whereas in BitTorrent the network members share the bits of data that constitute a movie, song, or book, in Bitcoin the network members share the ledger of all Bitcoin transactions.

## Notes

- <sup>1</sup> See Nick Szabo, 2001, *Trusted Third Parties Are Security Holes*. Available on [nakamotoinstitute.org](http://nakamotoinstitute.org)
- <sup>2</sup> A brief description of the first three of these technologies is provided in the Appendix to this chapter, while proof-of-work is discussed in more detail in this chapter and in [Chapter 10](#).
- <sup>3</sup> Konrad Graf, “On the Origins of Bitcoin: Stages of Monetary Evolution” (2013). Available at [www.konradsgraf.com](http://www.konradsgraf.com)
- <sup>4</sup> I do not intend to drag this book and the reader into metaphysical questions, but it did occur to me once that the Bitcoin ledger of transactions might just be the only objective set of facts in the world. You could argue (as many philosophers do) that every fact is subjective and its truthfulness is based on the person stating or hearing it, but the Bitcoin ledger of transactions is created through converting electricity and processing power to truth without having to rely on the word of anyone.
- <sup>5</sup> The only way to own bitcoins is to have control of the private keys. Should someone manage to gain access to your private keys, they have your bitcoins. Theft of private keys is like theft of physical dollars or gold; it is final and irreversible. There is no authority you can call to rescind the theft.

This is an unavoidable part of Bitcoin being cash and an important point that potential investors in Bitcoin need to understand full well before putting any sum of money into Bitcoin. Securing the private keys is not a simple task, and not being able to secure them is very risky.

[6](#) Ralph Merkle, “DAOs, Democracy and Governance,” *Cryonics*, vol. 37, no. 4 (July–August 2016): 28–40; Alcor, [www.alcor.org](http://www.alcor.org)

[7](#) See [Chapter 10](#) for a discussion of Bitcoin's immutability and resistance to change.

[8](#) Source: [blockchain.info](http://blockchain.info).

[9](#) Source: author's calculations.

[10](#) Details of both transactions can be found in Nathaniel Popper's *Digital Gold*.

[11](#) See [Chapter 10](#) for a discussion of why Bitcoin knockoffs cannot be described as digital cash.

[12](#) For a good discussion of this point, see Kyle Torpey, “Here's What Goldbugs Miss About Bitcoin's ‘Intrinsic Value,’” *Forbes Digital Money*. Available at <https://www.forbes.com/sites/ktorpey/2017/10/27/heres-what-gold-bugs-miss-about-bitcoins-intrinsic-value/2/#11b6a3b97ceo>

[13](#) Source: Coindesk Bitcoin Price Index. Available at [www.coindesk.com/price](http://www.coindesk.com/price)

[14](#) CIA World Factbook. Available at <https://www.cia.gov/library/publications/the-world-factbook/>

[15](#) These comparisons should be taken with a grain of salt, as they are not entirely accurate comparisons of like for like. Government money supply is created not just by the central bank, but also by the banks themselves, while no such process exists for Bitcoin. The measures of money supply also differ from one country to another in terms of which financial assets they would include as part of the money supply.

[16](#) Source: [blockchain.info](http://blockchain.info)

[17](#) Source: [blockchain.info](http://blockchain.info)

[18](#) Source: [blockchain.info](http://blockchain.info)

19 Source: [blockchain.info](https://blockchain.info)

20 Source: Author's calculations based on USD data from St. Louis Federal Reserve Economic Data, and Bitcoin data from [coindesk.com](https://coindesk.com)

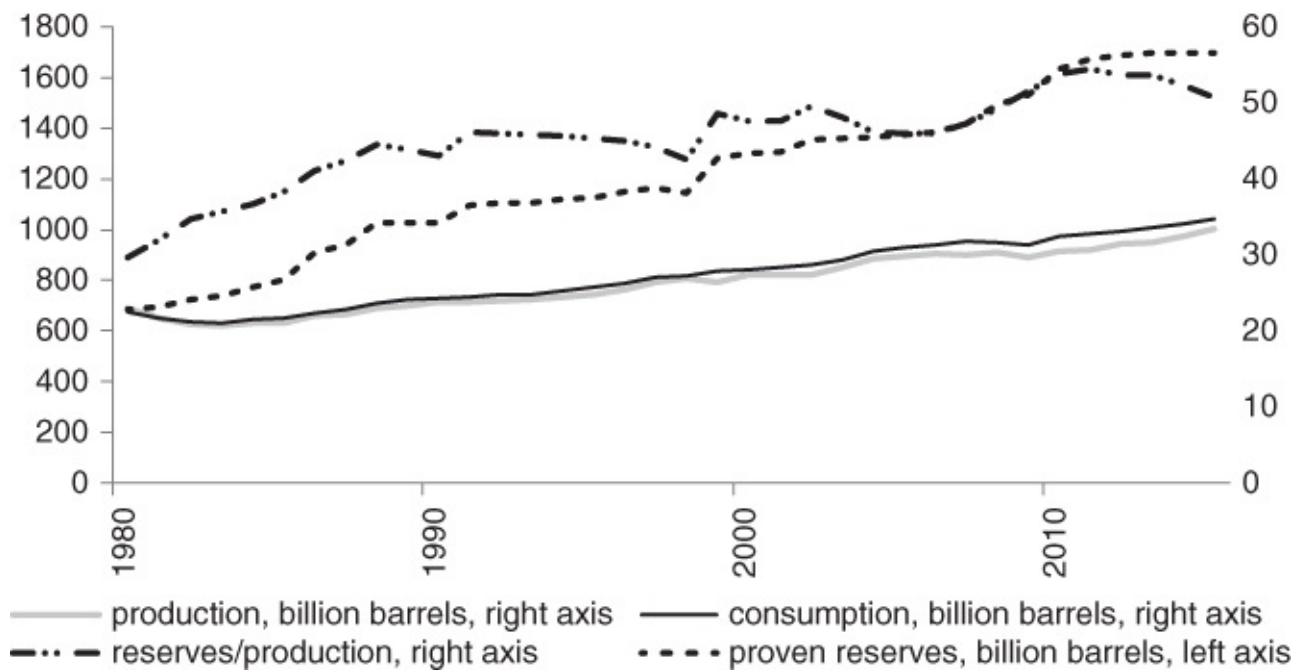
21 Prices of all currencies measured in USD while USD Index is used for the U.S. dollar. National currency data from St. Louis Federal Reserve Economic Data. Gold data from World Gold Council. Bitcoin data from [coindesk.com](https://coindesk.com)

# **Chapter 9**

## **What Is Bitcoin Good For?**

### **Store of Value**

The belief that resources are scarce and limited is a misunderstanding of the nature of scarcity, which is the key concept behind economics. The absolute quantity of every raw material present in earth is too large for us as human beings to even measure or comprehend, and in no way constitutes a real limit to what we as humans can produce of it. We have barely scratched the surface of the earth in search of the minerals we need, and the more we search, and the deeper we dig, the more resources we find. What constitutes the practical and realistic limit to the quantity of any resource is always the amount of human time that is directed toward producing it, as that is the only real scarce resource (until the creation of Bitcoin). In his masterful book, *The Ultimate Resource*, the late economist Julian Simon explains how the only limited resource, and in fact the only thing for which the term *resource* actually applies, is human time. Each human has a limited time on earth, and that is the only scarcity we deal with as individuals. As a society, our only scarcity is in the total amount of time available to members of a society to produce different goods and services. More of any good can always be produced if human time goes toward it. The real cost of a good, then, is always its opportunity cost in terms of goods forgone to produce it.



**Figure 20** Global oil consumption, production, proven reserves, and ratio of reserves over annual production, 1980–2015.

In all human history, we have never run out of any single raw material or resource, and the price of virtually all resources is lower today than it was in past points in history, because our technological advancement allows us to produce them at a lower cost in terms of our time. Not only have we not run out of raw materials, the proven reserves that exist of each resource have only increased with time as our consumption has gone up. If resources are to be understood as being finite, then the existing stockpiles would decline with time as we consume more. But even as we are always consuming more, prices continue to drop, and the improvements in technology for finding and excavating resources allows us to find more and more. Oil, the vital bloodline of modern economies, is the best example as it has fairly reliable statistics. As [Figure 20](#) shows, even as consumption and production continue to increase year on year, the proven reserves increase at an even faster rate.<sup>1</sup> According to data from BP's statistical review, annual oil production was 46% higher in 2015 than its level in 1980, while consumption was 55% higher. Oil reserves, on the other hand, have increased by 148%, around triple the increase in production and consumption.

Similar statistics can be produced for resources with varying degrees of prevalence in the earth's crust. The rarity of a resource determines the relative cost of extracting it from the earth. More prevalent metals like iron and copper are easy to find, and relatively cheap as a result. Rarer metals, such as silver and gold, are more expensive. The limit on how much we can produce of each

of those metals, however, remains the opportunity cost of their production relative to one another, and not their absolute quantity. There is no better evidence for this than the fact that the rarest metal in the crust of the earth, gold, has been mined for thousands of years and continues to be mined in increasing quantities as technology advances over time, as shown in [Chapter 3](#). If annual production of the rarest metal in the earth's crust goes up every year, then it makes no sense to talk of any natural element as being limited in its quantity in any practical sense. Scarcity is only relative in material resources, with the differences in cost of extraction being the determinant of the level of scarcity. The only scarcity, as Julian Simon brilliantly demonstrated, is in the time humans have to produce these metals, and that is why the global wage continues to rise worldwide, making products and materials continuously get cheaper in terms of human labor.

This is one the hardest economic concepts for people to understand, which fuels the endless hysteria that the environmental movement has foisted upon us through decades of apocalyptic scaremongering. Julian Simon did his best to combat this hysteria by challenging one of the foremost hysterics of the twentieth century to a famous 10-year bet. Paul Ehrlich had written several hysterical books arguing that the earth was on the edge of catastrophe from running out of vital resources, with precise dire predictions about the dates on which these resources would be exhausted. In 1980, Simon challenged Ehrlich to name any raw materials and any period longer than a year, and bet him \$10,000 that the price of each of these metals, adjusted for inflation, would be lower at the end of the period than before it. Ehrlich picked copper, chromium, nickel, tin, and tungsten, which were all materials he had predicted would run out. Yet, in 1990, the price of each of these metals had dropped, and the level of annual production had increased, even though the intervening decade had seen human population increase by 800 million people, the largest increase in a single decade before or since.

In reality, the more humans exist, the more production of all these raw materials can take place. More importantly, perhaps, as economist Michael Kremer<sup>2</sup> argues, the fundamental driver of human progress is not raw materials, but technological solutions to problems. Technology is by its nature both a *non-excludable good* (meaning that once one person invents something, all others can copy it and benefit from it) and a *non-rival good* (meaning that a person benefiting from an invention does not reduce the utility that accrues to others who use it). As an example, take the wheel. Once one person invented it, everyone else could copy it and make their own wheel, and their use of their wheel would not in any way reduce others' ability to

benefit from it. Ingenious ideas are rare, and only a small minority of people can come up with them. Larger populations will thus produce more technologies and ideas than smaller populations, and because the benefit accrues to everyone, it is better to live in a world with a larger population. The more humans exist on earth, the more technologies and productive ideas are thought of, and the more humans can benefit from these ideas and copy them from one another, leading to higher productivity of human time and improving standards of living.

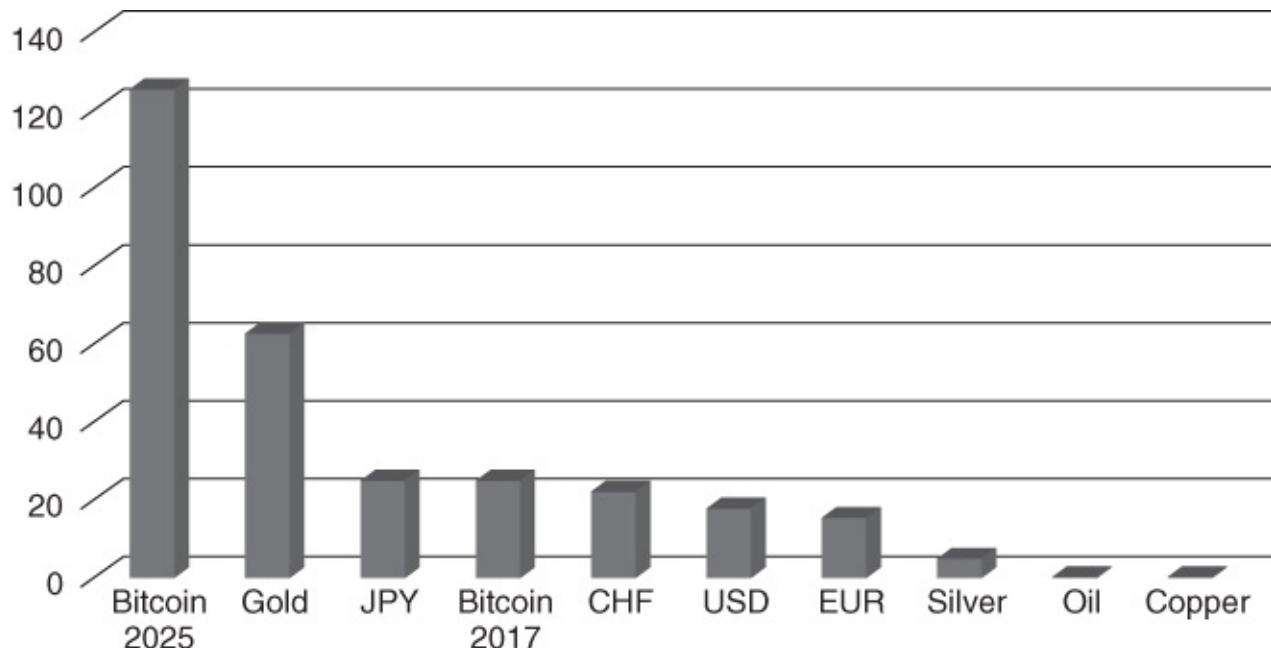
Kremer illustrates this by showing that as the population of the earth has increased, the rate of population growth has increased rather than declined. Had humans been a burden consuming resources, then the larger the population, the lower the quantity of resources available to each individual and the lower the rate of economic growth and thus population growth, as the Malthusian model predicts. But because humans are themselves the resource, and productive ideas are the driver of economic production, a larger number of humans results in more productive ideas and technologies, more production per capita, and a higher capacity for sustaining larger populations. Further, Kremer shows how isolated landmasses that were more heavily populated witnessed faster economic growth and progress than those that were sparsely populated.

It is a misnomer to call raw materials resources, because humans are not passive consumers of manna from heaven. Raw materials are always the product of human labor and ingenuity and thus humans are the ultimate resource, because human time, effort, and ingenuity can always be used to produce more output.

The eternal dilemma humans face with their time concerns how to store the value they produce with their time through the future. While human time is finite, everything else is practically infinite, and more of it can be produced if more human time is directed at it. Whatever object humans chose as a store of value, its value would rise, and because more of the object can always be made, others would produce more of the object to acquire the value stored in it. The Yapese had O'Keefe bringing explosives and advanced boats to make more Rai stones for them and acquire the value stored in the existing stones. Africans had Europeans bringing boats full of beads to acquire the value stored in their beads. Any metal other than gold that was used as a monetary medium was overproduced until its price collapsed. Modern economies have Keynesian central banks forever pretending to fight inflation while gradually or quickly eroding the value of their money, as discussed in [Chapter 4](#). As Americans recently started using their homes as a medium for savings, the

supply of housing was increased so much that the price came crashing down. As monetary inflation proceeds, the large number of bubbles can be understood as speculative bets for ways to find a useful store of value. Only gold has come close to solving this problem, thanks to its chemistry making it impossible for anyone to inflate its supply, and that resulted in one of the most glorious eras of human history. But the move toward government control of gold soon limited its monetary role by replacing it with government-issued money, whose record has been abysmal.

This sheds some light on an astonishing facet of the technical accomplishment that is Bitcoin. For the first time, humanity has recourse to a commodity whose supply is *strictly limited*. No matter how many people use the network, how much its value rises, and how advanced the equipment used to produce it, there can only ever be 21 million bitcoins in existence. There is no technical possibility for increasing the supply to match the increased demand. Should more people demand to hold Bitcoin, the only way to meet the demand is through appreciation of the existing supply. Because each bitcoin is divisible into 100 million satoshis, there is plenty of room for the growth of Bitcoin through the use of ever-smaller units of it as the value appreciates. This creates a new type of asset well-suited for playing the role of store of value.



**Figure 21** Total available global stockpiles divided by annual production.

Until Bitcoin's invention, all forms of money were unlimited in their quantity and thus imperfect in their ability to store value across time. Bitcoin's immutable monetary supply makes it the best medium to store the value produced from the limited human time, thus making it arguably the best store

of value humanity has ever invented. To put it differently, Bitcoin is the cheapest way to buy the future, because Bitcoin is the only medium guaranteed to not be debased, no matter how much its value rises. (See [Figure 21.3](#))

In 2018, with Bitcoin only nine years old, it has already been adopted by millions<sup>4</sup> worldwide and its current supply growth rate compares with that of the global reserve currencies. In terms of the stock-to-flow ratio discussed in [Chapter 1](#), the existing stockpiles of Bitcoin in 2017 were around 25 times larger than the new coins produced in 2017. This is still less than half of the ratio for gold, but around the year 2022, Bitcoin's stock-to-flow ratio will overtake that of gold, and by 2025, it will be around double that of gold and continue to increase quickly into the future while that of gold stays roughly the same, given the dynamics of goldmining discussed in [Chapter 3](#). Around the year 2140 there will be no new supply of Bitcoin, and the stock-to-flow ratio becomes infinite, the first time any commodity or good has achieved this.

An important implication of the reduced supply of bitcoins and the continuously diminishing rate at which the supply grows is to make the supply of existing bitcoins very large compared to the new supply. In that sense, Bitcoin mining is similar to goldmining, thus ensuring that as a monetary medium, relatively less time and effort would go toward securing new supplies of Bitcoin than other moneys whose supply can be increased easily; and more time and effort is dedicated toward useful economic production which can then be exchanged for bitcoins. As the block subsidy declines, the resources dedicated to mining bitcoins will be mainly rewarded for processing the transactions and thus securing the network, rather than for the creation of new coins.

For most of human history, some physical object was used as the store of value. The function of value storage did not need a physical manifestation, but having one allowed for making the supply of the store of value harder to increase. Bitcoin, by not having any physical presence, and being purely digital, is able to achieve strict scarcity. No divisible and transportable physical material had ever achieved this before. Bitcoin allows humans to transport value digitally without any dependence on the physical world, which allows large transfers of sums across the world to be completed in minutes. The strict digital scarcity of the Bitcoin tokens combines the best elements of physical monetary media, without any of the physical drawbacks to moving and transporting it. Bitcoin might have a claim to make for being the best technology for saving ever invented.

# Individual Sovereignty

As the first form of digital cash, Bitcoin's first and most important value proposition is in giving anyone in the world access to sovereign base money. Any person who owns Bitcoin achieves a degree of economic freedom which was not possible before its invention. Bitcoin holders can send large amounts of value across the planet without having to ask for the permission of anyone. Bitcoin's value is not reliant on anything physical anywhere in the world and thus can never be completely impeded, destroyed, or confiscated by any of the physical forces of the political or criminal worlds.

The significance of this invention for the political realities of the twenty-first century is that, for the first time since the emergence of the modern state, individuals have a clear technical solution to escaping the financial clout of the governments they live under. Remarkably, the best description of the significance of such a technology can be found in a book written in 1997, a full 12 years before Bitcoin's creation, which foresaw a digital currency remarkably similar to Bitcoin, and the impact it would have on transforming human society.

In *The Sovereign Individual*, James Davidson and William Rees-Mogg argue that the modern nation-state, with its restrictive laws, high taxes, and totalitarian impulses, has grown to a level of burdensome repression of its citizens' freedom comparable to that of the Church in the European Middle Ages, and just as ripe for disruption. With its heavy burden of taxation, personal control, and rituals, the costs of supporting the Church became unbearable for Europeans, and newer more productive political and economic forms of organization emerged to replace it and consign it to insignificance. The rise of machinery, the printing press, capitalism, and the modern nation-state birthed the age of industrial society and modern conceptions of citizenship.

Five hundred years later, it is industrial society and the modern nation-state that have become repressive, sclerotic, and burdensome while new technology eats away at its power and raison d'être. "Microprocessors will subvert and destroy the nation-state" is the provocative thesis of the book. New forms of organization will emerge from information technology, destroying the capacity of the state to force citizens to pay more for its services than they wish. The digital revolution will destroy the power of the modern state over its citizens, reduce the significance of the nation-state as an organizing unit, and give individuals unprecedented power and sovereignty over their own lives.

We can already see this process taking place thanks to the telecommunication

revolution. Whereas the printing press allowed the poor of the world to access knowledge that was forbidden them and monopolized by the churches, it still had the limitation of producing physical books which could always be confiscated, banned, or burned. No such threat exists in the cyber-world, where virtually all human knowledge exists, readily available for individuals to access without any possibility for effective government control or censorship.

Similarly, information is allowing trade and employment to subvert government restrictions and regulations, as best exemplified by companies like Uber and Airbnb, which have not asked for government permission to introduce their products successfully and subvert traditional forms of regulation and supervision. Modern individuals can transact with others they meet online via systems of identity and protection built on consent and mutual respect, without any need for resort to coercive government regulations.

The emergence of cheap forms of telecommunication online has also subverted the importance of geographic location for work. Producers of many goods can now choose to be domiciled anywhere they prefer while the products of their labor, which are becoming increasingly informational and nonmaterial, can be transferred globally instantaneously. Government regulations and taxes are becoming less powerful as individuals can live or work where it suits them and deliver their work via telecommunication.

As more and more of the value of economic production takes the form of nontangible goods, the relative value of land and physical means of production declines, reducing returns on violently appropriating such physical means of production. Productive capital becomes more embodied in the individuals themselves, making the threat of violently appropriating it increasingly hollow, as individuals' productivity becomes inextricably linked to their consent. When peasants' productivity and survival was tied to the land that they did not own, the threat of violence was effective in getting them to be productive to benefit the landowner. Similarly, industrial society's heavy reliance on physical productive capital and its tangible output made expropriation by the state relatively straightforward, as the twentieth century so bloodily illustrated. But as the individual's mental capacities become the prime productive force of society, the threat of violence becomes far less effective. Humans can easily move to jurisdictions where they are not threatened, or can be productive on computers without governments being able to even know what they are producing.

There was one final piece in the puzzle of digitization that had been missing, and that is the transfer of money and value. Even as information technology

could subvert geographic and governmental controls and restrictions, payments continued to be heavily controlled by governments and the state-enforced banking monopolies. Like all government-enforced monopolies, banking had for years resisted innovations and changes that benefit the consumers and restrict their ability to extract fees and rents. This was a monopoly that grew ever more burdensome as the global economy spread and became more global. Davidson and Rees-Mogg predict with remarkable prescience the form that the new digital monetary escape hatch will take: cryptographically secured forms of money independent of all physical restrictions that cannot be stopped or confiscated by government authorities. While this seemed like an outlandish prediction when the book was written, it is now a vivid reality already utilized by millions worldwide, though the significance of it is not widely understood.

Bitcoin, and cryptography in general, are defensive technologies that make the cost of defending property and information far lower than the cost of attacking them. It makes theft extremely expensive and uncertain, and thus favors whoever wants to live in peace without aggression toward others. Bitcoin goes a long way in correcting the imbalance of power that emerged over the last century when the government was able to appropriate money into its central banks and thus make individuals utterly reliant on it for their survival and well-being. The historical version of sound money, gold, did not have these advantages. Gold's physicality made it vulnerable to government control. That gold could not be moved around easily meant that payments using it had to be centralized in banks and central banks, making confiscation easy. With Bitcoin, on the other hand, verifying transactions is trivial and virtually costless, as anyone can access the transactions ledger from any Internet-connected device for free<sup>5</sup>. While Bitcoin's scaling will likely require the use of third-party intermediaries, this will be different from gold settlement in several very important respects. First, the dealings of the third parties will ultimately all be settled on a publicly accessible ledger, allowing for more transparency and auditing. Bitcoin offers the modern individual the chance to opt out of the totalitarian, managerial, Keynesian, and socialist states. It is a simple technological fix to the modern pestilence of governments surviving by exploiting the productive individuals who happen to live on their soil. If Bitcoin continues to grow to capture a larger share of the global wealth, it may force governments to become more and more a form of voluntary organization, which can only acquire its "taxes" voluntarily by offering its subjects services they would be willing to pay for.

The political vision of Bitcoin can be understood from a closer examination of

the ideas of the cypherpunk movement from which it sprung. In the words of Timothy May:

The combination of strong, unbreakable public key cryptography and virtual network communities in cyberspace will produce interesting and profound changes in the nature of economic and social systems. Crypto anarchy is the cyberspatial realization of anarcho-capitalism, transcending national boundaries and freeing individuals to make the economic arrangements they wish to make consensually ... Crypto anarchy is liberating individuals from coercion by their physical neighbors—who cannot know who they are on the Net—and from governments. For libertarians, strong crypto provides the means by which government will be avoided.<sup>6</sup>

The vision of anarcho-capitalism May describes is the political philosophy developed by the American economist of the Austrian school, Murray Rothbard. In *The Ethics of Liberty* Rothbard explains libertarian anarcho-capitalism as the only logically coherent implication of the idea of free will and self-ownership:

On the other hand, consider the universal status of the ethic of liberty, and of the natural right of person and property that obtains under such an ethic. For every person, at any time or place, can be covered by the basic rules: ownership of one's own self, ownership of the previously unused resources which one has occupied and transformed; and ownership of all titles derived from that basic ownership—either through voluntary exchanges or voluntary gifts. These rules—which we might call the “rules of natural ownership”—can clearly be applied, and such ownership defended, regardless of the time or place, and regardless of the economic attainments of the society. It is impossible for any other social system to qualify as universal natural law; for if there is any coercive rule by one person or group over another (and all rule partakes of such hegemony), then it is impossible to apply the same rule for all; only a rulerless, purely libertarian world can fulfill the qualifications of natural rights and natural law, or, more important, can fulfill the conditions of a universal ethic for all mankind.<sup>7</sup>

The non-aggression principle is the foundation of Rothbard's anarcho-capitalism, and on its basis, any aggression, whether carried out by government or individual, cannot have moral justification. Bitcoin, being completely voluntary and relentlessly peaceful, offers us the monetary infrastructure for a world built purely on voluntary cooperation. Contrary to

popular depictions of anarchists as hoodie-clad hoodlums, Bitcoin's brand of anarchism is completely peaceful, providing individuals with the tools necessary for them to be free from government control and inflation. It seeks to impose itself on nobody, and if it grows and succeeds, it will be for its own merits as a peaceful neutral technology for money and settlement, not through it being forced on others.

In the foreseeable future, as it is still at a very low level of general adoption, Bitcoin provides a cost-effective option for people needing to get around government restrictions on the banking sector, as well as to save wealth in a liquid store of value not subject to government inflation. If it were to be adopted widely, the cost of on-chain Bitcoin transactions is likely to rise significantly, as discussed ahead in the section on scaling, making it less feasible for individuals to carry out the uncensorable on-chain transactions to get around government rules and regulations. In that situation, however, the wide adoption of Bitcoin will have a far larger positive effect on individual freedom, by reducing government's ability to finance its operation through inflation. It was government money in the twentieth century that allowed for the birth of the heavily interventionist managerial state, with totalitarian and authoritarian tendencies. In a society run on hard money, government impositions that are not economically productive are unlikely to survive for long, as there is little incentive to continue financing them.

## International and Online Settlement

Traditionally, gold was the medium of settlement of payments and store of value worldwide. The inability of any party to expand its supply in any significant quantities made it so. Its value was earned on the free market, and not a liability of anyone else. As the scope of communication and travel grew larger in the nineteenth century, requiring financial transactions over longer distances, gold moved out of people's hands and into the vaults of banks, and eventually, central banks. Under a gold standard, people held paper receipts in gold or wrote checks for it that cleared without physical gold having to be physically moved, vastly improving the speed and efficiency of global trade.

As governments confiscated gold and issued their own money, it was no longer possible for global settlements between individuals and banks to be done with gold, and instead they were conducted with national currencies fluctuating in value, creating significant problems for international trade, as discussed in [Chapter 6](#). The invention of Bitcoin has created, from the ground up, a new independent alternative mechanism for international settlement that does not

rely on any intermediary and can operate entirely separate from the existing financial infrastructure.

The ability of any individual to run a Bitcoin node and send his own money without permission from anyone, and without having to expose his identity, is a noteworthy difference between gold and Bitcoin. Bitcoin does not have to be stored on a computer; the private key to a person's bitcoin hoard is a string of characters or a string of words the person remembers. It is far easier to move around with a Bitcoin private key than with a hoard of gold, and far easier to send it across the world without having to risk it getting stolen or confiscated. Whereas governments confiscated people's gold savings and forced them to trade with money supposedly backed by that gold, people are able to keep the bulk of their bitcoin savings in storage away from government's hands and only use smaller amounts to transact through intermediaries. The very nature of the Bitcoin technology puts governments at a severe disadvantage compared to all other forms of money and thus makes confiscation much harder.

Further, the ability of bitcoin holders to track all holdings of bitcoin on its blockchain makes it extremely impractical for any authority to play the role of a lender of last resort for banks dealing with Bitcoin. Even in the heyday of the international gold standard, money was redeemable in gold, but central banks rarely had enough to cover the entire supply of currency they introduced, and thus always had a margin for increasing the supply of paper to back up the currency. This is much harder with Bitcoin, which brings cryptographic digital certainty to accounting and can help expose banks engaging in fractional reserve banking.

The future use of Bitcoin for small payments will likely not be carried out over the distributed ledger, as explained in the discussion on scaling in [Chapter 10](#), but through second layers. Bitcoin can be seen as the new emerging reserve currency for online transactions, where the online equivalent of banks will issue Bitcoin-backed tokens to users while keeping their hoard of Bitcoins in cold storage, with each individual being able to audit in real time the holdings of the intermediary, and with online verification and reputation systems able to verify that no inflation is taking place. This would allow an infinite number of transactions to be carried out online without having to pay the high transaction fees for on-chain transactions.

As Bitcoin continues to evolve in the direction of having a higher market value with higher transaction fees, it starts to look more and more like a reserve currency than a currency for everyday trading and transactions. Even at the time of writing, with Bitcoin at a relatively small level of public adoption, the

majority of Bitcoin transactions are not recorded on-chain, but occur in exchanges and various types of Bitcoin-based online platforms such as gambling and casino websites. These businesses will credit or debit bitcoins to their customers on their own internal records and then only make transactions on the Bitcoin network when customers deposit or withdraw funds.

By virtue of being digital cash, Bitcoin's comparative advantage may not lie in replacing cash payments, but rather in allowing for cash payments to be carried out over long distances. Payments in person, for small amounts, can be conducted in a wide variety of options: physical cash, barter, favors, credit cards, bank checks, and so on. Current state-of-the-art technology in payment settlements has already introduced a wide array of options for settling small-scale payments with very little cost. It is likely that Bitcoin's advantage lies not in competing with these payments for small amounts and over short distances; Bitcoin's advantage, rather, is that by bringing the finality of cash settlement to the digital world, it has created the fastest method for final settlement of large payments across long distances and national borders. It is when compared to these payments that Bitcoin's advantages appear most significant. There are only a few currencies that are accepted for payment worldwide, namely the U.S. dollar, the euro, gold, and the IMF's Special Drawing Rights. The vast majority of international payments are denominated in one of these currencies, with only a tiny percentage shared by a few other major currencies. To send a few thousand dollars' worth of these currencies internationally usually costs dozens of dollars, takes several days, and is subject to invasive forensic examination by financial institutions. The high cost of these transactions lies primarily in the volatility of trading currencies and the problems of settlement between institutions in different countries, which necessitates the employment of several layers of intermediation.

In less than ten years of existence, Bitcoin has already achieved a significant degree of global liquidity, allowing for international payments in prices that are currently much lower than existing international transfers. This is not to argue that Bitcoin will replace the international money transfer market, but merely to point out its potential for international liquidity. As it stands, the volume of these international flows is far larger than what Bitcoin's blockchain can handle, and if more such payments move to Bitcoin, fees will rise to limit the demand for them. Yet, that would also not spell doom for Bitcoin, because sending these individual payments is not the limit of Bitcoin's capabilities.

Bitcoin is money free of counterparty risk, and its network can offer final settlement of large-volume payments within minutes. Bitcoin can thus be best

understood to compete with settlement payments between central banks and large financial institutions, and it compares favorably to them due to its verifiable record, cryptographic security, and imperviousness to third-party security holes. Using the major national currencies (USD, euro) for settlement carries with it the risk of exchange rate fluctuation of these currencies and involves trust in several layers of existing intermediation. Settlements between central banks and large financial institutions take days, and sometimes weeks, to clear, during which time each party is exposed to significant foreign exchange and counterparty risk. Gold is the only traditional monetary medium that is not someone's liability, and is free of counterparty risk, but moving gold around is an extremely expensive operational task, fraught with risks.

Bitcoin, having no counterparty risk and no reliance on any third-party, is uniquely suited to play the same role that gold played in the gold standard. It is a neutral money for an international system that does not give any one country the "exorbitant privilege" of issuing the global reserve currency, and is not dependent on its economic performance. Being separated from any particular country's economy, its value will not be affected by the volume of trade denominated in it, averting all the exchange rate problems that have plagued the twentieth century. Further, the finality of settlement on Bitcoin does not rely on any counterparty, and does not require any single bank to be the de facto arbiter, making it ideal for a network of global peers, rather than a global hegemonic centralized order. The Bitcoin network is based on a form of money whose supply cannot be inflated by any single member bank, making it a more attractive store-of-value proposition than national currencies whose creation was precisely so their supply could be increased to finance governments.

Bitcoin's capacity for transactions is far more than what the current number of central banks would need even if they settled their accounts daily. Bitcoin's current capacity of around 350,000 transactions per day can allow a global network of 850 banks to each have one daily transaction with every other bank on the network. (The number of unique connections in a network equals  $n(n - 1)/2$ , where  $n$  is the number of nodes.)

A global network of 850 central banks can perform daily final settlement with one another over the Bitcoin network. If each central bank serves around 10 million customers, that would cover the entire world's population. This is offered as an absolute worst-case scenario in which Bitcoin's capacity is not increased in any way whatsoever. As will be discussed in the next chapter, there are several ways in which capacity can be increased even without

altering the architecture of Bitcoin in a backward-incompatible way, potentially allowing for daily settlement between several thousands of banks.

In a world in which no government can create more bitcoins, these Bitcoin central banks would compete freely with one another in offering physical and digital bitcoin-backed monetary instruments and payment solutions. Without a lender of last resort, fractional reserve banking becomes an extremely dangerous arrangement and it would be my expectation the only banks that will survive in the long run would be banks offering financial instruments 100% backed by Bitcoin. This, however, is a point of contention among economists and time can only tell whether that will be the case. These banks would settle payments between their own customers outside of Bitcoin's blockchain and then perform final daily settlement between each other over the blockchain.

While this view of Bitcoin might sound like it is a betrayal of Bitcoin's original vision of fully peer-to-peer cash, it is not a new vision. Hal Finney, the recipient of the first Bitcoin transaction from Nakamoto, wrote this on the Bitcoin forum in 2010:

Actually there is a very good reason for Bitcoin-backed banks to exist, issuing their own digital cash currency, redeemable for bitcoins. Bitcoin itself cannot scale to have every single financial transaction in the world be broadcast to everyone and included in the block chain. There needs to be a secondary level of payment systems which is lighter weight and more efficient. Likewise, the time needed for Bitcoin transactions to finalize will be impractical for medium to large value purchases.

Bitcoin backed banks will solve these problems. They can work like banks did before nationalization of currency. Different banks can have different policies, some more aggressive, some more conservative. Some would be fractional reserve while others may be 100% Bitcoin backed. Interest rates may vary. Cash from some banks may trade at a discount to that from others.

George Selgin has worked out the theory of competitive free banking in detail, and he argues that such a system would be stable, inflation resistant and self-regulating.

I believe this will be the ultimate fate of Bitcoin, to be the “high-powered money” that serves as a reserve currency for banks that issue their own digital cash. Most Bitcoin transactions will occur between banks, to settle net transfers. Bitcoin transactions by private individuals will be as rare as... well, as Bitcoin based purchases are today.<sup>8</sup>

The number of transactions in a Bitcoin economy can still be as large as it is today, but the settlement of these transactions will not happen on Bitcoin's ledger, whose immutability and trustlessness is far too valuable for individual consumer payments. Whatever the limitations of current payment solutions, they will stand to benefit immensely from the introduction of free market competition into the field of banking and payments, one of the most sclerotic industries in the modern world economy, because it is controlled by governments that can create the money on which it runs.

If Bitcoin continues to grow in value and gets utilized by a growing number of financial institutions, it will become a reserve currency for a new form of central bank. These central banks could be primarily based in the digital or physical worlds, but it is becoming worth considering if national central banks should supplement their reserves with Bitcoin. In the current monetary global system, national central banks hold reserves mainly in U.S. dollars, euros, British pounds, IMF Standard Drawing Rights, and gold. These reserve currencies are used to settle accounts between central banks and to defend the market value of their local currencies. Should Bitcoin's appreciation continue in the same manner it has experienced over the past few years, it is likely to attract the attention of central banks with an eye on the future.

If Bitcoin continues to appreciate significantly, it will provide the central bank more flexibility with their monetary policy and international account settlement. But perhaps the real case for central banks owning bitcoin is as insurance against the scenario of it succeeding. Given that the supply of bitcoins is strictly limited, it may be wise for a central bank to spend a small amount acquiring a small portion of bitcoin's supply today in case it appreciates significantly in the future. If bitcoin continues to appreciate while a central bank doesn't own any of it, then the market value of their reserve currencies and gold will be declining in terms of Bitcoin, placing the central bank at a disadvantage the later it decides to acquire reserves.

Bitcoin is still viewed as a quirky Internet experiment for now, but as it continues to survive and appreciate over time, it will start attracting real attention from high-net-worth individuals, institutional investors, and then, possibly, central banks. The point at which central banks start to consider using it is the point at which they are all engaged in a reverse bank run on Bitcoin. The first central bank to buy bitcoin will alert the rest of the central banks to the possibility and make many of them rush toward it. The first central bank purchase is likely to make the value of Bitcoin rise significantly and thus make it progressively more expensive for later central banks to buy it. The wisest course of action in this case is for a central bank to purchase a

small share of Bitcoin. If the central bank has the institutional capacity to purchase the currency without announcing it, that would be an even wiser course of action, allowing the central bank to accumulate it at low prices.

Bitcoin can also serve as a useful reserve asset for central banks facing international restrictions on their banking operations, or unhappy at the dollar-centric global monetary system. The possibility of adopting Bitcoin reserves might itself prove a valuable bargaining chip for these central banks with U.S. monetary authorities, who would probably prefer not to see any central banks defect to Bitcoin as a method of settlement, because that would then entice others to join.

While central banks have mostly been dismissive of the importance of Bitcoin, this could be a luxury they may not afford for long. As hard as it might be for central bankers to believe it, Bitcoin is a direct competitor to their line of business, which has been closed off from market competition for a century. Bitcoin makes global processing of payments and final clearance available for anyone to perform at a small cost, and it replaces human-directed monetary policy with superior and perfectly predictable algorithms. The modern central bank business model is being disrupted. Central banks now have no way of stopping competition by just passing laws as they have always done. They are now up against a digital competitor that most likely cannot be brought under the physical world's laws. Should national central banks not use Bitcoin's instant clearance and sound monetary policy, they would leave the door open for digital upstarts to capture more and more of this market for a store of value and settlement.

If the modern world is ancient Rome, suffering the economic consequences of monetary collapse, with the dollar our aureus, then Satoshi Nakamoto is our Constantine, Bitcoin is his solidus, and the Internet is our Constantinople. Bitcoin serves as a monetary lifeboat for people forced to transact and save in monetary media constantly debased by governments. Based on the foregoing analysis, the real advantage of Bitcoin lies in it being a reliable long-term store of value, and a sovereign form of money that allows individuals to conduct permissionless transactions. Bitcoin's main uses in the foreseeable future will follow from these competitive advantages, and not from its ability to offer ubiquitous or cheap transactions.

## Global Unit of Account

This final application of Bitcoin is not one that is likely to materialize any time soon, but is nonetheless intriguing given Bitcoin's unique properties. Since the

end of the gold standard era, global trade has been hampered by the differences in currency value across different countries. This destroyed people's ability to conduct indirect exchange using a single medium of exchange and instead created a world where buying something across borders has to be preceded by buying the currency of the producer, almost mimicking barter. This has severely hampered people's ability to conduct economic calculation across borders and resulted in the growth of a massive foreign exchange industry. That industry produces little of value but an amelioration of the terrible consequences of monetary nationalism.

The gold standard offered a solution to this problem, wherein a single form of money, independent of the control of any single government or authority, was the monetary standard worldwide. Prices could be calibrated against gold and expressed in it, facilitating calculation across borders. The physical heft of gold, however, meant that it had to be centralized and settlement had to be carried out between central banks. Once the gold was centralized, its lure proved irresistible for governments, who took control of it and eventually replaced it with fiat money whose supply they control. Sound money became unsound as a result.

It is an open question whether Bitcoin could potentially play the role of a global unit of account for trade and economic activity. For this possibility to materialize, Bitcoin would need to be adopted by an extremely large number of people in the world, most likely indirectly, through its use as a reserve currency. It would then remain to be seen whether the stability of bitcoin's supply would make it also stable in value, as daily transactions in it would be marginal compared to the quantities held. As it stands, given that Bitcoin constitutes less than 1% of the global money supply, large individual transactions in Bitcoin can have a large impact on price, and small variations in demand can cause large swings in price. This, however, is a feature of the current situation where Bitcoin as a global settlement network and currency is still a tiny fraction of global settlement payments and money supply. Buying a Bitcoin token today can be considered an investment in the fast growth of the network and currency as a store of value, because it is still very small and able to grow many multiples of its size and value very quickly. Should Bitcoin's share of the global money supply and international settlement transactions become a majority share of the global market, the level of demand for it will become far more predictable and stable, leading to a stabilization in the value of the currency. Hypothetically, should bitcoin become the only money used around the world, it will no longer have large room for growth in value. At that point, demand for it will simply be demand for holding liquid money, and the speculative investment aspect of the demand we see today would disappear. In

such a situation, the value of bitcoin would vary along with the time preference of the entire world's population, with increasing demand for holding Bitcoin as a store of value leading to only small appreciation of its value.

In the long run, the absence of any authority that can control bitcoin's supply will likely go from creating volatility in the price to reducing it. The predictability of the supply combined with growth in the number of users could make daily fluctuations in demand less significant determinants of price, as market makers are able to hedge and smooth supply-and-demand fluctuations and create a more stable price.

The situation would be similar to gold under the gold standard, as detailed in Jastram's study referenced in [Chapter 6](#). For centuries during which gold was used as money, the steady and gradual increase in its supply meant that its value did not increase or decrease significantly, making it the perfect unit of account across space and time.

But this scenario ignores one fundamental difference between gold and Bitcoin, and that is that gold has large and highly elastic demand for use in a multitude of industrial and ornamental applications. Gold's unique chemical properties have ensured that it is always in high demand regardless of its monetary role. Even as monetary demand for gold changes, industry stands ready to utilize essentially limitless quantities of gold should the price drop due to a decrease in monetary demand. Gold's properties make it the best choice for many applications, for which inferior substitutes are only chosen due to gold's high price. Even in a scenario where all global central banks dispose of all their gold reserves, jewelry and industrial demand is likely to absorb all that excess supply with only temporary reductions in price. The rarity of gold in the earth's crust will always ensure it will remain expensive relative to other materials and metals. This property has been instrumental in the rise of gold as money because it ensured a relative stability of value for gold over time, regardless of global changes in monetary demand through countries going on or off the gold standard. This relative stability in turn solidified gold's appeal as a monetary asset and ensured demand for it, and can be understood as the real reason central banks do not sell their gold reserves decades after their currencies stopped being redeemable in it. Should central banks sell their gold reserves, the net effect will be that tons more gold will be utilized in industrial applications over the coming few years, with a small impact on gold's price. In this trade, the central bank would only gain a fiat currency it can print itself, and would lose an asset which will likely gain value over its own currency.

The equivalent nonmonetary demand for bitcoin can be understood as the demand for the coins not as a store of value, but as a necessary prerequisite to using the network. But unlike industrial demand for gold, which is completely independent of its monetary demand, demand for bitcoin to operate the network is inextricably linked to demand for it as a store of value. It thus cannot be expected to play a significant role in ameliorating the volatility of bitcoin's market value as it is growing in its monetary role.

On the one hand, Bitcoin's strict scarcity makes it a very attractive choice for a store of value, and an ever-growing number of holders could tolerate the volatility for long periods of time if it is heavily skewed to the upside, as has been the case so far. On the other hand, the persistence of volatility in bitcoin's value will prevent it from playing the role of a unit of account, at least until it has grown to many multiples of its current value and in the percentage of people worldwide who hold and accept it.

Yet, considering that the world's population today has only lived in a world of volatile fiat currencies shifting against each other, bitcoin holders should be far more tolerant of its volatility than generations reared under the certainty of the gold standard. Only the best fiat currencies have been stable in the short-term, but the devaluation in the long term is evident. Gold, on the other hand, has maintained long-term stability, but it is relatively unstable in the short term. Bitcoin's lack of stability does not seem like a fatal flaw that would prevent its growth and adoption given that all its alternatives are also relatively unstable.

Such questions cannot be answered definitively at this point, and only the real world will tell how these dynamics will unfold. Monetary status is a spontaneously emergent product of human action, not a rational product of human design.<sup>9</sup> Individuals act out of self-interest, and technological possibilities and the economic realities of supply and demand shape the outcomes of their actions, providing them incentives to persist, adapt, change, or innovate. A spontaneous monetary order emerges from these complex interactions; it is not something that is conferred through academic debate, rational planning, or government mandate. What might appear like a better technology for money in theory may not necessarily succeed in practice. Bitcoin's volatility may make monetary theorists dismiss it as a monetary medium, but monetary theories cannot override the spontaneous order that emerges on the market as a result of human actions. As a store of value, Bitcoin may continue to attract more savings demand, causing it to continue appreciating significantly compared to all other forms of money until it becomes the prime choice for anyone looking to get paid.

Should it achieve some sort of stability in value, Bitcoin would be superior to using national currencies for global payment settlements, as is the case today, because national currencies fluctuate in value based on each nation's and government's conditions, and their widespread adoption as a global reserve currency results in an “exorbitant privilege” to the issuing nation. An international settlement currency should be neutral to the monetary policy of different countries, which is why gold played this role with excellence during the international gold standard. Bitcoin would have an advantage over gold in playing this role because its settlement can be completed in minutes, and the authenticity of the transactions can be trivially verified by anyone with an Internet connection, at virtually no cost. Gold, on the other hand, takes more time to transport, and its clearance relies on varying degrees of trust in intermediaries responsible for settling it and transferring it. This might preserve gold's monetary role for in-person cash transactions while Bitcoin specializes in international settlement.

## Notes

<sup>1</sup> Source: BP Statistical Review.

<sup>2</sup> Michael Kremer, “Population Growth and Technological Change: One Million B.C. to 1990,” *Quarterly of Journal of Economics*, vol. 108, no. 3 (1993): 681–716.

<sup>3</sup> Sources: U.S. Geological Survey data for gold. Silver Institute data for silver. [Blockchain.info](https://blockchain.info) and author's calculations for Bitcoin. BP Statistical Review of World Energy for oil. National currency data from Federal Reserve Economic Data, available at <https://fred.stlouisfed.org>. Author's estimates for copper.

<sup>4</sup> There are no simple ways of estimating the number of Bitcoin users, as each individual user can have an arbitrary number of wallet addresses associated with them. Various attempts at estimating the number put it between 10 and 100 million holders in 2017, and I think this could be as accurate an estimate as we can get.

<sup>5</sup> And obtaining internet capable devices and an internet connection is cheap and continuously getting cheaper.

<sup>6</sup> Timothy C. May. *Crypto Anarchy and Virtual Communities*. 1994. Available on [nakamotoinstitute.org](http://nakamotoinstitute.org)

- <sup>7</sup> Murray Rothbard, *The Ethics of Liberty*. (New York, NY: New York University Press, 1998), p. 43.
- <sup>8</sup> Bitcoin Talk forums, December 30, 2010. Available at:  
<https://bitcointalk.org/index.php?topic=2500.msg34211#msg34211>
- <sup>9</sup> For more on this very important distinction, see Adam Ferguson, *An Essay on the History of Civil Society* (London: T. Cadell, 1782). See also Vernon Smith, *Rationality in Economics* (New York: Cambridge University Press, 2008).

# Chapter 10

## Bitcoin Questions

With the economic basics of the operation of Bitcoin explained in [Chapter 8](#), and the main potential use cases of Bitcoin discussed in [Chapter 9](#), a few of the most salient questions surrounding Bitcoin's operation are examined here.

### Is Bitcoin Mining a Waste?

Anyone who joins the Bitcoin network generates a *public address* and a *private key*. These are analogous to an email address and its password: people can send you bitcoins to your public address while you use your private key to send bitcoins from your balance. These addresses can also be presented in Quick Response (QR) code format.

When a transaction is made, the sender broadcasts it to all other network members (nodes), who can verify the sender has enough bitcoins to fulfill it, and that he has not spent these coins on another transaction. Once the transaction is validated by a majority of the CPU behind the network, it is inscribed onto the common ledger shared by all network members, allowing all members to update the balance of the two transacting members. While it is easy for any network member to verify the validity of a transaction, a system of voting based on giving each member one vote could be gamed by a hacker creating a lot of nodes to vote to validate their fraudulent transactions. Only by making accuracy based on CPU cycles expended by members, in other words, employing a proof-of-work system, can Bitcoin solve the double-spending problem without a trusted third party.

In its essence, proof-of-work involves network members competing to solve mathematical problems that are hard to solve but whose solution is easy to verify. All Bitcoin transactions verified in a ten-minute interval are transcribed and grouped together into one block. Nodes compete to solve the PoW math problems for a block of transactions, and the first node to produce the correct solution broadcasts it to network members, who can very quickly verify its correctness. Once the validity of the transactions and PoW are verified by a majority of the network nodes, a set quantity of bitcoin is issued to reward the node that correctly solved the PoW. This is known as the *block subsidy*, and the process of generating the new coins has been referred to as *mining*, because it is the only way that the supply of coins is increased, in the same way

that mining is the only way to increase the supply of gold. On top of the block subsidy, the node that correctly solved the PoW also gets the *transaction fees* included by senders. The sum of the transaction fees and the block subsidy is the *block reward*.

Although solving these problems might initially seem a wasteful use of computing and electric power, proof-of-work is essential to the operation of Bitcoin.<sup>1</sup> By requiring the expenditure of electricity and processing power to produce new bitcoins, PoW is the only method so far discovered for making the production of a digital good reliably expensive, allowing it to be a hard money. By ensuring that finding the solution to the mathematical problem consumes large quantities of processing power and electricity, nodes who expend that processing power have a very strong incentive to not include any invalid transactions in their blocks to receive the block reward. Because it is far cheaper to verify the validity of transactions and the PoW than it is to solve the PoW, nodes attempting to enter invalid transactions into a block are almost certainly doomed to failure, ensuring that their expended processing power goes unrewarded.

PoW makes the cost of writing a block extremely high and the cost of verifying its validity extremely low, almost eliminating the incentive for anyone to try to create invalid transactions. If they tried, they would be wasting electricity and processing power without receiving the block reward. Bitcoin can thus be understood as a technology that converts electricity to truthful records through the expenditure of processing power. Those who expend this electricity are rewarded with the bitcoin currency, and so they have a strong incentive to maintain its integrity. As a result of attaching a strong economic incentive for honesty, Bitcoin's ledger has been practically incorruptible for the period of its operation so far, with no example of a successful double-spend attack on a confirmed transaction. This integrity of the bitcoin ledger of transactions is achieved without having to rely on any single party being honest. By relying entirely on verification, Bitcoin dooms fraudulent transactions to failure and obviates the need for trust in anyone for transactions to be completed.

For an attacker to try to insert fraudulent transactions into the Bitcoin ledger, he would need to have a majority of the processing power behind the network to accept his fraud. Honest nodes that are part of the network would have no incentive to do so, because it would undermine the integrity of Bitcoin and devalue the rewards they are receiving, wasting the electricity and resources they have expended on it. So an attacker's only hope would be to mobilize a quantity of processing power that constitutes more than 50% of the network to

verify his fraud and build on it as if it were valid. Such a move could have been possible in the early days of Bitcoin when the total processing power behind the network was very small. But because the economic value held in the network at the time was nonexistent or insignificant, no such attacks materialized. As the network continued to grow and more members brought processing power to it, the cost to attack the network rose.

The reward to nodes for verifying transactions has proven to be a profitable use of processing power. In January 2017, the processing power behind the Bitcoin network is equivalent to that of 2 trillion consumer laptops. It is more than two million times larger than the processing power of the world's largest supercomputer, and more than 200,000 times larger than the world's top 500 supercomputers combined. By monetizing processing power directly, Bitcoin has become the largest single-purpose computer network in the world.

Another contributing factor in this growth in processing power is that the verification of transactions and the solving of the PoW problems has moved from being conducted by personal computers to specialized processors built specifically to be optimally efficient at running the Bitcoin software. These Application Specific Integrated Circuits (ASICs) were first introduced in 2012, and their deployment has made adding processing power to the Bitcoin network more efficient, because no electricity is wasted on any irrelevant computing processes that would be present in any other, non-Bitcoin-specific computing unit. A global distributed network of independent dedicated miners now protects the integrity of the Bitcoin ledger. All of these miners have no conceivable purpose but verifying Bitcoin transactions and solving proof-of-work. Should Bitcoin fail for whatever reason, these ASICs would be rendered useless and their owners' investment would be lost, so they have a strong incentive to maintain the honesty of the network.

For someone to alter the record of the network they would need to invest hundreds of millions, if not billions, of dollars building new ASIC chips to alter it. Should an attacker succeed in altering the record, he would be highly unlikely to gain any economic benefit from it, as compromising the network would probably reduce the value of bitcoins to close to nothing. In other words, to destroy Bitcoin, an attacker needs to expend very large sums of money with no return at all. And in fact, even if such an attempt succeeded, the honest nodes on the network can effectively go back to the record of transactions before the attack and resume operation. The attacker would then need to continue incurring significant running costs to keep attacking the consensus of the honest nodes.

In its early years, Bitcoin users would run nodes and use them to carry out

their own transactions and to verify each other's transactions, making each node a wallet and a verifier/miner. But with time, these functions have been separated. ASIC chips are now specialized only in verifying transactions to receive reward coins (which is why they are commonly referred to as miners). Node operators can now generate unlimited wallets, allowing businesses to offer convenient wallets for users who can send and receive bitcoins without operating a node or spending processing power on verifying transactions. This has moved Bitcoin away from being a pure peer-to-peer network between identical nodes, but the main functional importance of the decentralized and distributed nature of the network has arguably remained intact, as a large number of nodes still exists and no single party is relied on to operate the network. Further, specialized mining has allowed for the processing power backing the network to grow to the astoundingly large size it has reached.

In its early days, when the tokens had little or no value, the network could have been conceivably hijacked and destroyed by attackers, but as the network had little economic value, nobody seems to have bothered. As the economic value held on the network increased, the incentive to attack the network may have increased, but the cost of doing so rose much more, resulting in no attacks materializing. But perhaps the real protection of the Bitcoin network at any point in time is that the value of its tokens is entirely dependent on the integrity of the network. Any attack that succeeds in altering the blockchain, stealing coins, or double-spending them would be of little value to the attacker, as it would become apparent to all network members that it is possible to compromise the network, severely reducing demand for using the network and holding the coins, crashing the price. In other words, the defense of the Bitcoin network is not just that attacking it has become expensive, but that the attack succeeding renders the attacker's loot worthless. Being an entirely voluntary system, Bitcoin can only operate if it is honest, as users can very easily leave it otherwise.

The distribution of the Bitcoin processing power, and the strong resistance of the code to change, combined with the intransigency of the monetary policy, are what has allowed Bitcoin to survive and grow in value to the extent to which it has today. It is hard for people new to Bitcoin to appreciate just how many logistical and security challenges Bitcoin has had to endure over the years to arrive at where it is today. Bearing in mind that the Internet has created opportunities for hackers to attack all sorts of networks and websites for fun and profit, this achievement becomes more startling. The ever-growing number of security breaches that happen to computer networks and email servers across the world on a daily basis have occurred to systems which offer the attackers not much more than data or opportunities to score political

points. Bitcoin, on the other hand, contains billions of dollars of value, but continues to operate safely and reliably because it was built, from day one, to operate in a highly adversarial setting, subject to relentless attack.

Programmers and hackers worldwide have tried to tear it apart using all sorts of techniques, and yet it has continued to operate according to the exact essence of its specification.

## Out of Control: Why Nobody Can Change Bitcoin

“The nature of Bitcoin is such that once version 0.1 was released, the core design was set in stone for the rest of its lifetime.”

—Satoshi Nakamoto, 6/17/2010

Bitcoin's resilience has so far not been restricted to successfully repelling attacks; it has also ably resisted any attempt at changing it or altering its characteristics. The true depth of this statement and its implications has not yet been fully realized by most skeptics. If Bitcoin's currency were to be compared to a central bank, it would be the world's most independent central bank. If it were to be compared to a nation-state, it would be the most sovereign nation-state in the world. The sovereignty of Bitcoin is derived from the fact that, as far as anyone can tell, the way its consensus rules operate makes it very resistant to alteration by individuals. It is no exaggeration to say nobody controls Bitcoin, and that the only option available to people is to use it as it is or not use it.

This immutability is not a feature of the Bitcoin software, which is trivial to change for anyone with coding skills, but rather is grounded in the economics of the currency and network, and stems from the difficulty of getting every member of the network to adopt the same changes to the software. The software implementation that allows an individual to run a node that connects to the Bitcoin network is open source software, which was initially made available by Satoshi Nakamoto in collaboration with the late Hal Finney and some other programmers. Since then, any person has been free to download and use the software as he or she pleases, and to make changes to it. This creates a freely competitive market in Bitcoin implementations, with anyone free to contribute changes or improvements to the software and present them to users for adoption.

Over time, hundreds of computer programmers from around the world have volunteered their time to improve the node software and in the process improve the capabilities of individual nodes. These coders have formed several

different implementations, the largest and most popular of which is known as “Bitcoin Core.” Several other implementations exist, and users are free to alter the source code at any point. The only requirement for a node to be a part of the network is that it follows the consensus rules of the other nodes. Nodes which break the consensus rules by altering the structure of the chain, the validity of the transaction, the block reward, or any one of many other parameters in the system end up having their transactions rejected by the rest of the nodes.

The process of what defines the parameters of Bitcoin is an example of what Scottish philosopher Adam Ferguson called “the product of human action, and not of human design.<sup>2</sup>” Although Satoshi Nakamoto and Hal Finney and others had produced a working model of the software in January 2009, the code has evolved significantly since then through the contributions of hundreds of developers as chosen by thousands of users who run nodes. There is no central authority that determines the evolution of the Bitcoin software and no single programmer is able to dictate any outcome. The key to running an implementation that gets adopted has proven to be the adherence to the parameters of the original design. To the extent that changes have been made to the software, these changes can be best understood as improvements to the way in which an individual node interacts with the network, but not alterations to the Bitcoin network or its consensus rules. While it is outside the scope of the book to discuss which parameters these are, suffice it to specify this criterion: a change that puts the node who adopts it out of consensus with other nodes requires all other nodes to update in order for the node initiating the change to remain on the network. Should a number of nodes adopt the new consensus rules, what emerges is referred to as a hard fork.

Bitcoin's coders, then, for all their competence, cannot control Bitcoin, and are only Bitcoin coders to the extent that they provide node operators with software the node operators want to adopt. But coders aren't the only ones who cannot control Bitcoin. Miners, too, for all of the hashing power they can marshal, also cannot control Bitcoin. No matter how much hashing power is expended on processing blocks that are invalid, they will not be validated by a majority of Bitcoin nodes. Therefore, if miners attempted to change the rules of the network, the blocks they generate would simply be ignored by the network members who operate the nodes, and they would be wasting their resources on solving proof-of-work problems without any reward. Miners are only Bitcoin miners to the extent that they produce blocks with valid transactions according to the current consensus rules.

It would be tempting here to say that node operators control Bitcoin, and that

is true in an abstract collective manner. More realistically, node operators can only control their own nodes and decide for themselves which network rules to join and which transactions they deem valid or invalid. Nodes are severely restricted in their choice of consensus rules because if they enforced rules inconsistent with the consensus of the network, their transactions would be rejected. Each node has a strong incentive to maintain network consensus rules and to stay compatible with nodes on these consensus rules. Each individual node is powerless to force other nodes to change their code, and that creates a strong collective bias to remain on the current consensus rules.

In conclusion, the Bitcoin coders face a strong incentive to abide by consensus rules if they are to have their code adopted. The miners have to abide by the network consensus rules to receive compensation for the resources they spend on proof-of-work. The network members face a strong incentive to remain on the consensus rules to ensure they can clear their transactions on the network. Any individual coder, miner, or node operator is dispensable to the network. If they stray away from consensus rules, the most likely outcome is that they will individually waste resources. As long as the network provides positive rewards to its participants, it's likely that replacement participants will come up. The consensus parameters of Bitcoin can thus be understood as being sovereign. To the extent that Bitcoin will exist, it will exist according to these parameters and specifications. This very strong status-quo bias in Bitcoin's operation makes alterations to its money supply schedule, or important economic parameters, extremely difficult. It is only because of this stable equilibrium that Bitcoin can be considered hard money. Should Bitcoin deviate from these consensus rules its value proposition as hard money would be seriously compromised.

To the best of this author's knowledge, there have been no significant coordinated attempts to alter the monetary policy of Bitcoin,<sup>3</sup> but even far simpler attempts at altering some of the technical specifications of the code have so far failed. The reason that even seemingly innocuous changes to the protocol are extremely hard to carry out is the distributed nature of the network, and the need for many disparate and adversarial parties to agree to changes whose impact they cannot fully understand, while the safety and tried-and-tested familiarity of the status quo remains fully familiar and dependable. Bitcoin's status quo can be understood as a stable Schelling point,<sup>4</sup> which provides a useful incentive for all participants to stick to it, while the move away from it will always involve a significant risk of loss.

If some members of the Bitcoin network decided to change a parameter in the Bitcoin code by introducing a new version of the software that is incompatible

with the rest of the network members, the result would be a fork, which effectively creates two separate currencies and networks. For as long as any members stay on the old network, they would benefit from the infrastructure of the network as it exists, the mining equipment, the network effect, and name recognition. In order for the new fork to succeed it would need an overwhelming majority of users, mining hashing power, and all of the related infrastructure to migrate at the same time. If it doesn't get that overwhelming majority, the likeliest outcome is that the two Bitcoins would trade versus one another on exchanges. Should the people behind the fork hope for their fork to succeed, they will have to sell their coins on the old fork and hope everyone else does the same, so that the price of it collapses and the price of the new fork rises, thus driving all the mining power and economic network to the new network. But because any change in any parameter in Bitcoin's operation is likely to have beneficial effects on some network members at the expense of others, it is unlikely that a consensus would form to shift to the new coin. More broadly, the majority of Bitcoin holders only hold it because they were attracted to the automated nature of its rules and their imperviousness to direction by third parties. Such individuals are highly unlikely to want to risk giving discretion for fundamental changes to the network to a new group proposing a new incompatible codebase. Whether such a majority exists or not is a moot point; what matters is that enough of them exist to make it always certain that they will continue with the current system parameters, unless their operation is compromised for some reason.

Barring such catastrophic failure in the current design, it is a safe bet that there will be a significant percentage of nodes choosing to stay with the old implementation, which automatically makes that choice far safer for anyone considering going onto a fork. The problem with deciding to go onto a fork is that the only way to help it succeed is by selling your coins on the old chain. Nobody wants to sell their coins on the old network to move to the new network, only to find that not everybody moved and the value of the coins on the new network collapses. In summation, no move to a new implementation with consensus rules can take place unless the vast majority is willing to shift together, and any shift without the majority shifting is almost certain to be economically disastrous for everyone involved. Because any such move to a new implementation likely gives the party proposing the change significant control over the future direction of Bitcoin, bitcoin holders, who are needed for this shift to succeed, are to a large extent ideologically opposed to any such group having authority over Bitcoin and are highly unlikely to support such a move. The existence of this group makes supporting a fork highly risky for everybody else. This analysis may help explain why Bitcoin has resisted all

attempts to change it significantly so far. The coordination problem of organizing a simultaneous shift among people with adversarial interests, many of whom are strongly vested in the notion of immutability for its own sake, is likely intractable barring any pressing reason for people to move away from current implementations.

For instance, an edit to increase the issuance rate of the currency to raise the coins that reward miners might appeal to miners, but it would not appeal to current holders, and so they are unlikely to go with such a proposal. Similarly, an edit to increase the size of the Bitcoin network blocks would likely benefit miners by allowing them to run more transactions per block and possibly collect more transaction fees to maximize return on their investment in their mining equipment. But it would likely not appeal to long-term holders of Bitcoin, who would worry that larger blocks would cause the size of the blockchain to grow much bigger, and thus make running a full node more expensive, thereby dropping the number of nodes in the network, making the network more centralized and thus more vulnerable to attack. The coders who develop software to run Bitcoin nodes are powerless to impose changes on anybody; all they can do is propose code, and users are free to download whichever code and version they like. Any code that is compatible with the existing implementations will be far more likely to be downloaded than any code that is not compatible, because the latter would only succeed if the overwhelming majority of the network also ran it.

As a result, Bitcoin exhibits extremely strong status quo bias. Only minor and uncontroversial changes to the code have been implemented so far, and every attempt to alter the network significantly has ended with resounding failure, to the delight of long-term Bitcoin stalwarts who like nothing more about their currency than its immutability and resistance to change. The highest-profile of these attempts have concerned increasing the size of individual blocks to increase transaction throughput. Several projects have gathered the names of some very prominent and old-time Bitcoiners, and spent a lot on trying to gain publicity for the coin. Gavin Andresen, who was one of the faces most publicly associated with Bitcoin, has pushed very aggressively for several attempts to fork Bitcoin into having bigger blocks, along with many stakeholders, including some skilled developers and deep-pocketed entrepreneurs.

Initially, Bitcoin XT was proposed by Andresen and a developer by the name of Mike Hearn in June 2015, aiming at increasing the size of a block from 1MB to 8MB. But the majority of nodes refused to update to their software and preferred to stay on the 1-megabyte blocks. Hearn was then hired by a “blockchain consortium of financial institutions” to bring blockchain

technology to the financial markets, and published a blogpost to coincide with a glowing profile of him in the *New York Times* which hailed him as desperately trying to save Bitcoin while painting Bitcoin as now being doomed to failure. Hearn proclaimed “the resolution of the Bitcoin experiment”, citing the lack of growth in transaction capacity as a lethal roadblock to Bitcoin’s success and announcing he had sold all his coins. The bitcoin price on that day was around \$350. Over the following two years, the price was to increase more than forty-fold while the “blockchain consortium” he joined is yet to produce any actual products.

Undeterred, Gavin Andresen immediately proposed a new attempt to fork Bitcoin under the name of “Bitcoin Classic,” which would have raised the blocksize to 8 megabytes. This attempt fared no better, and by March 2016 the number of nodes supporting it began to fizzle. Yet, supporters of increasing the blocksize regrouped into Bitcoin Unlimited in 2017, an even wider coalition that included the largest maker of Bitcoin mining chips, as well as a wealthy individual who controls the [bitcoin.com](https://bitcoin.com) domain name and has spent enormous resources trying to promote larger blocks. A lot of media hype was generated and the sense of crisis was palpable to many who follow Bitcoin news on mainstream media and social media; yet the reality remained that no fork was attempted, as the majority of nodes continued to run on the 1MB-compatible implementations.

Finally, in August 2017, a group of programmers proposed a new fork of Bitcoin under the name of “Bitcoin Cash,” which included many of the earlier advocates of increasing the block size. The fate of Bitcoin Cash is a vivid illustration of the problems with a Bitcoin fork that does not have consensus support. Because a majority chose to stay with the original chain, and the economic infrastructure of exchanges and businesses supporting Bitcoin is still largely focused on the original Bitcoin, this has kept the value of Bitcoin’s coins much higher than that of Bitcoin Cash, and the price of Bitcoin Cash continued to drop until it hit a low of 5% of Bitcoin’s value in November 2017. Not only is the fork unable to gain economic value, it is also dogged with a serious technical problem that renders it almost unusable. Seeing as the new chain has the same hashing algorithm as Bitcoin, miners can utilize their processing power on both chains and receive rewards in both. But because Bitcoin’s coins are far more valuable than Bitcoin Cash, the processing power behind Bitcoin remains far higher than that of Bitcoin Cash, and Bitcoin miners can shift to Bitcoin Cash any time the rewards get high. This leaves Bitcoin Cash in an unfortunate dilemma: if the mining difficulty is too high, then there will be a long delay for blocks to be produced and transactions to process. But if the difficulty is set too low, the coin is mined very quickly and

the supply increases quickly. This increases the supply of the Bitcoin Cash coins faster than the Bitcoin chain, and would lead to the coin reward for Bitcoin Cash running out very quickly, thus reducing the incentive for future miners to mine it. Most likely, this will have to lead to a hard fork that adjusts the supply growth to continue offering rewards to miners. This problem is unique to a chain breaking off from Bitcoin, but was never true for Bitcoin itself. Bitcoin mining was always utilizing the largest amount of processing power for its algorithm, and the increase in processing power was always incremental as miners employed more mining capacity. But with a coin that breaks off from Bitcoin, the lower value of the coin and the lower difficulty makes the coin constantly vulnerable for quick mining by the much larger mining capacity of the more valuable chain.

After the failure of this fork to challenge Bitcoin's prime position, another attempt at a fork to double the blocksize, negotiated between various startups active in the Bitcoin economy, was canceled in mid-November as its promoters realized they were highly unlikely to achieve consensus for their move and would instead most likely end up with another coin and network. Bitcoin stalwarts have learned to shrug at such attempts, realizing that no matter how much hype is generated, any attempt to change the consensus rules of Bitcoin will lead to the generation of yet another Bitcoin copycat, like the altcoins which copy Bitcoin's incidental details but do not have its only important characteristic: immutability. From the discussion above it should be clear that Bitcoin's advantages lie not in its speed, convenience, or friendly user experience. Bitcoin's value comes from it having an immutable monetary policy precisely because nobody can easily change it. Any coin that begins with a group of individuals changing Bitcoin's specification has with its creation lost arguably the only property that makes Bitcoin valuable in the first place.

Bitcoin is straightforward to use, but virtually impossible to alter. Bitcoin is voluntary, so nobody has to use it, but those who want to use it have no choice but to play by its rules. Changing Bitcoin in any meaningful way is not really possible, and should it be attempted, will produce another pointless knock-off to be added to the thousands already out there. Bitcoin is to be taken as it is, accepted on its own terms and used for what it offers. For all practical intents and purposes, Bitcoin is *sovereign*: it runs by its own rules, and there are no outsiders who can alter these rules. It might even be helpful to think of the parameters of Bitcoin as being similar to the rotation of the earth, sun, moon, or stars, forces outside of our control which are to be lived, not altered.

## Antifragility

Bitcoin is an embodiment of Nassim Taleb's idea of *antifragility*, which he defines as gaining from adversity and disorder. Bitcoin is not just robust to attack, but it can be said to be antifragile on both a technical and economic level. While attempts to kill Bitcoin have so far failed, many of them have made it stronger by ending up allowing coders to identify weaknesses and patch them up. Further, every thwarted attack on the network is a notch on its belt, another testament and advertisement to participants and outsiders of the security of the network.

A global team of volunteer software developers, reviewers, and hackers have taken a professional, financial, and intellectual interest in working on improving or strengthening the Bitcoin code and network. Any exploits or weaknesses found in the specification of the code will attract some of these coders to offer solutions, debate them, test them, and then propose them to network members for adoption. The only changes that have happened so far have been operational changes that allow the network to run more efficiently, but not changes that alter the essence of the coin's operation. These coders can own Bitcoin tokens, and so have a financial incentive to work on ensuring Bitcoin grows and succeeds. In turn, the continued success of Bitcoin rewards these coders financially and thus allows them to dedicate more time and effort to the maintenance of Bitcoin. Some of the prominent developers working on maintaining Bitcoin have become wealthy enough from investing in Bitcoin that they can make it their prime occupation without receiving pay from anyone.

In terms of media coverage, Bitcoin appears to be a good embodiment of the adage “all publicity is good publicity.” As a new technology that is not easy to understand, Bitcoin was always going to receive inaccurate and downright hostile media coverage, as was the case with many other technologies. The website [99bitcoins.com](http://99bitcoins.com) has collected more than 200 examples of prominent articles announcing the death of Bitcoin over the years. Some of these writers found Bitcoin to be a contravention to their worldview—usually related to the state theory of money or Keynesian faith in the importance of an elastic supply of money—and refused to consider the possibility they might be wrong. Instead, they concluded that it must be Bitcoin whose existence is wrong, and therefore they predicted it would die soon. Others believed strongly in the need for Bitcoin to change to maintain its success, and when they failed to get it to change in the way they desired, they concluded it must die. These people's attacks on Bitcoin led them to write about it and bring it to the attention of ever-wider audiences. The more obituaries intensified, the more its processing power, transactions, and market value grew. Many Bitcoiners, this author included, only came around to appreciating the importance of Bitcoin by

noticing how many times it had been written off, and how it continued to operate successfully. The Bitcoin obituaries were powerless to stop it, but they seem to have helped it gain more publicity and awaken the public's curiosity to the fact that it continues to operate in spite of all the hostility and bad press it gets.

A good example of Bitcoin's antifragility came in the fall of 2013, when the FBI arrested the alleged owner of the Silk Road website, which was a truly free online market allowing users to sell and buy anything they wanted online, including illegal drugs. With Bitcoin's association in the public's mind with drugs and crime, most analysts predicted the closing of the website would destroy Bitcoin's utility. The price on that day dropped from around the \$120 range to the \$100 range, but it rebounded quickly and began a very fast rise, reaching \$1,200 per bitcoin within a few months. At the time of writing, the price had never again dropped to the level it was at before the closing of the Silk Road website. By surviving the closing of the Silk Road unscathed, Bitcoin demonstrated that it is far more than a currency for crime, and in the process it benefited from the free publicity from the Silk Road media coverage.

Another example of Bitcoin's antifragility came in September 2017, after the Chinese government announced the closure of all Chinese exchanges that traded Bitcoin. Whereas the initial reaction was one of panic that saw the price drop by around 40%, it was only a matter of hours before the price started recovering, and within a few months the price had more than doubled from where it was before the government's ban. While banning exchanges from trading Bitcoin could be viewed as an impediment to Bitcoin's adoption through a reduction in its liquidity, it seems to have only served to reinforce Bitcoin's value proposition. More transactions started happening off exchanges in China, with volume on websites like [localbitcoins.com](https://localbitcoins.com) exploding. It may just be that the suspension of trading in China caused the opposite of the intended effect, as it drove Chinese to hold onto their Bitcoin for the long term rather than trade it for the short term.

## Can Bitcoin Scale?

At the time of writing, one of the most high-profile debates surrounding Bitcoin concerns the question of scaling, or increasing the transaction capacity. Bitcoin's 1-megabyte blocks mean that the capacity for transactions as it stands is around less than 500,000 transactions per day. Bitcoin has already approached these levels of transactions, and as a result, transaction fees have risen significantly over the past few months. The implementation of

a technology called Segwit could result in a quadrupling of this daily capacity, but it is nonetheless becoming clear that there will be a hard limit to how many transactions can be processed over the Bitcoin blockchain, due to the decentralized and distributed nature of Bitcoin. Each Bitcoin transaction is recorded with all network nodes, who are all required to keep a copy of the entire ledger of all transactions. This necessarily means that the cost of recording transactions will be far higher than for any centralized solution which only needs one record and a few backups. The most efficient payment processing systems are all centralized for a good reason: it is cheaper to keep a central record than to keep several distributed records and have to worry about them updating in sync, a process which so far can only be achieved using Bitcoin proof-of-work.

Centralized payment solutions, such as Visa or MasterCard, employ one centralized ledger to which all transactions are committed, as well as a backup that is entirely separate. Visa can process around 3,200 transactions per second, or 100.8 billion transactions per year.<sup>5</sup> Bitcoin's current 1-megabyte blocks are able to process a maximum of four transactions per second, 350,000 transactions per day, or around 120 million transactions per year. For Bitcoin to process the 100 billion transactions that Visa processes, each block would need to be around 800 megabytes, meaning every ten minutes, each Bitcoin node would need to add 800 megabytes of data. In a year, each Bitcoin node would add around 42 terabytes of data, or 42,000 gigabytes, to its blockchain. Such a number is completely outside the realm of possible processing power of commercially available computers now or in the foreseeable future. The average consumer computer, or the average external hard drive, has a capacity in the order of 1 terabyte, about a week's worth of transactions at Visa volumes. For some perspective, it is worth examining the sort of computing infrastructure that Visa employs to process these transactions.

In 2013, a report showed that Visa owns a data center described as a “digital Fort Knox” containing 376 servers, 277 switches, 85 routers, and 42 firewalls.<sup>6</sup> Granted, Visa's centralized system is a single point of failure, and so it employs very large amounts of redundancy and spare capacity to protect from unforeseen circumstances, whereas in the case of Bitcoin, the presence of many nodes would make each one of them non-critical, and so requiring less security and capacity. Nonetheless, a node that can add 42 terabytes of data every year would require a very expensive computer, and the network bandwidth required to process all of these transactions every day would be an enormous cost that would be clearly unworkably complicated and expensive

for a distributed network to maintain.

There are only a handful of such centers in existence worldwide: those employed by Visa, MasterCard, and a few other payment processors. Should Bitcoin attempt to process such a capacity, it could not possibly compete with these centralized solutions by having thousands of distributed centers on a similar scale; it would have to become centralized and employ only a few such data centers. For Bitcoin to remain distributed, each node on the network must cost something reasonable for thousands of individuals to run it on commercially available personal computers, and the transfer of data between the nodes has to be at scales that are supported by regular consumer bandwidth.

It is inconceivable that Bitcoin could run the same scale of transactions on-chain that a centralized system can support. This explains why transaction costs are rising, and in most likelihood, will continue to rise if the network continues to grow. The biggest scope for scaling Bitcoin transactions will likely come off-chain, where many simpler technologies can be used for small and unimportant payments. This ensures there can be no compromise of Bitcoin's two most significant properties for which using extensive processing power is justified: digital sound money and digital cash. There are no alternative technologies that can offer these two functions, but there are many technologies that can offer small payments and consumer spending at low costs, and the technology for these choices is very simple to implement relatively reliably with current banking technologies. Bitcoin mass use for merchant payments is not even very feasible given that it takes anywhere from 1 to 12 minutes for a transaction to receive its first confirmation. Merchants and customers cannot wait that long on payments, and even though the risk of a double-spend attack is not significant enough for one small payment, it is significant enough for merchants who receive large numbers of transactions as in the example of the attack on Betcoin Dice, discussed later in the section on attacks on Bitcoin.

For people who want to use bitcoin as a digital long-term store of value, or for people who want to carry out important transactions without having to go through a repressive government, the high transaction fees are a price well worth paying. Saving in Bitcoin by its very nature will not require many transactions, and so a high transaction fee is worth paying for it. And for transactions that cannot be carried out through the regular banking system, such as people trying to get their money out of a country suffering inflation and capital controls, Bitcoin's high transaction fees will be a price well worth paying. Even at current low levels of adoption, the demand for digital cash and

digital sound money has already raised transaction fees to the point where they cannot compete with centralized solutions like PayPal and credit cards for small payments. This has not stalled Bitcoin's growth, however, which indicates that the market demand for Bitcoin is driven by its use as a digital cash and digital store of value, rather than small digital payments.

If Bitcoin's popularity continues to grow, there are some potential scaling solutions that do not involve creating any changes to the structure of Bitcoin, but which take advantage of the way transactions are structured to increase the number of payments possible. Each Bitcoin transaction can contain several inputs and outputs, and using a technique called CoinJoin, several payments can be grouped together into one transaction, allowing several inputs and outputs for only a fraction of the space that would have been needed otherwise. This could potentially raise the transaction volume of Bitcoin to the millions of payments per day, and as the transaction costs rise higher, this is more and more likely to become a popular option.

Another possibility for scaling Bitcoin is digital mobile USB wallets, which can be made to be physically tamper-proof and can be checked for their balance at any time. These USB drives would carry the private keys to specific amounts of Bitcoins, allowing whoever holds them to withdraw the money from them. They could be used like physical cash, and each holder could verify the value in these drives. As fees have been rising on the network, there has been no respite in the growth of demand for Bitcoin, as evidenced by its rising price, indicating that users value the transactions more than the transaction costs they have to pay for them. Instead of the rising fees slowing Bitcoin's adoption, all that is happening is that the less important transactions are being moved off-chain and the on-chain transactions are growing in importance. The most important use cases of Bitcoin, as a store of value and uncensorable payments, are well worth the transaction fees. When people buy Bitcoin to hold it for the long-term, a one-off small transaction fee is to be expected and is usually dwarfed by the commission and the premium placed by the sellers. For people looking to escape capital controls or send money to countries facing economic difficulties, the transaction fee is well worth paying considering Bitcoin is the only alternative. As Bitcoin adoption spreads, and transaction fees rise high enough that they will matter to the people paying them, there will be economic pressure to utilize more of the above scaling solutions which can increase transaction capacity without making changes that compromise the rules of the network and force a chain split.

Beyond these possibilities, the majority of Bitcoin transactions today are already carried out off-chain, and only settled on-chain. Bitcoin-based

businesses, such as exchanges, casinos, or gaming websites, will only use Bitcoin's blockchain for customer deposits and withdrawals, but within their platforms, all transactions are recorded on their local databases, denominated in Bitcoin. It is not possible to make accurate estimates of the number of these transactions due to the very large number of businesses, the lack of public data on the transactions taking place in their proprietary platforms, and the quickly shifting dynamics of the Bitcoin economy, but a conservative estimate would put them as being more than 10 times the number of transactions carried out on the Bitcoin blockchain. In effect, Bitcoin is already being used as a reserve asset in the majority of the transactions in the Bitcoin economy. Should Bitcoin's growth continue it is only natural to see the number of off-chain transactions increase faster than the on-chain transactions.

Such an analysis may contradict the rhetoric that accompanied the rise of Bitcoin, which promotes Bitcoin as putting an end to banks and banking. The idea that millions, let alone billions, could use the Bitcoin network directly for carrying out their every transaction is unrealistic as it would entail that every network member needs to be recording every other member's transactions. As the numbers grow, these records become larger and constitute a significant computing burden. On the other hand, Bitcoin's unique properties as a store of value are likely to continue to increase demand for it, making it hard for it to survive as a purely peer-to-peer network. For Bitcoin to continue to grow there will have to be payment processing solutions handled off the Bitcoin blockchain, and such solutions are emerging out of the grind of competitive markets.

Another important reason why banking as an institution is not going away is the convenience of banking custody. While many Bitcoin purists value the freedom accorded to them by being able to hold their own money and not rely on a financial institution to access it, the vast majority of people would not want this freedom and prefer to not have their money under their responsibility for fear of theft or abduction. In the midst of the very common anti-bank rhetoric that is popular these days, particularly in Bitcoin circles, it is easy to forget that deposit banking is a legitimate business which people have demanded for hundreds of years around the world. People have happily paid to have their money stored safely so they only need to carry a small amount of money on them and face little risk of loss. In turn, the widespread use of banking cards instead of cash allows people to carry small sums of money on them at all times, which likely makes modern society safer than it would be otherwise, because most potential assailants these days realize they are not likely to come across a victim carrying significant amounts of cash, and theft of banking cards is unlikely to yield significant sums before the victim is

able to cancel them.

Even if it were possible for Bitcoin's network to support billions of transactions per day, obviating the need for second-layer processing, many, if not most, Bitcoiners with significant holdings will eventually resort to keeping them in one of the growing number of services for safe custody of Bitcoin. This is an entirely new industry and it is likely to evolve significantly to provide technical solutions for storage with different degrees of safety and liquidity. Whatever shape this industry takes, the services it provides and how it evolves will shape the contours of a Bitcoin-based banking system in the future. I make no prediction as to what shape these services will take, and what technological capabilities they will have, except to say that it will likely utilize cryptographic proof mechanisms on top of establishing market reputation in order to operate successfully. One possible technology for how this might be achieved is known as the Lightning Network, a technology under development that promises increasing transaction capacity significantly by allowing nodes to run payment channels off-chain, which only use the Bitcoin ledger for verification of valid balances rather than transfers.

In 2016 and 2017, as Bitcoin approached the maximum number of daily transactions, the network continued to grow, as is clear from the data in [Chapter 8](#). Bitcoin is scaling through an increase in the value of on-chain transactions, not through a rise of their number. More and more transactions are being carried out off-chain, settled on exchanges or websites that handle Bitcoin, turning Bitcoin into more of a settlement network than a direct payment network. This does not represent a move away from Bitcoin's function as cash, as is commonly believed. While the term *cash* has come to denote the money used for small consumer transactions today, the original meaning of the term refers to money that is a bearer instrument, whose value can be transferred directly without resort to settlement by, or liability of, third parties. In the nineteenth century, the term *cash* referred to central bank gold reserves, and cash settlement was the transfer of physical gold between banks. If this analysis is correct, and Bitcoin continues to grow in value and off-chain transactions while on-chain transactions do not grow as much, Bitcoin would be better understood as cash in the old meaning of the term, similar to gold cash reserves, rather than the modern term for cash as paper money for small transactions.

In conclusion, there are many possibilities for increasing the number of bitcoin transactions without having to alter the architecture of Bitcoin as it is, and without requiring all current node operators to upgrade simultaneously. Scaling solutions will come from node operators improving the way they send

data on Bitcoin transactions to other network members. This will come through joining transactions together, off-chain transactions, and payment channels. On-chain scaling solutions are unlikely to be enough to meet the growing demand for Bitcoin over time, and so second-layer solutions are likely to continue to grow in importance, leading to the emergence of a new kind of financial institution similar to today's banks, using cryptography, and operating primarily online.

## Is Bitcoin for Criminals?

One of the very common misconceptions about Bitcoin from its inception is that it would make a great currency for criminals and terrorists. A long list of press articles have been published with unsubstantiated claims that terrorists or criminal gangs are using Bitcoin for their activity. Many of these articles have been retracted,<sup>7</sup> but not before they have imprinted the idea into the minds of many people, including misguided criminals.

The reality is that Bitcoin's ledger is globally accessible and immutable. It will carry the record of every transaction for as long as Bitcoin is still operational. It is inaccurate to really say Bitcoin is anonymous, as it is rather pseudonymous. It is possible, though not guaranteed, to establish links between real-life identities and Bitcoin addresses, thus allowing the full tracking of all transactions by an address once its identity is established. When it comes to anonymity, it is useful to think of Bitcoin as being as anonymous as the Internet: it depends on how well you hide, and how well the others look. Yet Bitcoin's blockchain makes hiding that much more difficult on the Web. It is easy to dispose of a device, email address, or IP address and never use it again, but it is harder to completely erase the trail of funds to one bitcoin address. By its very nature, Bitcoin's blockchain structure is not ideal for privacy.

All of this means that for any crime that actually has a victim, it would be inadvisable for the criminal to use Bitcoin. Its pseudonymous nature means that addresses could be linked to real-world identities, even many years after the crime is committed. The police, or the victims and any investigators they hire, might well be able to find a link to the identity of the criminal, even after many years. The Bitcoin trail of payments itself has been the reason that many online drug dealers have been identified and caught as they fell for the hype of Bitcoin as completely anonymous.

Bitcoin is a technology for money, and money is something that can be used by criminals at all times. Any form of money can be used by criminals or to

facilitate crime, but Bitcoin's permanent ledger makes it particularly unsuited to crimes with victims likely to try to investigate. Bitcoin can be useful in facilitating "victimless crimes," where the absence of the victim will mean nobody trying to establish the identity of the "criminal." In reality, and once one overcomes the propaganda of the twentieth-century state, there is no such thing as a victimless crime. If an action has no victims, it is no crime, regardless of what some self-important voters or bureaucrats would like to believe about their prerogative to legislate morality for others. For these illegal but perfectly moral actions, Bitcoin could be useful because there are no victims to try to hunt down the perpetrator. The harmless activity carried out shows up on the blockchain as an individual transaction which could have a multitude of causes. So one can expect that victimless crimes, such as online gambling and evading capital controls, would use Bitcoin, but murder and terrorism would more likely not. Drug dealing seems to happen on the Bitcoin blockchain, though that is likely more down to addicts' cravings than sound judgment, as evidenced by the large number of Bitcoin drug purchasers that have been identified by law enforcement. While statistics on this matter are very hard to find, I would not be surprised to find buying drugs with Bitcoin is far more dangerous than with physical government money.

In other words, Bitcoin will likely increase individuals' freedom while not necessarily making it easier for them to commit crimes. It is not a tool to be feared, but one to be embraced as an integral part of a peaceful and prosperous future.

One high-profile type of crime that has indeed utilized Bitcoin heavily is ransomware: a method of unauthorized access to computers that encrypts the victims' files and only releases them if the victim makes a payment to the recipient, usually in Bitcoin. While such forms of crime were around before Bitcoin, they have become more convenient to carry out since Bitcoin's invention. This is arguably the best example of Bitcoin facilitating crime. Yet one can simply understand that these ransomware crimes are being built around taking advantage of lax computer security. A company that can have its entire computer system locked up by anonymous hackers demanding a few thousand dollars in Bitcoin has far bigger problems than these hackers. The incentive for the hackers may be in the thousands of dollars, but the incentive for the firm's competitors, clients, and suppliers for gaining access to this data can be much higher. In effect, what Bitcoin ransomware has allowed is the detection and exposition of computer security flaws. This process is leading firms to take better security precautions, and causing computer security to grow as an industry. In other words, Bitcoin allows for the monetizing of the computer security market. While hackers can initially benefit from this, in the

long run, productive businesses will command the best security resources.

## How to Kill Bitcoin: A Beginners' Guide

Many Bitcoiners have developed quasi-religious beliefs in the ability of Bitcoin to survive come what may. The amount of processing power behind it and the large number of nodes distributed worldwide verifying transactions means that it is highly resistant to change and likely to remain as such. Most of those unfamiliar with Bitcoin will frequently believe that it is doomed because it will inevitably get hacked, like everything digital seems to. Once Bitcoin's operation is understood, it becomes clear that "hacking" it is not a straightforward task. There are several other possible threats to Bitcoin. Computer security is a fundamentally intractable problem, as it involves unpredictable attackers finding new angles of attack. It is beyond the scope of this book to elucidate all potential threats to Bitcoin and assess them.<sup>8</sup> This section examines only some of the more high-profile threats and the ones most relevant to the focus of this book on Bitcoin as sound money.

### ***Hacking***

Bitcoin's resistance to attack is rooted in three properties: its barebones simplicity, the vast processing power that does nothing but ensure the safety of this very simple design, and the distributed nodes which need to achieve consensus on any change for it to take effect. Imagine the digital equivalent of placing the entirety of the U.S. military's infantry and equipment around a school playground to protect it from invasion and you begin to get an idea of how overly fortified Bitcoin is.

Bitcoin is at its essence a ledger of ownership of virtual coins. There are only 21 million of these coins, and a few million addresses that own them, and every day no more than 500,000 transactions move some of these coins around. The computing power necessary to operate such a system is minuscule. A laptop for \$100 could do it while also surfing the Web. But the reason Bitcoin is not run on one laptop is that such an arrangement would require trust in the owner of the laptop while also being a relatively simple target for hacking.

All computer networks rely for their security on making some computers impenetrable to attackers and using these as the definitive record. Bitcoin, on the other hand, takes an entirely different approach to computer security: it does not bother to secure any of its computers individually, and operates under the working assumption that all computer nodes are hostile attackers.

Instead of establishing trust in any network member, Bitcoin verifies everything they do. That process of verification, through proof-of-work, is what consumes large amounts of processing power, and it has proven very effective because it makes Bitcoin security dependent on brute processing power, and as such, invulnerable to problems of access or credentials. If everyone is assumed dishonest, everyone must pay a large cost to commit transactions to the common record, and everyone will lose these costs if their fraud is detected. The economic incentives make dishonesty extremely expensive and highly unlikely to succeed.

To hack Bitcoin, in the sense of corrupting the ledger of transactions to fraudulently move coins to a specific account, or to make it unusable, would require a node to post an invalid block to the blockchain, and the network to adopt it and continue to build on it. Because nodes have a very low cost of detecting fraud, while the cost of adding a block of transactions is high and continuously rising, and because the majority of nodes in the network have an interest in Bitcoin surviving, this battle is unlikely to be won by attackers, and continues to get harder as the cost of adding blocks gets higher.

At the heart of Bitcoin's design there is a fundamental asymmetry between the cost of committing a new block of transactions and the cost of verifying the validity of these transactions. This means while forging the record is technically possible, the economic incentives are highly stacked against it. The ledger of transactions as a result constitutes an undisputable record of valid transactions so far.

## **The 51% Attack**

The 51% attack is a method of using large amounts of hashrate to generate fraudulent transactions, by spending the same coin twice, thus having one of the transactions canceled and defrauding the recipient. In essence, if a miner who controls a large percentage of the hashrate manages to solve proof-of-work problems quickly, he could spend a bitcoin on a public chain that receives confirmations while mining another fork of the blockchain with another transaction of the same bitcoin to another address, belonging to the attacker. The recipient of the first transaction receives confirmations, but the attacker will attempt to use his processing power to make the second chain longer. If he succeeds in making the second chain longer than the first one, the attack succeeds, and the recipient of the first transaction will find the coins they received vanish.

The more hashrate the attacker is able to command, the more likely he is to make the fraudulent chain longer than the public one, and then reverse his

transaction and profit. While this may sound simple in principle, in practice it has been much harder. The longer the recipient waits for confirmation, the less likely it is that the attacker can succeed. If the recipient is willing to wait for six confirmations, the probability of an attack succeeding shrinks infinitely low.

In theory, the 51% percent attack is very feasible technically. But in practice, the economic incentives are heavily aligned against it. A miner who successfully executes a 51% attack would severely undermine the economic incentives for anyone to use Bitcoin, and with that the demand for Bitcoin tokens. As Bitcoin mining has grown to become a heavily capital-intensive industry with large investments dedicated to producing coins, miners have grown to have a vested long-term interest in the integrity of the network, as the value of their rewards depends on it. There have been no successful double-spend attacks on any Bitcoin transactions that have been confirmed at least once.

The closest thing to a successful double-spend attack that Bitcoin has witnessed was in 2013, when a Bitcoin betting site called Betcoin Dice had a sum in the range of 1,000 bitcoins (valued at around \$100,000 at the time) stolen from it through double-spend attacks utilizing significant mining resources. That attack, however, only succeeded because Betcoin Dice was accepting transactions with zero confirmations, making the cost of attack relatively low. Had they accepted transactions with one confirmation, it would have been much harder to pull off the attack. This is another reason Bitcoin's blockchain is not ideal for mass consumer payments: it takes somewhere in the range of 1 to 12 minutes for a new block to be generated to produce one confirmation for a transaction. Should a large payment processor want to accept taking the risk of approving payments with zero confirmations, it constitutes a lucrative target for coordinated double-spend attacks that utilize heavy mining resources.

In conclusion, a 51% attack is theoretically possible to execute if the recipients of the payment are not waiting for a few blocks to confirm the validity of the transaction. In practice, however, the economic incentives are heavily against owners of hashpower utilizing their investments in this avenue, and as a result, there have been no successful 51% attacks on node members that have waited for at least one confirmation.

A 51% attack would likely not be successful if done for a profit motive, but such an attack could also be carried out with no profit motive, but with the intention of destroying Bitcoin. A government or private entity could decide to acquire Bitcoin mining capacity to commandeer a majority of the Bitcoin

network and then proceed to use that hashrate to launch continuous double-spend attacks, defrauding many users and destroying confidence in the safety of the network. Yet the economic nature of mining is heavily stacked against this scenario materializing. Processing power is a highly competitive global market, and Bitcoin mining is one of the largest, most profitable, and fastest growing uses of processing power in the world. An attacker may look at the cost of commandeering 51% of current hashing power and be willing to dedicate that cost to purchasing the hardware necessary for this. But if such an enormous amount of resources were mobilized to buy Bitcoin mining equipment, it would simply lead to a sharp rise in the price of this equipment, which would reward current miners and allow them to invest more heavily in buying more mining equipment. It would also lead to heavier capital investment in the production of mining power by mining producers, which would bring the cost of processing power down and allow the faster growth of Bitcoin's hashrate. As an outsider entering the market, the attacker is at a constant disadvantage as his own purchasing of mining equipment leads to the faster growth of the mining processing power not controlled by him. In turn, the more resources are expended on building processing power to attack Bitcoin, the faster the growth of the processing power of Bitcoin and the harder it becomes to attack. So, yet again, while technically possible, the economics of the network makes it highly unlikely that such an attack would succeed.

An attacker, particularly a state, could attempt to attack Bitcoin through taking control of existing mining infrastructure and using it unprofitably in order to undermine the safety of the network. The fact that Bitcoin mining is widely distributed geographically makes this a challenging prospect that would require collaboration from various governments worldwide. A better way to implement this might be not through physically taking over mining equipment but commandeering it through hardware backdoors.

## ***Hardware Backdoors***

Another possibility for disrupting or destroying the Bitcoin network is through corrupting hardware that runs bitcoin software to be accessible by outside parties. Nodes that perform mining could, for example, be fitted with undetectable malware that allows outsiders to commandeer the hardware. This equipment could then be deactivated or remotely controlled at a time when a 51% attack is launched.

Another example would be through spying technology installed on user computers allowing access to users' bitcoins by accessing their private keys.

Such attacks on a mass scale could severely undermine confidence in Bitcoin as an asset and demand for it.

Both types of attack are feasible technically, and unlike the previous two kinds of attacks, they do not have to succeed entirely in order to create enough confusion to hurt Bitcoin's reputation and demand. Such an attack on mining equipment is more likely to succeed given that there are only a few manufacturers of mining equipment, and this constitutes one of Bitcoin's most critical points of failure. However, as Bitcoin mining is growing, it is likely to start attracting more hardware makers to manufacture its equipment, which would reduce the disastrous impact on the network from the compromise of one manufacturer's operations.

With individual computers, this risk is less systematic to the network because there is a virtually limitless number of manufacturers worldwide that access equipment capable of accessing the Bitcoin network. Should any one producer turn out to be compromised, it is just likely to lead to consumers shifting to other producers. Further, users can generate the private keys to their addresses on offline computers which they will never connect to the Internet. The extra-paranoid can even generate their addresses and private keys on offline computers which are then immediately destroyed. Coins stored on these virtual private keys will survive any kind of attack on the network.

Particularly important defenses against these kinds of attacks are Bitcoiners' anarchist and cypherpunk tendencies, which lead them to believe much more in verification than trust. Bitcoiners are generally far more technically competent than the average population, and they are very meticulous about examining the hardware and software they utilize. The open source peer review culture also acts as a significant defense against these sorts of attacks. Given the distributed nature of the network, it is far more likely that such attacks could cause significant costs and losses to individuals, and perhaps even systemic disruptions of the network, but it will be very hard to cause the network to come to a standstill or to destroy demand for Bitcoin completely. The reality is that the economic incentives of Bitcoin are what make it valuable, not any type of hardware. Any individual piece of equipment is dispensable to the operation of Bitcoin and can be replaced with other equipment. Nonetheless, Bitcoin's survival and robustness will be enhanced if it can diversify its hardware providers to not make any of them systemically important.

### ***Internet and Infrastructure Attacks***

One of the most commonly held misconceptions about Bitcoin is that it can be

shut down by shutting down important communications infrastructure on which Bitcoin relies, or shutting down the Internet. The problem with these scenarios is that they misunderstand Bitcoin as if it is a network in the traditional sense of dedicated hardware and infrastructure with critical points that can be attacked and compromised. But Bitcoin is a software protocol; it is an internal process that can be carried out on any one of billions of computer machines that are distributed worldwide. Bitcoin has no single point of failure, no single indispensable hardware structure anywhere in the world on which it relies. Any computer that runs Bitcoin's software can connect to the network and carry out operations on it. It is in that sense similar to the Internet, in that it is a protocol that allows computers to connect together; it is not the infrastructure which connects them. The quantity of data that is required to pass on information about Bitcoin is not very large, and a tiny fraction of the total amount of Internet traffic. Bitcoin does not need as extensive an infrastructure as the rest of the Internet, because its blockchain is really only about transmitting 1 megabyte of data every ten minutes. There are countless wired and wireless technologies for the transmission of data worldwide, and any particular user only needs one of these to be working to connect to the network. In order to create a world in which no Bitcoin user is able to connect to other users, the kind of damage that would be needed to be done to the world's information, data, and connectivity infrastructure would be absolutely devastating. The life of modern society depends to a very large degree on connectivity, and many vital services and matters of life and death rely on these communication infrastructures continuing. To begin trying to turn off all of the Internet infrastructure simultaneously would likely cause significant damage to any society that tries it while likely failing to stem the flow of Bitcoin, as dispersed machines can always connect to one another using protocols and encrypted communications. There are simply far too many computers and connections spread out all over the world, utilized by far too many people, for any force to be able to make them all stop functioning simultaneously. The only conceivable scenario where this could happen would be through the sort of apocalyptic scenario after which there would be nobody left to even wonder if Bitcoin is operational or not. Of all the threats that are often mentioned against Bitcoin, I find this to be the least credible or meaningful.

### ***Rise in Cost of Nodes and Drop in Their Numbers***

Rather than imagining futuristic sci-fi scenarios involving the destruction of humanity's telecommunication infrastructure in a futile attempt at eradicating a software program, there are far more realistic threats to Bitcoin grounded in

the fundamentals of its design. Bitcoin's property as hard money whose supply cannot be tampered with, and as uncensorable digital cash without the possibility for third-party intervention, is dependent upon the consensus rules of the network remaining very hard to change, especially the money supply. What achieves this stable status quo, as discussed earlier, is that it is a highly risky and likely negative move for a network member to move out of the current consensus rules if the other members of the network do not also move to the new consensus rules. But what keeps that move highly risky and unlikely is that the number of nodes running the software is large enough that coordination between them is not practical. Should the cost of running a Bitcoin node increase significantly, it would make running a node harder for more and more users, and as a result it would decrease the number of nodes on the network. A network with a few dozen nodes stops being an effectively decentralized network as it becomes very possible for the few nodes that operate it to collude to alter the rules of the network to their own benefit, or even to sabotage it.

This remains in my opinion the most serious technical threat to Bitcoin in the medium and long term. As it stands, the main constraint on individuals being able to run their own nodes is the Internet connection bandwidth. As blocks remain under 1 megabyte, this should be generally manageable. A hard fork that increases the size of the block would cause a rise in the cost of running a node and lead to a reduction in the number of operational nodes. And just like with the previous threats, while this is certainly technically possible, it remains unlikely to materialize because the economic incentives of the system militate against it, as evidenced by the widespread rejection of attempts to increase the blocksize so far.

### ***The Breaking of the SHA-256 Hashing Algorithm***

The SHA-256 hashing function is an integral part of the operation of the Bitcoin system. Briefly, hashing is a process that takes any stream of data as an input and transforms it into a dataset of fixed size (known as a hash) using a nonreversible mathematical formula. In other words, it is trivial to use this function to generate a hash for any piece of data, but it is not possible to determine the original string of data from the hash. With improvements in processing power, it might become possible for computers to reverse-calculate these hashing functions, which would render all Bitcoin addresses vulnerable to theft.

It is not possible to ascertain if and when such a scenario might unfold, but if it does, it would constitute a very serious technical threat to Bitcoin. The

technical fix to counter this is to switch to a stronger form of encryption, but the tricky part is to coordinate a hard fork that brings most of the nodes of the network to abandon the old consensus rules for a new set of rules with a new hashing function. All of the problems previously discussed in the difficulty of coordinating a fork apply here, but this time, because the threat is real, and any Bitcoin holder who chooses to stay on the old implementation will be vulnerable to hacking, it is likely that an overwhelming majority of users will take part in a hard fork. The only interesting question that remains is whether this hard fork will be orderly and witness all users migrate to the same chain, or if it will lead to the chain splitting into several branches using different encryption methods. While it is certainly possible that the SHA-256 encryption may be broken, the economic incentives of network users are to switch from it to a stronger algorithm, and to switch together to one algorithm.

## ***A Return to Sound Money***

While most discussions of how Bitcoin could fail or get destroyed focus on technical attacks, a far more promising way of attacking Bitcoin is through undermining the economic incentives to its use. To attempt to attack or destroy Bitcoin in any of the ways mentioned earlier is highly unlikely to succeed because it conflicts with the economic incentives that drive the use of Bitcoin. The situation is analogous to trying to ban the wheel or a knife. As long as the technology is useful for people, attempts at banning it will fail as people will continue to find ways of utilizing it, legally or not. The only way that a technology can be stopped is not by banning it, but by inventing a better replacement or by obviating the need for its use. The typewriter could never be banned or legislated out of existence, but the rise of the PC did effectively kill it.

The demand for Bitcoin stems from the need of individuals all over the world to carry out transactions that bypass political controls and to have an inflation-resistant store of value. For as long as political authorities impose restrictions and limitations on individuals transferring money, and for as long as government money is easy money whose supply can be easily expanded according to the whims of politicians, demand for Bitcoin will continue to exist, and its diminishing supply growth is likely to lead to its value appreciating over time, thus attracting ever-larger numbers of people to use it as a store of value.

Hypothetically, if the entire world's banking and monetary systems were replaced with those of the gold standard in the late nineteenth century, where

individual freedom and hard money were paramount, the demand for Bitcoin would likely subside significantly. It might just be the case that such a move would cause a large enough reduction in demand for Bitcoin that brings its price significantly down, hurting current holders significantly, increasing the volatility of the currency, and setting it back many years. With the increased volatility and the availability of a reliable and relatively stable hard-money international monetary standard, the incentive for using Bitcoin drops significantly. In a world in which governments' restrictions and inflationary tendencies are disciplined by the gold standard, it might just be the case that gold's first-mover advantage and relative purchasing power stability would constitute an insurmountable hurdle for Bitcoin to overcome, by depriving Bitcoin of the fast growth in users and thus preventing it from reaching a large enough size with any semblance of stability in price.

In practice, however, the possibility of a global return to sound money and liberal government is extremely unlikely as these concepts are largely alien to the vast majority of politicians and voters worldwide, who have been reared for generations to understand government control of money and morality as necessary for the functioning of any society. Further, even if such a political and monetary transformation were possible, Bitcoin's diminishing supply growth rate is likely to continue to make it an attractive speculative bet for many, which would in itself cause it to grow further and acquire a larger monetary role. In my assessment, a global monetary return to gold might be the most significant threat to Bitcoin, yet it is both unlikely to happen and unlikely to destroy Bitcoin completely.

Another possibility for derailing Bitcoin would be through the invention of a new form of sound money that is superior to Bitcoin. Many seem to think that the other cryptocurrencies that mimic Bitcoin could achieve this, but it is my firm belief that none of the coins that copy Bitcoin's design can compete with Bitcoin on being sound money, for reasons discussed at length in the next section of the chapter, primarily: Bitcoin is the only truly decentralized digital currency which has grown spontaneously as a finely balanced equilibrium between miners, coders, and users, none of whom can control it. It was only ever possible to develop one currency based on this design, because once it became obvious that it is workable, any attempt at copying it will have been a top-down and centrally controlled network which will never escape the control of its creators.

So when it comes to Bitcoin's structure and technology, it is highly unlikely that any coin that copies it could replace Bitcoin. A new design and technology for implementing digital cash and hard money might produce such a

competitor, although it is not possible to predict the emergence of such a technology before it is created, and a familiarity with the problem of digital cash over the years will make it clear that this is not an invention that would be easy to devise.

## Altcoins

While Bitcoin was the first example of a peer-to-peer electronic cash, it was certainly not the last. Once Nakamoto's design was out in the open, and the currency succeeded in gaining value and adopters, many copied it to produce similar currencies. Namecoin was the first such currency, which used Bitcoin's code and started operation in April 2011. At least 732 digital currencies were created by February 2017, according to [coinmarketcap.com](https://coinmarketcap.com).

While it is common to think that these currencies exist in competition with Bitcoin, and that one of them might overtake Bitcoin in the future, in reality they are not in competition with Bitcoin because they can never have the properties that make Bitcoin functional as digital cash and sound money. In order for a digital system to function as digital cash, it has to be outside the control of any third party; its operation needs to conform to the will of its user according to the protocol, with no possibility for any third party to stop these payments. After years of watching altcoins get created, it seems impossible that any coin will recreate the adversarial standoff that exists between Bitcoin stakeholders and prevents any party from controlling payments in it.

Bitcoin was designed by a pseudonymous programmer whose real identity is still unknown. He posted the design to an obscure mailing list for computer programmers interested in cryptography, and after receiving feedback on it over a few months, he launched the network with the late programmer Hal Finney, who passed away in August 2014. After a few days of transacting with Finney and experimenting with the software, more members began to join the network to transact and mine. Nakamoto disappeared in mid-2010, citing "moving to new projects" and has most likely never been heard from since.<sup>9</sup> In all likelihood, there are around 1 million bitcoins that are held in an account that is or was controlled by Nakamoto, but these coins have not moved once. Nakamoto did, however, take extreme caution to ensure that he will not be identified, and until this day there is no compelling evidence to identify who the real Nakamoto is. Had he wanted to be identified, he would already have come forward. Had he left any evidence that could lead to the tracing of his identity, it would have likely already been used to do so. All of his writings and communications have been pored over obsessively by investigators and

journalists to no avail. It is high time for everyone involved in Bitcoin to stop concerning themselves with the question of the identity of Nakamoto, and accept that it does not matter to the operation of the technology, in the same way that the identity of the inventor of the wheel no longer matters.

Because Nakamoto and Finney are no longer with us, Bitcoin has not had any central authority figure or leader who could dictate its direction or exercise influence over the course of its development. Even Gavin Andresen, who was in close contact with Nakamoto, and one of the most identifiable faces of Bitcoin, has failed repeatedly at exercising influence on the direction of Bitcoin's evolution. An email is often quoted in the press, claiming to be the last email ever sent by Nakamoto, which says, "I've moved on to other things. It's in good hands with Gavin and everyone."<sup>10</sup> Andresen has repeatedly tried to increase the size of Bitcoin's blocks, but all his proposals to do so have failed to gain traction with the operators of the nodes.

Bitcoin has continued to grow and thrive in all the metrics mentioned in [Chapter 8](#), while the authority of any individual or party over it has diminished to insignificance. Bitcoin can be understood as a sovereign piece of code, because there is no authority outside of it that can control its behavior. Only Bitcoin's rules control Bitcoin, and the possibility of changing these rules in any substantive way has become extremely impractical as the status-quo bias continues to shape the incentives of everyone involved in the project.

It is the sovereignty of Bitcoin code, backed by proof-of-work, which makes it a genuinely effective solution to the double-spending problem, and a successful digital cash. And it is this trustlessness which other digital currencies cannot replicate. Facing any digital currency built after Bitcoin is a deep existential crisis: because Bitcoin is already in existence, with more security, processing power and an established user base, anybody looking to use digital cash will naturally prefer it over smaller and less secure alternatives. Because the replication of the code to generate a new coin is almost costless, and the imitation coins proliferate, no single coin is likely to develop any sort of significant growth or momentum unless there is an active team dedicated to nurturing it, growing it, coding it, and securing it. Being the first such invention, Bitcoin demonstrating its value as digital cash and hard money was enough to secure growing demand for it, allowing it to succeed when the only person behind it was an anonymous programmer who practically spent no money on promoting it. Being fundamentally knock-offs that are very easy to recreate, all altcoins do not have this luxury of real-world demand, and must actively build and increase this demand.

This is why virtually all altcoins have a team in charge; they began the project,

marketed it, designed the marketing material, and plugged press releases into the press as if they were news items, while also having the advantage of mining a large number of coins early before anybody had heard of the coins. These teams are publicly known individuals, and no matter how hard they might try, they cannot demonstrate credibly that they have no control over the direction of the currency, which undermines any claims other currencies might have to being a form of digital cash that cannot be edited or controlled by any third party. In other words, after the Bitcoin genie got out of the bottle, anybody trying to build an alternative to Bitcoin will only succeed by investing heavily in the coin, making them effectively in control of it. And as long as there is a party with sovereign power over a digital currency, then that currency cannot be understood as a form of digital cash, but rather, a form of intermediated payment—and a very inefficient one at that.

This presents a dilemma facing designers of alternative currencies: without active management by a team of developers and marketers, no digital currency will attract any attention or capital in a sea of 1,000+ currencies. But with active management, development, and marketing by a team, the currency cannot credibly demonstrate that it is not controlled by these individuals. With a group of developers in control of the majority of coins, processing power, and coding expertise, the currency is practically a centralized currency where the interests of the team dictate its development path. There is nothing wrong with a centralized digital currency, and we may well get such competitors in a free market without government restrictions. But there is something deeply and fundamentally wrong about a centralized currency that adopts a highly cumbersome and inefficient design whose only advantage is the removal of a single point of failure.

This problem is more pronounced for digital currencies that begin with an Initial Coin Offering, which creates a highly visible group of developers communicating publicly with investors, making the entire project effectively a centralized project. The trials and tribulations of Ethereum, the largest coin in terms of market value after Bitcoin, illustrate this point vividly.

The Decentralized Autonomous Organization (DAO) was the first implementation of smart contracts on the Ethereum network. After more than \$150 million was invested in this smart contract, an attacker was able to execute the code in a way that diverted around one-third of all the DAO's assets to his own account. It would be arguably inaccurate to describe this attack as a theft, because all the depositors had accepted that their money will be controlled by the code and nothing else, and the attacker had done nothing but execute the code as it was accepted by the depositors. In the aftermath of

the DAO hack, Ethereum developers created a new version of Ethereum where this inconvenient mistake never occurred, confiscating the attacker's funds and distributing them to his victims. This re-injection of subjective human management is at odds with the objective of making code into law, and questions the entire rationale of smart contracts.

If the second largest network in terms of processing power can have its blockchain record altered when the transactions do not go in a way that suits the interests of the development team, then the notion that any of the altcoins is truly regulated by processing power is not tenable. The concentration of currency holding, processing power, and programming skills in the hands of one group of people who are effectively partners in a venture defeats the entire purpose of employing a blockchain structure.

Further, it is extremely difficult to foresee such privately issued currencies rise to the status of a global currency when they have a visible team behind them. Should the currencies appreciate significantly, a small team of creators will become extremely rich, and endowed with the power to collect seniorage, a role reserved for nation-states in the modern world. Central banks and national governments will not take kindly to this undermining of their authority. It would be relatively easy for central banks to get any of the teams behind this currency to destroy it, or alter its operation in a way that prevents it from competing with national currencies. No single altcoin has demonstrated anything near Bitcoin's impressive resilience to change, which is down to its truly decentralized nature and the strong incentives for everyone to abide by the status quo consensus rules. Bitcoin can only make this claim after growing in the wilds of the internet for nine years without any authority controlling it, and very ably repelling some highly coordinated and well-funded campaigns to alter it. In comparison, altcoins have the unmistakable friendly culture of nice people working together on a team project. While this would be great for a new start-up, it is anathema to a project that wants to demonstrate credible commitment to a fixed monetary policy. Should the teams behind any particular altcoin decide to change its monetary policy, it would be a relatively straightforward thing to achieve. Ethereum, for instance, does not yet have a clear vision of what it wants its monetary policy to be in the future, leaving the matter up to community discussion. While this may work wonders for the community spirit of Ethereum, it is no way to build a global hard money, which, to be fair, Ethereum does not claim to do. Whether it is because they are aware of this point, or to avoid run-ins with political authority, or as a marketing gimmick, most altcoins do not market themselves as competitors to Bitcoin, but as performing tasks different to Bitcoin.

There is nothing about Bitcoin's design that suggests it would be good for any of the multitude of use cases that other coins claim they will be able to do, and no coin other than Bitcoin has delivered any differentiating capabilities or features which Bitcoin does not have. Yet they all have a freely trading currency which is somehow essential for their complex system for performing some online applications.

But the notion that new web apps require their own decentralized currency is the desperately naïve hope that somehow unsolving the problem of lack of coincidence of wants could be economically profitable. There is a reason real-world businesses don't issue their own currency, and that is that nobody wants to hold currency that is only spendable in one business. The point of holding money is holding liquidity which can be spent as easily as possible. Holding forms of money which can only be spent in particular vendors offers very little liquidity and serves no purpose. People will naturally prefer to hold the liquid means of payment, and any business that insists on payment in its own freely-trading currency is just introducing significantly high costs and risks to its potential customers.

Even in businesses which require some form of token operationally, such as amusement parks or casinos, the token is always fixed in value compared to liquid money so customers know exactly what they are getting and can make accurate economic calculations. Should any of these supposedly revolutionary decentralized currencies offer any real-world valuable application, it is completely inconceivable that it would be paid for with its own freely trading currency.

In reality, after examining this space for years, I have yet to identify a single digital currency that offers any product or service that has any market demand. The highly vaunted decentralized applications of the future never seem to arrive, but the tokens that are supposedly essential to their operation continue to proliferate by the hundreds every month. One cannot help but wonder if the only use of these revolutionary currencies is the enriching of their makers.

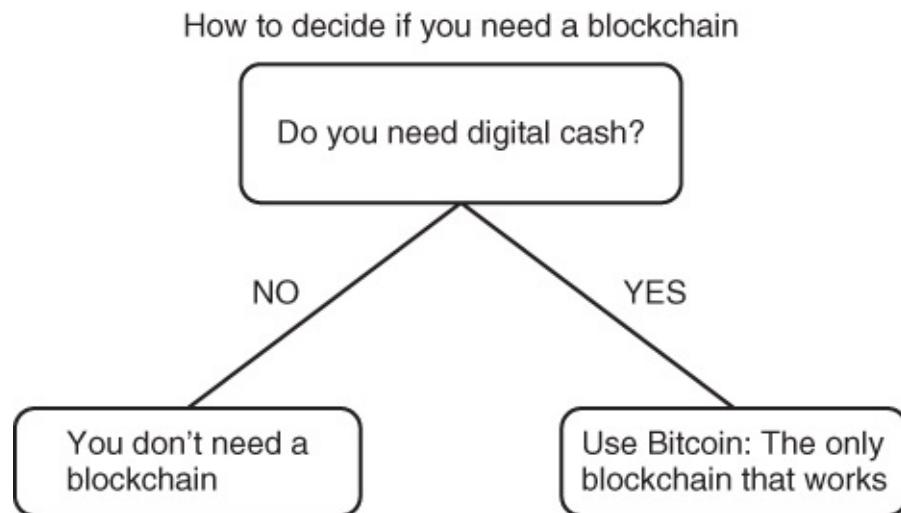
No coin other than Bitcoin can lay a credible claim to being outside the control of anyone else, and as such, the entire point of utilizing the extremely complex structure underpinning Bitcoin is moot. There is nothing original or difficult about copying Bitcoin's design and producing a slightly different copycat, and thousands have done this so far. With time, one can expect more and more of these coins to enter the market, diluting the brand of all the other altcoins. Non-Bitcoin digital currencies are, in the aggregate, easy money. No single altcoin can be considered on its own merits, because they are all

indistinguishable in what they perform, which is also what Bitcoin performs, but very distinguishable from Bitcoin in that their supply and design can easily be altered, whereas Bitcoin's monetary policy is for all intents and purposes set in stone.

It is an open question if any of these currencies will succeed in offering a market-demanded service other than the one offered by Bitcoin, but it appears patently clear that they cannot compete with Bitcoin on being trustless digital cash. That they have all chosen to ape Bitcoin's rituals while pretending to be solving something extra does not inspire confidence in them achieving anything more than enriching their makers. The thousands of imitations of Nakamoto's design are perhaps the sincerest form of flattery, but their continued failure to ever deliver anything more than what Nakamoto delivered is a testament to how singular his accomplishment is. The only worthwhile additions to Bitcoin's design were done by the competent selfless volunteer coders who contributed long hours to making the Bitcoin code better. Many less competent coders have gotten massively rich by repackaging Nakamoto's design with marketing and pointless buzzwords, but have all failed in adding any functional capabilities to it that have any real-world demand. The growth of these altcoins cannot be understood outside the context of easy government money looking for easy investment, forming large bubbles in massive malinvestments.

## Blockchain Technology<sup>11</sup>

As a result of Bitcoin's startling rise in value, and the difficulty in understanding its operating procedure and technicalities, there has been a significant amount of confusion surrounding it. Perhaps the most persistent and high-profile confusion is the notion that a mechanism that is part of Bitcoin's operation—putting transactions into blocks which are chained together to form the ledger—can somehow be deployed to solve or improve economic or social problems, or even “revolutionize” them, as is the wont of every newfangled overhyped toy invented these days. “Bitcoin is not important, but the underlying blockchain technology is what holds promise” is a mantra that has been repeated ad nauseam between 2014 and 2017 by banking executives, journalists, and politicians, who all share one thing in common: a lack of understanding of how Bitcoin actually works. (See [Figure 22.](#))



**Figure 22** Blockchain decision chart.

The fixation with blockchain technology is a great example of “cargo cult science,” an idea popularized by physicist Richard Feynman. The story goes that the U.S. military established airplane landing strips to aid in military operations on an island in the South Pacific Ocean during World War II. The airplanes would usually bring gifts to the local inhabitants of the island, who used to enjoy them immensely. After the war ended and the airplanes stopped landing on the strip, the locals tried their best to bring the airplanes and their cargo back. In their desperation, they would mimic the behavior of the long-gone military airport ground controllers, thinking that if they put a man in a hut with an antenna and light a fire, as the military ground controllers used to do, then the airplanes would come back and bring them the gifts. Clearly such a strategy could not work, because the procedures of the ground controllers were not creating airplanes out of thin air; they were but one integral part of an elaborate technological process, beginning with the manufacturing of the airplanes and their departure from their bases, which the South Pacific islanders could not comprehend.

Like these islanders, the people touting blockchain technology as a process that could generate economic benefits on its own do not understand the larger process of which it is a part. Bitcoin's mechanism for establishing the authenticity and validity of the ledger is extremely complex and complicated, but it serves an explicit purpose: issuing a currency and moving value online without the need for a trusted third party. “Blockchain technology,” to the extent that such a thing exists, is not an efficient or cheap or fast way of transacting online. It is actually immensely inefficient and slow compared to centralized solutions. The *only* advantage that it offers is eliminating the need to trust in third-party intermediation. The only possible uses of this

technology are in avenues where removing third-party intermediation is of such paramount value to end users that it justifies the increased cost and lost efficiency. And the only process for which it actually can succeed in eliminating third-party intermediation is the process of moving the native token of the network itself, as the code of the blockchain has no integrated control over anything taking place outside it.

A comparison will help give a sense of just how inefficient bitcoin is as a method for running transactions. If we strip away the trappings of decentralization, proof-of-work verification, mining, and trustlessness, and run a centralized version of Bitcoin, it would essentially consist of an algorithm for generating coins, and a database for coin ownership that processes around 300,000 transactions per day. Such tasks are trivial, and any modern personal computer could perform them reliably. In fact, a regular off-the-shelf consumer laptop can be made to process around 14,000 transactions per second, or all of Bitcoin's current daily transaction volume in 20 seconds.<sup>12</sup> To process Bitcoin's entire yearly transaction volume, a personal laptop would need little more than two hours.

The problem with running such a currency on a personal laptop, however, is that it requires trust in the owner of the laptop and in the laptop's security and safety from attack. In order to make such a trivial software system run without requiring trust in any single party to not defraud the record of transactions or alter the rate of currency issuance, the only design anyone has found is Bitcoin's decentralized peer-to-peer network with proof-of-work verification. This is not a trivial software problem, and it took decades of computer programmers attempting different designs before one was found that could demonstrably achieve this. Whereas a good consumer laptop today has a hashrate around 10 megahashes per second, the Bitcoin network collectively processes around 20 exahashes per second, or the equivalent of 2 trillion laptops. In other words, to remove the need for trust, the processing power to run a simple currency and database software needs to be increased roughly by a factor of 2 trillion. It is not the currency and its transactions that require so much processing power; making the entire system trustless does. For any other computing process to be run using blockchain technology, it would need to fulfill two criteria:

First, the gains from decentralization need to be compelling enough to justify the extra costs. For any process which will still require some form of trust in a third party to implement any small part of it, the extra costs of decentralization cannot be justified. For implementing contracts dealing with real-world businesses under legal jurisdictions, there will still be legal

oversight relating to the real-world implementation of these contracts that can override the network consensus, making the extra cost of decentralization pointless. The same applies for decentralizing databases of financial institutions that will remain as trusted third parties in their own operations with one another or with their clients.

Second, the initial process itself needs to be simple enough to ensure the ability to run the distributed ledger on many nodes, without the blockchain becoming too heavy to be distributed. As the process continues to repeat over time, the size of the blockchain will grow and become more and more unmanageable for distributed nodes to hold a full copy of the blockchain, ensuring that only a few large computers can operate the blockchain and rendering decentralization obsolete. Note here the distinction between nodes that carry the ledger and dedicated miners who solve the proof-of-work, which is discussed in [Chapter 8](#): miners need to expend enormous processing power to commit transactions to the joint ledger, whereas nodes need very little power to keep a copy of the ledger with which to verify the accuracy of miners' transactions. This is why nodes can be run on personal computers, whereas individual miners have the processing power of hundreds of personal computers. Should the operation of the ledger itself become too complex, nodes will need to be large servers instead of personal computers, destroying the possibility of decentralization.

The Bitcoin blockchain has placed a 1-megabyte limit on the size of each block, which has limited the pace at which the blockchain has grown. That limit allows simple computers to be able to maintain and run a node. Should the size of each block increase, or should the blockchain be used for more sophisticated processes such as those touted by blockchain enthusiasts, it would become too large to be run on individual computers. Centralizing the network over a few large nodes owned and operated by large institutions only defeats the entire point of decentralization.

Trustless digital cash has so far been the only successful implementation for blockchain technology precisely because it is a clean and simple technological process to operate, leading to its ledger growing relatively slowly over time. This means that being a member of the Bitcoin network is possible for a residential computer and connection in most of the world. Predictable controlled inflation also requires little processing power, but is a process whose decentralization and trustlessness offers enormous value to end users, as explained in [Chapter 8](#). All other monetary media today are controlled by parties who can inflate the supply in order to profit from increased demand. This is true for fiat currencies and nonprecious metals, but also for gold, which

is held in large quantities by central banks ready to sell it onto the market to prevent it from appreciating too quickly and thus displacing fiat currencies. For the first time since the abolition of the gold standard, Bitcoin has made sound money easily available to anyone in the world who wants it. This highly unlikely combination of lightweight computing load and heavy economic significance is why it has made sense to grow the size of the Bitcoin network's processing power to the largest network in history. It has proven impossible over eight years to find one other use case that is valuable enough to justify being distributed over thousands of node members while also being lightweight enough to allow for that decentralization.

The first implication of this analysis is that any change to Bitcoin's protocol that increases the size of the blockchain is highly unlikely to pass, not just for the reasons of immutability mentioned before, but also because it would likely prevent most node operators from managing to run their own nodes, and because they are the ones who decide which software runs, it is safe to assume a significant intransigent minority of node operators will continue to run the current software, holding their current bitcoins, making any attempt to upgrade the Bitcoin software effectively just another worthless altcoin like the hundreds of others that already exist.

The second implication is that all the “blockchain technology” applications being touted as revolutionizing banking or database technology are utterly doomed to fail in achieving anything more than fancy demos that will never transfer to the real world, because they will always be a highly inefficient way for the trusted third parties that operate them to conduct their business. It is outside the realm of possibility that a technology designed specifically to eliminate third-party intermediation could end up serving any useful purpose to the intermediaries it was created to replace.

There are many easier and less cumbersome ways of recording transactions, but this is the only method that eliminates the need for a trusted third party. A transaction is committed to the blockchain because many verifiers compete to verify it for profit. Yet not one of them is relied upon or trusted for the transaction to go through. Rather, fraud is immediately detected and reversed by other network members who have strong incentives to ensure the integrity of the network. In other words, Bitcoin is a system built entirely on cumbersome and expensive verification so it can eliminate the need for any trust or accountability between all parties: it is 100% verification and 0% trust.

Contrary to a lot of the hype surrounding Bitcoin, eliminating the need for trust in third parties is not an unquestionably good thing to do in all avenues

of business and life. Once one understands the mechanism of Bitcoin's operation, it is clear that there is a trade-off involved in moving to a system that does not rely on any trusted third parties. The advantages lie in individual sovereignty over the protocol, censorship-resistance, and immutability of the money supply growth and technical parameters. The disadvantages lie in the need for much larger processing power expenditure to perform the same amount of work. There is no reason, outside of naïve futuristic hype, to believe that this is a trade-off that is worthwhile for much. It may well be that the only place where this trade-off is worthwhile is the managing of a global homogeneous supranational sound money, for two important reasons. First, the excessive costs of operating the system can be recouped from slowly capturing parts of the global currency market, which runs at around 80 trillion U.S. dollars in value. Second, the nature of sound money, as explained earlier, lies precisely in the fact that no human is able to control it, and hence, a predictable immutable algorithm is uniquely suited for this task. Having thought of this question for years, in no other avenue of business can I find a similar process that is at once so important as to be worth the extra costs for disintermediation, as well as being so transparently simple that removing all human discretion would be a massive advantage.

An analogy with the automobile is instructive here. In 1885, when Karl Benz added an internal combustion engine to a carriage to produce the first autonomously powered vehicle, the express purpose of that move was to remove horses from carriages and free people from having to constantly deal with horse excrement. Benz was not trying to make horses faster. Burdening a horse with a heavy metal engine will not make it go faster; it will only slow it down while doing nothing to reduce the amount of excrement it produces. Similarly, as [Chapter 8](#) explained, the colossal processing power needed to make the Bitcoin network operate eliminates the need for a trusted third party to process payments or determine the supply of money. If the third party remains, then all of that processing power is a pointless waste of electricity.

Only time will tell whether this model for Bitcoin will continue to grow in popularity and adoption. It is possible that Bitcoin will grow to displace many financial intermediaries. It is also possible that bitcoin will stagnate or even fail and disappear. What cannot happen is Bitcoin's blockchain benefiting the intermediation it was specifically designed to replace.

For any trusted third party carrying out payments, trading, or recordkeeping, the blockchain is an extremely costly and inefficient technology to utilize. A non-Bitcoin blockchain combines the worst of both worlds: the cumbersome structure of the blockchain with the cost and security risk of trusted third

parties. It is no wonder that eight years after its invention, blockchain technology has not yet managed to break through in a successful, ready-for-market commercial application other than the one for which it was specifically designed: Bitcoin.

Instead, an abundance of hype, conferences, and high-profile discussions in media, government, academia, industry, and the World Economic Forum on the potential of blockchain technology has emerged. Many millions of dollars have been invested in venture capital, research, and marketing by governments and institutions that are seduced by the hype, without any practical result.

Blockchain consultants have built prototypes for stock trading, asset registry, voting, and payment clearance. But none of them have been commercially deployed because they are more expensive than simpler methods relying on established database and software stacks, as the government of Vermont recently concluded.<sup>13</sup>

Meanwhile, banks don't have a great track record in applying earlier technological advances for their own use. While JPMorgan Chase's CEO Jamie Dimon was touting blockchain technology in Davos in January 2016, his bank's Open Financial Exchange interfaces—a technology from 1997 to provide aggregators a central database of customer information—had been down for two months.

In contrast, the Bitcoin network was born from the blockchain design two months after Nakamoto presented the technology. To this day, it has been operating uninterrupted and growing to more than \$150 billion worth of bitcoins. The blockchain was the solution to the electronic cash problem. Because it worked, it grew quickly while Nakamoto worked anonymously and only communicated curtly via email for about two years. It did not need investment, venture capital, conferences, or advertisement.

As will become apparent from this exposition, the notion that a “blockchain technology” exists and can be deployed to solve any specific problems is highly dubious. It is far more accurate to understand the blockchain structure as an integral part of the operation of Bitcoin and its testnets and copycats. Nevertheless, the term blockchain technology is used for simplicity in elucidation. The next section of this chapter examines the most commonly touted use-cases for blockchain technology, while the section after it identifies the main impediments to its application to these problems.

## ***Potential Applications of Blockchain Technology***

An overview of startups and research projects related to blockchain technology concludes that the potential applications of blockchains can be divided into three main fields:

## **Digital Payments**

Current commercial mechanisms for payment clearance rely on centralized ledgers to record all transactions and maintain account balances. In essence, the transaction is transmitted once from the transacting parties to the intermediary, checked for validity, and accordingly both accounts are adjusted. In a blockchain, the transaction is transmitted to all network nodes, which involves many more transmissions and more processing power and time. The transaction also becomes part of the blockchain, copied onto every member computer. This is slower and more expensive than centralized clearance, and helps explain why Visa and MasterCard clear 2,000 transactions per second while Bitcoin can at best clear four. Bitcoin has a blockchain not because it allows for faster and cheaper transactions, but because it removes the need to trust in third-party intermediation: transactions are cleared because nodes compete to verify them, yet no node needs to be trusted. It is unworkable for third-party intermediaries to imagine they could improve their performance by employing a technology that sacrifices efficiency and speed precisely to remove third-party intermediaries. For any currency controlled by a central party, it will always be more efficient to record transactions centrally. What can be clearly seen is that blockchain payment applications will have to be with the blockchain's own decentralized currency, and not with centrally controlled currencies.

## **Contracts**

Currently, contracts are drafted by lawyers, judged by courts, and enforced by the police. Smart contract cryptographic systems such as Ethereum encode contracts into a blockchain to make them self-executing, with no possibility for appeal or reversal and beyond the reach of courts and police. “Code is law” is a motto used by smart contract programmers. The problem with this concept is that the language lawyers use to draft contracts is understood by far more people than the code language used by smart contract drafters. There are probably only a few hundred people worldwide with the technical expertise to fully understand the implications of a smart contract, and even they could miss glaring software bugs. Even as more people become proficient in the programming languages necessary to operate these contracts, the few people who are most proficient at it will by definition continue to have an advantage over the rest. Code competence will always offer a strategic

advantage to the most proficient over everyone else.

This all became apparent with the first implementation of smart contracts on the Ethereum network, the Decentralized Autonomous Organization (DAO). After more than \$150 million was invested in this smart contract, an attacker was able to execute the code in a way that diverted around a third of all the DAO's assets to his own account. It would be arguably inaccurate to describe this attack as a theft, because all the depositors had accepted that their money would be controlled by the code and nothing else, and the attacker had done nothing but execute the code as it was accepted by the depositors. In the aftermath of the DAO hack, Ethereum developers created a new version of Ethereum where this inconvenient mistake never occurred. This re-injection of subjective human management is at odds with the objective of making code into law, and questions the entire rationale of smart contracts.

Ethereum is the second largest blockchain after Bitcoin in terms of its processing power, and while the Bitcoin blockchain cannot effectively be rolled back, that Ethereum can be rolled back means that all blockchains smaller than Bitcoin's are effectively centralized databases under the control of their operators. It turns out code is not really law, because the operators of these contracts can override what the contract executes. Smart contracts have not replaced courts with code, but they have replaced courts with software developers with little experience, knowledge, or accountability in arbitrating. It remains to be seen whether courts and lawyers will remain uninvolved as the ramifications of such forks continue to be explored.

The DAO was the first and so far only sophisticated application of a smart contract on a blockchain, and the experience suggests wider implementation is still a long way off, if it ever were to occur. All other applications currently only exist in prototype. Perhaps in a hypothetical future where code literacy is far more common and code more predictable and reliable, such contracts might become more commonplace. But if operating such contracts only adds processing power requirements while still leaving them subject to editing, forking, and overruling by the blockchain's engineers, then the entire exercise serves no purpose but the generation of buzzwords and publicity. A far more likely future for smart contracts is that they will exist over secured centralized computers operated by trusted third parties with the ability to override them. This formalizes the reality of blockchain smart contracts as editable while reducing the processing power requirement and reducing the attack vectors possible to compromise this.

For actual operational blockchains, demand will likely only be found for simple contracts whose code can be easily verified and understood. The only

rationale for employing such contracts on a blockchain rather than a centralized computer system would be for the contracts to utilize the blockchain's native currency in some form, as all other contracts are better enforced and supervised without the extra burden of a blockchain distributed system. The only existing meaningful blockchain contract applications are for simple time-programmed payments and multi-signature wallets, all of which are performed with the currency of the blockchain itself, mostly on the Bitcoin network.

## **Database and Record Management**

Blockchain is a reliable and tamper-proof database and asset register, but only for the blockchain's native currency and only if the currency is valuable enough for the network to have strong enough processing power to resist attack. For any other asset, physical or digital, the blockchain is only as reliable as those responsible for establishing the link between the asset and what refers to it on the blockchain. There are no efficiency or transparency gains from using a permissioned blockchain here, as the blockchain is only as reliable as the party that grants permission to write to it. Introducing blockchain to that party's recordkeeping is only going to make it slower while adding no security or immutability, because there is no proof-of-work. Trust in third-party intermediaries must remain while the processing power and time required for running the database increases. A blockchain secured with a token could be used as a notary service, where contracts or documents are hashed onto a block of transactions, allowing any party to access the contract and be sure that the version displayed is the one that was hashed at the time. Such a service will provide a market for scarce block space, but is unworkable with any blockchain without a currency.

## ***The Economic Drawbacks of Blockchain Technology***

From examining the previous three potential applications of blockchain technology, five main obstacles to wider adoption are identified.

### **1. Redundancy**

Having every transaction recorded with every member of the network is a very costly redundancy whose only purpose is to remove intermediation. For any intermediary, whether financial or legal, there is no sense in adding this redundancy while remaining an intermediary. There is no good reason for a bank to want to share a record of all its transactions with all banks, nor is there a reason for a bank to want to expend significant resources on electricity

and processing power to record the transactions of other financial institutions with one another. This redundancy offers increased costs for no conceivable benefit.

## **2. Scaling**

A distributed network where all nodes record all transactions will have its common transaction ledger grow exponentially faster than the number of network members. The storage and computational burden on members of a distributed network will be far larger than a centralized network of the same size. Blockchains will always face this barrier to effective scaling, and this explains why as Bitcoin developers search for solutions for scaling, they are moving away from the pure decentralized blockchain model toward having payments cleared on second layers, such as the Lightning Network, or off the blockchain with intermediaries. There is a clear trade-off between scale and decentralization. Should a blockchain be made to accommodate larger volumes of transactions, the blocks need to be made larger, which would raise the cost of joining the network and result in fewer nodes. The network will tend toward centralization as a result. The most cost-effective way to have a large volume of transactions is centralization in one node.

## **3. Regulatory Compliance**

Blockchains with their own currency, such as Bitcoin, exist orthogonally to the law; there is virtually nothing that any government authority can do to affect or alter their operation. The Federal Reserve chair has even said as much: it has no authority to regulate Bitcoin at all.<sup>14</sup> Roughly every ten minutes on the Bitcoin network, a new block is released containing all the valid transactions made in these ten minutes, and nothing else. Transactions will clear if valid, and will not clear if not valid, and there is nothing that regulators can do to overturn the consensus of the network processing power. Applying blockchain technology in heavily regulated industries such as law or finance, with currencies other than Bitcoin, will result in regulatory problems and legal complications. Regulations were designed for an infrastructure much different from that of blockchain and the rules cannot be easily tailored to fit blockchain operation, with the radical openness of having all records distributed to all network members. Further, a blockchain operates online across jurisdictions with different regulatory rules, so compliance with all rules is difficult to ensure.

## **4. Irreversibility**

With payments, contracts, or databases operated by intermediaries, human or software errors can be easily reversed by appealing to the intermediary. In a blockchain, things are infinitely more complicated. Once a block has been confirmed and new blocks are being attached to it, it is only possible to reverse any of its transactions by marshalling 51% of the processing power of the network to roll back the network, where all these nodes agree to move simultaneously to an amended blockchain, and hope that the other 49% will not want to start their own network and will join the new one. The larger the network, the harder it is to reverse any mistaken transaction. Blockchain technology, after all, is meant to replicate cash transactions online, which includes the irreversibility of cash transactions and none of the benefits of custodial intermediation in redress and revision. Human and software errors constantly occur in banking, and employing a blockchain structure will only result in these errors being far more costly to fix. The DAO incident revealed just how expensive and protracted such a reversal would be on a blockchain, requiring weeks of coding and public relations campaigns to get network members to agree to adopt the new software. And even after all that, the old chain continued to exist and took away a significant amount of the value and hashing power of the old network. This loss created a situation where two records of the previous transactions exist, one in which the DAO attack succeeded, and another in which it did not.

If the second largest network in terms of processing power can have its blockchain record altered when the transactions do not go in a way that suits the interests of the development team, then the notion that any other blockchain is truly regulated by processing power is not tenable. The concentration of currency holding, processing power, and programming skills in the hands of one group of people who are de facto colleagues in a private venture defeats the purpose of implementing this elaborate structure.

Such a reversal is extremely impractical and unlikely in Bitcoin, for the reasons discussed in [Chapter 9](#), mainly that every party in the Bitcoin network is only capable of joining the network by agreeing to existing consensus rules. The adversarial interests of different members of the ecosystem have always meant that the network only grew through attracting the voluntary contributions of people who are willing to accept the consensus rules. In Bitcoin, the consensus rules are constant and the users can choose to come and go. For every other blockchain project which was established by imitating Bitcoin's design, there was always a single group responsible for setting the rules of the system, and thus having the ability to change them. Whereas Bitcoin grew around the set of established consensus rules through human action, all other projects grew by active human design and management.

Bitcoin has earned its reputation as being immutable after years of resisting alteration. No other blockchain project can make such a claim.

A blockchain that is alterable is a functionally pointless exercise in engineering sophistry: it uses a complex and expensive method for clearance to remove intermediaries and establish immutability, but then grants an intermediary the ability to overturn that immutability. Current best practice in these fields contains reversibility and supervision by legal and regulatory authorities, but employs cheaper, faster, and more efficient methods.

## 5. Security

The security of a blockchain database is entirely reliant on the expenditure of processing power on verification of transactions and proof-of-work.

Blockchain technology can best be understood as the conversion of electric power to verifiable undisputed records of ownership and transactions. For this system to be secure, the verifiers who expend the processing power have to be compensated in the currency of the payment system itself, to align their incentive with the health and longevity of the network. Should payment for the processing power be made in any other currency, then the blockchain is essentially a private record maintained by whoever pays for the processing power. The security of the system rests on the security of the central party funding the miners, but it is compromised by operating on a shared ledger, which opens up many possibilities for security breaches to take place. An open decentralized system built on verification by processing power is more secure the more open the system and the larger the number of network members expending processing power on verification. A centralized system reliant on a single point of failure is less secure with a larger number of network members able to write to the blockchain as each added network member is a potential security threat.

### ***Blockchain Technology as a Mechanism for Producing Electronic Cash***

The only commercially successful application of blockchain technology so far is electronic cash, and in particular, Bitcoin. The most common potential applications touted for blockchain technology—payments, contracts, and asset registry—are only workable to the extent that they run using the decentralized currency of the blockchain. All blockchains without currencies have not moved from the prototype stage to commercial implementation because they cannot compete with current best practice in their markets. Bitcoin's design has been freely available online for nine years, and developers can copy and improve on

it to introduce commercial products, but no such products have appeared. The market test shows that the redundancies of transaction recording and proof-of-work can only be justified for the purpose of producing electronic cash and a payment network without third-party intermediation. Electronic cash ownership and transactions can be communicated in very small quantities of data. Other economic cases which need more data requirements, such as mass payments and contracts, become unworkably cumbersome in the blockchain model. For any applications which involve intermediaries, the blockchain will offer an uncompetitive solution. There cannot be wide adoption of blockchain technology in industries reliant on trust in intermediaries, because the mere presence of intermediaries makes all the costs associated with running a blockchain superfluous. Any application of blockchain technology will only make commercial sense if its operation is reliant on the use of electronic cash, and only if electronic cash's disintermediation provides economic benefits outweighing the use of regular currencies and payment channels.

Good engineering begins with a clear problem and attempts to find the optimal solution for it. An optimal solution not only solves the problem, but by definition does not contain within it any irrelevant or superfluous excess.

Bitcoin's creator was motivated by creating a “peer-to-peer electronic cash”, and he built a design for that end. There is no reason, except for ignorance of its mechanics, to expect that it would be suited for other functions. After nine years and millions of users, it is safe to say his design has succeeded in producing digital cash, and, unsurprisingly, nothing else. This electronic cash can have commercial and digital applications, but it is not meaningful to discuss blockchain technology as a technological innovation in its own right with applications in various fields. Blockchain is better understood as an integral cog in the machine that creates peer-to-peer electronic cash with predictable inflation.

## Notes

- <sup>1</sup> The question of whether Bitcoin wastes electricity is at its heart a misunderstanding of the fundamentally subjective nature of value. Electricity is generated worldwide in large quantities to satisfy the needs of consumers. The only judgment about whether this electricity has gone to waste or not lies with the consumer who pays for it. People who are willing to pay the cost of the operation of the Bitcoin network for their transactions are effectively financing this electricity consumption, which means the

electricity is being produced to satisfy consumer needs and has not been wasted. Functionally speaking, PoW is the only method humans have invented for creating digital hard money. If people find that worth paying for, the electricity has not been wasted.

- 2 Adam Ferguson, *An Essay on the History of Civil Society*. (London: T. Cadell, 1782).
- 3 After the first halving of coin rewards in 2012, some miners attempted to continue to mine blocks with 50 coin rewards, but the attempt was thwarted quickly as nodes rejected the blocks mined by these miners, forcing them to switch back to the original inflation schedule.
- 4 A Schelling point is a strategy which individuals will use in the absence of communication with others because the point appears natural, and because they expect others to also choose this strategy. Given that there is no formal way of even assessing how many Bitcoin nodes there are, the Schelling point for each node member is stick to the existing set of consensus rules and avoid defecting to a new set.
- 5 Visa, Inc. at a glance. Available at <https://usa.visa.com/dam/VCOM/download/corporate/media/visa-fact-sheet-Jun2015.pdf>
- 6 Tony Kontzer, “Inside Visa's Data Center,” *Network Computing*. Available at <http://www.networkcomputing.com/networking/inside-visas-data-center/1599285558>
- 7 Stein, Mara Lemos. “The Morning Risk Report: Terrorism Financing Via Bitcoin May Be Exaggerated.” *Wall Street Journal*, 2017.
- 8 J. W. Weatherman has started an open source project to assess threats to the Bitcoin network, which can be found on [BTCThreats.com](http://BTCThreats.com)
- 9 Two further communications were possibly made by Nakamoto since then. One was to deny that his real identity was that of a Japanese-American engineer with the real name Dorian Prentice Satoshi Nakamoto, who was identified by *Newsweek* magazine as the real Nakamoto based on no more evidence than a coincidence of names and a knowledge of computers. The other was to offer an opinion on the way the debate for scaling Bitcoin had been proceeding. It is not clear whether these posts were by Nakamoto himself or whether someone had compromised his account, particularly as it is a known fact that the email account which he had used to communicate

was in fact compromised.

- 10 The author is unable to establish the veracity of this email, but it is telling enough that the email is widely quoted, to the point that the *MIT Technology Review* ran a long feature piece on Andresen entitled “The Man Who Really Built Bitcoin,” claiming Andresen was more important to Bitcoin's development than even Nakamoto.
- 11 This section draws heavily on my paper: “Blockchain Technology: What Is It Good For?” published in the *Banking and Finance Law Review*, Issue 1, Volume 33.3, 2018.
- 12 See Peter Geoghegan's blogpost explaining how he managed to achieve this on his personal computer. Available at <http://pgeoghegan.blogspot.com/2012/06/towards-14000-write-transactions-on-my.html>
- 13 Stan Higgins, “Vermont Says Blockchain Record-Keeping System Too Costly”, [Coinbase.com](#), January 20, 2016
- 14 S. Russolillo, “Yellen on Bitcoin: Fed Doesn't Have Authority to Regulate It in Any Way,” *Wall Street Journal*, February 27, 2014.

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## Online Resources

[bitcoin.org](http://bitcoin.org): The original domain used by Nakamoto to announce Bitcoin, share the white paper, and distribute the code. It continues to be run by several contributors and serves as a good resource for information.

[en.bitcoin.it/wiki/](http://en.bitcoin.it/wiki/): An open encyclopedia for information on Bitcoin, which contains useful and usually up to date information on Bitcoin.

[nakamotoinstitute.org](http://nakamotoinstitute.org): The Satoshi Nakamoto Institute curates primary source literature on cryptography and society, with a focus on the history and economics of Bitcoin. It also maintains an archive of all Nakamoto's known writings: the Bitcoin white paper, the emails he sent, and the forum posts he made.

<http://lopp.net/bitcoin.html>: An excellent, comprehensive, and regularly updated page listing Bitcoin resources maintained by Jameson Lopp.

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## Preface

**“Those who have knowledge, don't predict. Those who predict, don't have knowledge.”**

***Lao Tzu The, The Tao de Ching***

The reader needs to understand something about how this book came to be. At the time I am writing this I am about to turn sixty-years-old. The perspective a 60-yr. old has on his life, the world around him, his future, his past; his accomplishments or failures, his money, etc., is remarkably different than the perspective the exact same individual would have had when they were in, say, their 30's...I don't think I am any different.

If I would have made different choices when I was in my early life—I suppose my experiences would have been dramatically different. I am OK with all that—although I really think I would have been very good as an Astronaut...but you have to let go of the past I am told...

Because I chose to invest my life in trading and the markets, I can honestly say that my life unfolded in a way that was unexpected. It has been a wonderful set of experiences, and I never would trade one part of it for anything...even floating weightless wondering how to get home...

My career in the markets hasn't ended. And the markets themselves will never end. But sooner or later I will come to an end. That's just how it works. My

account will be replaced by someone else's account. The markets will say to that trader: "So, whatta YOU got?" and that individual will start out on perhaps the most remarkable journey of his life...maybe to end up in ruin; financially anyway. Maybe to reach the heights of success and prosperity; wasn't that your hope when you opened your account?

Well, for me, it was somewhere in between. All the time. If one part of my life was reaching for the moon—another was crashing into tiny pieces. If I made a million...maybe my love life sucked. If my health was in perfect condition, maybe I just got screwed by a business partner and I have nothing now. Or maybe everything worked—and I thought that meant "God was blessing me" .... only to be followed by nothing working a week later and that meant "God is judging me..." Or maybe I was just an incredibly naive individual with absolutely no background for what I was getting into...or worse yet.... someone who thought they knew what they were doing.... ouch.

I decided to write this book because the fact is—and I mean this with every fiber of my being—what I know about the markets and trading is priceless. I don't mean that I know more than you, or that what I know is better than what others know. What I mean is that I have discovered something about the nature of reality that was unexpected for me. The markets taught me that. I chose to take my intellect, my discipline, my education, my tenacity, and carry it into that unexpected something. What I discovered is what some people call "enlightenment"; although I wouldn't call it that. I would call it something closer to "Finally putting it all together"

I decided to write enough of what I have learned into this book so that anyone—and I mean ANYONE—with enough of the desire to know will uncover for themselves what it is that they need; so they can get to that place where they really want to be. The world is not unfair—unless you think it is. If you want to get to that place you are thinking of right now—you can get started on the pathway to that place today. Are you prepared for the process of getting there? What if the journey is longer than you can make? Would you still get

started? What if it was shorter once you discovered something you didn't know before? What if you could make the change in one day and start making your fortune tomorrow?

You see, trading isn't really about the money. At least for me. It's about reaching your full potential at something—and knowing it. It's about having complete control over yourself—so that nothing—and I mean nothing can break you. It's about having the ability to do anything you want—but choosing the power to do as you ought. It's about walking on water if you have the balls to try it. It's about sinking to the bottom if you have the balls to accept that risk too. It's about unlimited ability and the knowledge that you have earned it without sacrificing any part of yourself to do it.

How high is high? How far is success? How far down is failure? Does any of that matter once you see the sunrise over a perfect beach holding the hand of someone you know really loves you? And you know you don't deserve her but there she is? And it never would have happened if you hadn't been trading?

I said at the beginning of this preface that my perspective on things as an older man is different than when I was a younger man; but is it really different? Or is it just looking at the same thing from two different angles? Are both points of view accurate? Just separated by time? Why is a distance in time required for you to change your point of view? What if you could change your point of view without investing all the time most people need to? Could you create an advantage for yourself others don't have? Right now?

Well—could you?

I wish there was some way to fully communicate to you the power I feel in my daily life. I put everything aside and focused on how to win at trading. What I

discovered was a reality that I never knew existed—and it was always there all the time; for everyone. Why are so many unable to tap into this reality?

I believe it is because they simply don't know it's there. Worse yet—they won't open the door to finding out. Probably because they don't think they need to.

And that brings us to this book. I am going to fully document my thinking for you. Starting out with the beginning point and following through to the endpoint. I will show you everything that I discovered for myself—and why it matters. I am going to show you how to make lasting changes in your life that lead to better trading. I am going to open a new door for you in hopes that you might see more of what is already out there waiting for you. Quite frankly—it doesn't matter if you see trading like I do at all. Or if your priorities change like mine did. Let's be brutally honest: You invested in this book (hopefully) to get something that will help your trading make more money; right? You might not be interested in all the “fluffy-feel-good” perspective I have at this point. That's cool. It only matters that you open the door for yourself to find out if this material can assist you. It's OK to close the door too. But the fact is—there is an answer out there for you somewhere. Anyone—and I mean ANYONE—can discover what they need to excel at trading. I sincerely hope you find at least some of the parts you are looking for inside the pages of this book. It's my pleasure to at least point you in the right direction. I think you will find that I am on to something much more than making money. But let's be frank, it's all about the money right now. So, let's get to work making that next million—and when you do...

Come find me on that perfect beach if you can, (but bring your own babe).

## **Introduction**

***“All our knowledge has its origins in our perceptions”***

***Leonardo Da Vinci***

It was the fall of 2019 and I was looking out the window of my office at my home in Bradenton, Florida. I usually take time at the end of every year and attempt to refocus my thinking on the deep issues of trading. I like to use the New Year as a starting point for fresh beginnings; or sometimes a review of an old beginning that isn't doing so well. Mostly my intention is to find a better way to stay as sharp as I possibly can for the upcoming year; and commit to trading my opportunities at the highest level I can. Staring out the window seems to help with this for me.

I don't think what I am trying to do is unique or different from anyone else and what THEY are trying to do with THEIR next block of usable time and/or potential money-making opportunities. Sometimes I have to remind myself that not everyone is a trader attempting to exploit price action in Equities, Interest Rates, Futures, Options, Currencies or Round Blue Bricks...I think everyone has some sort of process they like to use for the purpose of making certain progress is being made regularly. I would like to believe that people seeking a high-level achievement take time to reflect and re-consider things along their pathway. I think those individuals prefer to evaluate their progress regularly. They need to know if they are wasting effort or going in circles. Most traders would agree that the question of wasted effort is one of our biggest concerns.

So, I sat gazing out the window and found myself really looking at the old tree in

our backyard. I just had to have it trimmed because parts of it have had issues and was dead; large chunks of dead tree could just drop on my head if I ignored this for too long. After I had the tree-trimming-service complete a major overhaul of this huge growth I was really surprised at what was the difference. The whole tree looked different; not smaller—just different. A large amount of usable firewood had been cut down and piled up for our use if we wanted it. I don't think I would ever need firewood again. Firewood in South Florida is usually used in the colder months for outdoor entertainment around a bonfire firepit; I probably had a few years or so worth of bonfire wood now.

I found out from the tree-guy that this tree is a “Laurel Oak” tree and this particular Laurel Oak is likely over 200 years old. That is really old for this type of tree he told me; which explains the large amount of deadwood. This tree was quietly growing on the North American continent when native American Indians still roamed this whole area; this tree pre-dates almost everything we see as “normal” or “modern” All the accepted “norms” of business, finance, technology, transportation, communication, medicine, industry or anything else you can think of as “modern” or daily life. I suddenly realized this tree was already old and suffering parts of itself to death when the computer was invented —what if this tree could talk?

What I am trying to say is this: “What are the odds?”

What are the odds that I personally would be looking out this particular window at this particular tree awestruck by the enormity of the history behind and before this tree; suddenly aware of my own insignificance in the process of seeing “How Things Work”? All because I thought it wise to avoid a dead tree branch from falling on my head today....

How much of what goes on around us all day, every day, is staggeringly complex, hugely unfathomable anyway, and totally beyond our comprehension? Yet it goes unnoticed for the most part simply because we choose to let things go

unnoticed around us for the most part.

If we take the blinders off our eyes and our minds, we discover that we are living in a very improbable place after experiencing a very improbable series of events; most likely missing the cues that could elevate us to a level of living & thought currently beyond our ability to even believe possible. Our lives become what they become despite our regular attempts at staying on a pathway that we believe is good for us—while all around us there is something happening, and we might not even know it is happening. But there are things right here in plain sight that speak of those things. It is right in front of all of us all the time...and yet we still miss it. What are those clues? Why do we miss them? What is life trying to tell you?

It's my point of view that trading is exactly like this concept—there is a much larger and significant way to see what is going on around you and within you when you trade. It has nothing to do with "market study" or "analysis"; it has to do with your perceptions and how you manage them.

The reason some people succeed at things that others fail at is because they possess a certain "something" that is not present in the loser-group. We can call this a lot of different things—but it all represents the same similar quality, I believe. Some people possess the ability to "think outside the box" for example, but isn't that really the same thing as saying they have a "better attitude" toward something or a "positive attitude" about something? I meet people who are "single minded" about something; winning athletes tend to be "aggressive" toward their sport. It seems to me that this are all really attempts at saying the same thing in a similar manner.

What is that something? I believe it is this: The winners behave differently than the losers.

Yes, winners tend to think differently but at the bottom core—they behave differently. The winning boxer takes that one more punch when he is exhausted—and the observer might say he is “not a quitter” when describing him. But what is someone who isn’t a quitter? Someone who throws that one extra punch... Your thinking might be “I will never quit” but that would MEAN “I am going to throw one more punch no matter how tired I am” Your behavior shows that you think a different way. And it is your behavior that really matters.

One of the greatest musicians of all time still is Wolfgang Mozart. When asked privately why he wrote the music he wrote the way he wrote it—he replied, “I listen to the birds singing and I imagine what that sounds like to the ear of God” OK...what does that mean? That means he didn’t really write music the way most musicians write music, he listened to the music that was already happening around him and then WROTE DOWN what he heard inside his own head. He was doing something different than other people. Mozart was probably asking questions differently than other people. Maybe when he wanted to write his next great symphony, he would go out into the woods looking to find new birds he hadn’t heard sing before. Maybe “A Little Night Music” is really what he heard when he came across two jaybirds arguing with a Seagull. He did SOMETHING DIFFERENT with the same skills as others.

This difference in the way certain people behave can be just astounding in some ways. For example, Jackson Pollack was an absolute Genius in my opinion. Ask yourself “What is it exactly that painters do?” They put paint on a canvas in order to create an image they hope will invoke something in the viewer. Pollack did that without letting the paintbrush touch the canvas. He painted by walking all over a canvas laid out horizontally on the floor rather than hung vertically in front of the artist. No one before or since has been able to create what he did. Simply amazing...He did SOMETHING DIFFERENT with the same tools.

Henry Ford—same thing. People want to move things from one location to another. Ford said “I have a better idea for doing that” at a time when the “horseless carriage” was seen as a minor fancy, something more like a fad or

only for those silly enough to throw away money on funny contraptions that don't do anything valuable. Ford took the basic idea and created a way to make those contraptions efficient and build them for a low cost. He didn't do anything new—in fact he was late to the party as far as car manufacturing was concerned around the turn of the 19th century—but he figured out how to build a lot of cars quickly and cheaply. He did SOMETHING DIFFERENT with the same tools as others.

We could invest a lot of time looking at various industries and arts looking for special people we could call successful; those who have reached levels of performance or influence beyond the average individual. In my view, we would be looking for the same basic underlying “something” that is expressed in an unlimited number of ways. It’s the “something” that matters; the basic stuff that achievement seems to be cognizant of when the rest of the participants do things along the status quo. I really hate the status quo. In fact, one of my pet-peeves—one of the things that will infuriate me instantly—is when I offer a trader a solution to a trading problem, but it is met with the response: “I’ve never done it that way”

My hope is to communicate to you that your acceptance of the status quo might be part of your problem if you can’t make consistent money from your trading. You need to find some way to enhance your participation into the realm of the high-achievers you want to emulate; you need to accept that the average way of doing things—the typical method espoused by the typical average performer—is simply not going to offer you a viable pathway to your fortune. What you need to do is something different. How are you going to learn to do something different if your thinking is really no different than the typical losing trader? How can you reach the top of your potential if you are doing the exact same thing every other average person is doing?

What specifically are you going to do that sets you apart from the rest of the players?

Before we start getting into the material, I want to offer you a final observation about trading. Bear in mind, I've invested more than 35 years of my life in the business of trading. What I say next could be considered heavily vetted; it could be carrying a lot of credibility. I don't want you to accept it because it might be heavily vetted or credible. I want you to consider it because it makes sense to you without needing to explain why. It just resonates with the feeling of "Yeah—I get that"

No one in the business of trading knows any more than you do right now. In fact, most of them probably know less. There is a fundamental problem inside the mind of humans as a group. This fundamental psychological problem is responsible for all the major conflicts we all have to invest regular effort into solving. Specifically, one of the ways this fundamental problem comes out in the trading arena is a focus on the assumption of a "benevolent authority" working behind the scene somewhere. In other words, there is some sort of a final authority that is generally working in everyone's best interest; this authority somehow knows everything or controls everything relating to the markets. For example, people generally believe that the U.S. Federal Reserve Bank is an authority in the banking system; and therefore, can be trusted as far as how the Fed performs relative to the markets. Traders tend to believe that the Fed is a positive influence on the financial marketplace. The Fed can be trusted. The Fed works on the behalf of the citizens. The Fed is responsible to "control" the money supply. All of this is considered a positive and healthy environment for the purpose of managing the U.S. economy; and keeping the integrity of the U.S. Banking System intact. We need the Fed. The Fed is "good" and works for all of us.

But the fact is, nothing could be farther from the truth. The U.S. Federal Reserve is really a private bank owned by a handful of (mostly) foreign nationals. It isn't part of the U.S. Government. It doesn't have the authority to issue currency. It routinely interferes in the equities & interest rate markets to prevent collapses; and among other things, The Fed operates on a fractional reserve method of accounting for assets & liabilities; making it basically a house of cards. It is loosely founded on a concept called "The Land Bank", an idea created by an 18th century criminal named John Law—who was a murderer and a thief. Right

now, The Fed has hundreds of times more obligations than cash to meet them with. If only a small fraction of U.S. Citizens were to withdraw their money from wherever it was inside our financial system—the U.S. economy could collapse completely. The U.S. economy could collapse to the point where the U.S. Dollar might become worthless across the globe. This is not my opinion—go read The Creature from Jekyll Island (Amer Media, 5th edition, C. 2010) if you can find an uncensored copy of it...

I am not trying to scare you—I am trying to enlighten you to the fact that things are not what they seem. The problems we have with the Federal Reserve don't really matter in the long run because when THAT institution fails, another will take its place. And whatever negative consequences develop—those will be met with an equal but opposite positive from somewhere else. A lot of money will be made when the #@\*% hits the fan here in the U.S.A. someday. The question is from where? And by whom? How bad will it really be? Will you and I get rich when the #@\*% hits the fan? I am certainly going to try...

What I hope to communicate is that as far as trading the markets goes, no one really knows what they are doing. They may sound very convincing and very credible; but the fact is—they want you to believe everything is under control because they are terrified you will find out it isn't. And it really isn't. Nowhere is this truer than inside the markets. The financial markets are populated and run by people who really are hoping against hope that nothing “goes wrong” while they are in charge or playing the game; because if that happens—the gallows await...

What I am trying to say, the final thought I have for you before we get started on building your fortune, is really very simple. Don't put your confidence easily in experts, gurus, officials, governments, or any other group of people who hold out their hand in friendship proposing to help you. The only person you need to have confidence in is YOU. YOU are the architect of your own fortune and your own future. Develop your own method of better thinking—develop your own method of behaving differently. Create something that is yours and is not beholden to anyone else for any reason. Your perception plus your actions creates the

circumstances you call “your life”. That is where your fortune comes from.

And believe me—it is out there waiting for you.

So, let's get started....

## **Part I**

### **Understanding the Traders' Problem**

## You Are the Problem

***“It is better to conquer yourself than to win a thousand battles”***

**--*The Buddha***

If you had met me at my 18th birthday party and told me where I would be when I was 60 years old—I would have laughed so hard I would have hurt myself—then dismissed you. I would have said something like: "Hey—I know EXACTLY how my life is going to go and I have BIG plans (sir); Thank You for your (HA) insights but I don't really think you are in a position to offer me a credible assessment of my future...GOOD BYE!"

Then I would have turned my back on you and left. No one is going to tell me what time it is...

Childhood arrogance aside, the fact is I really believed I could achieve anything I set my mind to; and I still do. For a time in my early years as a businessman/salesman/entrepreneur I did very well for myself. I was what they used to call a “Whiz Kid” ... At school, I got very good grades. In general, I had a nice personality, was articulate and usually was an enthusiastic individual. If you want more details, I discuss some of my starting points in my second book The Art of the Trade (Wiley & Sons Publishing, C. 2008) but I just want to make the point that MOST people with some (or all) of those kinds of abilities tend to do very well for themselves over the course of a career at something. They are good skills to have and develop. They are skills that the management-types know lead to “success”; and by the word “success” we mean things like better sales, better business relationships, better problem-solving skills, etc. Starting at

a young age at something you love and pouring your whole heart into it will certainly open a few doors for you at the very least. This is the frame of mind I had when I started out in life looking to make my mark and get rich doing it.

Then I got into the markets...

As I discuss in *The Art of the Trade*, I was completely unprepared for the world I was getting into. I don't want to go into all the intimate details of my early years in the markets other than to say not one skill I was born with, or had developed, ever helped me take any money from the markets. That is the bottom line. And if you are honest with yourself and your current results as a trader—you will agree that your situation is exactly the same; or very similar. Nothing you brought to the table when you started trading ever helped you earn dime one. Which is usually beyond confusing for most people. Maybe you have asked yourself: "How can I do so well at (fill in the blank) and have such losing results at something that appears to be so simple?"

When I was a registered broker, I saw this situation every day. I've had clients that were Ph.D.'s in their fields close account after account with net losses. I've had clients that were Board Members at Dow Jones listed companies go debit in their trading accounts. I had one client who was a technical engineer at the Jet Propulsion Laboratory in Pasadena, CA., he "flew" the Hubble Space Telescope—not a dumb guy—this man still lost his entire account in less than 3 months buying a market that went his way more often than not; he just kept over-leveraging against everyone's instructions; including the compliance office at the exchange.

All of these people, and many others, were just like you. Smart, degreed, successful in their field, articulate, financially secure, happily married and sometimes well-groomed... they just couldn't trade their way out of a wet paper bag.

Statistically, this is nothing new. The government sanctioned regulators and other watchdog organizations will tell you that about 85% of trading accounts opened at any time during the past 150 years or so of organized exchange trading have closed out at a net loss; some small losses and some big losses—but losses regardless. As far as the markets are concerned, whatever you bring to the table in hopes that it will make your cash grow, is either not needed (and something else is needed) or makes no difference to results. It seems that the markets don't respect anything about the participants; or what they bring to the table when they play. The only thing that apparently matters is your cash, which apparently is a food source or something for the markets.

If you are a new trader trying to determine if trading is really something that is right for you, it's important for you to know I am not trying to discourage you. In fact, I think trading is right for everyone. Sooner or later any person with at least something on the ball will find themselves in a cash position where taking a little risk makes sense. Done properly, trading can be a HUGE advantage to your growing portfolio. Dr. Harry Markowitz shared the 1990 Nobel Prize in Economic Sciences for his ground-breaking work in the field of Modern Portfolio Theory. He showed conclusively that diversifying part of your existing portfolio of equities, bonds and real estate into leveraged investments (such as professionally managed Futures/Options/FOREX) will decrease portfolio volatility over the life of your investment career and also add a significant percentage gain to it. He didn't say trading in these markets was "less risky"; he said trading "can be worth the risk when done right" YOU are hoping to do it right, I believe. So why are the statistics what they are? Why do individual traders, just like you the reader, still suffer large losses?

I'll tell you why:

Because you (and everybody else) are thinking the wrong way. You have absolutely no clue about the real nature of the trading environment. Worse yet, you think you do because of the alleged "market knowledge" you have been

absorbing over the course of your trading career so far. But the fact is, nothing you have learned has made the difference and you already know that. None of the skills you brought to the table has helped either. You have done everything you knew how to do—and the results are not what you thought they would be. Maybe you still don't see a way out of this problem—and you are discouraged enough to quit altogether. It wouldn't surprise me if you did quit. Some people won't pay the price of admission in this field.

But the good news is, if you are willing to make the changes that need to be made, and willing to get the knowledge you really need to win, the markets will open their doors to you just like they have for all the winners that are out there. The small percentage of winners is a relative thing; it's not about what is possible. The reason the percent of winners is small is because most people will quit after losing something. If you don't quit—you could put yourself in the winning group. The question is: "Will you run out of money before you figure it out for yourself?" Some people are forced to quit, hopefully that won't be you if you are committed enough to the learning curve to become a solid winner.

Before we get started on the rest of this book, which is the pathway I personally discovered by studying myself along with other winning traders, I think it is crucial for you to take some time and reflect on what it means to experience what is referred to as a "Paradigm Shift" I personally feel that the bulk of this material is going to do several things at once for the reader. I believe it is to your advantage to be prepared for a significant change that may happen; either slowly or all at once. I personally had an epiphany-type experience; an awakening "A-HA!" moment. My life changed very dramatically from that moment on and some of it I wasn't prepared for. But it was the ride I was looking for.

This material is going to challenge your existing beliefs about a lot of things. It will completely alter your beliefs about the markets. Some of those things might upset you in some way. You might discover a lot of things about yourself that you never knew your trading was exposing and confronting. As you will most certainly discover at some point, trading isn't really about the markets anyway;

in fact, the markets themselves are incidental. Once you fully understand what the paradigm shift is and why it has to happen to win, you might find that you can accomplish a lot of things successfully in addition to trading any market any time you want no matter what is happening “out there” in the real world. You won’t need a “system”, you won’t need “courses”, books, lessons, software or even charts...which I know is a bold statement but I assure you—what you are going to learn has the potential to change everything about you and your relationship to the markets you trade. It’s the right change in the right direction if your intention remains to take money out of the markets.

### **Your key takeaway from this chapter:**

YOU are the problem. Your results suffer because your entire thinking is not congruent with the needs of the market. Figuring out what that means and adapting to a needed change is what the pathway is all about. The problem is YOU and how YOU THINK...nothing else.

## **Market Price Action is not Definable**

***“There is no ‘Bull’ side or ‘Bear’ side of the market; there is only the right side...”***

**--Jesse Livermore**

For those of you reading who have not been introduced to Jesse Livermore I strongly suggest you stop reading right now and get a copy of at least one of his books; and I would suggest you start with his most popular one: Reminiscences of a Stock Operator (Fraser Publishing, C. 1980) He wrote it under the nom de plume “Edwin LeFevre” This book is the biography of his trading career starting from the age of about 10. When I teach The Psychology of Trading course to students live, I use Reminiscences as one of our textbooks. In my opinion, Livermore said everything you need to know about the markets and the frustrations of trading. What he describes in the pages of Reminiscences happens every day and you will see yourself on many of the pages I am sure; and all this was written about events that happened before WWI in many cases. The markets and the challenges of trading are truly timeless. In fact, one of the errors many people make when attempting to trade is developing the unshakeable belief that all the “new” technologies such as Computers/Automated Trading/Artificial Intelligence/High Frequency Trading, etc., bring some sort of progress to the trading arena and that Traders & Trading are “evolving”; but in my view, nothing ever changes, it just becomes more of what it already is.

So, what do we mean by “definable”?

I equate the word “definable” to the process of making comparisons. It is my belief that making comparisons is a healthy thing to do in the “real world” but it will result in your trading account disappearing into thin air if you attempt it in the markets. For example, if you are a small business owner in a small town with a regular customer base, it is an important thing to know what your customers will buy and how often. If you sell cut flowers and you already know that your customers want to buy healthy cut flowers that are “fresh”, it would not be a good idea to put “old” flowers out in the window for sale. Your customers will walk by, look in the window and say to themselves: “Those flowers don’t look fresh—I’ll try another store”

Part of your regular and healthy way of selling a lot of flowers would be to start each day early and separate the “old” flowers from the “fresh” ones. To cut your costs and maybe add a few percent to the bottom line you might offer the “old” flowers at a nice discount. You will need to make a comparison when you look at each flower in the morning and say: “This one is fresh, this one is old—put that one in the window and put that one in the ‘day old discount’ bin...” The comparison is part of the daily business day to define what you need to do. You make that comparison intending to help your customer buy the best products for their needs; and to help keep your business profitable. No surprises there.

In the case of the markets this relationship doesn’t exist. You might think it does, but the only place it exists is inside your head. When you try to define price action, you are making comparisons to something else. What you are really doing is trying to attach meaning to a particular price in relationship to another price (historical or soon-to-be-historical). You are making a comparison between prices in the attempt to postulate what prices are coming next. Your comparison is supposed to mean something, but there is a problem with that comparison-making process.

Here’s what I mean by that: Who decides what the price means?

- Who specifically determines that a price is “too low” or “too high” relative to some price that is coming later? Or a price is “too low” or “too high” compared to a previous historical price level?
- Who specifically determines what information is needed (or not needed) to assist the choice in thinking that the price is “too low” or “too high”?
- Why are you even thinking that the price is “too low” or “too high” in the first place?
- Who decides what...and why is that important to prices?

YOU are deciding that. What comparisons are YOU making?

In order for you to take a position in the markets, that you expect will profit if the price is “too low” for some reason, would require you to enter a BUY ORDER and for you to hold the point of view that the market price action would become “bullish” from that point forward. For you (or any trader) to profit you MUST decide if a price that exists right now is “too high” or “too low” relative to some other price that will be coming later. In other words, you the trader must determine (however you do it—we will cover that in detail later) what that price means and then make a comparison to some other price, real or imagined. The important consideration is the mistake of determining what the price means to you rather than what it means to the market (again, more on that later). By making comparisons between this price and that price, how the price got to that price, why it will move, what the news will be, if conditions are “bullish” or “bearish”, etc., etc., will ultimately lead you to a comparison of what will be later; which is another comparison to the current price, that eventually will be in the past at some point forward, meaning every price has to be considered as important on some level compared to every other price.

The reason I used the quote by Livermore to start this chapter is because Livermore understood one of the critical and most important factors to profitable trading and that is this: Prices are not important, and they are not definable. No

price is “too high” to buy (or sell) and no price is “too low” to sell (or buy). Prices have no meaning. What Livermore meant by the right side (rather than the bull or bear side) is the direction the market MUST move based on how it got to be where it is now. What he means is that whatever created the price is what has to be considered—not the price itself. Because whatever created that price would change. Anticipating the change is where the money is. The price the change occurs at is not important—only that you are ahead of the change when it happens.

People who make comparisons about price are always wrong at the turns—and that is where the most money to be taken from the market exists. That doesn’t mean that your style of trading has to be looking for ultimate tops or bottoms to execute your trades from—it means your focus on what matters to make money remains OUTSIDE of the price. More importantly—it has to be OUTSIDE of your entire process of making comparisons and determining what something means.

## The Problem of Shared Data

Price is undefinable because your particular process to determine what the price means will be different from another traders’ process of what price means to him (or her). This is why two traders can look at the EXACT same price chart—read the EXACT same set of news reports, look at the EXACT same quality of market tools (such as Technical Analysis); and one of those traders will conclude that the price is “too low” (and buy), and the other will conclude the price is “too high” (and sell). Once the market moves—one trader will have a profit and the other will have a loss; because the price in the future will be different than the price is in the past—we just don’t know what that will be yet. Ask yourself: “How do two reasonably intelligent people look at the SAME information and come to equal yet opposite conclusions?” The two traders in question have concluded that the time is NOW to make money (The information all boiled around inside their heads and they both became willing to execute opposite positions at about the same time), one concluded prices will move higher; and

the other believes prices will move lower. They came to those equal yet opposite conclusions by making comparisons to something else using the same information. Whatever those comparisons are really doesn't matter and the information used really doesn't matter, because both pathways of comparisons can't be profitable. The market can't go higher AND lower at the same time in order for both positions to profit. No matter who you are or how "accurate" you believe your particular analysis to be, only one market point of view can be profitable at any one time.

I am not saying that you can't make money using commonly accepted analysis tools—what I am saying is that: "If price were definable—you wouldn't need to use ANY tools to help you figure that out. Your comparisons would ALWAYS be accurate. 100% of the time. Because you don't know what the price will be in the future until the market gets there—you can't make any comparisons that will be profitable with reasonable certainty. If you could do that—there wouldn't be any losers. It is an illusion to think that your "analysis" and comparison-making process is "accurate". The fact is, you were guessing anyway you look at it, and because the market went your way you think that profitable trade had something to do with your analysis/comparison making. You were just lucky—but it looks like you did "something right"; which is part of the illusion of "reducing the risk" we will cover in the next few chapters.

In the case of the flower shop, making comparisons is definable and directly related to profit; and it is ALWAYS accurate. You can know with absolute certainty if a flower is "old" or "fresh" just by looking at it; and plan your profits accordingly. For as long as people buy flowers. In the case of the markets—you can't define price with enough certainty that you can profit all the time reasonably well—all things considered. This is another reason why traders lose, they do "something" that creates a profit often enough, and in a big enough size, that they conclude they can define price really well anytime they want. Then something changes. They give back all the money they made plus more, and they can't understand why because from their point of view—nothing has changed with how they are defining price. They are doing their "analysis" or "studies" exactly the same way as they did when the trades worked—so why is it not working now? This is all part of the illusion of "market study", and we will

cover that in more detail later too.

As we get deeper into the material this book covers, we are going to discuss all of the important topics we touched on here in this brief chapter. Things like Technical Analysis, fundamentals relating to the market you trade, how you reach accurate conclusions and how you don't, and much more. I want you to take a deep breath and just accept the fact that the process of becoming a winning trader and staying there is exactly that: a PROCESS. You may not get some parts until later and you may not understand something completely until other holes are filled in. I am not asking the reader to accept what I am offering at face value. What I am asking you to do is consider the possibility that conventional wisdom is not necessarily wisdom when dealing with trading and the markets. It is possible that your existing paradigm is in conflict with a winning paradigm; and the path to creating a winning paradigm is going to take a different pathway than you currently expect. It might include changing your belief about market analysis.

It is very important to your developing new paradigm for you to consider that price is not definable as you have been using the concept now. Price is VERY definable under different concepts we are going to discuss later. In the meantime, here is an illustration to help you with the concept of defining something that appears to have no apparent way to be defined.

Any meteorologist will tell you that the weather is very difficult to predict past a certain point. They appear very accurate only because they know about variance. Simply put, variance is a certain deviation from the "normal"; which is really just averages. If the normal temperature is, say, 70 degrees for your town on July 1st, then all things considered a prediction of 70 degrees for next July 1st could be comfortably made months in advance. Here's the fun part...if, say, a week before July 1st, a very strong cold front was moving across the country and was expected to reach your city on July 1st, any meteorologist would instantly look at the percent difference between "norms" and "actuals" as the front moved across the country each day and notice a variance of, say, a 4% average....most

likely a prediction of temperatures on July 1st for your city would start around 4% lower; now if OTHER things start showing up, then the variance could change more or less. The game is ON....and so at NOON on July 1st the temperature was 68 degrees; well within the normal variance and about accurate for the prediction of slightly cooler weather. The local meteorologist looks like he is very accurate. But there is no way to REALLY know what the temperature will be until it gets there, and ALL conditions relating to the temperature might need to be considered. Under certain conditions—the meteorologist would be WAY OFF. This is why you can't predict where landfall will be for a hurricane that just formed a thousand miles away; but you can "sort-of" determine where it MIGHT go. When it gets within 50 miles of you, you can pretty much say where it will go next. But by then you don't need the prediction at all.

I spent most of my life living in Chicago, Illinois. I can tell you with absolute certainty that the winters in "Chi-town" are brutal. Which is easier to predict? "When will the temperature drop below freezing for the first time in the fall?" Or "Will there be snow on the ground by January 20th?" One year I remember it was 70 degrees on Thanksgiving Day, then it snowed the following Monday. Who can predict that? Six months in advance? No matter how much they know about the weather in Chicago or how many supercomputers they have? But if you predicted: "There will be snow in Chicago this winter" you would likely have an accuracy of 99% or better every year. It has ALWAYS snowed in Chicago every winter...because that is the nature of winter. You don't need to be a meteorologist to make that prediction. There is no prediction to make.

The point I want to make is that predicting price action is a lot like forecasting the weather. Some things are really well known, and can help, but other things are not known at all and will never be known. Because of this reality, it is almost impossible to define prices past a certain accuracy and the fact is you really won't know for certain until prices get to where they are going. In many cases, prediction isn't even needed at all because it is an absolute certainty the price will change; and the direction prices will go is really clear. As far as the total market environment is concerned, no one can define price action accurately enough to make sound profitable predictions most of the time; otherwise 85% of people trading wouldn't have been losers over the past 150 years. Don't forget

this little often-overlooked fact: NONE of the technology being used, NONE of the highly valued analysis, NONE of the AI-based automated trading programs, NOT ANY OF THIS B.S. has contributed any lasting value or helped make people consistent money—otherwise the 85/15 ratio would have changed by now.

If I stood in the moonlight holding a 1964 penny in my left hand while dancing in a circle reciting the Gettysburg Address in French, and I told you that doing this helped me define the price of Gold so you could make money—you would think I was a raving lunatic, wouldn't you? But if I told you that I have a Ph.D. in advanced mathematics with a master in physics, and I could use science to PROVE to you that dancing in a circle in the moonlight holding a penny in one hand while speaking French has an accurate correlation to the price of Gold... what now? Will you look at that data and put yourself at risk? OK—I will make it easy for you—I can show you back-tested data that conclusively proves that there is a 42% statistical correlation between moonlight-penny-dancing (Or MPD analysis) and rises/falls in the historical price of Gold. Furthermore, if you had bought Gold when the MPD analysis was done on a full moon in August or September, you would have made money 7 of the last 10 years.

Do you see what I am getting at? Anyone can say anything using any data he wants for any reason he wants, invent some statistics by cherry-picking only the data he wants to use; and when you boil it all down it becomes some sort of a price comparison that proves the analysis “works” some amount of the time. But in reality—none of that really matters because the FACT STILL REMAINS 85% of people trading close their accounts at a net loss of some amount; no matter what analysis/data/comparison-maker they are using. If there was some method of defining price that actually worked—that ratio would be different today. If the markets have actually evolved into something “more definable” then that ratio would have changed by now. If computers and number crunching and artificial intelligence made a difference, then that ratio would have changed by now.

But it hasn't. And it never will. 500 years from now—if humanity hasn't

imploded on itself by then—no matter what the markets are or what is being traded, 85% of people participating will have losses. NOTHING can change that ratio until PEOPLE THINK DIFFERENTLY. And that includes YOU. Price action is simply not definable enough using conventional tools to make any lasting difference. You won't make a fortune for yourself (and keep it) using some attempt to define price just like everybody else does. In fact, you have an 85% chance of losing money if you attempt to define price or forecast price; because that is what everyone is getting for their results. Exactly what do you think will be different for your account when you are using the same tools the same way as the existing 85% losers use them?

To participate in such a way that your account can grow consistently requires that you consider thinking in a way that looks more into what is creating prices more so than predicting where prices will go.

### **Your key takeaway from this chapter:**

The price in the market doesn't matter. What created the price is what is important to the process of finding the right side of the market for the coming price change. Predicting price direction or distance by comparing prices to other prices in some fashion is an illusion at best.

## Why Most Traders Fail

***“If there is more than one cure for a disease—it means there is no cure for the disease”***

--Anton Chekov

We talked briefly in the preface about the percentage winners versus losers in the business of trading. For the past 150 years or so of exchange-based leveraged zero-sum trading—as long as records have been kept—the ratio between winners and losers is about 85/15. About 85% of traders lose money trading; only about 15% make any money consistently. Most people usually stop right there and never really think through the implications of those percentages. In fact, the normal response in most trading circles for any discussion of these percentages is usually a nervous and guarded laughter followed closely by an admission that we all know someone who has lost all their money; but no discussion of our own losses. Most traders just nod and watch the other traders in the group hoping that the “negative” conversation stops right there, and we can all move on to a fun discussion of how we all are going to make lots of money ASAP.

Personally, I like asking people if they are aware of the winner/loser relationship in the markets. You would be surprised to discover how many people trading with an active account right now have no idea that so many people are losers. Most traders have no idea that this winner-to-loser ratio exists at all. When talking with other traders I always ask what specifically someone might be doing to avoid being in the loser-group. Most of the responses I get are vague, non-committal and usually involve unresearched potentials. What I mean by that, is most of the responses I get seem to center around opinions (Such as subscribing to newsletters or following an “expert”), some sort of a “wait-and-see” position

on some new trading tool (Such as the latest software or analysis), and/or unproven theories or observations about price action (Something like: “Most Retirement Fund traders get their money to buy their stocks from the employees in the fund around the 1st and the 15th of the month. That’s when workers get the money deducted from their paychecks. I’ve noticed the S & P index usually rallies around those date as the money from all those fund managers becomes buy orders” ...Which really was an intriguing observation I actually heard from a student once—that’s why I included it here).

The common thread behind all these sorts of answers is the underlying belief that information is a very important and necessary tool, the belief that electronic machines can take a lot of guesswork out of the problem of where to execute, and the belief that somebody, somewhere, has some or all the answers—if only I could find that person. If you dig a little deeper and observe the focus of this sort of thinking—the responsibility always lies OUTSIDE of the trader. Can you see where it would be very easy for someone to say: “I am losing money because I don’t know enough about (Fill in the blank)” “I need a more sophisticated software” “So-and-so has been trading for 30 years—I like what he says—his daily newsletter will help”?

Apparently, the trader only has to make ONE choice; the trader has only ONE responsibility to accept, only has ONE need: the trader only has to CHOOSE to put more effort in. But the actual information/solution to the problem is still external—the “stuff” we are all seeking that will help us avoid losses—all that comes from books, software, other people, published sources, radio/TV broadcasts, Government-release data, technical analysis, number-crunching, Artificial Intelligence, etc., etc., etc. The thinking is predominantly: “The ‘stuff’ I need is out there; or I can learn to create it myself. All I have to do is go look for it and given enough time/effort/commitment I will eventually find enough of that ‘right stuff’ to make my trading really take off” This is the illusion of “Market Study”

If the information needed to make winning trades was really already in

existence, and all that was required was for you and me to go look for it, then wouldn't it be reasonable to assume that sooner or later SOMEONE would have found that information? Now—here's the really interesting part: the answer is "YES" but the "yes" is not what you think it is. Ergo—you won't find it by looking in the places that you think will have it. Otherwise—you and everybody else would have found it by now. And the winner-to-loser ratio would have improved by now.

Let's boil this down to the absolutely essential and completely irrevocable. I mean let's "bottom-line" this issue like no one ever has before. Let's get as real as it gets, fair enough?

Here's the question/problem we want an answer for. We really don't care if other people can't solve this problem or answer this question. You want an answer for YOU so that YOU don't end up in the losing group no matter how committed you are to be in the winning group:

Here's the question:

Why do most traders fail? How do I stay out of that group?

Answer:

Most traders fail because their paradigm for creating success in their daily life is not congruent with the paradigm for creating success in the markets. You can't get out of the loser-group until you change your paradigm. Most traders don't know they have this problem.

Say that again?

Most traders fail because they are ignorant that there is a difference between the “real world” paradigm (which they function under all the time and because it is so familiar they can’t really see it distinctly anymore) and the paradigm that the markets function under (which they have never seen before). This problem I call: Cultural Myth & Self Sabotage. Most traders fail because they are either ignorant of the real change they need to make or refuse to consider that they need to make that change; or a combination of both to some degree.

Say that AGAIN—I am not sure I heard that right:

Most traders fail because they believe in something that they are absolutely certain is accurate—or real—or true—or confirmed—or accepted—or known—or genuine—or valid—or actual—or sincere—or authentic—or bona fide—or documented—or sanctioned—or ratified—or authorized—or verified—or established—or back-tested—or endorsed—or approved—or corroborated....shall I go on?

NO—but please explain this to me one more time:

Most traders fail because their belief structures are tied into all these hundreds of ways of saying the same thing: “The solution to this problem is outside of me—all I have to do is find it—or have someone else find it for me” Most traders fail because they are all really just looking for the next “tip”; regardless of whether or not they would call it that.

Really think this through: All of the accepted methods of Market Analysis is just a “tip” if you do it right; a handful of “experts” sitting in a room promising you profitable insights if you buy their opinions is just a “tip”; combing through thousands of pages of exhausting data hoping to find some anomaly is just a “tip” if you can find it; buying someone else’s back-tested and verified neural-net machine-learning artificial Intelligence software is really just a “tip” maker; ....ALL OF IT---all the “looking for something that will make the difference” is really just an over-exposed inflated way of saying... “I can’t figure this out using all my existing thinking or tools; so, I am willing to accept and trust in some sort of a tip-generator about where to place myself at risk”

As long as any trader continues to operate from this paradigm the potential for loss is huge. Statistically, there is almost no hope for a profit. The ONLY way to create a winning trade method is to operate from the paradigm the markets themselves function under. Anything else means you are trying to create a tip-generator or buy a tip-generator. Until you personally confront your own Cultural Myth and Self-Sabotage—you have little chance of winning. Every trader has to make the choice to confront his existing paradigm of participation—and replace it with a market-centric paradigm of participation. Why do most traders fail? Because they don’t change the paradigm they function under. That’s the bottom line. Whether YOU believe it or not, whether YOU accept it or not. It doesn’t matter if you agree with my hypothesis or not because, statistically, you are going to lose while playing a game that certain others have learned to win at. What is it that the winners have learned to do that you have not learned to do yet?

### **Your key takeaway from this chapter:**

Most traders lose in the markets because they fail to examine the thinking they operate under. Most traders fail because they think by using a paradigm of thought that isn’t designed for the markets. Most traders fail because they don’t even know that they have this problem. Most traders fail because they refuse to accept this reality as a condition for improving their results. Most traders believe

the solution to this problem lies OUTSIDE of them; not INSIDE of them.

## **How Losing Traders Think**

***“Losers are people who are afraid of losing...”***

**--Robert Kiyosaki**

Sometimes the best way to describe something is to describe what it is not. There is a lot of information and documentation available out there about what makes a winning trader. Market “gurus” are always philosophizing about the skills and talents “All winning traders have in common” hoping to communicate that there is some sort of baseline to trading success that you must adhere to for your trading to work, and maybe that is true. But losing traders also have things in common as well. Comparing losing behavior can be very insightful in the process of making a paradigm shift. Remember, comparisons are part of the real-world paradigm that confuses and defeats so many willing and qualified trading participants. Learning to make needed comparisons and learning to know when comparisons are not helpful is part of creating a winning market-based paradigm. Showing you how most losing traders approach their actions, the very actions leading to their financial demise, might encourage you to take this material more completely. I don’t mean to suggest that every losing trader is exactly like every other losing trader; but rather I hope to describe to you certain things that ALWAYS lead to market losses in the hope that you will recognize something in yourself. You need the courage to confront your own thinking and your own actions. Maybe one of the comparisons you need to consider is this one: “Do I have any of these behavior qualities shared by losing traders?”

One of the things we are going to do a lot of during the course of this book is dig deeply into emotions and motivations. During the process of training other traders, it has been my experience to learn that most people are almost

completely unaware of the relationship between their emotions and their behavior. Part of the paradigm shift that needs to occur for you to reach your full trading potential is the ability to completely understand your emotions as something separate from your behavior—both of which are completely within your control; and the market itself has nothing to do with how you manage either. Losing traders are not in control of the process that creates their emotions or how their behavior is managed. Losing traders are often very confused about the relationship between their behavior and their “needs” as it relates to the markets. Losing traders “see” the markets and their relationship to the markets differently than winning traders tend to. Often the errors in thinking that losing traders make and their confusion about what they believe they “need” from the markets sets the stage for an emotional cycle that breeds losses so consistently that losing traders actually become afraid of executing because losses are so predictable for them. If any of this sounds familiar you are in great company—all winning traders have experienced what I have just described in intimate detail. The difference for the winners is that they have left certain things behind and learned to adapt to what is required for market success—and they do it without an emotional attachment.

While you are reading the following insights on how losing traders think I want you to take your first step into the paradigm shift we hope you will make. Try to see past the behaviors or even the emotions and ask yourself: “What is the underlying belief here?” because it is the underlying belief—the cultural myth—that is motivating the losing trader to accept these behaviors and do them over and over again no matter how much money is lost. The losing trader is actually operating from a paradigm of thinking that is probably unknown enough on the individual level that he/she cannot actually verbalize it. They do what they do because it is “right” but cannot tell you why it is “right” or why they continue to believe it is “right” despite losing thousands of dollars by doing what they believe is “right”. Ask yourself: “How much money do I have to lose before I can accept that my thinking is causing me to behave in a way that is hurting me?” Here’s the really big question most losing traders never ask themselves because the implications are just too painful for many of them to accept about themselves: “What if it is my thinking and my behavior that is causing me my losses and not the markets?”

Answering this question honestly will always lead you the trader to accept the possibility that you have no idea what you are doing when you trade. Your results clearly show that you don't know what you are doing—but you are excusing that reality for some reason. So, it becomes clear that making excuses for your results is one of the things losing traders will do. In reality, I have identified 12 basic separate “things” or “events” or “emotions” or “behaviors” (however you want to label these things is fine) that lead to losses and I will list them here:

Anger

Assumptions

Excuses

Illusions

Justifications

Exceptions

Fear

Greed

Hope

Evaluations

Expectations

Misconceptions

At this point—we need to take a step back and re-clarify some things to make sure that we aren't moving too fast into areas that will cause the reader to feel overwhelmed (another losing trader issue). First of all—losing traders will have some or all of these “things” active in their thinking almost all the time—but

they can't see that for themselves. If you think that you personally don't have any of these things active in your thinking when you trade, then it is very likely that some or all of them are already dominating your approach without you even knowing it. You need to take a step back and allow for some serious discussion about how these "things" come out of you and become "your trading approach"

Second—for the sake of making the point I want to make—we are going to refer to these "things" as emotions. You are free to consider them anyway you like but I want you to remember that when I use the word emotions during the course of this material, I want you to understand I am referring to these 12 "things". People are individuals and as such we all will find different meanings inside words we all use together and sometimes those meanings are very different from each other. For example, when I use the word "Cold" to describe the winter in Chicago—I mean it is like being inside a walk-in freezer all the time. To someone who is from the deep south—they usually think of something more like a Currier & Ives porcelain figure; someone smiling as they try to catch snowflakes on their tongue. To me, THAT image is similar to the word "Frosty"; which is more like taking a three-minute walk around the yard before a night of sipping hot-chocolate in front of a roaring fire. Whereas "Cold" in Chicago is a brutal experience, something like being locked inside a walk-in freezer with no hope of warmth until someone comes to get you out; and "Frosty" is a pleasant prelude to a night of good clean fun & soon forgotten once your toes are warm. Two words that are close in meaning at first blush—but might mean something considerably different depending on who was using them. Because of this issue—I want you the reader not to "read" too much into the use of the word emotions to describe these 12 "things"; try to accept them at face value in general terms. Also, if you find you don't agree with the use of the word emotions that is OK too. What I am hoping for is that you will have an open mind to my argument concerning the attributes of a losing trader. As long as that is happening, I think we will make some progress.

Third—losing in the markets is really no different than losing at anything else. If you have ever tried to excel at anything but instead you failed, you will find that certain things are absolutely true about the experience. Your failure was probably unexpected, you had a misconception about how easy it probably was going to

be, you evaluated whatever the reason was that caused the failure, you probably justified your effort in some way. If you kept trying only to fail again and again you probably got angry at your lack of progress meaning you had an expectation about how soon you would succeed.... you get the picture. Trying to accomplish something will likely create an environment where these emotions described above can flourish.

None of what I just described is inaccurate about the process of “winning” at something either. All success at anything that requires work or effort is the same for everybody who ever goes down that path; you are going to meet with various levels of “successes” or “failures” along the way of trying to achieve something you set out to achieve. The process of becoming a success at something is the same for everybody and everybody will experience the same kinds of emotions at various levels of achievement while along that pathway. Once someone does something for the first time...they then can continue doing it again and again depending on how much “practice” duplicating that success requires. If they get really good at duplicating that success—they might be able to teach others how to acquire that skill and/or show you how to shorten your own learning curve a bit.

The important consideration in this thinking is that this is the real-world paradigm and it is completely accurate. It does not matter what it is that you or anyone would want to try and achieve. If someone else has done it—the potential exists for another person to do it too. Can that person be you personally? Sure—absolutely. Then again—maybe not; depending on variables we might or might not be able to control. For example, win a Nobel Prize in Chemistry. SOMEONE is going to win a Nobel Prize in Chemistry.... are you that person if you have NO BACKGROUND AT ALL in Chemistry? Probably not. But if you studied Chemistry your whole life and became a research Chemist, and then got involved with people trying to make a significant step forward in the use of Chemistry....MAYBE then it could be you. The point I am making is that for the most part—you can do anything with your life you want, and you have the potential to excel at anything you choose—if you are willing to work at it. Sometimes circumstances and variables help or hinder us; but in the long run—if we take the risks, we get some results. Maybe those results are what

we are looking for—maybe they aren’t. But that isn’t really that conclusive because all we have to do is take the results we actually get—study how they got that way—make some changes—and our results can improve along the lines we are seeking.

So, let’s talk about trading. People have become successful at trading. You want to become successful at trading too. But you have little background in the markets. In fact—none at all really, other than reading the stock tables in the newspaper or watching the market news channels on cable. Since other people have done it—you figure you should be able to do it too.

Assumption.

You don’t know what is required—so you better start learning. You decide to read a few market related books and maybe take a few courses on the markets.

Expectation.

You decide to pick a market and focus on what is required in that particular market. You decide on an “easy” market—something like Stock Indices or maybe the Grain Markets.

Misconception.

Do you see where I am going with this? The important consideration is that the process being described as the Potential Pathway for Success at Something is

what I have come to call The Real-World Paradigm. This paradigm is exactly what people use every day to begin and maintain the process of getting somewhere after deciding that where they are needs to change. The real-world paradigm is well-understood and highly documented. In fact, it is so well-defined and useful that it is never questioned by anyone. The only thing people do when using the real-world paradigm is trying to adapt it to the particular course of success they are trying to create. For the most part—it becomes a very helpful tool for anyone trying to get from “here” to “there” at something. And—no one ever questions it. That is the reason why losing traders lose. No one ever really questions this process of attempting to make something positive happen.

What is never considered or explored by most people attempting to learn how to trade is that the real-world paradigm might be incompatible with success in the markets. It might be possible that the environment for successful trading is something that requires its own paradigm to function under. It might be possible that trying to adapt what worked for you before in another field is a futile lesson in how to accelerate your losses when you trade.

What I find fascinating about asking those questions is how many people simply will not consider them to be valid questions in need of an answer. Most people will reject any dissection of the real-world paradigm. In fact, the real-world paradigm is so completely operative that many people will conclude that I am asking them to “give up” a very important part of “who they are” when I tell them they need to change their thinking in order to win. They don’t need to change anything about themselves to trade. They think that is just preposterous.

But that is exactly the case.

This is why people who are considered to be top in their field or people considered higher than highly successful will fail at trading. All of us can tell stories of people who have been at the height of their game and decided it was time to trade—and fail miserably. Lawyers, Doctors, Airline Pilots, Professional

Athletes, Movie Stars; all people making solid six-figures a year or significantly more, will open trading accounts and within 3-4 months lose all the money in those accounts. Nothing that made them successful in the real-world could help them in the trading world. But for some reason—they thought they would be successful at trading just like they were successful at other things. Why didn't that happen? Because the real-world paradigm is incompatible with the trading-world paradigm. If you fail to adapt—you will lose all your money. End of story. But they didn't see it that way coming in.

If you look at the underlying psychology behind the real-world paradigm, I think it bears mentioning that there is a certain unspoken issue regarding control to some degree. What is it that we are trying to accomplish when we do all those things we take from the real-world paradigm? AT THE CORE...what is this supposed to do for us?

Give us control.

Worse yet—give us an expectation of control. We are using all of our mental and emotional tools—the ones we have learned work for us from the real-world paradigm—and used them in the trading world for the express purpose of extending out a sense of control over our results. We believe that the more we study—the more we can control our results. The more we learn—the easier it is to control our results. For some reason, we cannot expose our money and our future into an environment that we have no control over. For example, we as businesspeople operate all day, every day, using contracts everywhere. You and I won't put our money into a bank unless it is a “safe” bank...meaning it abides by the contractual agreement of what it will do with a deposit—and nothing more. Although we don't really have control over what the bank actually does with our money, we believe that the bank will abide by the agreement anyway and so we gladly deposit our paychecks every week. In fact, what we are doing is placing a belief structure into an action resulting in an emotion. Why do we do that? Because we believe we need a place to keep our money “safe” other than in a jar on the table or under our mattress; which we have complete control over. Banks

offer a lot of daily benefits if we continue to use them. We are in control; as long as everybody follows the agreement.

But you really aren't in control. Banks fail every day. Money is embezzled from banks every day. People working at banks make errors every day. The services banks offer can change; and costs go up all the time. Regulations change; and banks can't serve certain kinds of accounts anymore. All sorts of things can go wrong and basically—we all just hope it doesn't happen to our bank or show up in our accounts. We think we have control, but we aren't really in control...

In the trading environment, all of the thinking and creating of belief structures will result in an emotion being charged. It's only after we take some action that all this thinking boils down to "taking less risk" Most losing traders believe they can "reduce the risk" in the trading environment by actively "doing something" that seems to satisfy their sense of hope, reduce their fear of loss, or maybe a combination of the two to some degree. For example, most losing traders are very effective and highly motivated chart-makers. They seem to believe that all of what is going on inside the markets can be reduced down to lines, dots, ratios, and formulas all placed on a map of an OPEN-HIGH-LOW-CLOSE price chart. They believe that drawing these charts (either by hand or by using a computerized charting software) they can "reduce the risk" in the markets substantially, and therefore make very accurate price points to buy or sell. In other words, charting gives them a strong sense of control over what is happening in order to improve their trading and "reduce their risk". Who wouldn't want that? Doesn't that sound just like a successful individual at work?

But you can't reduce the risk in the markets. All the charting ability in existence cannot change the fact that when all your "doing something" tells you it is time to BUY the market—you could be wrong and have an open-trade loss at any moment. You cannot reduce that risk because price is determined by only one reason: how orders are placed in the market. If at THIS EXACT MOMENT 200 buy orders come into the market AT THE EXACT SAME TIME as 100 sell orders, the market will match 100 buy orders against 100 sell orders and then

price will move higher looking for more sell orders to fill the remaining left-over buy orders. If the opposite has occurred, the market will tic lower looking for more buy orders.

That is what creates price action—orders coming into the markets in an uneven fashion getting filled first and then looking for more orders. If no orders come in—the market “sits” there....if 100 times more buy orders come in against existing sell orders...the market “rallies” really fast...if a constant level of buy orders are larger than a constant level of sell orders...the market “trends” higher...all the price action you see all day—every day—are just orders coming in and being matched with other orders. Whatever orders are left over causes price to tic in one direction until more orders are matched. How are you going to “chart” that activity at any time with any degree of “control” enough to “reduce risk” when you have no idea what size orders will be placed or when they will be placed? You might as well be gazing into a crystal ball...

In my other books I go into much deeper detail regarding the structure of the markets and how zero-sum transactions are managed inside the marketplace. I would suggest you review that information completely if you can because it will clarify a lot of thinking that most losing traders have about “analyzing” price; which in the markets is all about “reducing the risk”, which is all about extending control into a place you perceive you have no control over. Until you fully understand the zero-sum marketplace, just try to accept the fact that all of what you have been taught or currently believe about analyzing price in order to “reduce the risk” is really just an illusion. One of the reasons losing traders lose is because they really believe that studying the markets will help them “reduce the risk” enough to find more winning trades than losing trades.

Moving on to more losing trader behavior; let’s discuss “waiting for confirmation” many losing traders have taken courses taught by supposed “experts”; people who hold themselves out to the public as qualified coaches for trading. They portend with great enthusiasm that their knowledge passed on to you will help you “reduce the risk”—and they prove that to you by showing you

reams of data from their own trading. That data most likely shows a profit because what person looking to reduce risk would take advice from someone who apparently can't make money from his/her own trading?

When dealing with one of these supposed "experts" The typical "winning trade" goes something like this: "My system gave me a signal to BUY the market at XXX price...to reduce the risk, I first waited until the market was rising to confirm that the signal was accurate. I then entered the market a short time after confirmation at YYY price. ...then liquidated at ZZZ price later for a profit of \$\$\$ amount"

Interesting word isn't it? CONFIRM. What images or emotions does that word generate? A feeling of safety, a feeling of certainty. When put inside the context of "reducing the risk", and now that "reducing the risk" is confirmed.... why, then it is apparent that the certainty of making money is really good, doesn't it? Because most losing traders are afraid of losing money—they want to avoid that at all costs—then the more confirmation a trade will work, the better. In fact, once confirmation reaches a certain point inside the loser's head—the trade now becomes "a sure thing"; but in fairness to the losing traders out there—they don't use the words "a sure thing" They use words like "high probability", "strong favorable price action", "highly accurate", or some other hyperbole but it really means the same thing; the losing trader is so convinced that the trade will work he finally decides to buy that rising market. He/she has "reduced the risk" all the way to the point the trade is now a "sure thing" by waiting until it was a "sure thing" What happens next? Most of you who have gone through this process already know. Usually within as short a time as a minute or two after this trade is executed, the market will trade lower. The losing trader fixates on this and becomes confused; "How can this trade be losing? It was confirmed" Because the "sure thing" isn't happening now, the trader feels like he is losing control of the situation and/or doesn't know what to do next. Some traders immediately execute for a small loss, some "freeze" and literally just stare as their money goes away, some wait and begin silently "hoping" that the trade will at least return to even so they can get out without losing any money; and some poor souls just keep hoping until they are on a margin call or closed out after going debit in their account. Happens every day, sorry to say.

Here's where the losing behavior gets even worse. If this trade worked from the moment of execution, then the trader believes he did everything RIGHT and can now count on this working all the time. Losing traders get really excited about "confirmation" because they have found some sort of "certainty" about participating. All they have to do is "wait for this to work" and the money will roll in.

Waiting for confirmation cannot possibly help a trader develop a winning approach because all that it really does is re-enforce a belief structure inside the mind of the trader built on assumptions plus the false belief that you can somehow "reduce the risk" on a trade. When "confirmation" doesn't work—it creates the very environment that TAKES AWAY any feeling of "control", making the situation worse for the trader. If "waiting for confirmation" does work, it creates a false sense of control or confidence. Then when it doesn't work (which is only a matter of time) it ADDS to the confusion most traders are trying to avoid. Why are we doing all this studying and confirmation for? To reduce the risk...but that isn't happening. I can't count on that. So now what??!!

I won't go into the issue of buying lows and selling highs (which is what all this mental gymnastics is really trying to do) because the losing traders all use the same argument to avoid buying lows or selling highs: "How do you know that is the actual high/low? You can't know that until it is confirmed" In other words, "Because we can't know something in advance—we can't reduce the risk enough to get involved"....which is just circular reasoning anyway....I always answer by saying—"If you can't trust the signal to be accurate UNTIL AFTER the market moves your way—then the signal is just a guess anyway, isn't it?"

I don't want to get too far off the subject, but do you know what really amazes me? There are THOUSANDS AND THOUSANDS of "systems developers" out there; which is just a fancy name for "chartist trying to reduce risk and gain control". Some of these people are really proud and excited to tell you that they

have something like a 41% winning trade rate. Or worse. Do you know what is really interesting? Flipping a coin consistently will actually provide you a 48-52% winning trade rate. Since charting in all its many forms and incarnations cannot reduce risk in the first place and many of the “systems” are less successful than chance, why not just skip the whole B.S. “studying the markets” argument and go right to exploiting chance? Think this through: “If all your charting/analysis/technology produces a result worse than chance—why make the investment in it?” There are better odds at a casino you fruitcake...

It doesn't matter what market you trade, but let's pick one. Let's say you have a love affair with the European common currency; the EURO. So, let's go to work: if you flipped a coin every trading day at 10:00 AM, and if the flip was heads you went long; but if the flip was tails you went short. According to the mathematics of probabilities and chance, you would have a winning trade on roughly 48 to 52 times out of 100 flips (you won't get exactly 50/50 heads-to-tails ratio due to the entropy of time but that comes out as the variance seen between 48-52). Now let's suppose you were smart enough to hold your winners and cut your losses...and say you took a 2% gain out of the market on each of your winning trades for every 1% in equity you risk on your losing trades. You know where you would be every 100 trades? Your equity would increase by roughly 45% every 100 trades. Here's the math:  $48 \times 2 = 96 - 52 = 44\%$  There are a SOLID 220 trading days every year (Not including holidays, weekends and vacations). That would equate to roughly a 100% gain a year on equity. To add insult to injury—I know people who do this. I am not kidding. They flip a coin to establish their positions and they just hold on when they have a winner; otherwise they are out at a pre-determined loss-level all the time. As long as they do the exact same thing, exactly the same way, all the time, they are using a “system” Yes, this is an unorthodox system by market standards; but a system, nonetheless. In fact, it is so easy compared to everything else I have seen, I considered doing it myself; but I don't do it because I can create significantly MORE THAN a 100% a year growth due to the knowledge ABOUT how the markets trade. Markets aren't random and I know how to exploit the losing trader; which is a significant advantage beyond chance. We will discuss all that later in great detail I promise you.

Getting back to losing traders and their behavior. It is really important that you understand the problem for them. They are already doing everything they can to become winners—they just don't see that what they are doing is coming from inside a point of view that isn't accurate about the markets. They are using the real-world paradigm. They are using it just like they are supposed to if they were dealing with a real-world issue. This is why it is so confusing and difficult for most people to develop into winning traders. Most people run out of money BEFORE they come to understand this issue for themselves. If you personally are a losing trader at this moment you are at a crisis point. Here's why: either this material is beginning to resonate with you positively.... or something else... and right now—if you are honest—you probably are feeling some sort of negative emotion about me or this material. You are probably angry at this point of view because it goes against everything you perceive is "true" or "accurate" about the markets. Many losing traders simply cannot accept the possibility they have been outright lied to by "professionals" they trusted, or that they have been sold "a bill of goods" by people claiming to have "answers" for them. Many losing traders have years of emotional investment in addition to tens-of-thousands of dollars in cash investment in market education/training, etc.; not to mention the cash lost by trading. Maybe you are thinking something like this:

"What a crock of (@#^\*&...this guy is nuts"

"All those quants out there can't be wrong; those people are computer geniuses—they must know something"

"Make 100% or more a year?! That's B.S.; If you could, I would know someone who does it."

"Larry Williams has been trading forever—his info is more accurate than this mumbo-jumbo"

"Waiting for confirmation has saved me lots of losing trades. It works"

"I don't wait for confirmation, my charting is better than most peoples' anyway, I don't need

any help from any this psychology crap”

“If you are so smart—how come you still have so many losing trades?”

“Sounds to me you have an axe to grind; you hate it when people don’t buy your material”

If the truth were told I have only just begun to scratch the surface of how deep your illusions, misconceptions, excuses, assumptions, justifications, etc., etc., really go. Some of the material we will cover can be really enlightening but also very confronting. That’s why I suggested earlier that you begin preparing yourself for the possibility that you will find yourself emotionally agitated over something we discuss. That is part of the real-world paradigm as well. Nobody likes being confronted or challenged. In fact—the stronger your personality the harder it is to hear: “You are dead wrong and that is why you are losing money” Try telling that to someone who is a self-made millionaire at 35 years old...that person isn’t listening to you or anyone. No need to quite frankly; obviously that person’s paradigm is working just fine. Until they step into a world, they know nothing about. Is that person ready to hear things that no one tells them now?

Again, getting back to how a losing trader thinks, there are a few more behaviors I would like to discuss. I feel that the more complete your understanding of losing behavior the easier it will become to make the paradigm shift you personally need to make. The fact that we spend less time on these remaining behavior-constants does not mean they are less important or less valuable to decoding your own behavior. It is a critical factor for the evolution from losing trader to winning trader to include some flexibility and creativity. Sometimes all you need to do is fix one small something, but you never saw that small something in context before. You need to see that all of the “things” we have defined as emotions are all connected and included in each other. It is very helpful to break things down into their component parts before reassembling them into a functioning machine operating with a defined purpose. I think we all could agree that there are many parts to a clock. But when it is taken apart, we wouldn’t recognize some of those parts at all; we probably wouldn’t see them as important to the function of a timepiece. But when all those little pieces are put

back together into the places they are designed to go, you now have a functioning solution for your need to measure the hours as they go by. Sometimes seeing the solution without understanding how it is a solution confuses the issue even further. So, although we don't spend a lot of time on these particular issues—they are all related to the bigger problem: the emotional need to gain control. Try to see this in the context of how a losing trader loses.

## Misconceptions/Illusions

Losing traders have their heads full of misconceptions/illusions about almost everything relating to the markets. These are illusions because they are assumptions about things that aren't readily apparent until examined from a different point of view. The most common illusion is the belief that price action is completely explainable and if anything happens to price that doesn't exactly fit with the preconception a trader holds already—then that is also explainable. Losing traders feel a need to explain losses and they need to explain "why" something happened the way it did. The reason they need to explain price action and answer the question "why" something happened the way it did, is because they can't accept a world where things don't go as planned. We need to have an environment that is under control. Someone has to have answers. Someone needs to be in charge or have answers for all of us.

For example, everybody really believes that news drives the market pricing. That is why there are business news cable channels. They say this because most of the time the price of a given market will make dramatic moves around major news events, sometimes completely reversing "without warning" (again, something not going according to a plan somewhere). The illusion is that a loss under such circumstances is completely explainable and outside the control of the trader—otherwise the trader wouldn't have had the loss. It happened because the "unexpected" came from XXXX source and if they would have known that was coming, obviously, they would have been on the other side of that trade; or out of the market until "things settle down" enough to make a new plan that includes that new information. This particular illusion sounds like this: "I was on a solid

winner until that jackass at the European Central Bank started blabbing about interest rates. If I would have known he was going to “talk up rates” I never would have been on that side—market always go the other way under those conditions—we know that. That loss isn’t my fault” Sometimes the trader will go so far as to suspect that someone somewhere knew that was going to happen and was on the right side ahead of time, those dirty conspirators. The additional verbiage sounds like this: “Somebody leaked the news to someone. The pros obviously were short coming into the news; they knew he was going to talk up rates; those bastards took my money—I should have won on that one; but what can you do?”

The markets don’t move because of the news. The markets move because of what people believe the news will do to them personally; therefore, they take some sort of action to place orders. They do something to either take advantage of what they perceive is an advantage, or to protect themselves from a disadvantage. Because everybody playing is doing the same thing at the same time—it only appears that the news had anything to do with it. You see the news come out and then –almost instantly—every trader in the globe watching that news concludes that it will either HELP his position or HURT his position; and then enters an order. In this case, the flood of sell-side orders overwhelms the buy-side orders and the price drops very quickly. Inside the head of the losing trader it plays out like this: “The news comes out, the price drops, therefore the bearish news drove the market lower. I was expecting bullish news and that would have happened, but instead I have a loss- so it is so-and-so’s fault.” Also, because the problem of shared data exists, there are always traders who watched the exact same thing happen and saw the exact same news come out, but concluded the event was “bullish” Their reaction becomes “Why did the market drop on bullish news? Something is wrong. Maybe someone is manipulating the market! I should stay out until things settle down” They form a conclusion that satisfies their need for all price action to have a definition that offers a sense of control about what this all means to them. Everything has to have an explanation; because we can’t have all this activity being just some random event we can’t predict and no one understands.

There are probably thousands of illusions we could fill hundreds of pages

discussing if we wanted to. This is only one, but it touches on so many others that we should at least discuss a few more. Misconceptions/Illusions are manifested in a traders' thinking by the use of certain words during the assumptive process of evaluating a market price potential. These are: "Should", "Shouldn't", "Would", "Wouldn't", "Must", or "Can't"

For example—if a market moves to a particular price level—that is what "should" happen and therefore, the analysis done to create that predictive knowledge is validated. The Illusion is then more fully believed. In the losing traders thinking it runs similar to this: "The price was at the two-year low and all the news is very bearish—if price breaks below XXX—then it should go to YYY very quickly" If at this point the market trades lower, and then drops farther, the trader becomes absolutely convinced that his analysis is "correct" and so he will participate by going short as soon as the trade is "confirmed" for him. The opposite also occurs in the thinking process: "The price shouldn't go any farther..." "The price can't do this-or-that" "If S/R is broken the price must do XXX" Misconceptions and Illusions are often disclosed by using the words; "Should", "Shouldn't", "Would", "Wouldn't", "Must", or "Can't" when describing the relationship between prices or the expectations adhered to after doing some sort of analysis or study to help "reduce the risk" somehow.

## Expectations

This thinking is especially dangerous to the trader because once an expectation is held in the

mind—very little other data will be absorbed. Expectations result in the trader putting confidence in something that he is not completely understanding. For example—the purchase of a "new" trading system that predicts a significant gain over time. The expectation is for a lot of money to be made very easily and that profit (that is sure to come) justifies the price paid. Additionally, the "reason" the trader decided on this particular trading system is because the available data to "confirm" the viability of the system was also at or beyond the expectation level of the trader. By that I mean, the trader has done what he feels is independent

“research” of some kind comparing various systems over time. This particular system has a “Beta” that the trader thinks is “really good”, the “Sharpe Ratio” is within acceptable parameters and better than most he has seen; things of this sort. The most common expectation vocalized by most losing traders is the issue of “Back-Testing” to verify system potential. If a system has been properly “Back-Tested” then the expectation for gains are even more certain in the mind of the trader.

When the trader begins using this system and the system begins losing—the expectation is under threat enough for the trader to stop using it until he gets “answers” for this loss. After the trader spends enough time with the system developer often times the system needs a fresh upgrade and/or testing before gains can be expected. Now the potential gains vs. losses ratio becomes “skewed” in some fashion because the trader should have been using it during the “downtime”. Therefore the results are not typical of the system and it will need more time to get back on track. At some point the system simply doesn’t perform and the trader fully believes everything that could have been done WAS done to avoid losses. Perhaps the trader ran out of money before the system could work. In any case—the expectation was so strong that the system would work, and so much effort went into the expectation of better results, PLUS the “we were so close this time” thinking, the trader becomes more fully convinced in this strategy and continues looking for a new system to try.

Expectations can create bias. For example, if a trader is expecting a price rise, he will do his analysis looking for clues that support a bullish view and tend to ignore data that suggests a price fall is more likely. We will discuss more about expectations under “Cultural Myth & Self Sabotage”

### Exceptions/Excuses/Blame

The basic issue at risk for the trader with these problems is the lack of personal responsibility. We all know people who won’t take responsibility for themselves

under certain conditions. They continuously create problems for themselves and those around them until they can't excuse themselves out of the issues anymore. I personally have a friend who has been married and divorced four times. He has been married to some really nice women. But there were problems and the bottom line was: He blamed "her" for the problems. When I said to him: "You have been divorced four times, don't you think the problem might be you somewhere?" he got furious with me for "taking that bitches side" In the markets the traders with losses who blame something other than themselves for those losses are the problem. Losses don't come from "the news", "the reports", the comments made by so-and-so, the charts, the analysis, etc. Nothing but trading creates losses. If you decided to BUY the market—it doesn't matter WHY—YOU decided to buy, and the market went against you—YOU are the problem. No one twisted your arm to do the trade—you voluntarily and with complete expectation of profit put yourself in harm's way and you are the only person responsible for your loss. Your thinking created the loss and your belief/expectation created the reason for the loss to happen.

Exceptions or excuses are no different. It is still placing the reason for losses someplace other than into your own two hands. There really isn't anything to discuss further on the matter. People who make excuses, people who make exceptions and those placing blame are all doing the same thing. They are saying: "I am not responsible" That might be true in the real-world; such as your car getting wrecked by someone who borrowed it without your knowledge. I don't think anyone would expect you to pay for the damages yourself. You could make a really strong case that the person who borrowed your car without your knowledge is really guilty of theft in addition to the responsibility of the repairs needed. But in the trading arena the trader is responsible for losses. And that is that. Please don't be the trader who constantly tries to create exceptions, excuse losses, or place blame for losses on something "outside" of himself.

As you can see—all of these various methods of thinking are interrelated and often involve more than one kind of thinking operating at the same time. The end result is virtually no potential for a trader to make consistent gains because his thinking will most likely lead to placing trades for reasons that have little or nothing to do with actual price potential. Things like; "waiting for

confirmation”, “advanced analysis”, “waiting for the news first”, etc. are all attempts to “reduce the risk” based on assumptions, illusions, misconceptions, etc. in the first place.

All of these critical loser-thinking processes are the same for anyone facing a failure in any area of his/her life. Our external reality is what it is for us largely due to how we structure our internal world (our thinking). To excel at anything, we MUST change and adapt our thinking to the requirements of that success. This is why trading is so difficult for most losing traders; they either don't know they must change their thinking to succeed—or simply refuse to believe they need to. They continue to lose while all the time getting ever-more market knowledge when in fact—the real problem is WITHIN THEM.

### **Your key takeaway from this chapter:**

Losing traders think a certain way and they are dominated by an overwhelming need for a sense of control, a sense of certainty; which they believe is “reducing the risk” This sense of certainty and need for control comes from the real-world paradigm. Losing traders do not know they have this relationship active in their thinking and are unaware of their need to change their thinking away from the real-world paradigm into something else. Losing traders are unaware that the limitations of their own thinking as being the true issue preventing them from winning.

## **Opening the Door to a Different Future**

***“I cannot say whether things will get better if we change; what I can say is they must change if they are to get better.”***

***--Georg Christoph Lichtenberg***

In my view, you are never going to reach your full potential at trading without making a few changes. I think you would agree with me. The really big question is: “Which changes to make?” Obviously, some changes will be better than others and some changes won’t help at all. How can we know which changes to make? Again, in my view, answering the question “Which changes to make?” shows exactly where the problem lies for most people. This is the kind of question that comes from your existing paradigm for problem-solving. It is a great question to ask, and in 99% of most cases, will lead you to rapid progress in the direction of the goals you have set. Why am I suggesting that even as good as this potential problem-solving process appears to be it won’t help the trader?

Because making changes isn’t really the issue. We all know that has to happen.

It’s the kind of change that is at issue. And the kind of change you need to make you aren’t even aware of; otherwise you would have already made it and your success would be on its way. I say “You already would have made it” because that is the truest statement you can make about a trader who wants to win. They are already ready & willing to make any change that will move them forward. They are already trying lots of ways to change at this moment. The very fact that they aren’t reaching their expectations is the best clue that they aren’t making the changes that will make the difference, and they know it. As I have already

mentioned, part of the problem is the expectation for a particular change. What happens when the particular change you expect to have can't help you? But you think it will?

One of the conditions for being a fanatic about something is how a fanatic behaves. It really isn't their fanaticism about something that could be considered "off" but it is their behavior that shows their thinking has an error in it. You really can't tell someone is a fanatic in their thinking until they do something to demonstrate how they think. You can look at their behavior and conclude that their thinking going on inside their head—at least for that short period of time—has a serious problem. The longer they continue to think that way, the more frequent their behavior will become. As long as the thinking isn't changing—the behavior won't change either. Eventually, this person will become an "expert" at whatever it is they are fanatical about. They will spend an exorbitant amount of time refining what they believe in minute detail. They will attempt to convert you to their method of thinking/behavior. They will be able to show you huge amounts of information and data supporting their point of view. They will vehemently reject anything that contradicts or questions their point of view. Eventually, they will become violent in protecting what they believe including physical violence against total strangers suspected of not agreeing with them. Part of fanaticism is an expectation that all this effort in the direction of the fanatic's belief will eventually create a change that will "prove" or "validate" the fanatical belief on a grand scale; at least to the individual.

The fact that the change the fanatic expects never happens, people resist the change, people have really good arguments against the change, in all of history a change like what is expected has never happened before to anyone, the change itself is physically impossible, or any other way of demonstrating what this fanatic believes is simply not credible; that part is never seen by the fanatic. It doesn't matter what the opposing evidence is—the fanatic is never going to consider it.

The expectation that all this effort will result in "progress" toward the change is

the problem. In fact, one of the ways you know that the fanatic is never going to consider anything else but their existing thinking is when they use the words: “It’s different this time” or “Yet” Take whatever crazy belief you want and confront it by saying: “That will never work” and the fanatic will answer back: “It hasn’t worked yet, we have further to go” My favorite response from a fanatical believer in something is: “Well, it’s different this time; what we need to do is return to the core values...” or something that avoids the actual discussion of how screwy the idea is while at the same time making an excuse for the non-performance of the fanatical belief.

What does this have to do with trading you are probably asking?

Various levels of fanaticism exist all around us. Fanatical beliefs exist everywhere inside the markets too. I personally believe one compelling reason so many losing traders remain the way they are is because they have a particular fanatical belief at a certain level. They really believe that they can “study” enough about the markets and eventually find/buy/create some sort of a winning “system” that exploits price action for a profit. They possess a fanatical belief about it. No matter how much evidence is presented to them that it is simply not possible to predict price action with any degree of consistency—they will absolutely remain steadfast in their belief that they just haven’t found the answer “yet”. Or that somehow “it is different this time” If you confront them with evidence that they are WAY off track they will usually respond with anger and change the subject to how you personally don’t know anything about trading.

It is important for you the reader to remember I am not “bashing” analysis or market study. What I am hoping to communicate to you is that it is the KIND of market study you are doing that makes a difference. You don’t know the kind of study to make—otherwise you would already be doing it for consistent profit. You haven’t considered the real change you need to make, and you might already be inside a fanatical belief to a certain level without even knowing it.

If you are like a lot of losing traders, you have been “studying” the markets for years. You attend countless events (webinars, chat rooms, local meetups, trade shows and the like), take all sorts of courses, read books, evaluate systems, etc., ad nauseum. You are still losing money but you believe all of this effort will payoff soon; it just hasn’t worked “yet” One of the reasons you continue to feel this way is because you hear constantly about other traders making lots of money with whatever it is they are doing. It hasn’t occurred to you that they could be outright lying because they provide so much supporting documentation; things like “Back-Testing” or “Comparative Non-Correlated Analysis” (What is THAT?) It also hasn’t occurred to you that perhaps the documentation might be fabricated; or created in some way that won’t hold up under deeper scrutiny. In a later chapter I will show you how to lie using statistics...fun stuff.

If you look very closely at the previous paragraph you will see that underlying all the hyperbole is the very sincere expectation that all of this will work toward your advantage. But the fact still remains that around 85% of traders with an open account right now are losing and will close that account for a net-loss sooner or later. If all the market study you could do really worked for people—then that ratio would be the other way around. But the ratio of winners to losers has been the same for well over 150 years; around 85% lose and less than 15% are ever significant or lasting winners. That is statistical fact and that information is not my opinion. Go look it up yourself if you doubt what I say here.

Your study of the exact same thing everyone else is studying is not going to help you. Ever. It’s not different this time. There is no “advanced” level you have “yet” to reach. You are trapped inside some level of fanatical belief holding on to an expectation that you are going to eventually figure out how to win at a game that almost 9-out-of-10 people lose at believing the same thing you do.

It’s time to make a change. What is the change you need to make?

I can answer that question, but the better question is: “Will YOU accept the answer?”

Remember, I have been trading for over 35 years and I have invested a good portion of those years to educating other traders. This book—cover to cover—continues the bulk of what I teach people when I coach them personally. For every student I eventually accepted I probably spoke to a hundred or more individuals. Every single one of them had the same issues, all of them believed they could chart their way to profits, all of them were confronted on the same problems. Only a handful ever had the courage to accept that the problem was theirs to resolve. Only a handful accepted that the problem was inside their own head. Most of them initially got excited for the possibility of making a paradigm shift; and most saw the benefit to a fresh perspective on themselves and the markets. But of those handful of traders who took that step—most of those would not stay the course and do the actual work. People ask me all the time: “Why did you quit teaching/training other traders?” My answer is really simple: “It took a lot of time and money to find qualified students. Most people would rather fail at trading than do the work needed to win. It’s a waste of time to teach people who deep inside really don’t want to learn”

So, if that’s you—stop reading right now and go watch TV.

But if you want to do the work needed to win—then we are going to take the first step on creating your new paradigm right now. This is how you open a new door to a different future.

### **Thinking in Probabilities versus Thinking in Certainties**

In the chapter How losing Traders Think I touched on one of the losing

behaviors common to most traders: the issue of “waiting for confirmation” Waiting for confirmation is really an admission that you really don’t know if your “Get me in!” signal is any good—it has to be “confirmed” first before you can do anything. But deeper down from that convoluted thinking is the real issue as far as I can see. The real problem is you “Want to be sure” before doing anything. You need a sense of certainty before you can take any risk for yourself. You need to “know” what is happening before you can try for a profit. If you put these exact emotions into a negative frame of reference, you are likely “afraid” of losing money, you don’t want to be “wrong”, or you need to have “hope” that something will work before you can put yourself at risk. Of course, you justify your behavior (another losing behavior) by saying: “It’s irresponsible to lose money without knowing your risk”; rather than admitting to yourself: “It’s irresponsible to assume an 85% chance against you”

Now, the important thing to remember is that this waiting for confirmation issue isn’t the only thing that points to the need for certainty. I would have to say that close to 100% of everything traders use as tools, or rules they use to participate, or the systems they buy/create; all boil down to giving the trader a sense of certainty that once that trade is executed they are going to win. Again, the losing trader will admit that he isn’t going to win on every trade—that wouldn’t be reasonable to expect—but the losing trader has done EVERYTHING they could to “reduce the risk” so if this trade doesn’t work—that’s OK; they will go back to the charts/analysis/news/etc., and find out “what they missed” so they can get better at “reducing the risk” Just the extra study alone helps them feel like they are in control over their results to some extent and increases their sense of certainty.

The sense of certainty is what prevents traders from finding the best places to buy/sell for an entry because a sense of certainty can’t exist without documentation of some kind. That means information must be compiled and sourced, organized and indexed, and/or verified and you can’t do that without gathering the information, comparing it to something, then confirming that the information is accurate; all of which means some sort of time is involved and prices will move in the meantime. The thinking is something like this: “I can’t just jump in and buy/sell that price—it could move against me, so I need to

know if I have a really good chance to make money before I do anything. So, we have to make sure that this price level is the right level to be too high/low” And of course, by the time this process goes on between the thinking of the trader and the “stuff” that must be considered (all the data/rules/charts/info/blah-blah-blah) it is certain the market will have moved in price—leaving the best point to buy/sell in the past. It’s always going to be in the past anyway; we can’t take the trade when it is there NOW—because it isn’t confirmed yet.

If instead the trader was operating from a different paradigm, he/she wouldn’t need a sense of certainty before executing for an entry. The trader would only need to know the probability that price action would eventually go favorably after the entry.

At this point—I want you to leave behind the “how” on determining probabilities. I am not asking you to learn how to measure or create probabilities in the markets. What I want you to consider is the huge difference in how you would behave if you switched your thinking from “needing to be certain” to something more like “This could be a great place to try for an entry” Moving your thinking from “For sure” before I do something to “Maybe” this is the best place to enter. In effect, Changing your paradigm from Certainties to Probabilities...

Look at the difference in how you would need or use information. Instead of considering reams and reams of data, instead of compiling tons of information, instead of spending hours in front of the screen watching price action to determine what all this means; instead of all this losing behavior (and thinking) you instead said something more like “If I make money great—if I don’t that is OK too. But this looks like a great place to get in and try”

Remember when we discussed flipping a coin? And that the probabilities of heads or tails was something a bit more/less than 50/50? Ask yourself a factual question and then ask yourself the next probability. For example, how often does

a market make a 12-year-high? I would hazard to guess it would be once in a 12-year-period-of-time. So, what are the probabilities that a market would be BELOW a 12-year-high at some point in the future? I would say that they are close to 100% for most of the next 12-year period of time; depending on how you measure it. So—if a market scored a 12-year-high TODAY.... what is the probability the market would be lower by NEXT YEAR? I would say they could be very good; maybe close to 100% probability the price will be lower. Couldn't you short that market with a high degree of probability that one year from now—you would have a profit of some amount?

SO—why don't people do that? Well, some of them do. But most of them won't. First, waiting a year for them to profit is "too long" for some reason. Even a gain of hundreds of percent. Second, because no one knows if the market will continue higher to make a 13 year high or more—it is "too risky"...UNLESS... the data/facts/analysis/etc. suggest otherwise; but we have to wait for confirmation first before we can know if this 12-year-high will hold. The need for certainty forces us to miss the best place to sell that market.

In fact, most traders won't even look at the short side of a market in this condition. They will still be long or looking to get long because by this point there will be a **HUGE** amount of bullish data/charting/analysis/information/reports/etc., suggesting that this 12-year-high is only a stepping stone to an attempt at a 13-year-high or higher; because reaching this 12-year-high AFTER trading at the 11-year-high CONFIRMS that this market is bullish! When in reality, the need for certainty increases our potential for losses from the same probabilities. Think about it; despite all this **HUGE** bullish argument, all this "confirmation", all this analysis; the bottom line is that the market has spent more time below these price levels than above it. Continuing to remain long is really a low probability trade.

Do you see what I am getting at?

It's all opinion anyway, but the prevailing data is all being created in one direction because people "need to know with certainty" what is going to happen and the more data we can acquire or create that provides a sense of certainty the better. But the fact is, the probability of the market being lower next year is almost 100% if you look historically at what prices have traded in that market. One year out of 12 is about 8.3% of 12 years. If the market has spent 91.7% of its time BELOW the high prices paid for less than one year, then I would suspect there is a 91.7% chance at having a profit within one year by selling that market at the 12 -year-high. There is no certainty that the market will trade lower...but the odds are really good that it will at some point. Most traders will ignore or not even consider this simple probability because EVERYTHING they consider part of the tool-set that leads to an overwhelming sense of certainty is BETTER than a "just a guess"; especially if all the data has been CONFIRMED already by industry gurus/charts/TV shows/etc.

How far down does this rabbit hole go? Let me offer you a quote:

"Besides, 'guessing' is irresponsible. Why 'guess' at what the market will do? Especially since we have hundreds of different tools and mega-flops of data to confirm what the market will do moving forward. Don't forget—we have hundreds of pages of government data, billions of Gigabytes of processing power and state-of-the-art Artificial Intelligence software to show us where the markets will trade. Obviously, YOU can't handle all this technology and progress. Oh sure, you claim to make hundreds-of-percent a year on your equity without all of these extra advantages, but we all know you are cheating or lying. You're just an A@#&%\$\* Mr. Jankovsky"

(Paraphrased from an actual conversation I had with J%\$# B\$%#@&%\$ at the New York Trader's Expo one year...Don't think for a minute that those people are really on your side).

The first step in creating a winning trade paradigm is to switch your thinking

from a need for certainty to one that thinks in terms of probability. We all give lip-service to the fact that there are no certainties in the markets—yet most of us continually behave as if we are seeking a sense of certainty. Maybe we are all confused because we call this need to find certainty something else—we call it “reducing the risk” We all behave this way because we think we are reducing our risk; but that is an illusion.

As I have mentioned before—you can’t reduce the risk any more than it is now. All the analysis and charting, use of technology and software will NEVER reduce the risk you have now. You can’t know with any degree of certainty what the market will do next. The risk in the markets is ALWAYS the same, every moment of every day: If you buy/sell for an entry, you could be wrong about where the price will go next. That’s the bottom line. That risk will never change, and you can’t reduce it by looking into all those different-colored crystal balls you think will make a difference somehow. “Confirmation” is an illusion as well, you can’t use “confirmation” to help “reduce the risk” either.

Thinking in certainties increases the potential to execute in places where the price has a higher potential to go against you. Thinking in probabilities allows you to take advantage of price points that have a higher potential to go in your favor. Seeking certainty reduces opportunity. Seeking probabilities increases potential.

To finish out this chapter, I want you to consider if you have a need for certainty when you participate. You have to be brutally honest with yourself. Get really clear, get absolutely white-hot with the heat and confront yourself from toes to forehead:

- “Am I looking for any level of certainty about my execution?”
- “What do I expect my analysis to do for me?”

- “Do I think I am reducing risk by my study?”

There are all kinds of questions you could ask yourself about your need for certainty. Take some time and evaluate your level of certainty. Replacing your level of certainty with an open-ended paradigm that focuses only on probability will take some time; and that is OK. Learning to win at trading is really a journey more so than a destination.

Opening the door to a different future is about accepting the possibility that you need to alter this fundamentally basic part of yourself and how you approach your actions. Up until now, you have accepted the real-world paradigm as accurate for your needs as a trader. Maybe now you are beginning to see that a fresh perspective will really accelerate your progress. Maybe you can accept that what you really need to improve your trading is something that initially you didn't see as important or valuable.

If creating a winning trade paradigm is still your goal—finding out how much of your trader thinking/behavior is centered around a need for certainty is the first step. Once you have discovered your personal starting point you can begin, with total confidence, on the work you need to do creating your probability paradigm. It will take some time so please don't get discouraged. Never get frustrated with how long something of value will take to accomplish; the time will pass anyway. Perseverance is often the only skill you need to have on the pathway to success; just keep working on yourself every day.

### **Your key takeaway from this chapter:**

You need to change your thinking from a need for certainty to the openness of probabilities. Your real-world paradigm has a need for certainty built in—and

that is just fine for the real world. But this often leads to losses in the markets. A winning trading paradigm operates from a sense of probabilities first.

## **Part II**

### **Global Constructs Common to All Trading Participants**

## Introduction to Part II

***“Sometimes there is no next time, no second chance, no time out. Sometimes it is now or never. Don’t play to win—play so hard that the other team quits in embarrassment to even be on the same field with a champion like you...”***

--Attributed to **Vince Lombardi**

We are going to cover a lot of interesting ground through the chapters of this section. I feel that if I set the stage properly in Part I for you, most of this material will be both challenging and exciting to absorb. Our goal is to provide you with the tools you need to create and exploit a winning trading paradigm. Part of what is exciting in this process for me is the foreknowledge of already knowing a few things that are related to your best interests. One of which is the issue of control. Right now, the issue of having control is inside the context of the wrong things. Once we put “control” inside the issue of the right things—it becomes a sense of power. Nothing feels as good or feels so right as knowing with absolute certainty that the markets cannot hurt you in any way ever again. There is no battle to fight in order to win. There is only the kingdom to rule in order to profit. I mean this with all my heart—once you fully absorb this material and complete the work—you can expect to be a net winning trader for the rest of your life. If that isn’t your goal, what’s the point? This isn’t about “adding” something to your existing skill set, it’s not about getting better at “Technical Analysis”; this isn’t even about “winning”... this book and the lessons to learn are about radically altering your ability to participate so you can take the most amount of money from any market you want, any time you want, any way you want. This is about dominating.

One thing I am very excited about in my own life is growth. Growth is something that is really not on the agenda properly for most people. Growth is not an optional thing in my view. Very few people ever really reach their true potential. Usually, we all become satisfied with enough self-actualization to lead a fairly happy and productive life. And maybe it is true that we all can't be someone like Michelangelo—but we all have levels of performance in areas of our lives that we could (and should) be doing better at. If you were completely honest with yourself, you would likely say that there are areas of your life that need improvement. Maybe even areas of your life that you feel slow you down in some way.

Have you ever considered that those things that appear non-market related in your life might actually be the very things that once properly dealt with will get out of the way of your profitability? Simply put: You aren't doing well at the markets because you have unresolved issues somewhere else in your life? Have you considered that as a possibility?

I'm not saying that the contents of this book are some sort of mystical thing—or that I am trying to proselytize you in some underhanded way; I am saying that if this material truly was something that could help you excel at trading—then it must be able to address every one of those issues that hold you back from better performance. By definition, that would include non-market related issues; like personal issues maybe. I want you to consider that your “personal life” might have something to do with how well you perform in the markets. Remember, if you are a male trader, men tend to compartmentalize their lives. Men tend to put everything into nice neat little boxes inside their head. Many times, that means men tend to believe that what is inside one box doesn't have anything to do with what is in another box. I hate to say it—but this is how some men can love their wives very much but still have a mistress “on the side”. One kind of relationship is in one box; another kind is in a different box. And never do the two meet (Hopefully, for those men anyway). It could be that something in one of your boxes inside your head is something that needs to connect with one of your trading related boxes in order for you to take the next step. It needs to be OK for that to happen. By the way, if you are one of those traders who actually does have a “piece on the side” I want you to raise the bar on your personal integrity

level. That's called Adultery. I don't care if you think that word is "outdated" or that you believe it is all OK to cheat on your spouse. The bottom line is that you are compromising on the integrity you promised someone else; what else are you compromising on? People with low integrity don't tend to prosper—it offends the universe. Don't become an embarrassment to yourself and your family.

We talked before about sometimes the best way to describe something was to discuss what it is not. I think it is important that we take a moment and describe what the next chapters here in Part II are not; and what they are. I think it will help you open the door to change a bit easier. If we really are in a position to make a radical and lasting change intending to create a permanent ability for profit, then we should be able to concisely communicate what "it" is; and what "it" is not, agreed?

What the material is not:

- Not a system or mathematical model.
- Not a "rehash" of well-known technical analysis tools.
- Not an assortment of opinions from other traders.

The material is not designed to change you. The material is not designed to change your method of trading. The material is not designed to degrade or diminish other methods of trading assistance. The material is not designed to discredit what you know to be of assistance to you now.

What the material is:

- A compilation of factual conditions surrounding the arena of trading.
- A collection of observations made by scientific study.

- A series of conclusions distilled from discussions between winning traders.
- 

The material is designed to complement and complete what you already know. The material is more like a road map rather than a set of directions. If you can read a map—you can go anywhere. If you ask for directions, you are at the mercy of the knowledge one individual has. This material is more like a roadmap to the markets; rather than a set of directions about the markets.

The material is divided into two main parts of study:

1. The constant of the markets.
2. The non-constant of YOU.

The material is designed to challenge and help you alter your existing belief structures; the material is designed to help you correlate and confirm your relationship to yourself and your relationship to the markets. The material is divided into component pieces that are all interrelated; all parts contribute and point to a holistic understanding of who you are and how you participate when you are attempting to profit from your buying/selling behavior inside a non-changing machine whose operation & function is fully understood. When you are congruent with the material and your understanding of your own participation is complete, the results can best be described as a behavior modification that functions something like this: “This is what the market says; this is what I do.”

The first part of that phrase This is what the market says needs to be taken in the context of: your ability to understand and listen to something you are not understanding or listening to very well at all right now. Simply put: The market is going to speak to you in such a way that you can understand it fully. It’s like

learning a new language; you will develop new associations on how to understand what you are hearing. Once you can hear the specifics that make your particular set of trading skills create more winning trades, you will be in the enviable position of never needing to go look for trading opportunities again; they will come to you regularly without having to do anything except wait for them.

The second part of the phrase this what I do is about following through perfectly once you have found a market opportunity. Following through perfectly means doing the same thing the same way all the time. This becomes—effectively—perfect discipline. Perfect discipline is not an easy thing to develop and enforce for most people. In fact, it's my opinion the reason why the world operates the way it does and the reason there are so few people like Mozart, Michelangelo, DaVinci, Einstein, etc., is because most people will not develop enough discipline in their lives to reach their full potential. In fact, most people do not possess enough discipline to keep themselves out of trouble in the first place, if the truth were told. Now, nobody is suggesting you have to shave your head, dress in sackcloth and join a monastery that focuses on trading (although I would be first in line to join if there were such a place), but what I am suggesting is that developing a fresh level of discipline in your trading is going to produce some amazing positive results. It will add to your ability to find profitable trades, it will help you stay out of low-probability trades and it will help you cut losses faster.

Between developing the new ability to listen to the voice of the markets better and adding a fresh level of personal trade discipline to your efforts, your results will start moving over to the growth side of the ledger very quickly. This next part is very important—read this very carefully because we will spend a lot of time on this concept: Once you know WHY you do—WHAT you do—the WAY you do it—trading will become effortless. You are looking to develop a sense of personal control over your behavior and your thinking to the point where participation in the markets becomes effortless.

To close out this introduction I want to remind the reader that the purpose of this material is to shorten the learning curve most traders have between their first losing trade and developing the ability to take money out of the markets consistently. I didn't say eliminate the learning curve or make it any less intensive of a process. The point is to awaken something fresh inside of you so that your results can start improving right now. Once you find out you have been on the wrong pathway for a very long time doesn't automatically mean that the right pathway will be easier or less effort will be required. In fact, it is probably going to be the opposite; it will take more effort for a longer time to fully appropriate the skills you need to manage. But the difference in the quality of the experience will be HUGE. You will see real progress, you will enjoy the journey, you will start making some money finally, and your life as a whole might improve too.

In my own life, before I had my catharsis in experience & understanding, trading was a very stressful process even when I made big money at it. Instead of knowing I was creating something I could duplicate anytime I wanted, my life was more like a series of train wrecks interspersed with brief moments of being a rock-star. Once I got on the right pathway my results became much more consistent and the "downs" were significantly fewer with very long periods of time where I was the only train on the track; so-to-speak. At this point—at 60 years of age—my discipline is still growing as is my ability to profit from my approach. I am still developing new edges, I am creating additional money management tools, and I am still growing. The process is probably a never-ending one and it is possible I will still be growing when I finally check out. I never anticipated that might happen. But I am OK with it.

My point is I can promise you with absolute certainty that if you will fully grasp this material and apply what you learn consistently—your potential to make money from your trading could reach the level of absolute effortless unlimited money-making for yourself. Isn't that the whole point? Isn't that WHY we all got started at this in the first place?

I think in order to get to that place starting from where you are now, you need to take the point of view that the time is NOW, there is no second chance, and you must play your heart out at it. Champions are made—not born. It's a personal choice made by YOU.

## The Arena of Conflict

***“When a man's knowledge is not in order, the more of it he has the greater will be his confusion”***

***--Herbert Spencer***

Knowledge is a wonderful thing, until it isn't knowledge anymore and becomes something else. Like an outdated belief system. Thousands-of-years ago most common Europeans believed the Earth was flat. Some very intelligent people who actually helped in the discovery of the scientific process we have today believed the Earth was flat; until the Greeks thought otherwise. One man, a Greek named Eratosthenes, believed the Earth was a sphere and actually proved exactly how big the Earth was; to within an accuracy of about 1%. He did this about 250 years before Christ. Other Greeks believed this too, but that knowledge was destroyed when Julius Caesar burned down the Library of Alexandria in 43 B.C. When the European Dark Ages came—people forgot a lot of things; like what was in the library of Alexandria. Again, most people returned to believing something that later would be seen as untrue. The Catholic Church controlled knowledge during this time and when scientific people, like Galileo Galilee, presented facts to support the belief that the Earth was spherical (among other things), they were routinely persecuted. Galileo himself was sentenced to death for “Heresy” He reluctantly agreed to recant, some sort of compromise was made for his life and this knowledge about the Earth being spherical (among other things) was again suppressed. This sort of re-writing of history went on for centuries until the overwhelming evidence gathered by men who were not controlled by the Catholic Church (or controlled by others) conclusively proved that the Earth was a sphere. The next question was—how big is it? Enter Columbus, and a new chapter in knowledge expansion; sadly, still fraught with the same sort of ignorance and control issues the previous chapters were.

The point is—something as simple as the true nature of the Earth we live on has been in debate for centuries; even for centuries after men discovered the truth. Why is that? As a side note—there are still people alive today who believe the Earth is flat. Some people just don't get it.

How much of reality is commonly accepted as “true” and told to you as “true” when the facts all point to something else? But you can’t see all the facts because somebody somewhere doesn’t think you can be trusted with the truth? Or maybe, somebody somewhere just doesn’t want you to know for reasons of his own. Or maybe the “facts” don’t look like facts to you personally because you can’t accept that particular possibility for some reason of your own?

In the Bible’s New Testament, the Apostle Paul talks about men whose minds are so corrupted by fighting against what they cannot accept that they would rather die than change their minds. He calls them “Ever learning but never coming to the knowledge of the truth”

Is it possible that something about the nature of the financial markets is right there in front of all of us; but we can’t see it because we have all been taught for decades something else? And, of course, because our knowledge is not founded on the actual reality of the markets the more we teach ourselves about the wrong elements, the more confused we become?

What I am hoping to do is challenge your thinking to the point where you begin to actually think. And I want you to think about things you have never thought about before. I don’t want you to tell me how much you already know about the things that you believe you have some knowledge in. Your knowledge maybe in error without you even realizing it. When we discuss knowledge about the markets your ability to think is even more significant because what you have been told so far is largely half-truths and opinions. Even the Series III test

required before you can service accounts as a broker in the Futures Markets is full of errors in thinking about the nature of financial transactions. The errors and mistakes are not really about hiding something from you. It is more like an omission based on ignorance. You need to think more completely about what you are being told is factual. Because they are facts; just not all the facts in context. Remember, a collection of facts doesn't mean there is a truth there; just like a collection of bricks is not necessarily a house. And no one really cares if you get it all completely; because, statistically, you are going to lose anyway. Regardless, here are the facts:

When you trade, most financial markets (meaning Exchanges) facilitate what is called a zero-sum transaction. Within the markets is a separate entity called the clearing corporation. In a zero-sum transaction, any buy-order from a trader is matched with a sell-order from another trader equal in size and price provided by the clearing corporation. The same is true in the case of any sell-order. The clearing corporation becomes a buyer for every seller and a seller for every buyer. So, when these orders are matched by the clearing corporation the amount of cash on deposit with the exchange never changes—but individual accounts are assigned open trades that are either buying the market (Long positions) or are selling the market (Short positions). Everyone is playing against each other and the exchange is merely guaranteeing that one side or the other will be paid from the other side.

At this point everyone with even a small amount of trading experience will say “Yeah? So What? I already know that there is a buyer for every seller...” But what is never considered or even discussed for the most part is the next part about zero-sum transactions: When you liquidate your open position using an opposite order—the clearing corporation assigns the cash difference to your account by EITHER debiting the money you lost from your account or crediting the money you made into your account FROM ANOTHER ACCOUNT under the authority of the exchange. The losers pay the winners. I can't win unless you lose.

It's as simple as this: If I buy Wheat for some amount per bushel—and then liquidate that trade for 7C. a bushel LOST....the clearing corporation takes that loss from my account and places that cash into the account of someone who made a profit of 7C. a bushel, or maybe divides it between one trader with a 3C gain and another with a 4C gain; or some combination that maintains the 7C gain paid to SOMEONE(s) with a 7C loss TAKEN from ME.

Most people say they understand this concept by saying “For every buyer there is a seller” and traders for the most part understand what a zero-sum transaction is. But in order to bring this full circle for you—remember when we discussed that 85% of people are losing at the business of trading? That means that 85% of the accounts that are losing are paying that money into the accounts of those who are winning. 15% of the traders out there are being paid their profits from the exact same money the other 85% are losing. The losers are paying the winners. You cannot profit from trading unless a losing trader pays you. All you need to know is who the loser is. All you really need to do is take money from the loser.

That means—in order to profit in a zero-sum environment—you have to be the trader that trades opposite of how the 85% of people are trading. To win, you have to be on the other side of the losers trade. There is no other way to profit from the markets.

You really don't need to “study” the markets in order to take money from them; all you need to do is find out where the losing traders are getting positioned—and go the other way. The losers lose with such consistency it is a sure thing. When I teach this material live to my students I tell them to take the point of view that the only thing your analysis needs to do is expose at what price levels the losers are going long or short— just execute the other side and wait. I call it “Find the loser and take his money” I even go so far as suggest: “If whatever analysis tool you are using can't help you find the loser—don't waste time with it”

In other words, if “Point and Figure” charting doesn’t help you find where the loser is taking positions—why use it? If “Gann Analysis” doesn’t help you find where the loser is taking positions—why use it? The same could be said for any form of analysis: “If it doesn’t help you find the loser—why use it?”

Now—to be fair—I know that for the most part almost every trader reading this right now is going to have an issue with this point of view. And to be fair to all the winning traders out there—you want the typical trader to take issue with this point of view. You want the losing trader to stay trapped inside his antiquated knowledge. You want the 85% of other traders out there to continue to believe that sooner or later they will figure out how to make money by using all the same tools every other loser is using. You want the 85% of other traders to accept their frustrating results as a series of “yets” (“I haven’t found it YET for such-and-such reason...”). You want the 85% of other traders to get angry when confronted with the fact that they have been lied to by the “experts” You want the 85% of other traders to remain ignorant of the true nature of zero-sum trading; because that is the only way to profit. Winning traders want the losing traders to remain ignorant of the true nature of the zero-sum environment.

But here YOU are reading this book—and trying to decide whether or not to go down this road, aren’t you? Right now—you are probably one of the 85% of traders who currently have losses from their trading, no matter what your experience or time invested has been. I just told you that I personally want you to remain ignorant of why you are losing so consistently. I personally want you to continue believing that you can “analyze” the markets in order to win. I want you to stay thinking exactly like you do now...because I intend to take all your money sooner or later anyway. Because I know how to find out what side of the market you are on when you trade. I know how to go against you. I know how you think, and I know where you are.

The true nature of the market is a battlefield that only one side will win. If you are on the wrong side—your money is paid to the people who are on the right side. That is a zero-sum transaction. Nothing will ever change that and there is

no discussion about how you can mitigate that reality or somehow “reduce the risk” of that environment. Bottom line: In order to win by trading in a zero-sum market, you must be doing something different than the loser is doing.

YOU are not going to win until you start doing something different than the other 85% are doing. If you continue doing the same thing, or a variation on the same thing, your results will be the same as theirs. You will trade for net-losses until you quit.

Right now, most of the traders reading this are in the 85% losing group. If you are one of them, I want you to stop and take a few moments to reflect on what I have just told you because this is one of the cornerstones to developing your winning trade paradigm; a key to flipping the switch from “lose” to “win”. Take a moment to really read the next paragraph and then reflect for a few moments on what you have heard:

I just told you that you are losing because you have been misled about the true nature of the trading environment. Zero-sum markets are structured in such a way that the winners are paid by the losers no matter what happens in the markets as far as prices are concerned. No amount of study or analysis can change this relationship or alter it for an advantage to you or anyone. 85% of people trading are losing money all the time and paying that money to the 15% of winners, all the time. All of those losers are using the same tools and the same teaching as every other loser; and they all think it will help them win. In order for you to make a million, another person (Or groups of persons), must lose that exact same million. You can never make a million for yourself until you start thinking differently than all the other losers.

I want this to really soak in...

The trading markets are constructed in such a way that the losers MUST pay the winners. So, in order to win—the winners MUST do something different than the losers. What are they doing?

If you have experienced any of my other material available for training one thing you will find I discuss with great enthusiasm is the fact that most people are NEVER going to win at trading. I like to emphasize this point because it has been my privilege to discuss the markets with literally tens-of-thousands of people over my 35+ years of being in the markets. Of those thousands of people, I can honestly say that only a few percent ever had the capacity for success as a trader. I am not saying that to discourage you the reader, I am saying that because I think it proves my point very well that the typical individual is not thinking outside the box enough to understand this problem:

“I can’t win at trading unless I take that money from another trader who is himself expecting to win. We are both using the same data and using the same tools. Despite the huge amount of information, training, discussion and analysis —85% of people just like me are losing all the time. Where is that money going and to whom? HOW DO I GET MY UNFAIR SHARE?”

I would hazard to bet that NO ONE reading this book right now ever has thought to put the problem of making money from his trading into the context I just did; but the fact remains—that is the problem. If you aren’t winning—you are doing everything the same way everyone else is doing it, therefore, the winner is exploiting your ignorance in same way as he is exploiting everyone else’s ignorance. The winner wants you to stay that way.

Can you see now why I said earlier that if you expect to eventually become a winning trader you need a paradigm shift? The trading arena is not constructed like the real world—you need a different set of tools, a different point of reference and a different method of participation if you expect to win.

85% of people trading (or more) do not even see this problem for themselves. They simply do not accept that the markets are structured differently than other things and a different method of thinking is needed to succeed. I personally don't believe that these individuals are "stupid" or "unintelligent" or any number of other ways of saying the same thing—I personally believe they can't "see" what is right in front of them because they can't see what is right in front of them. Some people use the phrase "Can't see the forest for the trees" to describe similar issues. Therefore, they make choices and reach conclusions based on a method of thinking that has always been in their minds but is incomplete. To use a popular phrase I like from recent pop-psychology: "You don't know what you don't know" How can someone whose mind stops at 7 understand what an 8 might be like?

If your knowledge is incomplete—your confusion will be greater. For you to complete your knowledge you have to have a willingness to accept new points of view, understand fresh perspectives and generally be open to a potential for growth in areas you didn't at first consider. As you complete your knowledge your confusion will end. Part of your incomplete knowledge is a true understanding of what it means to participate in a zero-sum transaction.

## **Your key takeaway for this chapter:**

Zero-sum transactions operate differently than just "a buyer for every seller", the losers must always pay the winners. The only thing I need to discover to win in a zero-sum market is who the loser is. Because all conventional education, teaching, training, and analysis is based on price study and price prediction; none of it can help me find where the loser is in the market, otherwise the percent of losers using those resources wouldn't be so high and so consistent. To win, I have to take money from the losing trader—not predict which way prices will go.

# The Psychology of Price Movement

***“True self-discovery begins where your comfort zone ends.”***

**--Adam Braun**

You may have noticed that in the last chapter I didn't go into the “science” of how zero-sum markets are priced. In fact, I didn't go into anything technical at all; nothing about how orders are entered, details of what a Commodity Futures Contract is, how much time is expected before fills, etc., absolutely none of the commonly discussed parts of what is involved in participating—and nothing about how the marketplace is constructed. All I basically said is something you already know:

“The markets are a zero-sum game—the losers always have to pay the winners”

What I wanted you to do is see what the markets are in context of what happens to people who play in them. Most people lose and that never changes.

Statistically—the odds for success are worse than almost anything you could ever do in order to prosper financially. The odds of starting a business and failing are about the same, but that is usually for first-time business owners. Second time around the odds are much better, so is investing in collectables or maybe Real Estate. In fact, you could likely build a fortune with much more security and with less downside risk in almost any other business venture. Heck, even a casino has better odds than playing in a zero-sum market environment.

So why do people do it? Trade I mean...

Because they all think they can win. How most players come to that conclusion is up to them, and there are lots of ways to convince yourself you know what you are doing. But in the final analysis, those who are losing are using their real-world paradigm and they don't really understand how their losses are directly related to their thinking from inside that old outdated paradigm. If you ask them "What happened?" after they closed their account out at a loss, they will answer something like: "I didn't think it would happen to me" The honest ones say: "I don't know"

But it did happen—and you aren't getting the money back. Someone who knows how to win traded against you and they know the game better than you do. That's the bottom line.

What was that other trader thinking?

And that brings us to the psychology of price movement. What I want to do here is remove all the discussion about "making money" for a short time and simply focus on what is happening when prices are trading and what that means to the overall psychology of those who are participating. I want you to remember that from the loser's point of view—prices have a "meaning"; whatever that meaning is will create how the loser decides to participate. Because the loser is not in control of his thinking or understands how his thinking creates his emotions, the first thing you must come to understand about the loser's participation is that it is reactionary. The thing to always remember is that the loser is not in control of his decision-making process; the process of reaching a conclusion. The losing trader is driven by emotions he views as painful enough in order to create an urge to liquidate.

The winner on the other hand is participating from a sense of control. Not a sense of control about prices and where they will go, but a sense of control over his actions; what he needs to do (or not do) in order to win. A winner in the markets is thinking proactively. The thing to remember is that the winner is in control of his decision-making process. A winning trader might feel the same emotions—but a winning trader does not let those emotions control his execution or his liquidation. The winner is driven by discipline.

When you put these two types of market participants next to each other you will see clearly the issue of price movement and how traders use price movement. The psychology of price movement is actually a point of view based on how you personally participate. One point of view is a proactive point of view—and the other is a reactive point of view. One participant has made the choice to participate in such a way that prices are tools.... the other has made the choice to participate in such a way that prices are threats.

Every one of us knows someone who no matter what is happening around him—it's always bad. If it is negative—this person will find it. And of course, we all know someone who is the opposite; no matter what is happening—it's always something good that will come of it. The eternal question is: "Is the glass half empty—or is it half-full?"

Earlier we discussed briefly the idea that prices have no meaning to the enlightened trader. If you look at prices proactively you would be seeing opportunity developing based on a "something" that you value. No matter what it is that is used to establish value—the point is that certain traders will look at price action and eventually find a situation that will offer an opportunity to profit. The proactive trader knows this because he is not looking for certainty—he is looking for probabilities. He has already decided which probabilities he will take, and he already knows that prices will sooner or later reflect that probability. When it shows up—he takes it and waits for whatever will happen to happen.

When we discuss price action to a losing trader—the issue is completely different. The losing trader has no idea if a trade will work because every single price that trades has to be explained or could possibly have a meaning he hasn't yet considered. All the prices have to be compared to all the other prices until an entry for a “bullish” or “bearish” market can be attempted. Once that price trades—it still needs to be confirmed before he can do anything and even if the price movement is confirmed there is still a risk...so prices are never certain enough...but they will be, once enough study is done. No matter what the criterion is for an attempt at a profit there is a possibility of a loss...so the risk must be reduced somehow; otherwise the market will take away our money and WE CAN' T HAVE THAT!

Remember—the market itself is trading all the time these two types of thinking are happening. The price chart itself will have a series of O-H-L-C bars that would have been there the same way anyway and still look the same on everybody's charts. It doesn't matter what the market does because everyone playing will see it differently. The prices will mean something different to everybody. All the time. There is always something that needs to be considered. By someone.

The only difference is in how the two competing traders have chosen to look at it. The winning trader looks for a set of probabilities he knows has a better-than-chance potential. The losing trader tries to explain the meaning of every price change in order to “reduce the risk” and if he can't do that he can't trade—because he might lose—so he must wait for confirmation. One individual sees the markets as a daily opportunity base. The other sees the markets as a potential daily threat to his account balance. These two kinds of thinking are watching all the time as prices trade the way they would have anyway. The winning traders see opportunity as a set of probabilities waiting to show up; the losing traders see a threat to their money until they can “reduce the risk” enough to create a sense of certainty.

In either case, sooner or later traders with either kind of thinking will decide that

prices have done enough of the “something” they are watching for and they decide to execute for an entry and place themselves at risk. It’s very important for the creation of your new paradigm of thought that you completely understand that the price itself doesn’t matter. The “why?” behind the choice to enter the market doesn’t matter either—the only thing that matters is THE FACT that the order was placed (and filled). The market is only a machine. The only thing it does is process orders as they are entered by people (Volume). The thinking of the people and how it came to be that those orders went into the machine doesn’t matter to the market in the least—it only matters to YOU. If people decide to stay in the market (Open Interest) it can only mean they are confident enough in what they believe they are seeing to wait for the profit they are expecting from the future (Time must pass).

So when you count the orders going into the machine, compare that to how many people are willing to remain at risk, and observe how much time is needed for those at risk to decide they must get out; you have the beginnings of understanding The Psychology of Price Movement.

The first and foremost thing you need to understand about the psychology of price movement is that prices don’t matter; prices mean something different to everybody playing and THAT is what creates price movement—the issue of what it means to YOU is a different problem. You need to become “price agnostic” (No care at all for the price except for what it means to the losers).

I want to take a moment and discuss price from a different point of view. Remember, our goal is to create a paradigm that is more closely aligned with the nature of the zero-sum transaction markets. If we freely admit that whatever it is we are doing now is not helping us to profit, then I don’t think we would be spinning our wheels if we looked at the game a little differently, would you?

## **The Nature of Market Structure**

It would be more helpful to your developing paradigm if you thought of price not as something that “is” but rather something that “is the result of”

If we look at any market and take it apart into its individual pieces, what do we find? First, we find people. People who choose to participate in something. How many people are we discussing here? Well, that can be a factor of a market specific—such as Soybeans or Stock Indices—but for now let’s label the people as “Volume” How many people want to trade right now?

The next important variable might be how many people want to stay in the market for some period of time. Why would they want to do this? Well, if I was very confident I would make money I might want to stay in the market for a longer period of time. Let’s call those people “Open Interest”

Speaking of time—how much time is required to make a profit or decide a loss is “too big” and I have to exit the market? Suppose I didn’t have a specific amount of time in mind? Apparently—some amount of TIME must pass before a choice to liquidate must happen; either for a gain or for a loss. TIME is important for both the losers and the winners.

So if you take all the people who want to play—and consider the number who are willing to wait for a profit—and consider how much time they are willing to wait....then you would have a price that everybody might agree on as “fair” or not agree on at all as being “too low” or “too high”

That is market structure—Volume, Open Interest and Time all combining together resulting in a price after everyone playing has placed their competing orders.

How did that price get to that point? By all the players playing. And how do they do that? By placing an order.

As traders look at any price...they decide what that price means...they then place an order to either "Get Me In!" or "Get Me Out!" All those competing price orders are matched against each other and if there are some leftover orders on one side or the other the market ticks higher or lower looking for more orders to fill. As those orders continue to get placed and filled all day, every day, they are being counted. Whatever prices are traded just happen to be the points where orders came in and were filled.

As this relationship continues moment-to-moment eventually some price will trade that causes a whole lot of people to decide they have to do something. At that price/time relationship an abundance of orders comes in overwhelming one side or the other side. The market either rallies very quickly—or breaks lower very quickly.

It doesn't matter what the reason was or why the orders came in the way they did —the only thing that matters is that sooner or later enough orders will come in from one side and that will force a price change in the opposite direction. All that any trader wants is a reasonable chance that they are ahead of that price change when it happens. And on the right side of the change, of course.

For a more complete discussion of market structure and how prices move please see my book Time Compression Trading (Wiley & Sons Publishing, C. 2010). For now, the important thing is that you must understand that the price itself has no meaning to the machine (the market). It doesn't matter what the price is because all the price does is encourage people to either get into the market or leave the market. It really doesn't even matter what the group of people behind the orders are thinking when they place them; it only matters that they place

them. At some point—sooner or later—everyone who is IN the market MUST get out.

Do you see what I am getting at? Price is more like a fruit...it is the result of all these other factors being played out. If you think of an apple tree in the spring, once the buds come out on the tree, the only thing that has to happen for the apples to be harvested later in the fall is the passage of time. So, while the tree lives through the summer into the fall, the tree is hard at work taking nutrients and water from the soil, waiting for the sun to shine on the leaves while the process active inside the tree eventually produces a finished fruit.

The ground, water, sun and air are not apples; but the process inside the tree takes those things and creates the fruit as time goes by. The same could be said of the markets; volume, open interest, and time all combine together through the process of offsetting orders inside the market and eventually produce the price (the fruit of the market).

What does that price mean to YOU?

If you want to win—that price should mean nothing to you, and you don't care which way the market could go when it comes time for it to move. What you want is to be on the side the market is prepared to go when all the losers decide to take their losses. That brings us to:

### Liquidation Pressure and Price Direction

So far in this chapter we have discussed that there are roughly two kinds of thinking active in the markets; a reactive kind of thinking used by losers, and a

proactive kind of thinking used by winners. When these two kinds of thinking reach a conflict area over an existing price point usually a liquidation move by the losers results in a price move that is normally very predictable.

Let's use a "for example" process to understand more of this concept. Let's suppose that a particular market is at a significant low price point; let's suppose it is a one-year low. That one-year low price point is the SAME FOR EVERYBODY...it doesn't matter how the market got to that low price area other than the fact if Open Interest was rising as the price reached that level it can only mean that "bearish" traders were holding their shorts and some bears were confident in lower price action to keep opening new positions all the way to the low print. So, we have a market that has "trended" to some low price and ONLY the Bears have open trade profits...what happens at this point? Well, people begin thinking....

"I don't want to give back this gain—maybe I should get out now?"

"I missed most of this trend waiting for a rally to sell into—I can't miss any more of this sure thing—I need to sell now"

"We must be near a bottom—it is time to get long"

"So-and-so said this move is over, I am going to buy on Friday's close"

"The charts are really negative, if price goes to a fresh low it could go south for months!"

The point I am making is that, for some reason, right now at this low print EVERYBODY is all excited about what could happen next ENOUGH TO CONSIDER doing something right now. In the case of the bears—it is to keep what they have or try to exploit a further trend lower; in the case of the bulls it is to find the turn in the market and buy near the low for the year resulting in the best possible upside potential. It doesn't matter what the reason(s) are—it only matters that if there is enough interest by traders—that will become a lot of

orders (from both sides). Now, what we need, is a precipitating event, such as a surprise news event.

Suppose the unexpected news is “Bullish”, what would likely happen?

Most likely some of the “late shorts” (people who only got in recently and don’t have a big gain yet) will get afraid of a rally against them...so they liquidate their losing trade AND HERE IS THE KEY POINT: they liquidate their trade placing a BUY ORDER (that’s how you exit a short position). The older shorts from above the market might have buy-stop orders placed slightly above recent price action. If those orders are triggered—they are out now as well ADDING more buy orders to the upside pool of order-flow. Aggressive “bullish” traders might open new long positions ADDING to the pool of buy orders. When the market traded to a significant enough price point where enough people were becoming nervous about what was coming next—something caused them all to think “This news could hurt me” or “This news could help me” and the market itself had nowhere to go but higher because the pool of un-entered orders by the losers were all on the buy side to start with. Who is going to sell a one-year low? On a day when the news was very bullish and unexpected at that? So, the potential for a price rise is GREATER than a price fall because the market can’t move lower UNLESS sell orders are more in number than the buy orders....but on a day when the news is bullish, most traders who are already short are nervous anyway, fresh longs want to get positioned, and no one is going to sell a price break that never showed up because of the bullish news—the potential for a whole lot more buy orders than sell orders exists in that market at that point. If buy orders are larger than sell orders—the machine causes prices to rise until it finds enough sell orders to match against the buy orders. What if there were no sell orders today?

It doesn’t matter if you personally think the news is “B.S.” today, or if so-and-so expert/official/talking head says the bearish trend is still intact, or if your \$10M Cray Supercomputer has just analyzed prices and predicts a further low is coming, or if you danced in the moonlight with a 1964 penny in your left hand;

blah—blah—blah...that particular market CANNOT go lower because of the amount of unused buy orders that WILL come into the market sooner or later. It just so happened that today was the day when all the losers decided to liquidate (they expected the news to hurt them—so they quit). Liquidation Potential caused the price rally. The news was just the excuse for everyone to finally use their order to liquidate.

In the case of this illustration, this particular market structure was set-up for a rally that sooner or later would have happened for any reason that wasn't to the liking of the bears (as a group). The losers on the bear side panicked and entered all their buy orders to cover losing shorts. All at once because of an unexpected news event. If that news event never happened—then it would have been some other reason eventually; maybe a reason like: “Support is really strong at this one-year low; I should cover”, “The market tried three times to break support and it just isn't dropping any farther”, or “This price level means farmers can't make any money next year...time to get out”

Or any number of other ways of thinking “I am at risk and I don't want to lose what I have” THAT is how the loser sees prices—as a potential threat. The winner on the other hand is thinking more like this: “All those bears have to cover sooner or later...a lot of buy orders will be coming in...when could that happen?” And our winning trader is looking to be long before that big rush of orders hits the market. So, our winner might look ahead at the next few important government release dates and decide to get long about one hour before the news comes out on one of those dates. If he is wrong—he will have a small loss when he is stopped-out. Maybe he tries again on the next “Moving Average Crossover” the bears agree portends lower prices; if he is stopped-out again, so what? Sooner or later, the lower the market goes, eventually all those bears will get really nervous and want to cover. It is only a matter of time. The winner is playing that probability. He wants to buy against all those late sellers because he knows sooner or later all those late sellers will have to use a buy order to get out; creating an order-flow imbalance to the buy-side. He might have four or five different “Bottoming Edges” he uses to try and buy the final bottom before the turn—but one thing is for certain: The winning trader KNOWS the bears will quit sooner or later and when they do—the path of least resistance will be a price

rise. He doesn't really know when or at what price that will happen; but it will happen. All the winner is doing is trying to find it before it happens. If you are a Bass fisherman, think of it this way: "How many casts do you need to make to get that big one you already know is hiding up under that same log as last time?"

While our losing trader is agonizing over what each potential low print means and how the market could hold support or not, and when or if that will happen, charting himself into more and more confusion; our winning trader is quietly going long near the lows with a high probability of a rally happening sooner or later. Our winning trader doesn't know when it will happen or even care if it does. He knows it will eventually happen...like snow during the Chicago winter. If it isn't "today", that's OK. He will keep looking for the clues that the rally is due.

I am not saying that every market bottoms like this and it is always this clear, what I am asking you is "Can you see how orders come into the market—can you see how they have an imbalance at critical points and that creates a probability for a definable price change?"

You can't "study price" to find those places. You have to be thinking on a much bigger paradigm. Your thinking is the critical thing to developing a winning trading paradigm. Can you begin to see the need for a fresh perspective on price action?

In my book Time Compression Trading (Wiley & Sons Publishing, C. 2010) I go into a lot of critical detail about how order-flow is created and how it resolves conflict in the minds of traders. I discuss balanced and imbalanced markets, I talk about what creates and maintains trends, reversals, topping and bottoming and of course range trading. A lot of what I discuss is very useful for the purpose of analyzing a market well enough to find price areas for a probable change. I would strongly suggest that you get a copy of Time Compression Trading to help you with a deeper understanding of order-flow. For today's purposes, the issue is

about realizing what kind of thinking you personally are using when you look at price action.

Remember, our goal is to awaken a new paradigm of thinking when you are trading. In this chapter, my intention was not to confuse the issue of price movement with “making money” from price action. Making money is the result of doing things better to begin with. In other words, once you are thinking and behaving according to your new trading paradigm, money will flow into your account(s) just as quickly as it was going out before you knew you needed to change. What we need to do with this chapter is ask the questions:

“Is my thinking probability-based or am I more prone to seeking out a sense of certainty?”

“Am I reactionary or am I proactive when I manage my thinking?”

Maybe you are somewhere between the two—it really doesn’t matter. All that matters is that you choose to become probability-based in all your trade-related activities. It will take some time to fully control that process and I will offer you some tools for that later in the book. Right now, take a few minutes and reflect on the contents of this chapter.

### **Your key takeaway from this chapter:**

Price doesn’t matter, it matters what is going on behind the price in the form of who is entering orders and how those orders came into the machine of the market. As orders get processed prices will move and that movement has meaning to how people decide to place themselves at risk. Losers trade from a paradigm of certainty resulting in a reactionary participation. Winning traders remain proactive in their participation and are looking for probabilities they

know how to define. Losing traders see price action as a threat to their account balance; winning traders see price action as potential opportunity.

## **Clarity of Observation and the Desire for Profit**

***“I think investment psychology is by far the more important element, followed by risk control, with the least important consideration being the question of where you buy and sell.”***

**--Tom Basso**

Up to this point in our study of The Psychology of Trading we have focused more on the problems that most losing traders have when they participate, and the preliminary thinking that prevents profitability while often leading to confusion for most traders. In other words, we have been discussing many things that are common to almost all participants almost all the time; but are often misunderstood or outright unknown to most participants. We as traders don't really know what we need to do in order to profit consistently, our trading is often a confusing & difficult thing to do every day. Consequently, all the time, we are doing everything we know how to do to solve this problem. We study what we believe will help us reduce our losses and help us keep more of our gains, but that usually doesn't create any lasting net gains. There is an almost unlimited & overwhelming amount of information available to us that all promises to be “the one thing” we are lacking, but in the final analysis very little of what we have learned and almost nothing of what we have brought to the table has made any real or lasting difference to our results. We started with high hopes and strong expectations that we would succeed; but after years of trying, we are at a net loss in our account(s), spent a lot of money trying to learn the markets; and very discouraged about ever getting this right.

I bet I just described most of the people reading this—and if it is you—welcome to the war. Every winning trader has felt this way at one point in his career. And

there is a way out of this problem, so keep reading.

When I was a young trader living in Downtown Chicago, Illinois, I was very fortunate to work with a trader that you might already be familiar with, Mark Douglas. Mark and I met after I had read his book The Disciplined Trader (New York Institute of Finance/Simon & Schuster Inc., C. 1990). When I found out that he lived and worked in Chicago at the time, I simply went over to his office and asked to see him. We talked and he agreed to mentor me. For the next two years I met with Mark almost every Friday afternoon for about an hour to discuss my trading. In my view, a proper mentor can take years off your learning curve if you can find one; I consider myself very fortunate to be one of Mark's students, and that he didn't quit on me. One of the more memorable moments in my coaching was during a period of time when my confusion about actual steps to take to improve my results was at a zenith. I was almost in despair when I kept asking him questions along these lines: "How do I learn to place stops better?", "How can you reduce the risk?", "How do I learn to make better entries?" etc., etc. Every time Mark would quietly and confidently reply: "The wanting to, IS the 'how'" It took me some time to fully grasp what he was teaching me. In the end, I believe what Mark was hoping to communicate to me is literally this simple:

"The willingness to learn & adapt is all the skill you need to become a successful trader"

Everything else is incidental, really. All the books, classrooms, educators, programs, seminars, shows, etc., all don't matter to your success. The trading method or the timeframes you choose to operate under to find your trades doesn't matter either. Bottomline: If you are willing to make some changes—you can make your trading become everything you want it to become. You just need to be willing to do the work.

And it all starts with how you see things...

What we are going to do right now is begin the process of learning and adapting so you can begin creating your personal winning trade paradigm. I say “Your Personal” because it really is a personal choice and a personal result. No two traders ever see the markets or the opportunities in the same way. Every winning trader has a slightly different paradigm for success; but they all fall into a process that remains very similar across all success levels. For example, I personally don’t believe that day-trading is a consistent way to grow wealth. I personally think it is the hardest money to make consistently, and I personally think that a focus on day-trading prevents a trader from seeing the really big opportunities; it prevents you from staying positioned for the huge gains when they are available. There, I said it. If you day-trade—I think you are making this harder than it needs to be. I think you are crazy for putting in that much effort every day for such a small payoff. But that’s just me. There are a lot of traders out there who are very profitable as day-traders.

There are traders who only trade consumables; such as Grains, Meats or Crude Oil and won’t touch anything else. There are successful traders who focus on just one side of the market; such as the short side. When you find successful traders—people who are consistently in the top 15% of participants—you will discover that they cover the entire database of market possibilities. Some are longer-time-frame players, some are scalping. Some are highly technical—some flip a coin every morning. There is no such thing as a “right” way to exploit market potentials. Or for that matter—there is no “wrong” way either. No matter how you personally want to participate—there is a pathway to uncover a winning approach for yourself. You don’t have to do it any other person’s way. You can do it your way; all the way.

In other words, there is an unlimited number of ways to participate and you can choose any way that makes you feel the most in control of yourself and best suits your personality. All you need to do is be open to change and be willing to enforce the changes you discover. To do that, we need a starting point.

## **Understanding the Existing Paradigm**

You, and everybody else, has a “decision-making-process” inside their thinking. This process happens at the speed of thought and therefore is mostly unrealized or unknown by the person doing the thinking. Studies have shown that human beings typically think at about 800/1000 words a minute (depending on things like age, intelligence, education, disease, etc.). You can typically hear or understand someone speaking at an accelerated rate of around 350/400 words a minute; a very good speaker might be able to speak at around 200/225 words a minute, a very good typist might be able to type at 125 words a minute—and last, the typical human can write with a pen & paper at about 55-75 words a minute. That means most people NEVER slow their thinking down to actually understand what they are communicating to themselves within their thinking; to observe inside their decision-making process. Most people don’t actually “hear” themselves thinking...it’s more like an impression or an emotion for most of us.

By the way—this is EXACTLY why I tell my students to keep a hand-written journal everyday while they are trading. I tell them to physically write down everything they are thinking about when they trade. The purpose of this is to force the trader to slow down his thinking process so he can accurately observe what is REALLY going on in his head when he executes. A proper mentor can go back and read this journal of thinking and show the trader places where he loses control of his thoughts and/or emotions. The typical person cannot see this for themselves because they don’t know what the clues are.

Remember when we discussed: “You don’t know what you don’t know”? This is why journaling is such a powerful way to effect permanent and lasting change. I will show you samples of proper journaling in the appendix section of this book later, for now just open the door to adding it to your daily routine.

Regardless of whether you journal now or not, the issue of profitability lies

outside of your existing paradigm. We want to break down our existing paradigm so we can see where we are creating our losses from. We don't need to be journaling to do that, so let's do a hypothetical trade together starting from the absolute very beginning:

Why do we trade?

“To make money”

Would you agree? Therefore, we begin the process of thinking about going into the market (either long or short) because we have a desire to profit. We aren't even at the actual trade part of planning an execution yet—I am talking about the why behind having your account in the first place.

Where did that desire to profit come from?

From inside your head. Somehow—YOU and YOU alone decided that making money was part of your existence and somehow you decided that having an account open to trade in a zero-sum market was a pathway to fulfill your desire to make money. It doesn't matter if you believe that a desire for profit is “normal” or “everybody has the same desire” Those things are incidental to this process. We are talking about how you personally came to the conclusion it was time to get started trading and why. It was just like everybody else, wasn't it?

I would challenge you to really think about what is written above. WHY do you have an open account in the first place? What were you thinking when you signed the account forms and sent in the cash? You probably have never really thought about it other than having a general impression about “making more money” somehow.

Now—bear in mind—all of this is just fine up until this point. Your existing paradigm of thought (which might be sort of fuzzy to you or in the background because you have never really examined it before) helped you come to a conclusion, and that conclusion resulted in you taking some action. I.E. Opening an account. Wonderful. So, this whole thing started with your desire for profit. Would you agree that is true?

Your desire for profit is the first bedrock issue for you. And It is the main reason you can't make money consistently. Your desire for profit is interfering with your clarity of observation. Reaching a conclusion that you can profit is coming from how you think right now. And that is not compatible with where opportunity to profit forms in the marketplace.

Profit opportunities develop in the markets through the process of creating a perfectly balanced inequality. In other words, for every buyer there is a seller. That is the job of the clearing corporation. What isn't so clear in the process of trading is what happens when someone who is IN the markets wants to get OUT...at some point every single long MUST use a sell order to liquidate their open long(s). The same is true for every single open short—they must use and Opposite but Equal order to liquidate. No matter what is happening inside the market—eventually everyone must get out. While the market exists, the inequality of orders being placed at different times and in different sizes all day, every day, all night & forever...create price changes we traders want to profit from. Pay really close attention right now:

Profit opportunity in the markets exists when an order imbalance leads to a liquidation event—and that doesn't happen because of price. That happens because losers can't emotionally handle an open trade loss anymore...

Your desire for profit is coming from inside your existing paradigm. The

function of opening your account was done just fine according to your existing paradigm. It needs to stop right there. Finding a true market profit-opportunity is a different process than agreeing that profit opportunities exist inside the markets. Your existing paradigm agrees that your desire for profit is a good one, and that opening a trading account will get you there. But that has nothing to do with finding those opportunities. If you now expect your existing desire for profit to assist you in finding places to execute winning trades; how is it going to do that if you feed it the wrong information?

Profit opportunity exists when the loser in the markets decides he has had enough. Think of it this way: When the market has run out of buy orders—how can it go higher? It can't move higher UNLESS buy orders are bigger than the sell orders, correct? Well, what will happen to price when the market has run out of buy orders? Nobody wants to buy any more. At some point the sell orders will become larger than the buy orders and the market will reverse.

How do you make money in a market that has run out of buy orders and has a huge imbalance of unfilled sell orders waiting to happen? You would need to be short, correct? And what price would that be?

Your desire to open an account because you want to make money is a different thinking process than observing where the market has run out of orders on one side so you can make a profit. Just because you want to make money doesn't mean you can observe where and order-flow imbalance is forming. Just because you want to make money doesn't mean you know how to make money.

If you take your existing desire for profit and continue to use your existing paradigm of thought—your paradigm would lead you to believe you need to “figure out where prices will go” therefore, you will begin the process of market study by analyzing price in some fashion. But to really profit—you don't need to know what the prices are or where they will go—you only need to know where the imbalance is forming. So, if you study price—and price only—you will most

likely be in error about where the imbalance in the order-flow is developing. You can't make money at trading unless you take it from another trader—so if you know where that loser is ready to say: “I can't take it anymore—get me out”—you will be the trader on the other side of his liquidation order—who cares what the price is trading at when that happens? All you need to do is be slightly ahead of the loser (in time) and roughly at his “Get Me Out!” price level. If you can combine both of those variables really well—you can make a lot of money all the time. isn't that the idea?

Let me put it another way: “If you absolutely knew that the market had run out of buy orders and was about to turn offer right now, what would you do?”

How about enter a sell order? I mean, you want to make money, right? How do you make money in the markets? You need to be long a market that is rising, or short a market that is falling. So, if you absolutely knew the market was about to turn seller, what would you need to do to make money (if that was your goal)? And, by the way—what price would matter at that point? As long as you are ahead of this coming wave of sell-orders, your short should do nicely from any price ahead of that wave of liquidation orders. Now let me really drive this home....

What study would you have to do if you already knew the market was about to turn seller?

How about NONE? If I already knew the market was about to turn seller, what study would I need to do? What to do next is self-evident; just open a short position.

The only question at this point is “How can I learn how to see where the markets have run out of orders on one side?” That will require Clarity of Observation.

Not a desire for profit.

Analyzing price can offer you very little in finding those points in the market's time/price relationship. The reason is because price is not the motivating factor for people to participate. As we have seen before, the reason people trade is to "make money", so if that doesn't happen—they are motivated to get out at some point and take a loss. Price isn't the issue—getting rid of the emotional pain of losing is the issue. If it does happen that they make money—they are still motivated to get out anyway at some point because they don't want to lose what little profit they have. In any case, almost all traders (even a lot of the winning ones) are all motivated more to get out than they are to get in. That's why trading is about finding liquidation potential and not about prices. Once you know how to find liquidation potential, you don't need to do any additional studies about price(s) because what you need to do is already self-evident. In your new paradigm of thinking it runs something like this:

"I want to make money. I see that the market is out of buy orders at roughly (time/price relationship); I will sell at that point and wait for the liquidation to run its course—then cover my short" How about this?

"This is what the market says—this is what I do"

Remember when we discussed that? You see, for most traders, their desire for profit is interfering with their clarity of observation. They can't really see how simple it is to "make money" because they don't understand that all the price study in the world will not help you find liquidation potential; most traders don't understand they need to be looking for liquidation potential to begin with! They believe (because it fits neatly inside their existing thought process—meaning the real-world paradigm) that all they have to do is enough market study and analysis and then they will "make money". Most traders have their entire daily focus on "making money" (They focus on their desire for profit). They are not observing anything.

But making money will naturally happen all the time for the trader that is focused on clarifying his ability to observe liquidation potential in the order-flow—because that is the only thing that can create profit potential anyway—so why waste your time with anything else? If your observation about order-potential is perfectly clear—you don't need to concern yourself with making money because what to do next is self-evident. This is why thinking in probabilities is so important. We already know that no one has a perfect observational bias. And we can never really know if we are positioned properly for a liquidation event until later after the market moves. All we really need to do is find as many “better than chance” probabilities that a liquidation event is about to happen. The rest is just money management.

This is why when you find truly enlightened traders—people who understand and know how to exploit the markets—they really don't care about what prices are trading, they don't care about what news is coming out, they don't care who said what at what conference or news program, they don't care what the reports are, what the Technical Analysis is, etc.; none of it. They don't care if they go into the office today—they don't care if they “miss a trade”; they don't even care about their losses—they don't care about any of the same things all the losers care about. They don't have to. They already know where the loser is—and they trade against him. That's it. There is nothing more to do no matter how you slice it. Why would someone in that position take hours out of every day to “study” price action? It doesn't make a difference to his bottom-line profit anyway. It can't make a difference to anyone's profit...

So why do you insist on making this harder than it needs to be? Could it be your inability to grasp (and accept) the essential central issue to trading is the real reason why you can't profit? Is the problem YOU?

Let's take a step back and let this soak in...

What we have been discussing does not fit in your thinking very well—if at all, correct? That feeling of “this doesn’t fit” is the clearest and most forthcoming evidence you will ever have that there is something about how you see things—how you process information—that is not congruent with the true nature of the markets. Depending on how aggressively you will eventually protect your existing paradigm of thinking—the real-world paradigm—you will experience all sorts of emotions from deeper discussions along the lines of the true nature of the markets. Some traders get really angry, even hostile when discussing their desire for profit, some people outright reject any part of this discussion as being “too simplistic” or even “juvenile” I have had people tell me that they think I “invented” all this “hyperbole & hype” in order to appeal to novices and sell them things; all sorts of petty and ridiculous ways of hiding themselves from the reality that is right there in front of them. People “shoot the messenger” rather than accept the message.

On the other hand, if you are open and willing to accept this new paradigm and begin the process of appropriating this for yourself—the pathway will eventually lead you to creating a winning trade approach you can enforce daily. It will evolve along whatever pathway you want—sooner or later—trading will become effortless once you know why you do—what you do—the way you do it.

This isn’t my opinion—I am telling you how winning traders think and what motivates them. I studied every winning trader I could find, and this is the common thread. First and foremost, on their list of things to do, is completely eliminate any desire for profit from their thinking—because it prevents them from seeing clearly where the order-flow has potential to change. Whatever tools they might use to help them find those points in the time/price relationship is up to them—they usually have very good reasons for using their tools...even if it is the SAME tools you want to use (like moving averages or something). Winning traders will use those tools differently than how you might be using them. They are using those tools to find a place where there is liquidation potential—not trying to find a price that “reduces the risk” Winning traders don’t need to reduce the risk because they aren’t taking risk—they are taking probabilities. What winning traders want is for YOU (the loser), to all think the same way—use all the tools the same way—and execute all the same way. That means all the losers

will be in the same spot at roughly the same time/price relationship, and then liquidate; creating the opportunity to take the losers' money (meaning your money). Until that time/price point for a liquidation surge is clear to the winning traders—they don't do anything. To take it to an even further level of trading psychology—if they know themselves well enough—if their clarity of observation is being impeded in some way, on any level, for any reason, they will remain flat. The winners are thinking something like this: "There is ONLY ONE WAY TO PROFIT. If I can't find it because I'm bothered by (fill in the blank) then it is better to do nothing. Why put myself in and take a loss if I could just wait until I am over (fill-in-the-blank)?"

We will get to all the other parts of a winning trade paradigm as we continue through each of the remaining chapters. There are lots of related tools in Part III as well. For right now, I would encourage you to start a trading journal and begin documenting how you think each day while you are trading. At some point, you will want to go through those pages and look for certain things—which we will discuss when the time comes. For now—you want to at least begin a process that you will learn how to refine later. Bear in mind—creating a winning paradigm takes time and effort. All you have to do is today's part. Sooner or later you will put it all together.

### **Your key takeaway from this chapter:**

Your clarity of observation is clouded by your desire for profit. The more you focus on making money the harder it is for you to clearly see the real issues for profitability in the markets; because what creates opportunity in the markets is different than what creates opportunity in the real world. Once you can clearly see where opportunity is developing in the market for the reasons the market functions under, you won't need your desire for profit anymore because what to do next becomes self-evident.

## Cultural Myth and Self-Sabotage

***“How did I make my fortune? Simple, really...I started on a street corner selling apples. I bought the apples from a wholesaler for a nickel apiece; then I polished them real good and arraigned them in neat pretty rows on my cart. I sold them three-for-a-quarter. I continued in this manner until I had amassed over \$300.00. Then my uncle died and left me \$1.7 Million”***

--***Attributed to P.T. Barnum***

I don't know if the above quote is really true—but it makes for a great illustration for this part of The Psychology of Trading. Making a fortune is what, exactly? We all would like to believe there is some wonderful back-story to how so-and-so became wealthy. I personally like the story of how in the early days of Federal Express it was difficult for the founder, Fred Smith, to make payroll or even buy fuel for his jets. When he was almost at the breaking point, but he knew he was right at that corner, all he needed to do was get past the next week or two and everything would fall into place. Unfortunately, he was out of real money. He was up against the wall and he knew it. FEDEX could be finished; he was feeling the heat. All the options to raise capital were in the works and would be decided in the next week or two; but he needed something to get through until then. Nothing anywhere except for that last little \$5,000 or so in petty cash....in a flash, Smith took that cash on a Friday afternoon and went to Las Vegas. He sat down in a casino and played Blackjack with the company funds. By Sunday morning he was up enough to at least pay his fuel bill. He returned back to Memphis and he got through those last few weeks until that crucial bridge loan was in place. Then FEDEX never looked back.....

Talk about risk taking! In this case, Fred Smith was on the winning side; so it is a great back-story. Maybe in the case of John DeLorean selling Cocaine to make his payroll... not such a good ending...

The world is full of successful people with a great back-story. There are just as many successful people with no back-story to speak of. If the truth were told—some of the most boring people I know with some of the least-impressive back-stories are the more successful at what they do. What is the reason why the back-story is so impressive to most of us? Is it about overcoming adversity? Is it about succeeding when the odds are against you? Is it about that “one special moment” when all was lost BUT THEN things changed unexpectedly?

When we talk about Cultural Myth and Self-Sabotage, to a large extent we are really discussing our personal back-stories. We are taking the past parts of our lives that we feel have meaning of some kind to them and transposing them onto our current daily trading life. We do this to create a story that is engaging to a potential listener; most notably, the listener inside of us. We are creating something of value when we are creating our story. Everyone loves a great story.

For example, I used to love listening to my Uncle Fred tell stories of when he was a young man growing up in Calumet City, Illinois. He was a stand-up guy, but he was rough around the edges I suppose you would say. He was building hot rods before there were police radios so he would tell stories of out-running police during high-speed chases through downstate Illinois in the 40's and 50's; why? Because he was running moonshine from Alabama to the south side of Chicago regularly. He had stories like that every time we got together at a family event—stories of him jumping ship in the Philippines because he got tired of the Merchant Marines, or meeting the president of some tiny country because he got caught stealing his car to get to the airport...all sorts of back-stories that made my Uncle Fred a blue-collar hero. When he passed away, I wish someone would have written all of those stories down; he called it “kid-stuff” and that was the end of it. But those were the defining things about him. His back-story was illuminating to his character. It helped to make him who he was.

When we discuss traders and how they got to be where they are (win-lose-or-draw) part of the issue is the back-story. But most importantly, the back-story they themselves believe to be the one that matters to them. We tell ourselves a back-story about how we got to be who and what we are at this moment; and much of that back-story is based on, and contributes to, our real-world paradigm. That back-story is the “self-talk” we have; our inner voice that speaks to us.

For example, let's suppose you personally come from a middle-class family living in the mid-west with a total of three other siblings. Your father owned the local Grocery store that was founded by your grandfather. While you were still in high school, the family business began expanding to several stores in the state. Your grandfather stayed active in the business every day until he passed away while you were in college. You eventually went to work for the family business after getting your business degree from a state university. Your siblings all followed in your footsteps as well, so by the time you decided that trading was something you wanted to do, you were already financially successful, and the family business was indeed run by the whole family.

How does this sound so far? Not anything overly dramatic or sensational—very common sort-of story you might typically hear from any mid-westerner. But let's dig a little deeper...

Every Sunday after church the whole family would have dinner and grandpa would tell the old-worn-out stories of how he got started in the grocery business; how he worked 10-12 hours a day, maybe more during the holidays, how he went out of his way to visit local farmers to get the best produce, etc., etc. You learned how your dad came home after the war and joined the business after serving in the Army Air Corps. Stories that were always summed up the same way: “Hard work my boy! That's how you make it in this world! You get up early—put in the extra effort—people love that!” and you might hear “If you aren't making it happen (yet)...get more knowledge! You're nothing without an education...”

At this point—I would say you were the basic White Anglo-Saxon Protestant living with the Protestant Work Ethic seared into your consciousness. If nothing else—you are going to get great grades at university but likely won’t qualify for financial aid; your family has enough cash to pay for the full ride—no problem because that is the pathway that will assure your success. So, what does this have to do with trading? Here’s where this back-story collides with your desire for profit and creates your self-sabotage:

You can’t “work hard” at trading and expect a profit like you can in the grocery store business.

In the markets, there is no work to do. Just click the mouse—and you could make \$250,000 in the next day or so; maybe the next 20 minutes. There are no discussions to have with educators over some difficult section of your course work to make money; there is no course work. Basically, get on the right side of the market and you win. There is no “hard work” to master. There is no “midnight oil” to burn. A complete bum with no education or family support could buy or sell and do just as well. In fact, there are a few already out there.

Right now—the trader in our story—has a set of blueprints in his head about becoming successful. Ever since he was young his entire family worked long hours and put a lot of effort into the family business. The business grew and it was because of this work ethic. At school, he probably studied more hours per week than the typical student in order to get good grades—meaning “be a success at college”, he put in a lot of extra effort. This paradigm for success works just fine in the real world where hard work and extra effort will usually result in someone being ahead of the pack sooner or later; but in the trading arena none of it matters to your results. I call this thinking a Cultural Myth and it creates Self-Sabotage.

The above back-story will likely cause this trader to approach his interest in the markets from the point of view that goes something like this: “If I work hard enough, I can learn the markets. All I have to do is put in the extra effort like I always do, and I am sure to figure out how to do this quickly”

If you were to meet this particular trader later, this person is set-up to become a “tech-head” in the markets. He buys countless books on market study, he attends numerous online training webinars every week, he invests in high-powered computers and buys the most advanced software, he runs simulations and back-tests every little potential edge he finds; by the end of his first year he has made the spare bedroom into his trading room and when you open the door it looks like the flight deck of the Space Shuttle in there. He is working hard with extra effort to make it in the markets. Of course, by the end of his second or third year —he has lost considerable money to the markets and his wife is asking him why he stays with it if he is losing so often. He believes he is constantly on the edge of a breakthrough because all this hard work and extra effort must payoff sooner or later; just like it always has. It hasn’t happened “yet”. He sabotaged himself by following through on his existing work ethic expecting it to function like it always does in the real world.

But as we have discussed before—the markets are not the real world. All the study you can possibly do, all the midnight oil you could possibly burn, cannot help you predict prices or provide you a method to “reduce the risk”. The only way to profit is to find the loser and take the other side of that trade. The cultural myth present inside the head of this person has led this trader down the path of losses because he really doesn’t know any different. The trader doesn’t know he has this problem.

I am going to give you a short list of cultural myths. You will likely recognize yourself or someone you know inside some of these basic myths. That’s OK—there is a solution to this problem and we will be discussing that in greater detail as we move on; but for now I want you to accept the possibility that your personal back-story has a base inside something you were taught, or something

you allowed yourself to believe, as “true” in such a way that it is showing itself through your trading.

## A Few Basic Cultural Myths:

- Work Ethic I.E. “If I work hard, I will succeed” There is no work level in the markets, you succeed by positioning yourself against the losing trader, not by studying harder than him.
- Starting Point Comparisons I.E. “I come from a special background—therefore I have a better advantage over everyone else” Intellect, education or genetic breeding don’t make any difference to the markets. Harvard Business School graduates, Kings/Queens, and Nobel Laurates have all lost money trading because the markets are a machine—not a country club.
- Affiliation Priority I.E. “Who you know matters. I will join with other like-minded people” It doesn’t matter to the markets who you know or why you hang out with them; this isn’t the Jaycees or the Lion’s Club. Where you buy/sell has nothing to do with how connected you are.
- Assumptive Comparisons I.E. “The last time conditions were like this, the market did such-and-such” Your assessment of conditions is only your opinion and is always subject to error. There is no “past predicts the future” scenario in the markets. There is only one side gaining or losing dominance over the other side. How that happened before doesn’t mean it will happen the same way again. It might not ever happen again.
- Data Comparisons I.E. “In order to win, I must have the most current information” Information is not relevant to how prices move. Prices move because traders do something. The orders come into the machine and that is the only thing that matters; why they come into the machine makes no difference. All “the latest information” can offer you is the same thing it offers everyone else; the potential to be seen as “Bullish” or “Bearish” by all the same people.
- Conflict Resolution Priority I.E. “There is no reason for someone to lose,

we can find a win/win solution” The markets function by taking money from one side and giving it to the other, there is no potential for everyone to win.

There are probably thousands of ways for these basic cultural myths to become active in someone’s paradigm. There are thousands of Cultural Myths to consider too. For example, if someone has been a divorce attorney their entire life as a legal professional, they will likely have the “Conflict Resolution” paradigm firmly burned into their thinking. That’s all they do all day long—try to find a “win/win” situation for their clients. When someone with this paradigm begins trading they typically are attracted to things like option strategies—because they “don’t have to pick a side; I can just let the markets run out of time...” or something else that tries to resolve or mitigate the winner vs. loser environment for them in their minds. I’m not saying that option strategies that capture time decay are “bad”, I’m saying that because an existing point of view has been validated regularly in the real world it is very common for it to be the same point of reference for someone entering the trading world. Cultural Myth and Self-Sabotage means the trader tends to use his existing validated paradigm of thinking when attempting to find reasons to trade.

Before we begin the process of identifying where cultural myths might be active in your particular thinking let me clarify something.

Your existing real-world paradigm is not a bad thing. There are no “good” or “bad” real-world paradigms. Your existing paradigm is a necessary and helpful thing. It allows people to create meaning in their lives, it gives you purpose, it can help with creating happiness and all sorts of other positive things. In the big picture it allows us as human beings to create a society we can all live and function in, for the benefit of everyone. Allowing for the percent of us who might have some active dysfunction we need to address, for the most part, our real-world paradigm is a solid foundation with which we can build a satisfying, happy and successful life.

So, it is normal and natural for any of us to assume that our expected needs as a trader would be no different than our expected needs as an everyday person. In other words, we really don't even stop to consider that being a trader could be more or less distinctive than anything else; it's just different. In most cases, our real-world paradigm functions so well for us and operates non-stop all day, every day, that we don't even know it is there anymore. Sometimes, we are genuinely surprised to find we are thinking a certain way about something automatically until something else comes along to force a new look at things. I am sure you have had this experience: "WOW! I never considered that before. What was I thinking?"

Confronting our existing paradigm is really what we need to do. We don't need to replace it or even change it—all we need to do is become aware enough of what we are doing/thinking when we trade to make a change to our trading behavior. In other words, we want to eliminate our real-world paradigm from influencing our trading. We want to create a new trading paradigm; one that becomes active when we are actually participating in the markets.

Cultural Myth is our real-world paradigm when it is active in our trading. Self-Sabotage is the result to our trading out of an active real-world paradigm.

And where is cultural myth and self-sabotage coming from?

It comes from our personal back-story of who and what we perceive ourselves to be when we step into the trading arena. It is our "self-talk" and what we consider to be our inner voice; it is how we communicate with ourselves. It includes our upbringing, our religious training, our parents, our culture we were born into, our education, our personal choices, our hurts/pains/emotional scars, our expectations for our future; everything inside your head that you perceive as "Who you are", "Where you came from", "Where you are going", and "How you got that way". It is the sum-total of your consciousness, your inner dialogue with yourself. The markets don't recognize any part of that back-story, and the

markets don't respond to any of our efforts to enforce what we believe are the advantages we get from our back-story. It's like showing up for a gunfight with a chocolate cake. All it does is interfere with our ability to discern where the order-flow might have liquidation potential. Our back-story interferes because How You See Things is what makes all the difference. How You See Things must become congruent with how the market is structured.

### **Your key takeaway from this chapter:**

Most traders approach trading from the same real-world paradigm they approach everything else with in their life. Your real-world paradigm is not a bad thing; it is just not compatible with the trading environment. When you trade using your real-world paradigm you will likely suffer losses because your real-world paradigm is functioning from the past story of who and what you are; not from a market-centric paradigm that creates gains. When your real-world paradigm is active in your trading it is called Cultural Myth and it creates your Self-Sabotage.

## Gains and Losses

***“I could publish my system on the front page of the Chicago Sun-Times and people would still lose money trying to use it.”***

**--Richard Dennis**

One of the things I teach when I do The Psychology of Trading course live to students is the concept that there is no “right” or “wrong” way to trade. There is no “good” or “bad” price action. There aren’t any rules you could invent that will provide you a “better” or “worse” edge for yourself. I know these concepts might seem hard to grasp at first but what we are hoping to achieve is a completely market-congruent method of behavior through the creation of a new trading paradigm. Labeling things as good/bad, right/wrong, bullish/bearish, etc., are all methods of interpretation and subject to a sense of certainty; they are all part of the real-world paradigm and therefore unneeded where we are going. In the trading world you don’t need to make any of these assessments. You don’t need to define anything in order to participate. All you need to do is place an order and wait. If you have done your homework properly—that order will be on the side of the next wave of orders that are overwhelming the other side. The trade will profit and that is all that needs to happen. You don’t need to do anything more or anything less. You don’t need to know anything or explain anything. You don’t need to answer any “How?” or “Why?” questions, you don’t need to do any market study, and you don’t need to feel any emotions of any kind no matter what happens.

Put that in contrast with what most people are doing when they trade, and you will see a very big difference.

For those readers who may not be familiar with the trader mentioned in the above quote let me introduce him to you. Richard Dennis was a pit trader at the CBOT during the 1970's into the 1980's. He started with next to nothing and lived in a cheap Lincoln Park apartment furnished with milk crates and spool tables even when his net-worth reached beyond seven-figures. He retired with a fortune conservatively estimated at \$400 Million but he is best known for coaching "The Turtles", a group of personally selected traders he privately taught; most of the turtles are retired now too and if you have time you should learn a bit about that whole story—it's quite interesting. As far as his trading is concerned, Dennis understood the above "non-attachment" philosophy very well and the above quote was his answer when asked "What is so special about your approach to trading?" At the time, Dennis was one of the most successful traders in the public eye; bigger than Paul Tudor Jones, Peter Lynch or any of those 80's "rock star" traders. Naturally, people wanted to know what he did that made so much money and he would always say the same sort of thing—nothing. He said it lots of different ways. But he basically said nothing. Why is that?

Because there is nothing to say. Well, maybe there IS something to say—and the better answer is "No one would understand it" Follow me on this...

The market is a machine. All it is doing is processing orders from buyers and sellers. At some point, the machine (market) will have an order-flow imbalance built into itself; all the buyers will have to use a sell order to get out and/or vice-versa. When that order-flow imbalance shows up the prices will reverse. Once the reversal happens, the machine (market) will eventually create an imbalance in that direction too. This process of order-flow imbalance trying to resolve itself never stops. Therefore, the market never runs out of opportunities (You are not going to miss anything), you can trade from either side equally (There is unlimited opportunity), and you can participate any time you want or stay out for whatever time you want (there is no pressure to do anything).

How do you make money, Mr. Dennis?

“I buy low and sell high”

How do you know how to do that, Mr. Dennis?

“I buy when everyone else is selling and I sell when everyone else is buying”

How often do you trade, Mr. Dennis?

“When I see my opportunity”

Can you see the problem here? In the trading arena, any trader (not just Dennis) would say that all of the above discussion along with the Q & A test to see if you understood any of it, is absolutely correct and accurate. Furthermore, based on the discussion above, there is absolutely no emotional experience connected to the participation process. AND...the marketplace is so simple to understand you don't need any more knowledge or study to grasp how profit opportunity presents itself. Anyone can understand and anyone can profit.

So why do most traders have such a hard time making consistent money?

As we have discussed before, it is how they see things that is the problem for them. It isn't the markets—it's the trader that creates the losses. Richard Dennis could publish his trading method on the front page of the newspaper and people who follow it would still lose money. Why? Because the typical person using any method brings all his cultural myth to the table when he trades; sabotaging himself in the process. No one wants to believe it really is so simple a child could do it. That doesn't fit into their heads.

As a side note, Jesse Livermore published his method for stock trading almost 100 years ago. Most people who review the Livermore method and then decide not to use it say something like: “The market has evolved past this method—there are better ways now” or “This method is too complicated for the average person to use; plus it takes a lot of capital to do it right. It’s not practical anymore” or some other lame excuse why the method that made one man fabulously wealthy can’t possibly be for them. Dennis taught The Turtles exactly what he did and why/when he did it; none of the turtles had the same or better results than Dennis had. They all did fairly well—but no one applied the process exactly as Dennis had. In other words, systems apparently are not the issue for success in the markets either; because different people using the same system will all have differing results. it’s something else. One individual can use a system better or worse than another. What is the essential difference between winners and losers?

## **Your Market-Centric Trading Paradigm**

As I have said before, the problem is how you see things. I wanted to start this conversation with a brief introduction using systems because it is very important that you understand that everything we will discuss from here forward is all about developing a market-centric paradigm of thinking. A market-centric trading paradigm not a trading system. It is a way of thinking. We are not going to even start the process of creating a winning system until we get to part three so just relax and stop focusing on making money—let’s deepen the discussion about market simplicity and profitability; because it is the same thing.

The zero-sum environment is incredibly simple, and it is because it is so simple that most traders can’t initially see how to develop a profitable approach. Prices and price action have no meaning other than the meaning you decide to give them. Your market-centric trading paradigm must start from a non-attachment point of view. The reason people experience losses so consistently is that they possess a sense of attachment to their results that (again) comes from their real-world paradigm. A sense of attachment can take many forms, but I will give you

a brief illustration that most traders will probably recognize easily:

Let's suppose you believe the market you are looking at is due for a rally. By that I mean it is ready for a lift higher in price. You came to that conclusion how? Maybe by reading a very persuasive bullish argument from a respected individual or listening to a news program that reported the supply of something is at a 20-year low. Your very first mistake is placing your confidence in someone else's' point of view or what you see/hear on the news; but that is a different issue—right now we are concerned with how a sense of attachment can lead to losses. In any case—you “connected” with the bullish point of view. If you are like most traders you reviewed whatever you reviewed in such a way that you “agree” with it; and this point of view is so connected inside of you that you feel you have reached this conclusion with an equal amount of effort and authority as the original author did (“You know, he's right—that is a solid argument for a price rise—I agree that this potential is really strong to the upside —that's obvious now”). Your problem started right here. Because there is no “bullish” argument other than the fact that someone (meaning YOU) can't just look at the market and find the order-flow imbalance. They (meaning YOU) have to find a meaning to price. It must be “Bullish” or “Bearish” because we have to know what should happen in order to profit (A Cultural Myth).

After reaching this conclusion you begin your very own “research” into the potential bullishness of this particular market because you want to be sure (sense of certainty). After extensive analysis and historical study, you have come to believe that the bullish point of view is certainly the correct one (meaning you think you have “reduced the risk”). So, you decide to buy. Within a day or two of buying that market the price has continued to decline and is now testing a recent historically low price. You aren't too worried yet because you just started this trade and you expect to be in it for some time. You think “It should hold support” Two more weeks go by and the price is again lower. You go back through all your research and adjust your analysis to include the two fresh 20-year lows that seem to offer no “support”, just in case the two of you missed something.

Within a month or so you have a sizable open-trade loss. You can't understand why because the research you did clearly shows the bullish potential that should be there. You aren't looking at anything else. All the news reports say the same thing; these fresh lows are "temporary" according to most analysts. Additionally, the "guru" who first sold you on the bullish scenario has even more supporting documentation and argument as to why the market is a better buy now than it ever was. Although you are losing big money, you still hold on because you don't want to liquidate right when the market could be due to finally turn. After enough pain—meaning another low print—you just can't take it anymore and you bail. You take your loss and it hurts...and you just can't understand why. So, you go back to all those charts and stuff and try to figure out what you missed; because if you would have known the difference you would have waited to get in later. Then the market quietly starts to rally, making weekly highs again and again, until three months later it is soaring; well above your original entry price. But you have nothing on because your previous losses were really painful; you didn't want to jump right back in until you had confirmation that the trade was now bullish for certain. The market never pulled back enough for you to get in comfortably and it "just ran away from you" leaving you with a loss when you "Should have had a profit"

Do you see the ridiculousness of this whole thing yet?

You wanted the market to be "bullish" and you built an entire trade scenario around why the market would rally. You didn't consider anything else and just hoped you were right because you expected to make money. To make matters worse, you were absolutely correct about what would eventually happen, but you never made any money from your analysis. You couldn't get back in because of your attachment to what had to happen first "according to plan" When nothing went "according to plan" you had no point of reference with which to make a fresh commitment. You had to re-examine everything and find out "what went wrong" so you could avoid that mistake in the future. You had already lost some capital and you didn't want to throw "good money after bad" at this point. Additionally, if you would have waited—you could have bought near the absolute lows, but the emotional pain of your first loss caused you to be "more cautious" until the trade was "confirmed" before doing anything. Then the

market “got away from you” and never gave you another chance to get in (need for certainty) before establishing a trend higher. So now you are still waiting for that market to return to the “trend line” but it never seems to get close enough to it before rallying away again—so now you are angry and frustrated.

You were so attached to what the market was doing to you that you couldn’t see what was actually happening inside the market. The order-flow was still net offer up until a certain point. Then the order-flow went bid. If that was what you were focusing on in the first place there would have been only two choices available at the start with no “research” needed at all. First, if you had the point of view something like this: “If the order-flow is still net offer, and I want to make money today, then I need to put out a short position” all you needed to do was sell. If you wanted to wait for the market to turn net bid and not trade the short side right now, then there is nothing to do until the market goes net bid—then you would need to open a long position. What can “research” add to that simple process of observational thinking?

Your sense of attachment to what “should” happen based on all this study created a whole other universe of needs, unmet expectations, justifications, fear, hope, disappointments and financial loss for no reason at all; other than the reasons you gave it due to your point of view. If you had no point of view to defend—you wouldn’t have had the losses and the entire emotional experience including all the ups & downs. All of that losing behavior happened because you don’t possess a market-centric paradigm that doesn’t require anything to happen in any particular order or go according to any particular plan. You approached your participation in the markets from your existing real-world paradigm with its host of cultural myths. You need to develop a proper market-centric paradigm of participation devoid of any sense of attachment to anything; otherwise you will continue to lose money.

## The importance of Gains and Losses

Gains and losses are two very powerful data points that can tell you in very intimate detail how you are developing your market-centric paradigm. Both can tell you exactly how far along you are on the creation of your non-attachment mindset. Both can disclose how deep your sense of non-attachment is becoming; or how shallow it still remains. Gains and losses are not about money; they are about collecting data.

In order for these pieces of information to offer their greatest benefit we need to set some ground rules for the collection of your personal data. Up until now we have only loosely referred to journaling as a necessary part of developing your winning approach. You actually need to create two kinds of journaling for yourself. You need a “Thinking Journal”; which is the one where you slow down your thought-stream by writing everything you think about when trading down in a book by hand. The second kind of documentation is your “Trading Log” or “Trading Journal” where you document specific data about your trading and your trade results. We will discuss these two kinds of written documentation in the chapter on Record Keeping and I will provide samples of all this documentation in the appendix. At this point—I just want you to understand how important this information is so that you will be excited about recording the data correctly for yourself.

Why are gains and losses so important? Why do we need to see them as something other than money made or lost?

First of all, gains and losses need to be redefined according to your new market-centric paradigm of thinking. It is in the re-defining of these two data points that your market-centric trading paradigm will provide the strongest early benefit. When gains or losses become simply information, they become neutral to your sense of attachment. Gains and losses are no longer money made or lost; they become a measure of discipline performed or not. Developing and using a market-centric trading paradigm takes discipline to create. The entire process of trading for consistent profitability is an exercise in applied discipline. Gains and Losses are about collecting data to enforce new levels of discipline. There needs

to be no attachment to money made or lost. Gains and losses represent Discipline performed or not.

We are going to discuss discipline in detail in part III. Discipline makes the process a skill; but you don't have this skill yet—so we need to **ALWAYS** start at the beginning. The process of trading is very simple and must remain clear from any sense of attachment (which includes expected profit). For now, let's review again how we make money from our participation in the markets. We **MUST** be on the right side of the order-flow. **ANYTHING** that prevents us from finding the right side of the order-flow will eventually interfere with our clarity of observation and cause us to sabotage our trading. **ANYTHING** means **ANYTHING**...if I just had a fight with my wife and I am all emotionally flustered ten minutes before some report is due to be released; maybe I am not in the best frame of mind to take a risk this morning. Maybe I won't see it right... So, if I trade—and I have a loss—that can only mean **ONE THING**.... something interfered with my clarity of observation. I was thinking about my wife—not the markets' structure and how it might be changing ahead of or during a report. I absolutely **KNOW** that something was interfering with my trade, otherwise...

Why would I do something to hurt myself if I really knew better?

Seriously, none of us woke up this morning with the intention of losing in the markets. We don't get up and entertain the thinking: "You know, I feel like I am too successful in my life—it's time to lose some money. I feel emotionally distraught and disgusted with myself. That's my plan for today"

Our intentions are always to do our best at this today. But when you lose money in the markets—you are on the wrong side of the order-flow. That's it—there is **NO OTHER** reason, and nothing needs to be "researched", studied or explained using any other rationale. It's that simple. You lose cash from your account when you are on the wrong side of the order-flow. That's it. It doesn't matter how

much you invested into your education, research, training, software, etc., it doesn't matter if you are in therapy with your wife and expect to be happy again next week; whatever you did inside your thinking right now caused you to place yourself at risk in the wrong spot. If your whole goal was to make money—do it correctly—and not make any mistakes...if YOU REALLY BELIEVED THAT.... how did that loss happen?

It happened because you simply didn't see it clearly. That's it. The problem is inside your head. So, a loss is what? A failure to see things clearly.

A loss is not a financial thing. It is a failure in observation. A failure in your discipline. A failure in "how you see things", it is not about money—it's about thinking and why you are motivated to take action at the exact time/price area you decided was the absolute best place to be....You did what you did—and the bottom line was it was on the wrong side of the order-flow at that particular time/price relationship.

A loss is a failure in objectivity. Nothing more; nothing less.

A loss teaches you that something in your market-centric paradigm is still not functioning properly. If you saw it correctly—you would have a gain. A loss says you didn't see it correctly—so what did you miss? Whatever it was that you missed—it is inside your head. It is something interfering with your clarity of observation; what is it?

A gain, on the other hand, is more problematic and gains are the real reason most people can't make money consistently from their trading. Most traders have gains so infrequently that they are more concerned about giving them back than holding them for their true potential. Most traders will cut their gains short very quickly due to the emotional pressure of not knowing where the best place to

liquidate really is.

But we already know where the best place to liquidate is.

It's at the point where the order-flow will change to an imbalance on the other side. In fact, if you were really good at finding those time/price relationships; couldn't you be long up to the highest high price—then close and reverse to hold shorts from the highs until the market reaches some distant low price? Then do it again; and again? Couldn't you be at every turn all the time—I mean if you were really good at finding the imbalance in the order-flows? If you could see things that clearly—how much money could you make all the time?

A gain is a complete clarity of observation. All you need do to make money is get on the right side of the order-flow imbalance. Making money is the inevitable result of seeing things clearly. Therefore—gains basically say “I am seeing things really clearly right now”

Or it is a complete accident...

“Wait—what was that?”

Yes—you can make money by accident. But it gets worse. You can make money by accident and then confuse that with having a true skill. This is why gains can be so difficult for most traders. If they make money—they really aren't sure how that happened and therefore can't repeat the behavior that created the gain; assuming their behavior or study had anything to do with finding that particular order-flow imbalance in the first place. Most traders have gains by accident—whatever they did to convince themselves that it was time to buy or sell, those

permutations just happened to exist at the same price/time relationship that the actual order-flow imbalance happened to be at. As soon as the market structure changes to something their particular analysis doesn't find by accident—those traders give back the money they made plus more.

Remember my illustration earlier about "Moonlight Penny Dancing" analysis? I think we all would agree it is fairly clear that there is absolutely ZERO chance that "MPD" analysis would ever be able to accurately forecast price action in any market. But someday—sooner or later—there will be an APPARENT correlation between "MPD" analysis and the price change in some market. In other words, it will "look like" MPD analysis was "correct" in forecasting a BUY signal somewhere only BECAUSE shortly after the MPD analysis was done there was a price rise on the market the forecasting was used on. Again, the only reason the price rise occurred is because the order-flow imbalance went bid. But because this happened in such an apparent close proximity to when the MPD analysis was done, traders believed that there was a direct correlation that "validated" the MPD analysis. In other words, traders who bought that market made money by accident, but they confused that with having a true skill (correctly doing the MPD analysis).

So, you can begin to see where developing a truly non-attached market-centric paradigm can require a lot of effort when discussing your gains, correct? A gain is either a perfect assessment of order-flow conditions—or it is a complete accident. There are no other ways to profit. Either you did it perfectly for market conditions as they were at that time; or it was a complete accident you just happened to be on the right side of.

I would like to propose to you that it really doesn't matter which sort of gain you have. Accidental gains are OK. What you are working towards—and will eventually create for yourself—is a market-centric paradigm. A non-attached and neutral method of seeing how the market is constructed at a particular moment. That means you will eventually acquire the ability to create gains by design—not by accident. But in the meantime—take those accidental gains. Making money is

the inevitable result of participating according to your non-attachment market-centric paradigm. If some of those gains come by accident and you simply can't determine if you saw things clearly or you were in the right place at the right time solely by accident; who cares?

The purpose of studying your gains and your losses is to discover exactly where your developing clarity of observation is strong and where is it weak. 100% of your losses disclose your weaknesses. It will ALWAYS be unknown what percent of your gains are by design or by accident. That makes no difference to you bottom line because the best part of your gains vs. losses argument is this:

## **The Probability of Ruin Matrix**

The best part of trading from a non-attachment mindset is the freedom from having to explain every little thing you do or experience because you wrongly think it contributes to your bottom line somehow. Gains and losses are just information that tell you how clearly you are thinking and how disciplined your participation behavior is becoming. But what are we measuring this data against? What is the frame of reference we want to eventually acquire?

If you learn to properly observe order-flow potential, then you will make money —making money is the natural result of seeing thing clearly. When you don't see things clearly—you will hand yourself a loss. As long as your gains are consistently larger than your losses—your account(s) will grow at some definable rate. Between the two lies the extent of your true potential for consistent account growth.

Outlined below is the “Probability of Ruin Matrix” This is a chart of the potential you have to lose money based on the percentages and ratios you create from a reasonable sample set of your trade results. For example, if you did 100

trades and had 60% winning trades against 40% losing trades, AND, you made three dollars on your winners for every dollar you lost on your losers—you would have a zero-percent-chance of “ruin” in your account. “Ruin” is defined as a 50% draw down from starting equity. In other words—you have very little chance of ever losing money net in your account.

## PROBABILITY OF RUIN\* MATRIX

		% WINNING TRADES						
		30	35	40	45	50	55	60
PROFIT/LOSS RATIO	1:1	99	88	88	73	50	27	12
	1.5:1	98	85	50	17	4	1	0
	2:1	74	38	14	5	2	1	0
	2.5:1	40	17	7	3	1	1	0
	3:1	23	11	5	3	1	1	0
	3.5:1	17	8	5	3	1	1	0
	4:1	14	8	5	3	1	1	0

\* Ruin is defined as a 50% drawdown from starting equity

Conversely, if you made one dollar on your winning trades for every dollar you lost on your losing trades, AND, you had a 50% winning-trade-to-losing-trade ratio, your percent chance of ruin would be 50%. In other words, you have a strong potential to suffer losses; because your gains are too small, and your losses are too often. BOTTOM LINE—you don't make enough on your winners to overcome the potential losses. Your goal is to stay somewhere in the gray area of the matrix. Some sort of combination between percentage of winning trades and the combination of dollars won against dollars lost. Notice also that you can have below 50% winning trades and that is OK; you still have a very low percent chance of ruin, as long as you make more than a certain amount from your winners all the time.

In other words, as long as your gains are mostly larger than your losses and you have somewhere better than about 48% winners...you should be OK as far as growth is concerned. All you need to do is develop enough clarity of observation to reach that level. And discipline yourself to perform at that level too (more on that later).

Here's the interesting part—and I would like you to REALLY pay attention because what I am about to say next simply doesn't fit inside most people's heads. 48% winners are really no better than chance. Your "system" is really no better than flipping a coin. However, flipping a coin is a system too, if it is done consistently the same way all the time. If you flipped a coin and went LONG every time the coin flip was heads; and went SHORT every time the coin flip was tails; and you did this at the same time every day, you would eventually have somewhere closer to 50% winners vs. losers. If all you did was hold your winners for twice what you gave back on your losers—most likely you would make money every 100 trades. That's not my opinion—that is the mathematics of the probability of ruin matrix.

It doesn't matter what your system is to exploit price action. Whatever it is it will have some percentage of winning trades. Even the worst systems have some

number of winners. What is that percentage and how many trades are needed to have that percentage? The winning trades take care of themselves. Losing trades need to be liquidated at a predetermined point that never varies. If you hold your winners for twice what you give back on your losers—you will likely make money every 100 trades. Would that work for you? Oddly enough, you can start today with no more skill than the ability to flip a coin and if you just learned to hold your winners long enough to pay for your losers plus a little more—you are on your way to the top if you can avoid making all the other stupid mistakes we traders learn to make over time.

You see, what you want is for the probabilities to work FOR you. In order to do that—you need to know what your particular probabilities are. You can't know that until you study your gains and losses enough to know when you are duplicating winning behavior—or just guessing. Even if you have accidental gains—that still drops to your bottom line as some amount of money made. We will take them until we can up our percentages to beyond chance; and increase our observational skill to time our entries so we can get 3-4 dollars in gains for every dollar we give back.

### **Your key takeaway from this chapter:**

Gains and losses point the way towards your personal non-attachment mindset; your market-centric trading paradigm. Systems, information, training and the whole host of other related “tools” really don’t offer any advantage over the most basic and simple understanding required to grow your account balance: When the order-flow is preparing to change, you have an opportunity. How clearly you think determines how clearly you see things to find those turning points. Gains and losses tell you how well you are thinking in that direction; and how close you are to finding liquidation order-flow regularly.

## **Accumulating Profit**

***“Money, as it turns out, was exactly like sex; You thought of nothing else when you didn’t have it and everything else if you did...”***

**--Charles Bukowski**

Accumulating profit is a study in self-awareness. Like we discussed in the last chapter, developing a market-centric paradigm requires refocusing your mind away from traditional roles of thinking we usually take for granted. Gains and losses are no longer about the money—they are about information to establish our discipline. Our discipline leads to keeping more money from our behavior as our market-centric paradigm grows.

How are you going to measure your discipline?

This chapter is that discussion. When traders ask me: “How do I make more money?” I usually respond with: “That’s like asking a doctor ‘How do you make a sick person well?’” or “That’s like asking an attorney: ‘How do you win a lawsuit?’” There is no one-size-fits-all answer to a general question that requires a specific set of conditions to be met.

Let’s go back briefly and review what we have learned so far and sort-of generalize it enough that we can begin to answer the hardest question of all for traders to answer: “How do I make more money?”

- We can't make money from our trading unless we take it from another trader—that is just how zero-sum markets work.
- 100% of the people trading have access to all the same information and tools—everyone sees the same news, has access to the same training/education and everyone does some sort of analysis.
- 100% of the people are trying to profit from their use of information, news and training but statistically only about 15% are winning consistently. The other 85% of traders are paying their money to the first 15% all the time.
- In order for this ratio to exist, the winners MUST be doing something different than the losers all the time. The winners MUST be taking the other side of the losers trades with enough frequency to remain in the 15% all the time.
- The winners MUST be buying when the majority of traders are selling and vice-versa. There is no other way to profit.
- No matter what the result is to any one trading account over time—whenever any trader is LONG the market; he must use a SELL ORDER to liquidate (either to take a profit or take a loss). The opposite is the same for SHORT positions.
- These liquidation orders eventually will pile together until there is an imbalance in the orders big enough to reverse price direction. This potential never stops.
- To consistently profit, any trader has to have some method of seeing where these price areas of liquidation potential exist in the market. Without that knowledge taking a position is just a guess and likely will result in loss.
- To see where liquidation potential exists, a trader must have a market-centric paradigm that is not attached to any particular activity/action or bias. This paradigm is not the same paradigm we as humans use to function in the real world.
- Until any trader can operate exclusively from this non-attachment mindset using a market-centric paradigm 100% of the time he is actively participating,

his potential for losses remains higher than his ability to make money net.

- To create this non-attachment mindset and develop a market-centric paradigm, any trader must study his actions and his thinking. The trader is looking for ways his real-world paradigm interferes with his trading-world paradigm. Those points require discipline and practice to remove and/or get under control so he can fully control his execution and his results.

In reality—a winning trader is operating within a set of behavioral conditions. His new method of thinking has created a different way of seeing opportunity. 100% of his actions taken from that moment forward are based on his best understanding of where the liquidation potential exists that will create an order-flow imbalance. A winning trader has developed the skill to know exactly when his point of view is constructed from his market-centric paradigm and when it is not. A winning trader has created a set of boundaries for himself that prevent him from hurting himself. A winning trader's behavior operates from a sense of probabilities and his probabilities are well-defined.

A winning trader is disciplined to behave only according to his plan—and nothing else. How are you going to measure that discipline?

Remember when we discussed how our thinking is constructed and how our minds can operate so fast that we have trouble slowing down our thoughts to see how they are connected? That is why we need to start developing our non-attachment mindset and our new market-centric paradigm from a hand-written journal. More on that later. But for now, let's do a basic process of reaching a conclusion together. Let's talk about how to measure our growing discipline.

Let's start with a few facts:

- “If I am on the right side of the order-flow—I will make money”
- “My gains tell me I am on the right side of the order-flow”
- “My losses tell me I missed seeing where the order-flow was”

And now let's ask those tough questions:

- “What was my thinking that led me to believe a profit-opportunity existed?”
- “What was it about my behavior that put me in the proper spot to profit?”
- “What part of that behavior process can I duplicate over and over for an edge?”
- “What part of my thinking led me to the wrong spot for a loss?”
- “What controls can I place on my thinking and behavior to avoid duplicating losses?”
- “What controls can I place on my thinking and behavior so I can duplicate gains?”

If you are doing this exercise you should start to feel like your mind is opening up a bit and different information might be available to you. I didn't say you would like this process or like what you find when you do it; I said that accumulating profit is a study in self-awareness. That might mean you have to bring things to the table that you don't want to bring to the table. To answer those questions well enough for you to break the cycle of trading losses might mean you need to have some candid discussions with yourself on a level that is typically unpleasant. If you are not feeling that way—good for you—but please keep an open mind to taking this process as far as it might go; all the way back to the real “psychic wound” that might be preventing your gains if needed. In any case, let me give you a “for instance” of how this process might play out for you the reader.

Let's use some "If—then" correlations to get the ball rolling:

"If I make more money than I lose—I will see consistent net gains"

How do you know this? Well, you can use basic math to determine that if you make \$500 on one winning trade and lose \$250 on two trades total; between the three you would have a net gain of PLUS \$250...what else do we know at this point? We know that your winning trade ratio is low according to the probability of ruin matrix (About 33% winners-to-losers ratio) but your money gained versus money lost ratio is excellent; closer to 4-to-1 (\$500 earned on the winner against an average loss of \$125).

Now—if we can keep all these ratios working for the next 100 trades or so there is a very good chance that you will make some very good money. So, let's create a plan and some sort of method to find out if we are on track. First, we need to find out what happened on our winner(s). Is this an accident or did we really demonstrate winning behavior that we can now duplicate? We go through our journal notes and discover that we observed a strong sell-off in the market that ended at a low print that equaled the previous week's low print. Obviously, we can't know that this week's low print will remain equal to last weeks until later, but it is apparent that the market ran out of sell orders at the same price point twice now. The market rallied within 24 hours, so you bought the market on the close of the day it sold-off into the low prints. Your risk-stop was under the low where the market hadn't traded yet, so it was a good probability that there weren't enough sell-orders to create a fresh low and threaten your stops; at least not yet. Now we have some things with which to try and create and maintain an edge for our trading.

We do the same thing for our losses. One of the things we notice about one of our losses is that you placed a sell order right after reading an article about

bearish conditions in a market you really know nothing about. You don't know anything about how buyers and sellers would view conditions, review fundamentals, or what technical factors tend to be active. You didn't even look at any price action—you just read a bearish article and just because you read it at 10:30 AM this morning you decided it was a good time to sell. The market continued moving higher until you were stopped out and the total time in the trade was less than 3 hours. Also, your exit stop was inside the range of the previous week at a price level the market has already traded at consistently—so there was a good probability that price could trade again (and it did, handing you a loss). Your other loss was in the same market about an hour later after you came back from lunch. You returned to your desk to see the order for your liquidation filled and you got angry you didn't make any money on that trade—so you entered another sell-order in the same market once you looked at the prices because your fill on the first loss was the traded high for the day and the market was down to a price level below that. You felt as if you could have made money except for your stop being tagged as the highs...that is just "bad luck" so you tried to get your money back. Later, that market rallied to fresh daily highs taking you out for a second time.

So now we have some things to consider about our losses. First, both trades were done because you were thinking about SOMETHING ELSE instead of the market structure and the probabilities being in your favor. The first loss was done because something "sounded good" about why the market might be bearish. The second loss was done because after your loss you looked at price action and saw "you could have made money", which is a sense of attachment to results. You got angry because your sense of entitlement to a gain was offended. You should have made money on that trade—so the market owes you. Both trades were losses because the order-flow was in the opposite direction for the time you were in them. You were not looking for that—you were looking for an opinion to be correct and when it wasn't you your emotions over what "should" be happening influenced your decision-making process. All of the above actions/emotional interference/assumptions about price; all came from your Cultural Myths—you sabotaged yourself.

The first trade was done based on a rudimentary approach to understanding how

order-flow develops along with some solid probabilities (If this low holds like last time—perhaps it will attract the buyers like last time—my stop is in a place the market can't get to easily unless something changes, but if everything remains as it was, a rally could be due).

The second two trades were done for emotional reasons and therefore would never have worked except by accident. In which case—the problem becomes worse. You might be tempted to trade from an angry bias again because it worked previously for you.

At this point you have the beginnings of a winning paradigm combined with clues to how you self-sabotage yourself. As far as creating an edge is concerned—one winning trade is not enough to determine if you have a solid edge with which to trade from consistently—but you DO have some solid behavior you can repeat in order to discover if you can make an edge out of what you saw. Later, when we discuss creating edges, we will go into this deeper but for now the thing you need to focus on is repeating favorable behavior and mitigating & eliminating losing behavior.

How are you going to do that unless you remain in a state of self-awareness as to what you are doing and how you are thinking?

Here's what I mean: If you don't journal honestly then your notes won't tell you enough about your thinking to confront it. If you never wrote down "I was angry that the market stopped me out and then went my way so I got back in right away" then you might never uncover how that loss happened. How honest are your notes? Are you self-aware enough to know you are "B.S.ing" yourself about why you are losing? What if your notes said something else entirely—like how self-congratulatory they are about how smart you are to have done something so quickly that made your money back. "I am really getting the hang of this!" "Next time I will double-up on my position!" or something else that shows you have some sort of a juvenile need for approval. How much money

will you lose because daddy didn't hug you enough when you were a child? Maybe you should clean that crap up before exposing you and your family to more risk you don't understand(?).

When you take apart your winners—what do you see? In this case I see a very discernible potential edge. When the market makes a try for a weekly low and stalls, maybe the order-flow is running out on the sell-side. If that is true—then it is only a matter of time before the market goes bid. In this case, this market went bid within 24 hours. This is a slam-dunk; no effort at all to define this edge. Here it is:

“On Monday morning I look at last week’s low. I place an entry buy-limit a few points off that low price with a resting stop-loss order under that low. Then I wait. If the order isn’t filled by Friday, I cancel it. If I am filled, I get out once I earn \$500 because that is what it paid last time”

That’s it—no emotional handwringing, no study to see what could happen, no wishing/hoping/praying once I am in, no pain if I don’t get filled, none of that ridiculous hyperbole surrounding 99% of the dopes you compete with. This is a calculated try to exploit a probability that worked once before. After you try it for 100 times you will know exactly what this edge can pay you for the rest of your life; assuming you continue to use it EXACTLY the same way all the time; which is why you are journaling everything as honestly as you can. You want to create the self-awareness to know exactly what you are doing and why, so you can learn to discipline and duplicate your winning behavior.

Which brings me to this issue of “Enhancing” your edges or “Improving your system” or “Fine tuning your approach” Why would you need to do that? Because you discovered by reading your journals that you personally keep “fudging” your entries and/or your exits. You discover that you don’t really follow your edge or your system all the time because you keep second-guessing what the edge is doing. You think that “Maybe market conditions are different

this time” and so you don’t follow through like you promised yourself you would. Instead of making money with your edge—you lost money because you did something outside of your discipline. Maybe your edge is fine—but you have an issue enforcing it. How do you intend to get to the bottom of that issue if you aren’t fully disclosing it? Again, what if you were not honest in your journaling?

When you know why you do—what you do—the way you do it—trading becomes effortless and profitable. Anything else will lead to a loss. To get to a perfectly disciplined individual, someone who is capable of full knowledge about their participation, you must study yourself enough to change what needs to change and keep what works for you. You must become a person of full disclosure. You need to fully disclose yourself TO yourself.

How are you going to do that unless you enhance your level of self-awareness?

Accumulating profit means that you are consistently doing more of the right things for you and few or none of the wrong things. It means that you have developed the skill to instantly know when you are about to make a trading error and either stop the behavior from happening or change your thinking; or both. You can’t accumulate profit if you don’t know WHY you make a profit to begin with, if you don’t know HOW to duplicate that winning behavior, if you don’t know WHY you have losses, and if you don’t know HOW to stop that losing behavior.

If you don’t make the choice to become self-aware—and I mean really get to the heart of the issues that you personally face when you trade—how are you going to enforce the changes you need to make if you don’t know what the changes are you need to make?

## **Your key takeaway from this chapter:**

To accumulate profit consistently you must have more consistent behavior that is predicated on your market-centric paradigm. You must do the right behavior for you without exception and mitigate or eliminate your losing behavior. You must develop the skill of self-awareness otherwise you cannot know with certainty that you are operating from your market-centric paradigm. You need to fully disclose yourself to yourself in order to know why you do—what you do—the way you do it. Self-awareness leads to profitability and it assures you will keep more of those profits.

## **Part III**

### **Creating and Enforcing a Winning Trade Paradigm**

## **Introduction to Part III**

***“There comes a time when the mind takes a higher plane of knowledge but can never prove how it got there.”***

***--Albert Einstein***

Up to this point in The Psychology of Trading we have focused on parts of the trading experience that are mostly common to everyone. By that I mean, things like how the environment of zero-sum transactions are the same for everybody, how information is the same for everyone participating; although they all interpret it differently. How the difficulty of developing a winning approach is the same for everybody, etc., etc. There is only one way to profit but there seems to be an infinite number of arguments about how best to get there. Part of what makes the trading world such a challenging place to be a part of is the never-ending flow of “new” things that really aren’t “new”, but are all trying to solve the same problem: “How do I make more money?” I bet most of the readers out there would even settle for a solution to: “How can I just stop losing so often?”

In this section we are going to discuss some things that you probably have a degree of familiarity with and some things that you might be seeing for the first time. I want to make a distinction here before we begin and make the point once again that there is nothing really “new” in the trading world. Just because you are seeing something for the first time doesn’t mean it is “Fresh”, “New” or represents “Progress” in some way. It might just be “new” to YOU. Human beings keep going over the same ground all the time, generation after generation; and as a group are making very little progress. Everything you see today is not new, it is the same basic discussion we have always had; it’s just a different color this time around. The same can be said in the markets. There really isn’t

anything new. I think it is important for you to know that everything we discuss in this section has already been discussed somewhere at least once before. I personally have taken some of the material and put my own point of view on it; and that is what I hope will resonate with you. I really want to impress upon you that the last conclusion I want you to make is to think that I am trying to push an agenda. I just want you to learn.

I really believe that any trader reading this can develop a net-winning trading approach for himself and do it anyway he wants. There is no “right” or “wrong” way to trade. There are only things that lead closer to a winning approach and things that lead farther away. When I teach this material to students as a live course I am always surprised as to what resonates with particular traders, but I am never surprised with the resolve those traders have to take it as far as they can go. In the long run, I believe that the resolve to win is more important than the edges you develop or anything else. Tenacity toward reaching a goal is the only skill you really need because it leads to all the other skills. Like Mark Douglas said: “The wanting to, IS the how...” If you absolutely refuse to quit on something you are trying to excel at, sooner or later, you will experience everything there is to experience and be forced to adapt to whatever you need to adapt to. That means sooner or later you will acquire the skills required to win in that arena. In the markets it is the same way. Our hope is that we just don’t run out of money before we finally have our breakthrough.

The reason I want to bring this to your attention again is because I don’t want you to get complacent or discouraged by investing time or effort into things you might be already familiar with. For instance, maybe you have been doing a lot of journaling over the years, but you feel it has never helped you. Try to see the material in a different light if that is the case. Don’t make the mistake of thinking you already know something and therefore it doesn’t apply to you. Everything in here regardless of how familiar to you it might be, can really help you in creating your edge—maybe a fresh perspective on the basics would do you a world of good. Try to see all the data for the first time and see if it becomes a better source of help to developing your market-centric paradigm.

Additionally, the material that might be new to you is (for the most part) could be considered my personal take on what you might find in the available market-related material that is out there. I don't believe I am presenting proprietary material you can't get anywhere else. No one has a mortgage on the truth. I feel fairly confident everything we are going to discuss here has been discussed somewhere by someone at some point in the past; maybe not as concisely or with my degree of thinking, but it is the common ground needed to win.

Everything in here I personally learned through the same process you are learning through. I read countless books, attended countless seminars/webinars, listened to countless audio tapes, watched hundreds of instructional videos; I absorbed so much material that I believe if there were a Ph.D. in Markets and Trading, I would have it. Most of the material I found was basically saying the same thing over and over again and what I learned is that most of what it was saying wasn't congruent with how money is really made. THAT is the fresh perspective and THAT is what would be "new" to you. I try to put the intention of all the material I have found (or have created) into the context of the zero-sum environment.

I think it is important for you to know that every winning trader I spoke with or read about did basically the same process for the most part. Not one person tried to communicate that they had some "secret" about the markets. In fact, quite the opposite. If I sat down with a winning trader and asked him one of those freshman-level questions (like: "How do you make money?") I was always surprised to hear how forthcoming they were. Most of them would talk for hours if they had the time. Not one asked me for any money. I probably learned more that way if the truth were told. The point is that those traders with the knowledge needed to win already know what they need to know and don't need anything more from anyone. They were happy to share their knowledge if you were willing to listen. I consider myself in that group today, but I still offer additional tools and help for traders wishing to invest in that direction. I said that because I don't want you to think that if you continue to finish this book and apply what you have learned—that there is something still more I am going to ask from you. That isn't the case at all.

I want you to know that everything from here forward is material that is common

to all the winners and is really the sum total of what I personally learned to apply for myself daily. It isn't a "prelude" to investing more money to get "The Whole Story" like some other author/traders have tried to do. If the material resonates with you—there is a reason for that. Look for the reason. If it doesn't resonate with you—or seems like you have heard it all before—take a fresh look at it anyway and look for the clues. When we put it all together it will make perfect sense. In the meantime, the pieces are like a jigsaw puzzle in a box; you have to figure out how it all fits together. In the case of the markets, most traders already have most of the pieces they need to make a winning approach, they just don't know that. Unlike the jigsaw puzzle, they have no picture on the box-top to compare their pieces to. Part of the intention of the material in this section is designed to produce a picture of what your winning paradigm "looks like". Once you have a better idea of what the construct will be for you, what your Box-Top looks like, I think you will be pleasantly surprised to learn that you were very close to putting it all together anyway—you just were missing one or two reference points and/or missing one or two pieces of the puzzle. Once you can observe everything in context it will all make perfect sense.

As you work through the material in this section you might already have a baseline of comparison; that's good. If you don't, that's OK too; it's all there sooner or later in my opinion. Some parts of the material might make better sense than other parts at first so just keep reviewing everything until you can see all of it in context. Think of this next section as providing you with a clear image for the box-top of your personal trading jigsaw puzzle. Once you know what your paradigm is supposed to look like and how you keep it functioning, you might be surprised at how little you really need to do to flip your switch from "lose" to "win".

## **Proper Record Keeping**

***“Keeping a journal implies hope.”***

**--Erica Jong**

In this chapter we are going to discuss proper record keeping. I am going to introduce you to some specific kinds of record keeping in addition to just your daily journal. During my journey to develop a winning market-centric trading paradigm I discovered many things about information and how it is used. You would be amazed at the kinds of information compiled from some places and even more amazing is what it is supposed to provide to someone. For example, did you know the U.S. Government employs a person whose job includes compiling information on how many truck tires are sold? The idea behind the data is that somehow counting truck tires and then comparing that data to something else is supposed to provide a good projection or clue on how healthy the US economy might be. In my view, that is sort of like trying to project how big a heard of cows might be by counting the legs and dividing by four...just more redundant B.S. that circumvents the real issue if you ask me.

During my journey I also came across a book titled How to lie with Statistics (W.W. Norton & Company, re-issue edition C. 1993) by an author named Darrel Huff. I found it a fascinating read because when I was younger, I had always assumed that information presented as “statistically accurate” really meant something accurate. Why would someone like the USDA lie to me about the health benefits of dairy? As I became closer and closer to my goal of being a winning trader I discovered that statistical data from almost anywhere that is supposed to be accurate is really compiled to support only one point of view; and usually it is for the point of view of the person paying for the data. Data used by

the markets is even more head-spinning because it doesn't matter what the data is—it can ALWAYS be seen in two different ways: either "bullish" for people who want to see a price rise and "bearish" for people looking for a price decline.

Information that is compiled and then statistically massaged by some rational is really just an invented tool that rarely tells you anything about the issue it is supposed to tell you about. I'm not trying to split hairs, but when someone like the Peace Corps, for example, is using information about how many people are starving in Africa as a reason to increase their budget—wouldn't you want to know how they got the statistics about how many people are starving in Africa? Did they actually send a group of people out to count starving people? Where did they send them to? Who decides what line has to be crossed for someone to be considered "starving"? How big was the sample set? How long was the data compiled for? What about the starving people in Detroit? Will the money given to the Peace Corps reduce the money sent to our own children here in the USA? All you need do when someone tells you their information is "statistically accurate" is ask a few questions about where their data came from and why it justifies some action or expense, and their argument will unravel in most cases; including the "bullish" or the "bearish" one.

I am not saying that statistical information is "bad" or always meant to deceive. I am not saying the Peace Corps is a "bad" program, I am saying that if you aren't careful you will assume things that are not really accurate if your statistical information is not properly compiled according to a pathway that leads to healthy conclusions. Your record keeping is subject to the same rules. Collecting information about your trading participation has to be the sort of information that will stand up to scrutiny. You can deduce some very accurate things about your trading that require only simple little fixes when the bulk of your data is the right kind of data. Compiling information and reviewing information needs to be done under the guidelines of a serious discipline. You need to compile lots of different kinds of data but the most critical thing about the information you compile from your record keeping is accuracy. You don't want to lie to yourself by compiling inaccurate data.

You need complete accuracy from all your record keeping because the data you are compiling for yourself is the absolute most important and significant data you can possibly create in hopes of building your winning paradigm. It is without a doubt the most crucial part of your success and if you miss the mark on any of it you could set yourself back years. Your data, when properly compiled and analyzed, will show you precisely the changes you need to enforce to earn your fortune; if you collect inaccurate data you will form inaccurate conclusions leading to a greater potential for loss. I really can't overemphasize how critical proper record keeping is to a market-centric paradigm. It must be done, and it must be done right.

When we discuss proper record keeping and accuracy with compiling our records it is important for you to know exactly what that means so you can start right from the beginning without duplicating errors. As time goes on you will likely want to ADD parts to your record keeping once you have identified potential for growth in your paradigm. For example, you might be doing a great job of keeping perfect records.... then you notice something different about some price action you hadn't seen before. What is really happening is that your mental acuity working in the background (your subconscious) alerted you to something it has "seen" and exposed your waking mind to it. That "something" you are now aware of has ALWAYS been there, but it wasn't until your paradigm was "big enough" to handle it that you "saw" it. Your mind had to grow into that potential. You now ADD that information to your record keeping and you now are beginning to collect slightly different data in order to create and test a new potential edge. That edge wasn't available to you before—so why would you be recording data for it? Now, if you begin recording very accurate data to test that potential edge; suppose it has 3X the profit potential than your existing edge?

Therefore, at the start of this process, we are going to create and enforce data collection according to an open-ended format. That format will include a high degree of accuracy for what is being collected and it will leave the door open for greater detail and more comprehensive information later if you require it. So, let's confirm the proper format(s) for data collection. We will discuss each of these in more critical detail later in the chapter; plus, I will provide samples of

proper record keeping in the appendix.

You are going to require THREE kinds of information/data. They are as follows:

1. Personal Thinking Journal

This is a daily, hand-written (for now) log of everything that goes on in your head when you trade. You will write down your logic and tool use (what analysis you do and why you value it) for every trade. You will write down what you are thinking about when you are not trading also; such as when you wake up in the morning or just before you go to sleep at night.

2. Trade Execution log

This is a written log of every execution you do. It will include a lot of data and you most likely will want to create this using something like “Excel” or another electronic format. I personally keep two of these—a handwritten log AND an electronic log.

3. After Trade Data

Once you liquidate a trade you will need to collect price action & other data from the market after you no longer have your position on. This information is very important to increasing the viability and profitability of your edge(s).

These three forms of data collection need to be compiled regularly and they need to be reviewed regularly. What we are going to do right now is look at each of these formats in detail before we begin the discussion of how to use the data together.

## **Your Personal Thinking Journal**

When I was first exposed to the need for a thinking journal the image I had in my head was one of a 12-year-old pre-teen female writing stories about meeting the perfect boyfriend where each page all began with: “Dear Diary—today in class he looked at me....”; complete with rainbows in the margins and ticket stubs taped to the “our first date” page...NO FREAKIN’ WAY I WAS DOING THAT...

If you have a similar image of journaling I totally understand; it is very unusual to find anyone who journals today with any regularity. Aside from other winning traders, I personally have rarely met anyone who keeps a journal; certainly not any professional-level or C-suite men. The professional level women all say “I did that when I was a kid”—very few do it now I suppose. As a side note, it is interesting to find that in certain high-risk environments journaling is not optional. For example, one nuclear submarine carries enough firepower to kill a third of our planet. The captain is expected to not only keep a journal (they call it a “Logbook”) but so are all of the top staff onboard. Those Journals are reviewed regularly by other top-commanders too—looking for things that need to be “ship-shape” because no one wants any loopholes existing that might lead to a vessel like that falling into the wrong hands; or lost at sea. Formula One race teams keep logs on how their racing cars are performing; looking for a way to gain a better edge over their competitors. Brain Surgeons keep logs on procedures and patient responses to prevent injury or death; the list is huge of high-risk professions where journaling is not optional. Maybe they don’t call it “journaling”, but it provides the same function.

In trading, the risk is very high that we could lose a lot of money; you would think that journaling might be done more often. Sadly, almost no one does it and even if they do—they aren’t recording the real data they need to improve their results. If you personally are resistant to the concept of journaling and/or have never done it before remember this: you are creating an advantage over your competitor that when used properly will become a source of skill and performance that your competitor cannot possibly stand up against. If it came in a bottle everyone would have it. It takes effort to become a winner and this is

one of the tools that will put you on top. If it is uncomfortable to start journaling, then try to remember how it is going to eventually empower you to better performance; which is what you want.

So, what goes into our thinking journal? What should we record?

For starters, you should record the date and time you are writing an entry. You should find a time where you regularly start your journaling for the day and when you end it. I open my journal each morning on my desk and I start the day with an entry. At the very least, I journal at the top of the hour after I do my signal check for my proprietary system. In between signal checks or during the hour if I find I should write something down—then I record the time of the entry again. Date and time are important because it discloses continuity in your effort and when you do it. If I have executed a trade, I note exactly why the trade was done and my thinking behind it (At that point I also log the trade in my trade logs).

When I am writing down my thoughts, I make them as specific as I can and record as close to my emotions as I possibly can. A typical journal entry might be this:

“10:00 AM I just did my signal check, and nothing is active still. No signals anywhere for the past 24 hours. This is really frustrating because I really feel that XXX is ready to drop in price. I thought about just doing a manual entry but that would be breaking my entry rules. I really want to break the rules, but I am going to take a walk and clear my head. I got up late today and I think I might be coming down with something. I am glad it is Friday because I need the rest. If I am still fuzzy on Monday, I am going to take a day off.”

I will record everything—that might include the results of a 10-minute phone

call, what I had for lunch, how I felt about visiting a friend the other day—anything and everything.

All of this is recorded because I have found that the less focus I have to what I am doing the harder it is for me to hold winning trades. If I find that a friend is calling me three times a week and every day I am executing a losing trade—maybe that conversation is taking me off my game. So, I might turn on caller ID for that friend's number and let those calls go to voice mail. That might be because he is going through a divorce and that is just a negative call for me; and that is taking me off my game—breaking my concentration. I have also discovered that I can produce a lot of winning trades when I am feeling very focused after doing my trade reviews. So, I do my reviews every Saturday morning from the past week. It sets the stage for Monday morning better. I tend to make money on Mondays I find. I am getting ahead of the game a bit by providing samples here, but I think you are getting the picture. Please review the larger samples available through the appendix too; there are a lot of suggestions for you.

The actual journal you select to use needs to be one that you are comfortable using daily. I personally used loose-leaf paper in a three-ring binder because I could add or remove pages as I did my reviews or edits. Sometimes I would remember more detail about something, and I would add it to that day's entries later in the week—so it was just easier to add a page or take one out. Any office supply store will give you a few selections of blank journals you could use. Some people invest in beautiful leather-bound blank books; as long as it still allows you to record the important details you need to compile; I don't think it matters. Any journal you are comfortable with will do.

I had one client who used a voice-recognition software package and just spoke into a microphone all day. He then printed out the conversation and put it in a binder for review every afternoon. He would study it like a college textbook and highlight the important issue for him regularly. If you feel that would be a better option that is fine, I suppose, but I really feel that taking the time to physically

write in a book will provide you with better discipline at first. You can always switch to a journaling software or voice software at a later time once you have the basics firmly in hand.

Again, I would encourage you to review the journal samples provided in the appendix. I have taken some actual samples from my own records as well as from students. They are highlighted with notations showing the value of the particular entries as well as the potential to be used when enhancing your edge. Remember, most traders do not do this discipline. That in itself should tell you how far you could advance when journaling properly.

## **Your Trade Execution Log**

Your trade execution log is a very simple document, but you are going to want to eventually create it inside some sort of spreadsheet software. I suggest using hand generated spreadsheets at first until you are disciplined to compiling the data in your final format. I found that handwriting them created a firm discipline to acquire the data constantly. Once I had the final format completed I would just enter the trades into the computer but I found I was still writing everything down by hand on note paper regardless; I would always have a stack of notes to review in order to upload everything....so I just kept the hand written logs and did the data-entry at the end of the day. I found recording everything twice actually improved my “paying attention” to what I was doing.

The data you want to record is probably something already known to you, but you want to include more details. Additionally, when you start using your after-trade logs together with your execution logs you will see the benefit to collecting all this additional detail. I would suggest at the very least to record the following data in your Trade Execution Log:

Date/Time of entry

Position (L or S)

Market Entry Price

Type of Entry Order

Initial Stop-Loss order

Size of Position

Date/Time of Exit

Exit Price

Net gain/loss in Price

Net G/L in Cash

Type of Exit Order

Limit Exit Price (if used)

Date/time of Limit Order

Additionally, you will want to include this data when you move stops:

Date/Time of Stop-Loss Order

Price of Stop-loss Order

Date/Time if Stop-Loss Executed

There is other data you could include if you were trading certain markets or

certain instruments. For example, if you were a trader looking to write options you might want to include your time-to-expiration, what your “Greeks” were at entry, or you might want to use additional data from Futures or the underlying stocks such as 52-week highs/lows against the position, etc., There is a lot of available information inside your executions to help your profitability but it has to be recorded before it can be analyzed. We are going to get to this in more detail later but for now remember this: Analyzing the relationship between your results and your thinking is the key to improving your entries and your exits, as well as increasing your dollars won-to-lost ratio and your winners-to-losers ratio. Your data needs to be complete and accurate otherwise your attempts at making better performance won’t reflect your true needs. Again, please see the Trade Execution Logs samples in the appendix for additional clues on how to collect this part of the data you need.

## **Your After-Trade Data**

Every trader has had the experience of liquidating a trade only to watch the market continue in the intended direction for much longer; resulting in lower profits or losing trades that could have been winners. Every one of us knows the frustration of getting stopped out for a loss and that exit price was the high/low of the move against us before the market reversed; and now we have nothing on when the “big trade” of the day or week was happening. In fact, these sorts of trading problems happen with enough frequency that it can really make an impact on our bottom line. Every one of us has looked at those results and asked ourselves: “How can I fix this problem?” “Look at the gains I am missing”

The answer to addressing this issue comes from your after-trade data. The data you want to collect includes price action post-trade but also involves time. You need to know what your average “time-in-trade” data is from both your winning trades and your losing trades. As a rule of thumb, until you decide to do otherwise for some reason relating to your personal results, I have found that using a “2X” number on time is about right for acquiring useful after-trade time data. For example, if your average time in a winning trade is eight hours, you

would look to collect price action data out another 16 hours or so after you liquidated each winner. The data you want to collect is the “worst price” and the “best price” relative to the position, and the date/time each of those data points happened after the trade is liquidated. For example, if you were long a market and liquidated at four hours into the trade, you would look ahead 16 hours and find the best price that trade would have traded to if you were still in it, and the worst price in the trade if you were still in it. By using only that data and nothing else, we can hypothetically find an easy fix to a common problem. If you discovered that out of the last 20 winning trades that averaged 8 hours each, on all the ones you took off below that average time, If you would have held them to the eight-hour mark, some would have been stopped out for a loss and most would have captured more money than you received by liquidating early. In other words, by simply holding winning trades longer you will make more money on those winners, but the downside is a few will be taken out at a loss. Maybe making that one change to your behavior is a good thing—if the net gain between holding everything longer after deducting out a few losers is higher than what you are getting now from your winners.

I will give you a simple illustration of how collecting after-trade data can help remedy a reoccurring trade error. Bear in mind, I am assuming that you have been properly collecting your Thinking Journal data and your Trade Execution data because the starting point for resolving a simple issue like this one lies in seeing all three pieces of data in context with each other. If you aren’t collecting the proper data you can’t really begin to dissect how the problem is created by you, the trader; and you won’t be able to see how the issue is resolved by you, the trader. YOU create the problem that YOU need to solve—so you need to really have it clear in your mind and in your behavior how you are creating the very problem you now wish to solve.

So, let’s assume you have been collecting the data properly. We open the notes and review each trade where this problem happens. The first thing we notice from your thinking journal is that you had placed these trades almost always on a Friday morning and slightly before a major news event was to happen. Your notes on the trade analysis have a lot of “market should do this” or “The market is ready for that” verbiage. We read your notes after getting stopped out and we

find a lot of “If only” wording...”, “I knew I should have waited until such and such first”, or “This happens every time! I need to stop putting trades out there before the right time” basically you are looking at “missing” the trade more so than observing the structure of the markets. If you are placing trades because you “don’t want to miss it” you are trading from fear. Fear is an emotion, not a probability. At this point, we can assume this much so far: You really don’t know the probabilities of this trade—and you enter based on fear. This is part of the problem we need to address.

Next, we look at price action and your notes from your after-trade data. Usually, after you are stopped out each time, we notice that about 60% of the time if you were never stopped out—those trades would have worked by the close of the week. In other words, Friday appears to be really important to this market; and if you are taking a stand early in the morning that becomes a solid edge by the end of the day more often than not—the problem is you are getting taken out too early before the trade works. Also, we notice that your typical entry price about an hour from the news event appears to be on the losing side of the market compared to the previous days’ closing price. In other words; the previous day’s close appears to be a great price-point to enter the trade, but you are usually in too early compared to that reference point.

So—let’s develop a strategy from this data....

Let’s take Thursday’s close as our entry price for this trade all the time, but we will use a market entry ahead of the news. Let’s look at the price of the market about 10 minutes before the news and see if the market is above or below our “Thursday’s Close” reference price. If we feel that the market is due for a sell-off, we want to SELL that Thursday close reference price; but the market ahead of the news is at some other price-point on Friday morning. How could we sell it? Well—if the market is BELOW that reference price 10 minutes before the news—we would enter a sell-limit order to sell on a price push higher. If the market was ABOVE that reference price, we would enter a sell-stop order for an entry as the market dropped in price. If we felt the market was due for a rise in

price our strategy would be to use either a buy-limit or a buy-stop for an entry based on the same criteria. In this particular case, whatever analysis you are doing to determine a price potential appears to be operating fine—at least with this market on this day every week because YOU created the ability to find a trade potential that appears to be about 60%; that is significantly above chance. Therefore, we don't need to change anything in our study at least for this particular trade every week. In other words, your study isn't the problem and has never been the problem. The problem is how you are acting on it.

We now have a strategy for entering a market based on the probabilities we observed from comparing our accurate trade logs to our accurate after-trade data; not a strategy driven by emotion. Furthermore, we have a set of rules to enforce upon our behavior to avoid trading from fear or any other emotion every time we want to exploit this edge. We have a probability that is better-than-chance that the trade will work six out of ten times. We can do this trade 12 times a quarter for a likely win number of around 7 against a likely lose number of around 5. If we risk the exact same amount each time and wait for the close on Friday every single time, we have a likely chance at a net profit every quarter from this one edge. That means no matter what is happening during the day our exit is “market on close” and the stop is never moved. These rules might become different for other trades—but this one edge would need this sort of approach to work for a maximum profit potential.

Obviously—there is no way to know for certain what the actual outcome of this strategy might be until it actually trades every Friday; but the fact is by proper record keeping you discovered why you were losing so consistently in a market opportunity where you had a solid chance of net gains. By proper record keeping compared against the actual history of that market you also could find a strategy to exploit the actual events that seem to transpire regularly. Again, nothing is certain, and we already know that. But by using our collected data, and properly applying our new paradigm, we are able to put the probabilities on our side without any emotional interference. By using your head for more than a hat rack you now have at least one solid edge you can exploit once a week. How many more edges can you find? That is how a winning trader thinks. The problem isn't “more study” or changing anything you are doing to find an opportunity. The

problem is you and how you behave. Find out what you are doing as accurately as you can, and you can dissect your behavior to see where you are hurting yourself. It becomes a simple matter to fix the behavior—as long as you follow through.

I want you to notice also that at no point in the discussion was any sort of “technical analysis” or market study performed to find a solution to the problem. We never discussed price either. The reason is because the ENTIRE EVENT occurred inside the mind of the trader. The COMPLETE BEHAVIOR by the trader created the opportunity that he saw, the method of trying to capture the profit, and the entire entry-to-exit results. The trader saw what he saw however it was determined to be seen. All of his actions were based on how he saw things —nothing else. All that needed to be done was find a better way of behaving by studying the self-created results. Your record keeping holds the key to finding those needed data points.

To close this chapter, let me remind you again that your record keeping is the number one item on your arsenal of tools needed to create a winning market-centric trade paradigm. You have to have the real, accurate data that shows you exactly where you are on track and where you are off track with your trading. Your record keeping will expose the true quality of your thinking and your behavior, so you can clearly see how your thinking becomes your behavior and how both need to change. Your after-trade data becomes especially useful when you want to pose some hypothetical questions to explore solutions. You might find that fixing whatever is missing requires only a minor thoughtful change; nothing really major at all, but enough to make a difference so your probabilities start dropping to the bottom line. The more accurate you make this data the faster you can begin creating useful changes.

### **Your key takeaway from this chapter:**

Your record keeping can be a powerful method to assist you in developing a winning trading approach. The most significant part of record keeping is

accuracy. The more accurate you can create your records the more likely you can improve your results and the more possible those results will be repeatable. Because you create 100% of your results within your own mind, more market analysis/study won't help you improve your results. Only self-study can improve your results; and you can't do that without solid accurate records of what you are thinking AND doing when you trade.

## **Identifying Opportunity to Profit**

*“Unless you have prepared yourself to profit by your chance, the opportunity will only make you ridiculous. A great occasion is valuable to you just in proportion as you have educated yourself to make use of it.”*

--Orison Swett Marden

In the last chapter we explored how keeping very accurate records can be one of the best tools you could have in your quest to refine your trading. The key is in understanding how to use those tools effectively in order to exploit the opportunities you discover. As we discussed, most traders have no idea how useful those tools can really be, but we still need something to consider as a profit opportunity; otherwise those tools have no meaning and can't help us at all. Up until now our conversation has not included how to find those profit opportunities. What is the point of perfectly recorded data if you don't know how to find a real opportunity? This chapter is going to provide you with some basic constructs for discovering real opportunity.

Remember, real opportunity is really only a function of probabilities. No one can know with any degree of certainty that any market will move in an intended or expected manner. All the of the generally agreed upon research/analysis/training etc., has no potential to predict or project price action beyond a certified “maybe”. Everything we could possibly do to help our trading really lies within the confines of our own craniums; there really isn't anything we can rely on past our own thinking except our own understanding of the probabilities.

Understanding probabilities combined with our highly accurate record keeping

will create a huge advantage for any trader willing to do the work involved. If you have committed to writing everything down when you execute, writing everything down about your results, and then asking good questions after you review that data in context with your post-trade market data; all you need now is a solid better-than-chance profit opportunity to apply all this to. Combine all that together and you have a winning formula for success; assuming you don't screw it up re-thinking it all or second-guessing what you find. Yes, we will provide some tools to help in those areas too once we get to the appendix; for now, we need to create a better market-centric paradigm for profit opportunity. We need to know what exactly constitutes an opportunity when we are trading.

## **Opportunity as a Function of Environment**

People have gotten rich by doing some very unorthodox behavior; sometimes to the point of hilarity. If you have the time, I encourage you to study The Mississippi Scheme as a point of reference leading up to the French Revolution; around the period just before the rise of Napoleon. At the time, there existed a virtual frenzy of speculative fever running rampant through the populace of France. Putting aside all the other huge impact this time in financial history provided, there is this unique story of an old man with a hunchback living in Paris during this wild speculative event.

People were buying and selling shares in the Mississippi Company with an absolute frenzy. The price of shares could rise or fall anytime for any reason or because of any silly rumor running through the streets—a very similar environment seen during the tulip mania in Holland a century or two before; or in New York City a century or two later...People were making or losing fortunes almost daily some historians recorded.

During this time, a peasant farmer with no skills or money saw all this happening around him. He suffered from a medical condition leaving him with a

pronounced hunchback. He noticed that people were yelling at each other all day long and agreeing to the most radical financial commitments all around him in hopes of securing a part of the money-making craze for themselves. According to history, this uneducated illiterate peasant man with a debilitating medical condition apparently is one of the few people who lived through the Mississippi Scheme and died with a small fortune. Apparently, he never bought or sold shares. Rather, he rented out his hump as a place where people striking deals in the street could sign contracts. The man charged a fee to use his hump as a flat surface to execute legal documents. This man simply saw that other people were willing to do something that he himself had no interest in doing. He provided them a place to do what he himself wouldn't do. It's like a Vegan running a roadside bar-be-que stand. Some people get rich by watching the world around them and finding an opportunity where others don't see one.

Opportunity is a function of the environment you are in. If you are in an environment where contracts need to be signed—you can make money by offering a place to sign contracts. If you live on a tropical island, you could make money by selling cold drinks to hot tourists. If you live in a war zone—you can sell bullets to both sides and double your money-making potential...opportunity is everywhere.

Creating opportunity is a factor of environment and observation. We as traders live in an environment where we have to do exactly what? What is it that you and I need to do? We need to observe an opportunity to get on the right side of the order-flow. That's it. How do we do that? We do that by making observations that have a degree of probability to them. The probability is a function of the environment. To identify a profit opportunity, we need a clear understanding of the probabilities that are available in the zero-sum environment.

What are the opportunities offered inside a zero-sum environment?

The ONLY way to profit is to buy a low price and sell a high price. Inside a zero-

sum market you can do this in any order. You can BUY or SELL any zero-sum market anytime and wait for the price to move in your favor. If you BUY first—you need to wait for the price to rise to profit; if you SELL first—you need to wait for the price to fall to profit.

Therefore, you have two profit opportunities with which to exploit potential price action. However, because we can't know which way the market will move in price until it actually moves, we need some sort of projection of a likely price move in an intended direction. Postulating this intended price change and taking a position ahead of the change will increase our profits when we are correct in our price-direction guestimate.

But we have a problem. No one can accurately produce a consistent projection of a price move. So, as we have discussed before, the most accurate projection of a price move is to somehow gain the knowledge of where the order-flow will develop into a loser-driven liquidation imbalance causing a significant change in price. Where do those price points develop?

I'm going to offer a solution to this problem, and I need you the reader to follow me closely. Many traders make the mistake of thinking what I am going to discuss now is a rudimentary technical analysis method or a hypothesis on how to find order-flow. That is not what we are going to explore. We are going to explore how you see things to create your opportunity so you can duplicate high-probability behavior once you know what it clearly is for you specifically.

First, to begin with, the market itself can only do THREE things as far as price action is concerned:

1. The market can trend HIGHER in price over time.

2. The market can trend LOWER in price over time.
3. The market can trend SIDEWAYS in price over time (Trade in a Range).

Each of these three kinds of price potential contains and either/or scenario. Either the trend will continue, or it will end (reverse or resume).

In other words, if a market is trending higher it will sooner or later stop moving higher and reverse, or it will resume moving higher after some amount of time when price isn't moving. The same scenario exists for a down-trending market; it will either continue to move lower in price or it will reverse. A sideways market will either continue to range-trade or it will end by breaking higher in price or breaking lower in price (in other words END range trade and RESUME with a fresh trend higher or lower). A range is a “pause” before up/down trend resumes.

Additionally, you the trader, are under no obligation to join any of these three price-potentials until you want to, and you are free to stand aside as long as you want. Between these three market states and your personal choices you have a total of 12 potential opportunities developing all the time. Here's the math:

Join the trend in progress equals THREE potential opportunities:

1. BUY an uptrend
2. SELL a downtrend
3. STAY IN RANGE (Buy the bottom of the range and/or sell the top of the range)

Reject the trend in progress anticipating an end to the trend equals THREE potential opportunities:

1. SELL an uptrend expecting that to be the final top in the market for a period of time
2. BUY a downtrend expecting that to be the final bottom in the market for a period of time
3. Expect a range to end with an upside breakout OR a downside breakout

That provides you with SIX potential opportunities and you can choose to get in or stay out for a total of 12 choices present at any one time providing you with 12 profit opportunities at any time. Staying out of a market until the probabilities are more favorable for a particular choice is also considered a profitable execution. More on that later when we get to execution in part four.

Here is the part you really need to think through:

You and you alone must decide when a market is trending and in which direction, and when it is in a range. Some people watch price action and conclude the market is in range but someone else would look at the same price action and conclude the market is trending. It doesn't matter what criterion you use to create a market opportunity as long as you use the same criterion consistently all the time; otherwise your record-keeping will not accurately inform you of the probabilities your observation has. Every method of consistent market observation has a degree of probability to it. You must do your observation the same way all the time in order for your record-keeping to show you those probabilities.

For example, suppose you decide to look at an O-H-L-C price chart on the 60M timeframe for the Soybean Futures market at the CBOT. The market appears to be trending upward because you notice that the series of higher lows and higher highs has continued after making a three-week low last Friday. Fine. Might be an opportunity.

Once you make this observation—that is how you need to look at the potential for an uptrend on this market every time. You must use the 60M timeframe again, you must start the process from a three-week low that happens on a Friday. If you use the 30-minute chart—your probabilities will be different. If you start from a monthly low—your probabilities will be different. If you use the same conditions on another market such as Crude Oil Futures, your probabilities will be different. If you are one of those traders who might say: “But conditions in the markets are ever-changing; the market might make a solid low any number of ways so doing it the same way every time might cause me to miss a really good trade” I would agree with you but I would also ask you: Why would you risk a loss on a probability you know nothing about? Maybe you need to develop four or five different scenarios for bottoming in the Soybean Futures market; all with very well-defined probabilities so you know EXACTLY what you stand to gain or lose if you choose to put that long on. If you did that it is the SAME set of choices present at all times: You wish to buy an up-trending market and do it as soon as you can after a low print. THAT is your best probability—the fact that the Soybean market makes the turn to “uptrend” slightly differently each time might be important, or it might not be; that is for you to decide. But to take an undefined risk because you “don’t want to miss something” MEANS you are trading from fear of missing out—not from defined probabilities about a potential change in the order-flow. YOU—and only you—have to define exactly how you will observe “Uptrend”, “Downtrend”, and “Range”; then you must use that definition every single time you attempt to find an opportunity. In my third book, Time Compression Trading (Wiley & Sons Publishing, C. 2010), I discuss details about how to better exploit these three market conditions and the psychology behind them. I would suggest you consider getting a copy and thoroughly review that discussion.

YOU—and only you—must decide ahead of time exactly which probabilities you feel are the most suited to your observation and then build an execution formula around them. You must then enforce those choices exactly the same way each time. For example, if you decide that your best probability is to BUY when the market is in uptrend—you now need a method of getting into an upward-trending-market. But you must use that method the same way all the time—otherwise your probabilities are not consistent.

The point I am hoping to communicate to you is that all of this is happening inside your head and nowhere else. The way you see things is the way YOU see things; not the way someone else would see them. Therefore, you must know which probabilities are best suited for how you see things. You have 12 choices to participate; 6 active choices and 6 passive choices. You can either go in the SAME direction as the trend or FADE that trend ( $3 \times 2 = 6$ ); you can get in or stay out ( $6 \times 2 = 12$ ). Which choice today, right now, is your strongest probability? That is the only choice to make.

If you—not someone else—YOU—have decided that buying an up trending market is your best opportunity for how you see things AND you have decided that you will only get into the market when the price has sold-off some amount and touched the up trending line you personally have created the way you see it; then there is nothing to do until the price reaches that point. Your best opportunity is to stay out for now. No matter what the price does you aren't missing anything because YOU defined your opportunity the way YOU did. Whatever the market is doing before it reaches your best-probability buy point is someone else's' opportunity for the way he sees it. That's not your opportunity. Your opportunity you have already defined and there is nothing to do until the market trades that particular price for YOUR probability.

Once the price has declined to the point where it touches the uptrend line YOU personally have decided should be where the uptrend resumes; then the best probability is to BUY the market right there. Or if you are particularly comfortable with how well you have identified the opportunity, you could place

a price buy-limit order at a point somewhere along the uptrend line you have created. In any case, there is nothing to do (one of your choices) until the price reaches your price-level that you decided was the best level to participate (another choice). From here forward, you need to record everything that happens until you liquidate. Was the trade a winner? If you followed that exact method 100 times, what percent were your winners? Again, your record-keeping provides you with solid data with which to augment something to reach a better probability with this edge.

Most traders never do a controlled process of defining opportunity according to what the best probabilities in the markets are for them; they use all sorts of price-dependent ruminations based on obscure mathematical concepts or use methods that others have told them will work; or God only knows what they do. If you define opportunity as a function of the environment the market creates for you—then what to do next is self-evident and requires very little effort. The market provides you three conditions to participate with: Uptrend, Downtrend and Range. You provide the choice to participate according to the probabilities you feel work best for you. Now there is nothing to do until those probabilities show up.

You don't have a choice to "go long" or "go short" today; you have 12 choices that define probabilities on your behalf until the best probability tells you what to do at this moment. You create that potential completely by yourself entirely for your own benefit—so you should have no trouble enforcing it. You should have no emotion interfering with it either.

## **Your key takeaway from this chapter:**

Identifying opportunity is a function of how the zero-sum market environment is constructed. The market can only do one of three things at a time—trend up, trend down, or trend sideways. When you personally define each of those market

conditions for yourself, only you can decide how to exploit a coming price change based on what you feel are the best probabilities offered; go with the trend or against the trend—or stay out completely. These 12 conditions become your probabilities and there is nothing to do every trading day except enforce the best one as defined by you.

## **Money Management**

***“Good money management alone isn’t going to increase your edge at all. If your system isn’t any good, you’re still going to lose money, no matter how effective your money management rules are. But if you have an approach that makes money, then money management can make the difference between success and failure”***

**--Monroe Trout**

In my second book, The Art of the Trade (Wiley & Sons Publishing, C. 2008), I discuss some of my early years in the trading business working in downtown Chicago. Aside from the massive heartbreak and financial losses I had for years until I finally had my “epiphany”; I did experience a handful of times when I experienced solid opportunity; both in the markets and with the people I was associated with. One time in particular I began working for a very well-respected man who owned a brokerage house clearing trades through the CBOT. This was just after the new year of 1988 and just before the drought hit that devastated the grain markets that year. It was a huge mistake to quit working at that company and got to work for a “boiler-room”; but that is a different story. One of the traders I worked with at that company gave me a piece of advice that I never forgot. He said this: “When you have a winner on, roll your protective stops regularly to lock in some gains; then just let it ride... The big money is in sitting tight doing nothing.”

Oddly enough, that is the same advice Jesse Livermore gave to traders more than 100 years ago and it is still almost universally ignored by traders who compete every day in the markets. Part of your using money management tools is the knowledge that most traders you compete with are closing trades WAY TOO

SOON and giving up a huge amount of their potential gains by doing so. Although this chapter is on basic Money Management, I feel that we should look at this issue through different eyes with different motivations. Money Management is another one of those things that you as a trader need to make personal choices about. Money Management is slightly different for everyone and the only money management that matters is the type of control you personally want to use. It's OK for your personal money management to be different from someone else's.

It's my view that money management needs to be seen in a different light for leveraged transactions than for other kinds of financial arenas. Executing trades in a zero-sum market requires a different deployment of capital than other kinds of investments. When discussing money management for your trades I feel there are certain ground rules you should consider but the final authority has to be your own tolerance for risk.

Bear in mind, there are lots of existing discussions floating around the financial community that break down Money Management into a very specific set of rules/instructions that all will allegedly help you get more positive results for your investment. The fact is, most of those discussions are not considering the specifics of speculation in zero-sum markets and most do not understand the relationship of risk capital to your overall investment potential.

Money management rules often make assumptions about results and the marketplace in general that are not common in the trading community. For example, a common rule is "Take a percentage of your gains and put them in low-risk areas, such as bonds." In my view, what is the point of that? First, most traders don't have profits to begin with so suggesting to them that they need to be prepared to move funds to low-risk environments becomes a non-essential thing to discuss. In fact, that isn't really money management help at all; that is more like investment advice.

I think it is crucial for your developing market-centric trading paradigm to redefine your understanding of money management to something else; something better suited exclusively for trading. Forget everything you have heard about capital controls and start thinking like something else. Think like someone who is willing to make the hard choices required to get rich.

Let's discuss goals, motivations and the unexpected. What we need as traders is an understanding of how our participation creates opportunity outside of the markets as well as how to protect and grow our capital within the markets.

Why are we doing this?

We trade because we want to make money; a lot of money. However, trading is a very difficult thing to do well for most people. I believe this is true because most people who get started have no real education for trading at all. As we have discussed throughout this book, the vast majority of traders are taught things from mostly well-meaning people that have nothing to do with taking money out of the markets. As a consequence, most traders' expectations are shifted to capital growth instead of capital preservation. You (and everyone else) will have a learning curve that might exceed your trading stake if you aren't careful. Instead of a focus on wealth creation you really should have a focus on wealth preservation. It is simply unrealistic to think that you will be making regular and consistent gains during your first few years in the markets. I would strongly suggest that you plan on a learning curve of around three to five years of "clock time" You would therefore need a plan to help you preserve your trading capital so you can continue to trade for several years without a net gain. Your focus should be more on "What could I lose?" as opposed to "What could I make?" when opening a trade. That would mean ignoring one of the big things people are attracted to the markets for:

## Leverage

Most traders are exposed to leverage for the very first time when they open their first trading account; they have never seen it anywhere else. Because of their unfamiliarity, most traders typically over-leverage their positions. When they suffer a solid loss it often results in a really big hit to their equity; 20% or more might go up the chimney from a single loss. That is just not acceptable if you intend to make a career out of this. Additionally, larger losses tend to help in the process of creating emotional attachment; by that I mean large losses tend to exacerbate the emotional instability traders experience. It adds pressure to the “Now I have to get my money back” thinking. Losses are part of the business of participating. Most traders who have a net-winning approach usually have a win/loss ratio that rarely exceeds 55%. That means even if you become one of the best ever in this field you will lose almost half the time anyway. What do you think will be more common if you are a newcomer to this game? Most likely you will lose on more than half your trades and sometimes you will have a lot of losers in a row. That can be very discouraging and frustrating to begin with—now add a drop of 50% to your equity on top of it because you are using leverage incorrectly. The best solution is not to leverage at all, in my opinion. View your first few years at this as an education your losses are paying for—like going to college. My personal suggestion is to not use leverage in your trading at all until you know how to duplicate winning behavior regularly enough to put in a few back-to-back winning quarters. I personally trade only at 2X up to 3X leverage to keep my downside capital preservation at its highest; and I only use this much leverage because I know how to do this really well. For many years I didn’t leverage at all. Here’s what I mean by that:

If my account balance is \$50,000 then the absolute LARGEST initial trade I might make would have a contract value of \$100,000 or so. Usually I would start a trading campaign with a smaller position, but I am trying to keep the numbers easy for you. Let’s say I wanted to trade Crude Oil and the price of Crude is \$60/BBL today. The CL contract size at the NYMEX is 1000 Barrels. That means the contract value of ONE contract is \$60,000. I might open a position with a two-lot, meaning two Futures contracts that have a combined total value together of \$120,000. If the trade worked, I might ADD one more contract later according to my rules—but the point is that a one-contract position is barely leveraged at all if I have a \$50K balance to start with.

The exchange will typically require a margin of around \$2500 per position for someone like me so if I had a two-lot on I would have a margin requirement of about \$5000. Most traders confuse the margin required for the position with the leverage involved and this is why they have such huge losses when they are on the wrong side. I have seen people with a \$10,000 account trade a three or four-lot of Crude Oil; people who have never traded before. This account will have an exposure to the market of 4000 barrels of CL with a market value approaching \$240,000! (When CL is around \$60.00/BBL) A 1% change in the market value of this position will create an Open-Trade loss of almost 25% to the account equity! The price of crude would only need to change about \$0.60 for that to happen. Yes—a move in the right direction would create an open-trade gain of around 25% too—but you and I both know it is more realistic that a favorable price move won’t happen; at least not at first. This is a typical case of over-leveraging. In my case, a \$0.60 move against me will expose me to an OTE loss of around \$600 typically; maybe as much as \$1200 if I was trading larger. Against a \$50,000 account size that is a very manageable position and very manageable equity exposure.

I think your first choice when it comes to the money management you personally are going to use is a very serious discussion about whether or not your account should be using leverage. You don’t have to use leverage. In today’s markets there are all kinds of smaller/mini/micro contract sizes that allow you to get very good market exposure while controlling your equity risk so you can participate without leveraging if you so choose.

## Diversification

In my view, diversification is for investments; not for speculation. The thinking behind diversification is to spread your market risk over as many different places within the economic growth picture as possible; the intention is to avoid putting “all your eggs in one basket” because something, somewhere is going to lose;

and we need to have as many gains working to overcome that loss. It would be terrible for our one basket to be the loser (and I agree). On the other hand, when you are speculating, you are supposed to be OK with the risk in the first place—otherwise you wouldn't have an account open. It isn't about avoiding a risk—it's about knowing which risk to take and getting paid a lot to do it. The better advice in zero-sum speculative markets is "Put everything into one basket—then WATCH that basket!" In fact, that is what Phillip L. Carret says in his book, *The Art of Speculation* (Barron's C. 1930).

When you think of diversification in the investment community it is more like saying you will invest a lot of little amounts into 20 different car-makers because you expect the car-making sector as a group to do well; but you just don't know which car-maker will out-perform all the others. So, it is safer to just "buy the whole sector" than to pick one car-maker. Obviously, this is where Mutual Funds, ETF's and SPDR's all came from—the desire to spread the risk around a whole sector that includes everybody. It is a great idea for investments—but a horrible idea for speculation.

What creates an opportunity for a really big move that can make you rich (whether you leverage or not) is the concept of a supply/demand imbalance. I am not discussing a specific day-to-day market with a reoccurring liquidation order-flow imbalance; that is how you can get positioned **WITHIN** the larger over-reaching reason to be involved in the first place. Let me give you an example, suppose there was another really big shooting war in the Middle East—something that involved half the worlds' countries on one side and the rest on the other; something like the first Persian Gulf War in 1991. The price of Crude Oil is going to change; I think you could safely assume that. A situation like this has the potential for the price of the underlying commodity affected to double or triple in price (or more), for supply disruptions to make the price of energy everywhere spike so high that people start looking for other forms of energy, to cause political changes that might last a lifetime; it is a **BIG DEAL**....it is not time to trade a one-lot if you can afford to do better. If you can afford to plunge —there is a time and place to do it.

Every year the zero-sum markets produce two or three really big opportunities. Those are your “one basket” opportunities. You want a larger portion of your available capital committed to those potential trades. Obviously, you don’t have to trade them if you don’t want the risk—if you do want those trades you still don’t have to leverage—and besides those two-or-three big opportunities there are daily/weekly/monthly/seasonal etc., opportunities all the time anyway.

So, don’t think about diversification the same way you do when thinking about your traditional investment portfolio. If you think diversification at all, I suggest you think about it in terms of “non-correlation” I personally don’t believe that there are “correlations” in the markets anyway but there are enough people who do. It tends to appear as if some markets behave opposite to each other or lag each other. Meaning if something like the price of Gold rises; the stock market will fall, etc., etc., there are hundreds of such comparisons that I think really do more harm than good, but that is a different issue. If you think about diversification more along the lines of “non-correlation” you might be able to help your trading a bit with the bottom line; although I personal believe the “one basket” approach is the better one.

“Non-correlation” means that you will be oppositely involved with one thing against something else just so if one trade loses the other might make up that loss plus more. Richard Dennis said that if he was short something like Grains; he always wanted to be Long something that wasn’t influenced by grains against it; like maybe a stock index or lumber. If you decide to use some sort of “non-correlation” method with your money management just remember it is only a point of view on how best to exploit the markets. Your best probabilities come from a deep understanding of why you do—what you do—the way you do it. It really doesn’t matter what you finally decide on as being important for your money management as long as it is founded on common sense to avoid over-leveraging, and you have some sort of downside protection on for when trades go against you. After you explore your options, if correlation or non-correlation doesn’t resonate with you—that’s OK. If the issue of whether to leverage or not, or the diversification question simply doesn’t resonate with you—that’s OK too. You are free to do something else that does make better sense to you. All of these money management ideas are just people’s attempt to solve a seemingly

insurmountable problem: how do I make the most money with the smallest risk? You have to find your own balance, but these three initial concepts at least give you a place to start the conversation for yourself. Once you have these issues decided you need to adapt your daily money management rules to your own personal style of trading. That brings us to:

## **Record Keeping and Money Management**

In my opinion, this is where the fun begins. Record keeping can add a lot of powerful data to your considerations for a better market presence. You are attempting to answer the above question for yourself I am sure—how to make the most money with the least amount of risk? Everyone asks that question. But most traders don't understand the importance of self-study to get a reasonable answer. If you have been paying attention up until now you will have noticed I believe that almost 100% of your results happen the way they do because of the way you think. EVERYTHING happens after you have some thoughts in your head, which then become actions; that will then result in a change to your account balance. Every time you trade your account balance changes. Your actions determine that result. If you think a certain way you will get certain results. Change your thinking to something else; you will get different results. I didn't say "better results"; I said "different results" if you want "better results" you need to better define what you are looking for and know how to ask the right questions that will get you there. This is the place where your accurate record keeping touches your money management.

If you have been collecting accurate data, we can now begin asking some important questions that will help us create some different scenarios for our participation. Since all of our money management boils down to when we get in and when we get out combined with the size of our trade, what we need is to understand how we are creating our results. Let's look at some of the data we are collecting and see how that will help us improve our participation.

One of the basic pieces of data we collect is the amount of money each trade wins or loses. We can easily calculate our average gain or loss, our largest gain or loss and the time we are in our average gain/loss. Why would we want to know this data? For starters, our risk on each trade should always be the same, roughly. We should not have a very large variance between our average loss and our largest loss. Why? Because we will have a known number of losses over each sample set and we need to know what our loss-potential is; otherwise we can't make changes to overcome those losses. We have to hold our winners to pay for our losses. Our average winner needs to be at least twice what our average loser is; otherwise we can't collect a net gain over a large enough sample set. In this case we find that for our first 100 trades had 48% winners against 52% losers. Our average gain was \$300 with the largest being \$600; our average loser was \$250 with the largest being \$400. With these two data point we know that we need to do at least two things: increase our average win and decrease our average loss; and maybe find out how to uncover more \$600 winners.

First—we need to create a money management rule that must be enforced at 100% from this moment on. Our risk-limit on every trade must be \$200. If that means we need to change our trading to a smaller contract size—then we need to do that. If it means we place a risk-stop on every trade that is never moved—then we do that. If it means that our average loss happens in the first three hours of a trade and we aren't stopped out for a loss at the three-hour mark—then we liquidate the losing trade at three hours and take whatever loss is there. We can creatively figure out a combination of trade size, trade length and risk amounts together if we want; but the general idea is to find a way to reduce our average loser to a number that our winners can overcome AND keep those losing trades to roughly the same amount all the time.

Second, we need to compare our profit-exit price level to our after-trade data and see if we typically have more potential in our winning trades that we are leaving on the table. We discover that our average winning trade is around four hours long, but if we hold them to around seven hours, they usually have at least another \$100 profit potential. Additionally, we discovered that most of the winners worked within the first hour and our market order to liquidate was on a

reversal bar—meaning we panicked out too early when we mistakenly thought the trade was over. To resolve our winners a bit better we have some new winner-management rules; we hold our winners to the seven-hour mark every time or we hold it to when it makes \$400; then we liquidate. To help with actualizing this potential on our winners, we place a \$400 profit-limit exit order on every trade. Our winners typically give us a lead within the first hour, so at the two-hour mark the trade should have a reasonable gain in it; therefore, we will move our risk-stop to B/E. Some trades that would have been losers will now be break even, improving our bottom line.

At this point we have a solid plan to reduce losers to the \$200 mark on average by never varying the risk-stop placement again. We have a solid plan to improve our winners to the \$400 mark. We even have as part of our new money management plan a method to have a few break-even trades that will reduce our loss-potential a bit too. Now all we need is 100 more trades done EXACTLY according to this plan. Once we have that data—we can see what improvements we could make next—if we need to. Right now—if this plan can be enforced the existing numbers from the probability of ruin matrix say that there is a very strong potential probability that these changes have solved this traders problem enough to start making consistent gains. Again, this potential isn't because the trader is doing some radical technical analysis or market study—the trader is studying his own created data that comes from how he participates day-to-day. It's not hypothetical “testing” of ideas that have no basis other than some guess. Therefore, it is a very enforceable method, and it is really the issue that needs to be addressed.

In the appendix there are samples of record keeping that show you all sorts of data that can be used to create a set of money management rules based on the data that you, the trader, are collecting. Remember, your money management rules don't have to follow any specific method or plan, they only need to produce a result that can fit on the best side of the probability of ruin matrix for you. If that means your method of participation (meaning entry, exit and net change to your balance) is completely different than some other traders method—that is just fine. As long as you produce more money made from your winners than you lose on your losers, you will make money net—that is the only thing

that matters.

To close this chapter, let me give you a few basic Money Management techniques that seem to help the typical trader stay in the game comfortably while they are creating their winning market-centric paradigm. These basics have been discussed in many formats, but I think these concise steps are very good at distilling the complex question of good Money Management to a simple and enforceable level for most traders.

1. Never risk more than 1.5% of your equity on any one trade. It is better to place an exit stop for this amount and never move the stop. The only choice is to move the stop to breakeven when the trade gives you a lead, never move a stop-loss order to assume more downside risk on an open trade.
2. Look for opportunities to make an average gain of around 3% or more on your equity. If the potential is not there—don't take that trade. When you enter the trade, always place a price-limit exit order at the objective.
3. Have some method where you are allowed to ADD to winning trades.
4. Have a rule set where you can and cannot liquidate your trades ahead of the objective or before the protective stops. In other words, when the probabilities you identified are not playing out as you had first observed. I.E. “All trades must be liquidated by Friday's close to avoid risk over the weekend” or something similar that allows you to take off trades for a solid reason you can enforce.
5. Once you reach a certain number of losing trades in a row—take a trading break and study your trades against your after-trade data. You might discover why you had a draw down and when the best time/price relationship exists to begin trading again.
6. Know the intended method of your system or approach. Only use it when it is most likely to win. Is your method a trend-following method? A reversal method? Or a breakout method? I.E. If a market isn't trending you shouldn't be executing with a trend-following system.

7. Set a time when you will take a trading break to keep your focus. It doesn't matter if you are ahead or behind in your equity growth. Take the break regularly to re-focus.
8. Once you reach a certain amount of winnings—take some money out of your account(s) and reward yourself for your gains. That's the whole point of participating.

As you can see—most of these money management rules are really designed to help you avoid stress and to keep you thinking clearly. That is where the money is anyway.

### **Your key takeaway from this chapter:**

Your money management is a subjective thing that helps you maximize the results from your participation. You create beneficial money management by actualizing some underlying facts about the zero-sum trading environment; which is different from the money management needs of other kinds of investment arenas. The rest of good money management comes from asking good questions and reviewing your trading records together in hopes of discerning changes you need to make to your participation. As your money management grows and as your market-centric trading paradigm grows, together they are designed to improve your net gains.

## **Physical Health**

***“Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity”***

**--John F. Kennedy**

People always ask me why I include a section on Physical Health in The Psychology of Trading when I do the course live. Most of the time the traders attending are looking for something—anything—to turn their trading into the powerhouse financial machine they know it can be. Sometimes the answer for what we are looking for comes out of a place we didn’t expect. I would say that 99% of attendees never considered that what they needed to do in order to flip the switch from “lose” to “win” was to start working out regularly.

Studies have shown that people who exercise regularly along with consuming a healthy diet have lower potential to develop serious illness or diseases (like heart problems or diabetes), they are typically not overweight, they have more daily energy and typically have better control over their finances. Compare that with someone who is 80 pounds overweight or more and the statistics reverse completely; those people typically are consuming a non-healthy diet, they don’t exercise, they are developing or already have a serious illness, and they tend to carry a lot of debt.

Before people start ripping me a new one and go ballistic because I bring up the status quo for the typical lazy resident of my home country, I want to make sure

we are all on the same page. I am not a doctor and I am not going to offer you medical advice. All I intend to do is make the point that everyone reading this could do a better job at taking care of his/her physical health. I think I can show you that your trading can do nothing but get better if you take your own body seriously as an equal partner in your trading program. You know it and I know it so let's talk candidly about the mind/body connection.

I suggest this hypothesis: If you want to improve your trading—start working out & eating right.

If you go do some personal research, you will find that a high percentage of millionaires make time every day to physically do some sort of a workout. Physical exercise including active sports like Tennis, Swimming, Running, or Biking are all more common activities among higher income and higher net worth individuals. Also, more common is better control of their diet, consuming more plant-based foods and less red-meats; or even no animal sourced foods at all. Daily herbal supplements are more common too. The fact is people who take time to actively manage their health tend to be better performing at their income-and-wealth side of their lives.

Do I even have to mention smoking?

The absolute healthiest thing you can do for yourself and your trading is to stop smoking if you currently are a smoker. The link between serious health problems and smoking is a very defined one—smoking is simply not congruent with total body fitness and total financial fitness. There are absolutely no benefits to smoking; it can only do harm to you and your future the more you allow it into your life. If you smoke—please consider quitting today. I am not talking about the cigars at the holidays smoking, I mean the pack-a-day (or more) cigarette smoking. Smoking will kill you physically sooner or later and you will just have too much to live for when you get your trading to where you want it to be. It would be tragic to finally make the millions you have been working toward only

to be forced to carry around an oxygen tank everywhere, or deal with some form of cancer; or something else as serious. Just quit smoking—you can do it. Listed in the Recommended Reading section of the Appendix is a book that helped me finally quit smoking for good. Please consider reading it.

The complete issue surrounding these component parts of our health is the relationship between how our bodies function and how our minds function. There is a very well-known link between the human mind and the human body. The mind/body connection is a very real thing and it can be cultivated to produce greater and greater performance because the mind/body connection is symbiotic. One works with and for the other; one leads and the other follows. If you mentally demand better performance from your body—your body will increase its ability as you train it for more and more of whatever you are looking for. If you train the body to become faster and stronger—your mind will become clearer and sharper over time. The ancient Greeks called this “A healthy mind in a healthy body” One little known fact about the early Olympic Games is that they were not just games of physical strength or skill; they included the arts—such as poetry or drama. Athletes were expected to also shine in areas of the mind; such as mathematics or philosophy in addition to their physical excellence.

I have been very fortunate as it regards my physical health. I can count on one hand the number of times I have been sick in my life. I don’t get the flu, common colds, or allergies like other people seem pressed to deal with. I have been in a hospital, as a patient, only four times—three for accidents where I was physically injured enough to require medical care, and the other was for the one and only time I have ever gotten seriously sick. That one event was life-changing for me.

Severe pain in my gut led me to visit the emergency room on a Friday afternoon —by 6:00 PM I had been admitted with a life-threatening case of Pancreatitis. I had no idea what that meant. After I was given a lot of pain meds, I was given the whole story on what causes people to get this illness and what happens to

most people who contract it. The doctor told me that Sudden-Onset Pancreatitis was the kind that often killed people and there was a serious chance that I might be at risk. Only after the doctor told me to contact my next of kin did it really dawn on me that I was dying and that was that.

I got really angry at myself because I discovered that my “fast-track” trader lifestyle was to blame and because I had never had any health issues my entire life, I really wasn’t prepared for someone to tell me that my health was now in jeopardy. I was released after eight solid days of treatment including time in the ICU. I was given instructions about the critical post-treatment time that leads to relapse. Basically—I was confronted with the results of some really poor lifestyle choices that I didn’t even know could be that serious. Why? Because I never had any issues before. I sat in my living room a changed man. That was it —things needed to change and if they didn’t—I could see myself pushing up daisies.... I had too much to live for.

I decided to study my body and how it functions. I learned a lot about nutrition, exercise and sleep. One thing that really hit home for me was the number of billionaires who are obese. The number is zero. Most highly successful people have an equally successful physical health level. To reach your full potential requires a physically fit body for your entire life. You can’t be a top performer at anything if you are fat, sick, on drugs, or otherwise compromised in your physical health. Sorry—it just isn’t going to happen. I am not saying that you have no chance of leading a better or satisfying life if you have those issues; I’m saying that there is a reason why most top performers at anything are usually physically fit people. I decided right there to get back in shape and start honoring my body for what it is: the only vehicle for my profits. I quit smoking, changed my diet, started exercising and quit partying/binge-drinking.

What does this have to do with trading?

Successful trading is perhaps the single most difficult activity any person can

attempt to do with any consistency. The very nature of the environment is really a combat zone every waking moment you are there. The mental gymnastics most traders go through for a regular profit can just be exhausting. Anyone who desires to make trading their number one activity is going to need every advantage they can get. How are you going to perform at your best—in the world's most difficult financial environment—if you are tired at noon every day, don't get enough sleep, are living on caffeine/donuts/nicotine, and take pills for your anxiety condition? You could ruin your life living like that. During my most active years inside the trading industry I personally knew pit-traders who went insane, committed violent crimes, developed incurable diseases in their 20's, beat their wives, became addicted to cocaine or alcohol—just so they could function when the bell rang every morning. The list of adversities could go on for pages. One guy poured gasoline over himself and lit himself on fire after suffering a debit in the grain pits; just tragic to even think about.

Now that the markets are all-electronic, and trading is done in cyberspace it is even worse. There is no one to talk to or trade with; just you at your home-office desk with the radio on because the silence is so unnerving to say the least. The environment to actually participate has become void of human interaction, drained of anything of human value—like discussing yesterday's game or going to lunch together; and has become completely impersonal. You can open an account over the internet, with a broker you never have to talk to or even see, and lose all your cash without ever speaking to another human being for any part of the whole experience. Even as I write this the silence in my office makes me nervous...

We as human beings cannot function in an environment like this for very long. Our mind/body connection suffers. The mental side of our body is not being stimulated by having a “real life” interaction regularly with our own kind; our bodies grow old and fat because we just sit there doing physically nothing for hours every day.

## **The imbalance we bring to the markets**

Think of it this way: The human body has evolved over hundreds of thousands of years to be the machine it is today. During the early years of our development we lived outside in the same environment we shared with predators. Part of our daily life was out-running predators. As our brains got bigger, we could think better than those very same predators. We could gain an advantage over them; sometimes kill them. At one point we began manipulating our food supply by caging animals we intended to eat—which we couldn't do unless we could figure out how to catch them and breed them. Suddenly there exists an environment where we have a lot of time free for other pursuits; not just using up our whole day running from predators and hoping to find enough to eat. The physical demands on our bodies dropped a small amount as we gained a small amount of control over our environment. Some people believe this is how civilization started; more free time available for other things by certain humans.

Fast forward to the 1800's and the advances in technology brought about by the industrial revolution. Virtually overnight, based on the time scale of evolutionary development, we humans could replace the use of our muscles with machines driven by steam power. Instead of taking months to walk or ride a horse across the country to get somewhere—you could ride in a train and do it in four days. Just sit there while something else did the work. To keep your mind busy, you might read a good book or have a conversation with the person sitting next to you.

Move ahead only another generation or two, which is only a heartbeat in evolutionary time, and we have jet airplanes to take us anywhere on earth in 12 hours, man has walked on the moon, we have eradicated several diseases (like smallpox), we have learned more about the universe we live in than ever before, know more about our home planet, invented electronic machines that can not only replace our muscles but replace our brains; we have truly evolved into something completely unique and with even bigger potential than we can yet imagine. What are you going to keep your mind busy with now?

Enter the iPhone. We haven't even begun to witness the social and psychological impact of this little beauty. Yes, you can entertain yourself for hours on end just sitting there, you can use it to buy anything you want and it will just show up at your front door in an hour; yes, you can watch the news for an update of what's happening half-a-world-away. Wonderful. But you know what you can't do? You have a conversation with the person sitting next to you at the food court. You know what you aren't doing? Going dancing with a friend—if you have any left. Read any good books lately? Of course not, everyone is staring at their hands like a zombie while this tiny electronic device rules their lives...

As a species, our mind/body connection is suffering because our bodies are not keeping up with our minds, and our minds are not honoring our bodies. Albert Einstein said it best when he said "If we aren't careful we will evolve our technology to the point where we lose control of it" At this moment, the thousands of years of genetic programming we have that tells us to use our muscles every day for our benefit, is being systematically ignored by the incessant use of technology. I can't remember the last time I saw any of my neighbors out taking a walk...

The point I want to make is really very simple. At this particular time in human history we as a species have advanced technology to the point where our bodies are really suffering because there are no demands placed on them anymore. "Going to work" everyday has replaced "Working everyday" Most jobs involve very little hard physical labor anymore. When I say "hard physical labor" I mean breaking a serious sweat and going home physically exhausted—like people had to do for centuries until just recently. In 1880, digging a well for the homestead so you didn't die out on the prairie this winter might take several days of 2-3 men using hand tools. Today, that job would be done in an hour by a well-digging machine operated by one overweight person. Everybody back to their iPhone...job's done...

Think of the calories burned when you as a trader decide to buy or sell. What do you have to do? Click the mouse. I bet you burned 3-6 calories pushing your

index finger once on your mouse key. You see, “making a living” for most people, including traders, doesn’t require any physical work anymore, all we really do at this point is manipulate machines who are doing the work. Even work we consider to be “head work”; such as accounting or bookkeeping. All that is done by machines and the human operator just sits in front of a computer all day. Our day-to-day life for most people in the western world(s) is a life lived among machines who are doing most of the work for us while we stand by and watch. I can’t remember the last time I actually saw a bank teller. All my banking is done online or through an ATM machine. If I have any issues, I call customer service; which is basically a person sitting in front of a computer somewhere looking at the same data I see on my computer while we discuss what the problem is. If there is no problem—no phone call to another human being. No “Hi Janet—how’s the family?” while I deposit my paycheck. No paycheck to deposit anyway—that is done by direct deposit now. All I have to do is keep my head down and stare at my iPhone...all is well...

We as traders cannot afford to live in a world that ignores the needs of our physical bodies. Your muscles were made to be used every day to do something useful. Your body was designed to run on certain fuels—not everything that can pass through your digestive tract is food your body needs or can use. Not everything you put into your mind can assist your brain to function at its best. Do you really need a TV in your back pocket? You don’t need a “5-hour Energy”; you need a solid night of sleep after a healthy dinner.

I know from personal experience that my near-death illness was created by me, because I was living like my body would never suffer the consequences of how I was treating it. Once I quit smoking and eating cheeseburgers every day, once I reduced my drinking to something other than the “sailor on leave” level, once I started training with free weights again—everything in my life began to improve—not just my health but everything. I began a detoxification process while I changed my diet and I dropped 20 pounds without doing one sit-up. Now—I am looking at my goal weight being the same weight I was in high school. The cost of living every day has dropped because I no longer eat expensive things that are really just fat calories (like fast food) and I don’t spend \$10/day on cigarettes anymore. I consume a lot of salads and fruits. I make fresh juice every day. I

look and feel like I am 20 years younger. The blood flow to my brain increased providing me with more benefits for my trading. Let me repeat that: The blood flow to my brain has increased providing me with more benefits for my trading.

The only real trading tool you have is your mind. Your mind must think at its optimum level for you to get your best results. Your mind lives inside your body. If you feed your body crap—your mind doesn't get the best fuel it needs to help you make the best trading choices you can make. If your body is supporting extra weight for no benefit, the blood flow you do have now goes to support that extra unneeded weight. If you drop the weight, increase your blood flow by solid heart-pumping exercise, and feed your mind the real fuel it really needs...how is this bad for your trading presence? How does this work against you? It doesn't. Your healthy mind in your healthy body opens better trading opportunity. You will have every advantage you can when you step into the kill-or-be-killed environment of the markets.

Remember, I am not a doctor, so I am not giving you medical advice. This is my personal experience for my own account(s) when I started taking my health very seriously and made a few changes. I really think it is very realistic for you to experience some positive results if you choose to improve your physical health too. I would certainly recommend a positive health program if you have a family of your own you care about. None of us will live forever but that doesn't mean our lives have to end in sickness and disease either. Our families probably want us around as long as possible. For me, I took my health seriously because I had a very scary health problem when I was only 49 years old. I know that I won't ever be in the same shape I was when I was 17—but that doesn't mean I have to be a walking corpse at 65 either. Think about your health—and think about how your trading might improve if you begin honoring the mind/body connection better. Go see your doctor and find out what you can do to start improving your overall health. If nothing else, knowing that you might be years away from something serious gives you times to make better choices. Nothing bad can come from better choices I am happy to say. Make your health and well-being a priority and it will help your trading. You need every advantage you can find.

## **Your key takeaway from this chapter:**

The only trading tool you have is your mind. Your thinking determines the results you get from participating in the world's most difficult financial environment. Your mind lives inside your body; and at this point in human history—the mind/body connection is out-of-balance due to how much we have come to rely on technology. We as traders need to honor the mind/body connection better. Consider an active exercise & diet program as a way to help benefit your trading. Your improving health picture can only produce positive lifestyle/trading changes.

## **Technical Analysis**

***“I’ve never met a rich market technician...”***

**--Marty Zweig**

During the European Middle Ages and through the Renaissance Age of Enlightenment there was a pseudo-science practiced for centuries called Alchemy. The basic idea behind the “science” was a belief that some sort of transmutative power existed that could be harnessed creating vast unlimited wealth and providing health benefits leading to immortality. People who practiced Alchemy believed they could turn base metals (like lead) into precious metals (like gold) thereby creating wealth out of worthless items; as well as brew something called an elixir-vitae that would give whoever drank it eternal life. Pretty strong stuff. And, of course, who wouldn’t want those benefits?

The belief got started when a magician from the Middle East or Northern Africa showed up in a European King’s Palace and claimed he could perform this miracle, if he was paid of course. So—he apparently performed this miracle for the king, got paid, and went on his way. That was about 900-to-1000 A.D. according to most accounts. Shortly thereafter there began appearing other people who claimed they could perform the same miracle. As the centuries passed this belief continued to take hold on popular culture until, at the height of the belief in Alchemy, there was even a university in Amsterdam, Holland offering a degree program in Alchemy. That was around 1650 A.D. or so.

During this time, and to this date, not one credible case of transmutation of lead into gold or the creation of the elixir vitae has ever been documented. Every

single Alchemist has been discredited based on his results and/or examination of his historical writings. During the 1000 years that people believed Alchemy was a real science, Europe was in a state of constant conflict between warring nations; and the Catholic Church controlled the dissemination of information under the threat of excommunication. Therefore, it was easy to suppress or ignore information that suggested Alchemy was not credible; or it was credible. When this belief served to further the position of someone—alchemy was accepted and lauded. When it didn't serve the needs of The State or The Church, Alchemy was suppressed. What seems to have slipped from everyone's mind was that during the time Alchemy was accepted as a legitimate science—no one had ever made any gold using any Alchemical process and everyone who practiced it died—no elixir-vitae either. In reality, Alchemy is a complete fraud based on an idea that is not physically possible. Apparently, that didn't seem to matter.

People believed Alchemy would work—and when it didn't—there was always some reason why it didn't work, and that “something” could be fixed given enough time to work on the problem. People spent their whole lives trying to turn lead into gold and died penniless; still believing it could be done. Popes paid fortunes to men who claimed to be Alchemists hoping to increase the coffers of the Church; so did monarchs like Louis 10th of France. The belief grew so strong that the missing ingredient was actually named (although no one to date has ever found this missing ingredient), it was called the “Philosopher's Stone”; wars were fought over land that was supposed to have the “Philosopher's Stone” buried in it. All this frenzied activity and passionate belief in something that had never have been done, and never could be done. Ever. In fact, unless you happen to have a 2.5 Solar Mass or larger collapsing star in your back pocket, turning lead into gold is impossible to do anyway under any known conditions mankind could realistically create.

Does any of this sound familiar?

Right now, today, as you read these pages, there exists a very similar conviction.

Within the minds of the participants who trade the markets every day, there lies an unshakeable belief in a pseudo-science called “Technical Analysis” (TA).

I put the quote from Marty Zweig at the top of this chapter because Marty is considered one of the best traders of recent memory. To the best of my knowledge by reading his works he doesn’t use technical analysis to find his trading opportunities. I don’t use TA at all to produce my results either. The fact is, anyone who is a top performer in the markets rarely uses any accepted form of TA; if they do, they use it from a completely different perspective and not at all like the rest of the participants might be taught to use it.

If you are going to pursue making your millions by trading zero-sum markets (like Marty Zweig, myself, and others do), then you need to be aware of things that can prevent you from getting where you want to go. As we have been discussing for many chapters now, almost everything in the trading world can be boiled down to something involving your personal point of view as the foundation to success or failure. How you see things is the most significant point of reference to discovering a trading method that will be enforceable for you so you can win. It is the signpost for when you are sabotaging yourself; setting up your losses. How you see it, becomes everything.

Before you decide to accept the hyperbole & hype about the “validity” of Technical Analysis I want you to give some serious thought to what I say in this chapter. There are very serious flaws in the argument for the use of TA and I personally believe using it is the single biggest reason why traders suffer losses. Remember, statistically speaking, around 85% of people who open a trading account to trade in zero-sum markets close their accounts at a net loss. That statistic has never changed despite the huge use of mountains and mountains of data created by countless forms of TA systems, algorithms, charting, artificial Intelligence, and so on. Every one of those losers has access to all the same information as everyone else. How they use that information is why they have losses. Their belief that they can chart their way to a fortune is the single biggest reason people fail in the markets.

If you could exploit Technical Analysis to create consistent gains, then people would be doing it and the 85/15 distribution of winners vs. losers would have changed by now. I believe the TA problem is two-fold. First is the basic assumption the whole “science” operates from and the second problem is how traders are taught to use it. Between these two serious flaws in approaching your market participation, the typical trader has no hope for a profit. In fact—I would hazard to guess that the typical losing trader using some method of TA will execute less than 100 trades before his equity has dropped to levels he can’t participate with. Combine the two basic issues with poor money management (such as over-leveraging) and you have a recipe for a whale of a “WOW!” story at the next cocktail party...

Let’s start with the basic premise most technicians are operating from. All the markets are prices. Prices are numbers and numbers can be analyzed; they can be seen in context with each other, and they can be used for the calculation of things we need to know. That is the proven science of Mathematics. Proponents of TA all argue that mathematics is a proven science and can be used to prove things that are abstract, like the markets. Sir Isaac Newton invented calculus and he used math to prove physics. Mathematics works. Period. If someone like Sir Isaac Newton can use mathematics to predict the curve of a baseball in flight by knowing its mass, velocity, angle of trajectory, and the gravitational constant all rolled together into a formula/algorithm; then that documents that anything can be proven (or disproven) using math. However—there is a serious flaw to this logic when applied to the markets.

Markets are not prices. Markets are people arguing over prices. The correct mathematical model (if you could create one) would be to use math to predict how people will argue prices. Not a model to predict the prices they will argue about. The first part of the first flaw is a misplaced focus as to what is really the significant variable you are trying to predict. Predicting people’s behavior is the real issue—not the prices they are fighting over. Group behavior is not easy to predict under any conditions. Mathematics really can’t be used in a predictive manner when attempting to predict what a crowd will do consistently.

The next part of the first flaw is the issue of a closed loop in a logical argument. This is called “circular” reasoning. If you are using price as a variable in your attempt to predict what prices are coming next, you can’t use the same variable in the equation or the algorithm.

For example:  $A = A + B$

It doesn’t matter how complex your equation is, or the rationale behind the attempt at mathematically expressing whatever variable you want to predict—you can’t use the same variable inside the equation in order to predict what that exact variable will be after the “equals” sign. Ask any engineer or someone else who has to use math every day to solve complex issues and they will all agree that the above assertion is absolutely true; you can’t use variable “A” in an equation attempting to predict variable “A”. Therefore, you can’t predict prices using math to predict prices. I even wrote it redundantly so you can get the point like I wrote it for you while I was writing it for you so you could get it.

The other issue is how people are taught to use Technical Analysis. I have attended countless seminars, reviewed countless audio/video recordings, and read hundreds of books on Technical Analysis, prediction of price action, trading systems, and anything else you can think of about “figuring out where prices will go next” NOT A SINGLE CLASS or BOOK discussed the implications of zero-sum markets and the structure that completes trading; except one; *The Disciplined Trader* by Mark Douglas (New York Institute of Finance, C. 1980). 100% of EVERYTHING presented to you as a viable method of making your fortune misses the EXACT reason WHY prices move and how to see that change coming. You as a trader are NEVER exposed to the knowledge of what the markets really are and how they move in price. I have actually met traders at industry events who have been trading for decades that had never even heard the term “Zero-Sum Transaction” and didn’t even know that the markets they were trading in were zero-sum markets. That’s like a heart surgeon NEVER being told that the heart circulates blood through the body. How could you miss that?

As a corollary problem to the main issue of never being taught how zero-sum markets are constructed and how they move, in every one of those TA educational forums I attended there was ALWAYS someone who looked at the same data being taught and saw it the other way. In other words, if some sort of TA was being done on a market we all were going to trade next week, and the conclusion of that TA taught to us by some “expert” was that the market should rise in price (bullish scenario for next week) there would be another trader who saw a bearish scenario for the next week using the same information and the same analysis.

I need to make this really clear: No matter what the Technical Analysis done suggests for price action moving forward, there will always be another way to look at the same data. No matter how simple or how sophisticated the analysis is when it is done—it will always be inconclusive about forward price action.

In addition to this problem, you have the inconsistency of all traders with excusing their results. Most traders will accept that “some trades won’t work” because they are told that is part of the business. They are never told that by studying your participation along with studying how markets move in price you can increase your probabilities of winning trades to above 90%; and if you tell most traders that they can learn to do that too, they reject that knowledge out of hand as “unrealistic” or as an outright lie. So when they have a dozen losing trades in a row after using some TA analysis they see that as “just part of the business” as opposed to “something is not right” If they come to the conclusion that “something is not right” on any level they typically mean they haven’t done the analysis “correctly”; so the double-down on the time/expense of learning that particular TA perfectly so they won’t make those mistakes again. But that thinking is part of the problem too—the thinking that you can become an expert at some kind of analysis and “reduce your risk” in the process. They never stop to think that “something is not right” might mean TA is a fallacy and trusting it in the first place is what is leading them to consistent losses.

At this point I want to draw this argument together for a conclusion then offer you some additional insights on how to exploit Technical Analysis as a tool to help with your participation. What I am suggesting is not going to be easy for some traders to accept—likely because they have a lot invested in believing TA is viable; both emotional investment and financial investment. If you will open the door to understanding the flaws in the TA argument, I believe you will save yourself a lot of headache, time & money. Once you lose your trading capital it is too late; but if you can prevent yourself from throwing it away on some fantasy, you can really give yourself a fair shot at creating wealth for yourself.

## In Summary:

1. TA is based on a fallacy regarding the interpretation of the science of mathematics. All lies are based on some amount of truth and the more truth the lie contains the harder it is to expose the lie for what it is. TA focuses on mathematically trying to express forward prices; however, markets are not prices. Markets are people arguing over prices. Predicting the behavior of crowds is a completely different mathematical environment with a completely different set of variables.
2. At the core of the TA fallacy is an error in logic, it is the “closed loop error”; commonly called circular reasoning. You can’t use variable “A” in an equation or algorithm designed to predict variable “A”; it is mathematically impossible to reach an accurate prediction.
3. The typical trader being taught TA as a viable method of making money is never shown the true structure of the markets and how prices will move. Therefore, the typical trader is in error by trusting TA to help find viable entry or exit points for his trades.
4. The traders own mindset about how valuable TA can be as a trading tool complicates his reasoning, adding to the potential for net losses while using it. The typical trader never considers that TA might be non-viable.

To put my conclusion into a context that might be more familiar to the reader, let's talk about dying. In the trading arena it is kill-or-be-killed. If you are not on the right side of the price action—your money belongs to someone else. If you don't figure it out—you end up with ZERO money. You're dead, financially speaking.

Now let's compare that to another environment where you could really die. If you are a solider in a war—someone is going to try and kill you; physically kill you. Your General hands you a gun and says "Go take that hill. By the way, the enemy is going to try and kill you." You say, "Yes sir!" and turn to go; but the General stops you and says: "Oh by the way—that gun I gave you only works about half the time. Just do your best and if the gun doesn't work—we will talk about that if you come back—OFF YAH GO!!"

Wouldn't you stop right there and be just a little concerned about going up that hill to face the enemy? That is the same environment Technical Analysis offers you. Why would you be willing to expose your money to a kill-or-be-killed battlefield 100% of the time when your only weapon doesn't work about half the time? You have very little chance of winning in that case. Why would you be OK with this scenario?

That is the conclusion I want you to consider. Technical Analysis is a flawed idea just like Alchemy was. It is based on some things that sound really good until you look at the statistical facts underlying all the hype. Both "sciences" promise some really great benefits—if we all can figure out how to get to those benefits—but the fact is, both Alchemy and Technical Analysis are based on belief systems that are in conflict with the underlying facts that exist; Chemistry can't turn lead into gold, you need the heat of a collapsing star to create elements out of another element. Technical Analysis can't predict pricing because markets are made of people not prices; you need a crowd behavior mathematical model (which hasn't been created yet). Until someone has developed something that can predict crowd behavior on a moment-to-moment basis there won't be a way to mathematically attempt a prediction on which way a market will go in price;

and/or how much time a price change might last. The existing pseudo-science of Technical Analysis is not even close enough to that benefit to be considered viable. It really is no better than chance. In fact, if you perform every kind of technical analysis exactly how the creators of that analysis suggest you use it, none of those TA methods have a success rate of more than 52% over a reasonable sample set of, say, 1000 trades; unless you “massage” the indicator or study with some sort of variable you have discovered by “experience”, which is just a convoluted way of saying you are combining two non-correlated probabilities until they overlap on the plus side of their exclusive probabilities. A 52% probability is no better than chance. While we are on the subject, please don’t forget our discussion on how to lie using statistics. Almost all the “systems” you see available using some method of analysis or combination of methods is sold to you because it has some sort of statistical verification that it works. It still amazes me how people justify what they do and how easily those statistics fall apart under the most basic scrutiny.

## **How Best to use Technical Analysis**

I would like to ask you to use some common sense with me while I make my final argument(s) on the validity of Technical Analysis. As I mentioned before, I don’t use any TA to find my opportunities. I have also discovered that very few net-winning traders use any TA either. That can only mean the users of TA must be those in the losing group. That can only mean that the losing traders are trusting TA to place themselves at risk and that happens (apparently) right about the time/price areas where a reversal is due to happen; otherwise they wouldn’t be losing so consistently. What is the value of Technical Analysis? The value of TA is that 100% of the losers are using it. So, if I could see what the loser is looking at when he decides to place himself at risk—all I would need do is take the other side. ERGO—I need to see what the loser is looking at. The first advantage TA can give a winning trader is not to use it to find trades for himself—but to use it to uncover how the losing trader is thinking. Don’t use TA to find trades; use TA to find traders.

I was told not to name names when this book was reviewed before publishing. We live in a sue-happy society I am afraid to say—However—in the case of this illustration—I think naming names is OK because I don't think the people in this story are intending any harm to their customers; of which I am one of them. One of the skills I developed over the years was directly related to an experience I had in 2005. I attended a weekend seminar on basic Technical Analysis offered by the Online Trading Academy. The illustration below is an example of the style of TA they suggested for “beginning traders” ( I still attend education seminars offered by organized groups of “educators”; I like to stay current on what is being taught to the loser-group so I can stay sharper on potential price action).



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This is a five-minute Silver Futures chart showing the typical losing day-traders start to the day, the end of the day, Technical Analysis done using “slow” & “fast” Moving Averages and a typical “Over-bought/Over-sold” indicator (MACD). The way the typical trader is taught to use this “Simple Moving Average Crossover System” Is to key in on when the MACD “signals a turning point in the market”, then the trader is to do nothing and wait for “confirmation”, which is when the two moving averages cross each other, then enter on the next bar. The first trade of the day was a short signal which resulted in a loss as the market made a fresh daily high after stalling briefly at the first daily high; the corresponding MACD “signal” to BUY the market wasn’t taken because the trader already had an open-short on (Can’t do both). The next short signal was again at the market highs but later in the day yet again another fresh daily high takes out the 2nd short with a loss also. To make matters worse, inside the head of this trader, the only signal he DIDN’T take was the buy-signal that appeared 10-minutes after he had his first open short working; and that missed trade could have been a healthy gain.

The important thing for you to understand about this chart is that the Online Trading Academy was very proud to tell me that they have graduated over 250,000 seminar attendees over the years. This was part of the sales pitch offered to me so I would be convinced that the OTA had a really valuable something for me to buy. However, as an already net-winning trader looking for more ways to uncover how the losing trader is “out there” so I can take his money; here is the real benefit I found to the course I took almost 20 years ago:

The OTA has taught over 250,000 traders the exact same information and those traders are using that exact same information the exact same way. That means the exact same price chart for the market looks exactly the same way on each of those 250,000 desktops right now. So, when that particular price chart, using that exact method of TA, tells 250,000 traders it is time to BUY right now—all those

traders will likely enter a buy order at that exact time/price point.

Since I already know that 85% of people are losing, and 100% of the people who trust any form of Technical Analysis are likely to lose on any one transaction, by looking at the TA those losers are likely reviewing at the same time gives me (the winner) a place to consider as a great entry the opposite way. In other words, when the typical “Loser Chart” (like the one pictured above) says it is time to buy—in reality that might be a very good place to sell. One very good way to exploit Technical Analysis is to review it in the exact same manner that the loser is taught to use it. Your “loser charts” often disclose price/time relationships that losing traders are instructed to value. Do a little research of your own to find out what the most popular forms of Technical Analysis are and how they are taught to most traders. Then create 2-3 typical “loser charts” that show you what the average losing trader would be seeing regularly when he does his “analysis” You should be able to find solid entry points to go the other way often enough to make it a valuable tool to add to your market-centric paradigm; which is always based on the concept of: Find the loser.

Now, it is very likely that the total number of OTA students who are actually still executing exactly as instructed according to the above chart formation is probably much lower than 250,000; and I am not using that number literally. Every losing system and every losing trader has its share of winning trades; using TA profitably is more about probabilities when looking for the losing trader. What I am hoping to communicate to you is that relationship; that reality between how losing traders see the market and how winning traders see the market. Traders who put their confidence in TA consistently are usually losing in the markets all the time. Those losers have chart analysis done certain ways. What do their charts look like and can you find something that can help you uncover how the loser is thinking? Don’t use TA to find trades, use TA to find traders.

Losers study the markets; winners study the losers. Winning traders watch for losing traders to be active. In my view, using Technical Analysis to uncover how

losing traders are thinking and where they might be opening positions is the most valuable part of TA. I wouldn't use it to find trades for your own opportunity or your own trading. Use TA to uncover where losing traders are getting positioned.

Another consistently profitable method of finding the losing traders is participating with them side-by-side every day. This method is something many of my students find highly profitable and I developed this strategy after my own experience. It requires you to have a degree of technical ability and maybe a few dollars to invest every month. It is really simple to do but requires you to actively pay attention to what is happening moment-to-moment; this isn't a very workable strategy for someone who is not going to be seated in front of a screen for the entire trading day. Personally, I would rather not be trading by sitting in front of the screen for 8-10 hours at a stretch, but if you are one of those traders that enjoys a daily trading day that includes hour after hour of sitting there while smaller opportunities come and go—this method might be perfect for you. If you consider yourself a "Scalper" or a "Day Trader" this strategy can really increase your weekly take-home winnings.

## **How to Implement this strategy:**

First, take some time to search for free trading chat rooms on the internet. There are literally thousands of them all devoted to helping traders become more profitable. The best ones are the ones that some “guru/expert” has set-up to help his victims—I mean STUDENTS—make more money. Those usually involve a small monthly fee, or you are given free access after you buy some course or daily education webinar the “guru/expert” provides regularly. If you want to focus your opportunity on only one area of the markets you can find all sorts of free chat rooms that are sponsored by brokers or educators specifically focused on individual markets like Crude Oil, FOREX, Stock Indices, etc., etc.

After you have found 2-3 chat rooms to your liking simply sign up and begin listening in every day. Your “listening in” is going to be different than the other chat-room participants because you aren’t going to be following along with whatever argument is the one for profitability today; you are going to be listening for code words AND you want to find the loudest and most over-confident individual you can find in that chat room to start a relationship with. After a few days of saying hello—listening to what the other traders are discussing—asking a few “where are you from?” type questions—you are ready to execute this strategy.

Begin a relationship with the loud individual you have found. Take that person into your confidence. Ask him questions that let him talk and talk about his analysis and why it works, what the profits are like, etc. This individual will usually tell you exactly where he will be trading and why all the time. Take a notebook and write down his key data points for yourself. As you watch this trader, also watch how the other traders will argue their point of view and notice how many eventually cave in to the “conventional wisdom” each day. Notice the entry and exit points being discussed. You want to listen for code words; words like “should”, “must”, or “can’t”; you want to listen for “confirmation” and “back-testing” some of these chat-room participants will still be doing a lot of

“paper-trading”; look for their specific reasons for getting in or out of a “paper-trade”; most have to do with creating a sense of certainty.

After you have a week or two of data—compare the entry and exit points offered by the loud trader and some of the other traders in the room. What you will notice is that the entry points to go long are usually right about the best place to enter a short for the day; and vice versa. The exit points are often the best place to actually enter the trade being discussed. In other words, if you “fade” the trade that is supposed to be the “big” winner today, you usually will have a profit. If you wait until everyone else is stopped out for a loss on that long, for example, usually right around there is a great long entry.

Remember, nothing is for certain and net-losing traders have their share of winning trades; which is another thing—notice how many winning trades are taken off early by the group—if you are doing a similar trade you often can hold for a bit more after they exit. My point is, this strategy will help you uncover where losing traders are executing and the discussion they all have in the chat room will show you how they think. By studying what they are doing and how they are thinking when they do it—you can get great clues for your own trading at little to no cost. Additionally, taking their money will become so consistent that you will eventually get banned from those chat rooms if you discuss any of your real trading or why you are really subscribing to that service. I tell all my students to never discuss their own trading except maybe in very general terms. Certainly, never mention me or any of my education products/books/services.

If you are going to attempt using this strategy to exploit “Loser Chat Rooms” there are a few things to help you get the most out of it. First, always describe yourself as a “newbie” who is really trying to learn this. The loud people in the rooms love to unload their “wisdom” for you. It can be a never-ending source of information about the loser’s trading. Occasionally offer an opposing point of view but always retract it after the entire room tells you why that won’t work. For example, perhaps the discussion in the room is all about where the market will go after the big news event due shortly comes out. There will be all sorts of

discussion about the actual number, why that will be bullish/bearish, blah, blah, blah. When you can put something in say something like: “Well, so-and-so said that this report isn’t even important—the real report will be the XXX report due Friday” ....and watch the fur fly! You will get every possible argument for or against that statement, you will be called every name in the book for being so audacious as to think that anyone would know more than they guy who runs the chat-room, and on-and-on it will go with more non-essential and ridiculous crap that has nothing to do with trading. But one thing will happen—someone in that room will openly commit to taking one side or the other at a particular price. THAT could be a huge clue for you. If that losing trader decides to go long at that price he is so sure about—it will likely turn out to be near the daily high; or vice-versa. A great place to go the other way.

Bear in mind, there is a downside to this strategy. First—the loud people always end up losing all their money and they eventually have to quit; so, you need to be constantly looking to start new relationships with the next loud person. Second, if anyone suspects that you are not “one of the group” you will get banned. That means if they suspect you are snooping for another vendor or in some way trying to “steal” what they have—you will be banned. If they think you are a “shill” and you are trying to sell them something or represent some other “guru”, you will get banned. If they think you are not offering enough “positive information” to the whole group, you will get banned. You will get banned instantly if you tell them that you are regularly taking the other sides of their trades and you are taking more money from them then they are from the markets. In other words, you need to participate regularly in a fairly innocuous way and offer something to the group regularly. Don’t get into fights with the other participants, don’t argue their positions with them; don’t be a difficult person. Just take what you can learn about the state of mind most losing traders operate with. I think you will be surprised at how simple the process is.

To close out this chapter, I want to offer you some final insights into the Technical Analysis problem. Although there are significant flaws in the arguments to support TA as a serious trading tool there are parts of chart activity aside from analysis that can be very helpful to your developing market-centric paradigm. Some of these observations are discussed in greater detail in my first

book Trading Rules that Work (Wiley & Sons Publishing, C. 2006). To close this chapter, I am going to outline one kind of “Technical Analysis” and one important thing to remember. Both offer benefits. Bear in mind—these are only two kinds of help; there are all kinds of things out there to assist you so I would refer to the recommended reading section as well in the appendix. There is a lot of market-related data a winning trader will find useful that are not considered “Technical Analysis” As you create your market-centric paradigm those resources will start becoming more valuable to you. So, take these two “TA’s” in context.

## **Enter the market on a 50% pullback**

I want to make one thing abundantly clear: 50% retracements are not Fibonacci study, projections or retracements. Fibonacci was a pre-renaissance mathematician. He was interested in uncovering the grand harmony and design of the universe. He wanted to find the all-pervading bedrock factual component to the nature of physical reality; what you and I would call the nature of the physical universe. He lived in a time when money was a very unsophisticated concept. The general level of ignorance people existed under at the time just before he lived was profound. Fibonacci’s discoveries would have been seen as dramatic leaps forward, so much so that it “looked like” magic and bordered on “Heresy” as far as the Catholic Church was concerned. Still, Fibonacci believed things about the nature of reality that you and I know today are completely erroneous. For example, Fibonacci was an Alchemist. He believed with all his heart that he would discover through, mathematical design and prayer, the very nature of reality. When he did, he could exploit this knowledge turn lead into gold; thereby ending his money problems. If I told you that as a trained trader I will trade for you and I will execute for your account by studying the flights of bees; you would be no worse off than if you followed Fibonacci through his day as he tried to turn lead into gold. Fibonacci never applied the golden ratio or the Fibonacci Progression to markets or trading. None of that existed yet. Fibonacci discovered a part of mathematics that is accurate for the study of nature, nothing else. He didn’t know that at the time. He himself lived under a cultural myth and wasted a lot of his knowledge pursuing something that couldn’t physically be done.

Why am I telling you this?

Because Fibonacci Retracement study is an accepted method of simple technical analysis. All successful traders use some form of retracement analysis in their simple methodology. Except Fibonacci never intended his discoveries to be developed or applied to trading. That was W.D. Gann's idea so your best bet in understanding retracements is to study W.D. Gann, not Fibonacci.

Gann discovered a unique relationship between time and price that is still considered accurate today. That relationship is apparent across all markets in all time frames; no successful trader should ignore it. The relationship is very simple and actually was initially discovered by Fibonacci except Fibonacci had no use for this knowledge—he was trying to turn lead into gold.

The time/price relationship follows the rule of 72 and 50% ratios. Some of this is also covered in Elliot Wave analysis but I want to make this simple. Anytime pundits of Elliot Wave, W.D. Gann or Fibonacci start talking they complicate this whole retracement thing so dramatically that you would think the sun rotated around the earth just prior to the moon eating it. People need to just relax and focus on the main issues.

50% retracements are important because they temporarily balance the net inequality between the competing net order-flows. That's it. Retracements do not predict price action or portend new highs/lows. Retracements are not predictive. They are historical. The reason Gann, Elliot or Fibonacci are included in all this discussion is because they happened to notice the related relationships first—not necessarily understand what it might be saying. Fibonacci noticed that a mathematical ratio existed in nature. He assumed that lead and gold would also be subject to this natural ratio somehow but, as we know now, this is not true. This ratio is apparent in nature and in the way things grow; it is not apparent in

crowd behaviors and markets are about crowd behaviors. Gann asked the question “What if the markets have a ratio/rhythm in and of itself?” Gann thought he had found an answer to that question when he and Elliot noticed that markets appear to have waves that occur with regular frequency and repetitiveness. By combining these two assumptions into a larger assumption, we now have a “verified” mathematical model to follow in pursuing our trading success. The apparent relationship is not the same thing as the real relationship. The real relationship is what we want to discuss.

50% retracements happen because once enough buyers square off against enough sellers, only half of those contracts will be profitable. At the 50% number, exactly half the bulls have a profit and half the bears have a profit. When I say this, it is important to note that this is a net perspective. The actual result to any single trading account isn’t the issue. If you could find a way to look into the total number of open trades you will see that of the sum total of the open longs, about half of that total number of open contracts will an open trade profit—the others have losses. In other words, if there were 10,000 open longs, around 5000 of them will have some open trade gain and the other 5000 will have some open trade loss. The exact same situation will be accurate for the shorts. The market is now temporarily balanced from the net perspective.

This situation won’t last long; it will only take a short time for new buying/selling pressure to come in. Whoever has the net advantage at that point will tip the balance. Most of the time it is in the original direction back towards the previous high or low because from the net perspective the late loser entered from the short-term trend, that is the few days or so just before the 50% level is reached. This is a factor of the rule of 72. Most market participants operate on a time frame of 72 hours or less. That means all the various ways of creating a market timing signal that now is the time to initiate a position; most traders have gotten at least one signal and have executed creating net order-flow every 72 hours of “clock time” Once they have initiated, they must liquidate to accept their open trade profit or loss. Most methodologies will have given the exit signal within in that time frame as well. So, the net result: Almost everybody has gotten in and out within a 72-hour period of time at least once. If this process happens at a 50% balance point—the net result is usually a resumption of

previous trend. See figure below.



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## **Don't Take Tips**

One of my earliest trading experiences involved taking a tip. The tip was to buy silver, and this was the early 1980's. For those of you out there who have no knowledge of the attempted corner in the silver market by the Hunt Brothers, I would suggest you take a few extra minutes when you have time and look up the details; it is a fascinating story. For me personally it is more than a fascinating story because somewhere in the world, there is someone who has my \$500. I was a sophomore in college, and I had a few bucks saved. I was sitting in class before the bell and one of my classmates was extolling the profit potential in the silver market. As it turns out, he was from a family on the wealthier side and apparently his father had made a killing in the silver market. Maybe it was silver that was paying his tuition. I decided to head over to the local jewelry store and ask about buying some silver. I carried \$500 worth of silver bullion home that afternoon. That silver lost 80% of its value within a year.

I didn't consider it a trade; I was not a trader at that point. I had no idea how investments, trading or the markets worked yet. I really just bought into the story that silver was going to trade higher. I never thought for a moment about what creates prices, who told me the data or if it was true; nothing. I listened to the common sense of the argument and went with it. The whole experience became part of the catalyst to become a trader when I learned about Silver Futures. I discovered someone could be SHORT. As my silver bullion declined in value there was someone getting rich. WOW!

In choosing to listen to a tipster, the problem is not the information. The problem is not the quality of the stock or commodity market. The problem is not even if

the tip is wrong. The problem is within us as traders. When we fail to do our own homework and let someone else's' thinking become our guide; our results will never be any better than the thinking of the tipster. It really doesn't matter if the tip is a winner or how persuasive the tipster is. When we as traders let someone else do our thinking for us, we run the risk that the quality of that thinking is nowhere near accurate for the market in question. The problem is in failing to think—not in the tip. Let me illustrate.

No matter how you choose to participate in the markets, you are ultimately responsible. When you finally decide that the time is now to execute, it is your money at risk. If you have a gain or a loss, the credit or debit is assigned to your account; no one else's.

Why would you let the thinking of somebody else determine your results?

The problem with tips is not the data because that data is really the same for any point of view. No matter how you want to come to a conclusion, there will always be another point of view that is created from the exact same set of data. If you and me both compile all the data available in the Meat Futures complex, compare that to the technical picture the charts have at that moment, you may come to the bearish conclusion while I come to the bullish conclusion. The important thing is that neither conclusion matters to make a profit. The only thing that matters is being on the right side of the net order-flow. If your analysis helps you come to a conclusion and it happens to be the correct side of the order-flow, money will flow into your account. If your conclusion is not the correct one, money will leave your account. In either case, putting your account balance at risk without knowing for certain what the potential is within the underlying net order-flow is simply reckless. When you take a tip, you are increasing your risk because you are accepting the responsibility for a loss without the corresponding knowledge of the markets' underlying potential. Taking a tip is really just gambling with your money.

If technical analysis is a sort of tip, and whispers overheard in the CBOT men's room are tips, and government reports are tips, and reading trade journals are tips; where is the real data to trade with?

Inside your head. No matter what you read, study or absorb; you personally have to choose if the time is now or not to execute. The moment you pass from thinking for yourself to trusting something outside of yourself; you are taking a tip. If you trust technical or fundamental analysis past a certain point; charts then become a tipster for you. If you compile reams of data and economic fundamentals, crunch those numbers according to some formula and trade on that data; government reports are your tipster. If you go to a psychic and ask to see the future waiting ahead in the Meat Futures Complex; you are definitely taking a tip.

I think we as traders are susceptible to tips because we really would like to believe that there is just one more piece of data that will disclose where the winning trade is. We desperately want to feel like we have covered every possible piece of information and haven't left anything out. We have really done our homework and no stone was left unturned. Yet so-and-so said...

In my view, the psychology behind this thinking is really two-fold. First, it prevents us from putting ourselves at a needless risk or trading for reasons that are not our own. We need to focus on market structure and trade from a sense of discipline, not gamble and hope someone else is right. Second, we need to constantly remind ourselves that our account balance is ultimately our responsibility and we are fully in control when we execute. Nothing determines our results except our actions and those actions need to be well thought out, proactive, and in harmony with the market we trade; not some mumbo-jumbo we overheard at a bar, read in a book or created for ourselves by running a computer simulation. Successful trading is a factor of several things all working at once, not a factor of opinion or conjecture—even if the source of that opinion or conjecture has an impressive set of credentials. A tip is only one point of view. Right or wrong, the problem with the tip is not the data; it is the fact that the

choice to assume the risk was not ours.

One other thing about tips I think is critical to keep in mind. As you get older in the trading arena and become more experienced, there will be times when a trade seems to jump off the screen at you. It is abundantly clear which direction that market has potential in and better yet, you can see that far enough in advance to really hammer the order-flow. You are going to make a lot of money on this one and you know it. Now the phone rings and it is one of your trading associates. A conversation starts about various opportunities you both have working and what you see coming down the pipeline. In a very excited voice, you begin to extol the virtues of the trade you have just identified. With great confidence you tell your friend exactly what you see coming and why that trade will be one of the “home runs” this year. After you finish your dissertation there is silence from your friend for a moment, then you hear a voice with more confidence than your own speak, “You are nuts! That market is dead. I saw a report on CNBC last month about that entire industry and you might as well stand in the street tearing up \$100 bills; you will have more fun”

You are stunned but still confident and you restate your argument; and after another 15-minute heated debate you both hang up. Now you are in trouble because the trade that appeared to be so certain to you 20 minutes ago is in question. Your friend raised some good points. He is not going to take the trade even though he asked what you saw coming. Basically, because you offered someone a “tip” when asked, you opened your mind up to an argument about the quality of the “tip”. You had to defend and justify your trade conclusion to someone who has no intention of seeing it objectively. The emotional tug-of-war leaves you a bit drained and God forbid six weeks from now if that trade hasn’t worked as you expected. You will never hear the end of it. Of course, if you are a really weak trader you might decide to skip that trade anyway after listening to your friend; which is also taking a “tip” Letting yourself get talked out of a potential trade is also a form of “tip” taking.

The point is don’t take tips includes the rule don’t give tips. The mindset of the

tip-giver and the tip-taker are symbiotic and counterproductive to lasting success. If your goal is to remain a net winning trader part of your daily trade strategy must include some form of discipline where you neither give nor receive “tips”

### **Your key takeaway from this chapter:**

Technical Analysis, in all of its simple or complex forms, is a flawed pseudo-science that cannot help you, the trader, make your fortune. There are very few parts to Technical Analysis that offer any consistent potential for you unless you choose to use it differently than the losing traders do. Your best use of Technical Analysis is to use it to find losing traders, not to find trade opportunities for yourself. Losing traders study the markets, winning traders study the losers.

## **Brief Introduction to the Theory of Time Compression**

***“Time is money....”***

***--Old Business Adage***

The theory of time compression is a social-economic theory I personally have been developing for decades. Because this information is not in the main stream of trading consciousness at the time of publication, you won't find any supporting documentation on it anywhere except for commentary (both supporting the theory and otherwise) created by people who are attempting to understand the theory themselves or who are attempting to use the theory to construct trading systems in some way. Most of those people are former and current customers/clients of mine and they are attempting to ADD to the understanding of the theory by using it regularly. I want to make this really clear: This is not a discussion on a new form of Technical Analysis. This is a theory attempting to quantify crowd behavior. I am attempting to offer a solution to the real problem Technical Analysis has missed and can't offer you.

I am going to strongly encourage you to purchase a copy of my third book Time Compression Trading (Wiley & Sons, C. 2010) The book offers complete details on what the theory is in its entirety, as well as a much deeper discussion of how time compression is created and exploited in a zero-sum market. I think it is to your advantage to absorb that data completely because this book, The Psychology of Trading, is more of a global over-look of the challenges present in developing a winning trading approach. You need as much depth as you can get to learn certain things. Understanding Time Compression will most likely take a little more work than other things in the development of your market-centric trading paradigm. I personally feel it is more “graduate level” material and will

require you to already have solid market-centric insights before you will fully grasp the theory.

Time Compression is a factor (or a result) of how people behave when stimulated a certain way. Crowd behavior is a difficult thing to forecast. There is no certain way to know what someone is going to do until they do it; but one thing is certain: they will do something. There is a need inside people to do certain things when they feel they have an opportunity, or when they feel threatened. Of course, all of this is based on perception; and perception is what makes markets move. Why is perception so important? Because, when a person believes there is an opportunity, they will do something; when they feel they are under threat they will do something. All the various kinds of reactions people can have to what they feel is an important event for them all boil down to whether or not they feel under threat or feel there is an opportunity. There is no reason to do anything without one of these two motivating perceptions. When discussing the markets and those who are participating, once those perceptions have been processed through our decision-making process it results in an order being placed. That is what we want to know; when those orders have the potential to be placed.

A lot of study has been done on motivation and perception. Most of it continues to divide actions done by people into either a desire to gain pleasure or a need to avoid pain. No matter how you slice those two basic motivators, everything we as humans do falls into one of those two categories. Either we want to get something we feel is positive for us or we want to avoid what we feel is negative for us. In the markets, this would naturally be defined as a profit or a loss.

When attempting to define a time compressed market it is critical that you always remember that someone somewhere is placing his order into the market with the intention of receiving pleasure (a profit) or avoiding pain (a loss). There is no other motivator other than these two.

In this section we are going to look at how Time Compression is created based on the perceptions held by the people participating in that particular market event. It doesn't matter if the event is market related or not, when groups of people are stimulated a certain way by events around them, they will behave in a predictable way; either to gain pleasure or to avoid pain. As this plays out in the markets is what we are interested in although time compression happens around us all the time.

### What is Time Compression?

Time Compression is the end result of what happens when everyone wants to do the roughly the same thing at about the same time for roughly the same reasons. Time Compression is around us all the time. In fact, it is a natural process that has its start just from the very basic fact that there is more than one person living on the earth today. You cannot get through your day without seeing some sort of time compression at work sooner or later.

For example—the lunch rush at a restaurant. At 11:00 AM the number of people trying to buy lunch suddenly jumps from three or four to maybe several hundred if the restaurant is big enough and well-known enough. In this case, the restaurant knows this and plans their day accordingly for this eventual change in the number of patrons. The cooks arrive and start making the salads early, the servers start around 10:00 getting the tables ready; and the manager makes sure that someone has gotten a starting bankroll for the cash register. None of this is happening at 8:00 in the morning or at midnight the night before. The restaurant knows that they will make most of their money between 11:00 AM and 2:00 PM; they plan for the staff to start as this need arises and not before to control costs, they run regular specials to move older products to control costs, etc. The restaurant can't make a cost-control model or a profit model if they take their daily receipts and divide by the total number of hours they are open; they must plan for time compression in some fashion or risk not having enough staff, food, or change available when the opportunity to make money is there.

The restaurant has found a way to exploit time compression and it works fairly well to keep people employed, customers happy and the bank account growing. What kind of restaurant owner would ignore this eventuality? They don't—it is the very nature of the restaurant business to be available when people want to eat. Sure, you can be available at all times, such as a 24-hour diner, but in the end in that case there likely will be three cases of time compression working everyday: the breakfast rush, the lunch rush, and the dinner rush. That's when people want to eat. The rest is incidental to running a restaurant.

Time compression takes many forms with all parts of our lives. If you want to be at your desk by 8:30 AM in the city, just like everybody else, then you will likely get caught in "rush hour" traffic if you commute from the suburbs. You could leave a little earlier and miss the traffic jam created by everyone else wanting to be at work by 8:30 but you don't; you know how much time rush hour traffic takes from your day and that is how you make it to work each day. So does everybody else.

The form of time compression that always amazes me is what happens on April 15th every year here in the United States. That is when every U.S. citizen must have his yearly income tax return filed with the Internal Revenue Service. Every year, the attendance at sporting events goes down, movie theaters are half-full, restaurants are empty, and dogs aren't walked between April 10th and the 15th. Almost every single tax paying citizen is at home trying to finish his tax return before the deadline. The Post Office is even open until midnight on the 15th with people outside on the curbs taking returns from cars that drive by so that people won't pay a penalty for being late. What amazes me is how many people still wait until the very end knowing that they have a refund due. Wouldn't you want that cash now? I have my income tax form filed with the IRS every year before the end of January and if I am getting a refund I have it in three days instead of three months only because no one at the IRS has anything to do but my return; no one else has filed yet this year.

There are all kinds of examples of time compression at work all around us every

day. The grocery store is packed between 5:00 PM and 7:00 PM as people on the way home from work stop to get a quart of milk, long lines at the hot night spot around 10:00 PM Saturday night, the beach is packed at 2:00 PM on a sunny Sunday, the list goes on and on.

In fact, in order to keep society functioning and avoid the delays that time compression can impose on us, people go to great lengths to avoid it or profit from the lack of it. There is the “early bird” special at restaurants, there is the “midnight bowling league”, and there are “special markdowns” at Macy’s if you shop after 8:00 PM for example. People can get great deals on airfare or a vacation if they are willing to travel Tuesday through Thursday instead of Saturday through Monday. Enterprising people can even get things completely free if they buy certain products at certain times just so the vendors have cash coming in when no one else is buying. How many times have you heard someone say they won’t do something because they want to avoid the crowds?

Time Compression is a fact of life because sometimes things happen in such a way that a very large group of people are all motivated in the same direction to the point where there exists a conflict no one in the group wants but must endure. If we could avoid it, we would, but we can’t so we must endure it. Do you know how much money it costs me to get my driver’s license renewed? If the DMV would only have a few hours open in the evenings or weekends I would gladly wait in line; but they don’t. Its 8:30 to 4:30, Monday through Friday; weekends and holidays excluded with them. If I want to drive legally, I have to take a working day off and stand in line. No way around it.

The important thing to remember is that time compression is part of our life, and that includes the markets. When time compression develops in the market it creates a similar experience that we have with other forms of time compression except that we can profit by it instead of being annoyed by it. In fact, you can’t avoid time compression happening in the markets at all. It happens all the time in the markets and is part of how the markets function. Of course, the key is learning how to see it happening and be ready to take advantage of it. Before we

start discussing a market-specific form of Time Compression I want to provide a few underlying details that appear to be common with all forms of time compression. These are important in that they help us recognize ways in which time compression develops, how much time is needed for it to be expressed, and what clues to look for to confirm we are seeing time compression and not something else.

In order for time compression to develop, there needs to be an underlying belief structure present in the individual. This belief structure is often based on fear, greed and/or hope. There also must be a tangible benefit to the individual that is readily apparent to the individual; in other words, a sense of certainty about something, the individual must see what they feel is an opportunity brewing in some fashion. It doesn't even have to be a REAL opportunity; they just have to believe it is real for them.

For example, suppose you open your newspaper and there is an advertisement from your local shoe store. It says that between 9:00 and 11:00 AM this Saturday they are having a 2-for-1 sale that includes everything in the store. This is a classic form of time compression potential. First, there is the greed factor of getting more for your money than usual. Second, you must be there at a certain time to get the benefit, and last you hope that the shoes you want will be among the stores current inventory. If you get there early you have a better chance of getting two pairs of shoes you want in your size and if that is the case—you have already decided to buy. Of course, everyone reading that ad is thinking the same thing and reaching the same conclusion. The line at the shoe store starts forming early and is huge at 8:00 AM. Once the doors are opened there is a mad rush to find the shoes you want before someone else finds them. You might even tip the salesperson to ensure that your interests are respected first—thereby erasing the benefit of a 2-for-1 sale actually provides you; but you get your shoes and saved at least something

In this case, time compression was set-up a few days before 9:00 AM on Saturday for all the reasons needed to create it. Time compression began to show

up before 8:00 AM only because the conditions dictated a 9:00 AM start to the sale. By 11:00 it was all over and the patrons at the shoe store were likely no larger than they would have been on any given Saturday. End result: a lot of shoes were sold in a short period of time to people who normally wouldn't have bought them. Or likely wouldn't have bought them on that particular Saturday at that particular time. If we look at parallels between time compression developing outside the shoe store and inside the markets, we can find a lot of similarities. In the case of the markets, time compression develops fairly much in the same way but with some different variables that make it unique.

First, there needs to be a precipitating event, like the ad in the newspaper for the shoe store. Usually this is an unexpected event. Suppose there is a headline news story that will be very important to a particular market. If we use the Corn market as an example, let's say that the US Congress has passed a bill that allows Corn farmers to sell old Corn still in the bins as animal feed to Asia. Prior to this—they weren't allowed to do this for some reason—but that has changed. Let's say that China needs about 200% more Corn in the next four months and China will take all the Corn we can sell them if we can ship it in the next 90 days. The price of Corn is \$3.00/BU when this event passes in front of the Corn market. For the most part, this would be seen as a bullish development because a sharp increase in demand for a short period of time means that a lot of Corn will go away quickly; high demand will equal rising prices.

In this case, Corn traders will have their greed stimulated because it is a good bet the price will rise, the time is short for the opportunity, the individual trader will likely have a sense of certainty about a potential profit but he has to act fast. Every trader out there is thinking the exact same thing if they have a bullish bias to begin with and most likely there will be a rush to buy the market. A seller probably wouldn't want to sell the market because he knows a higher price is coming and he wants that anyway. So now we have an order-flow imbalance heavily favored to the buy side creating a tremendous surge higher in price. The market trades limit up quickly and stays there for three or four days. That means a lot of buyers are out there and they all want to buy Corn “before it's too late” Again, time is the issue; not price. The perception of potential price later is what is motivating the buyer now.

This is time compression driving price higher. Now, the interesting thing about this scenario is that it happens all the time in the markets and it is only when the event is in the public eye quite dramatically do you get a sharper and more consistent rise; a front-page drought for example. But in any case, the market is becoming time compressed as everybody who has an urge to action is on the buy side of the order-flow. What happens when all those potential buyers have finally had their order filled—and there is no one left to buy Corn anymore? Well, that becomes the top in price. Now you get an equal and dramatic move lower right back to where the market started from. In the final analysis, the four-month average price for the Corn in the bins is about the same before the time-compressed buy-side opportunity resulted in a time-compressed sell-side opportunity. China doesn't actually pay any significantly higher price for the Corn they buy; same as you didn't really get a savings on your shoes.

The perception of the entire event happened inside the mind of the trader and when everyone wanted to buy Corn at the same time no one wanted to sell; the price rallied until it found sellers. Who, because the market is a zero-sum game, are the late buyers who believed they had a sure thing (sense of certainty). They now must exit the market and you can't get out of a buy-side trade unless you use a sell order. The market now falls back to the non-time compressed price area (where it all started from) as those sell orders can't find buyers this time. The whole thing is over in a short period of time and the net result is a transfer of wealth from the loser to the winner—while Corn itself remains at a fairly close average in price.

In most markets, time compression happens with a more subtle character and is usually creating solid highs and lows that can be exploited quite regularly. The purpose of the Corn market illustration is to show you the basic concept and provide you with the things needed for time compression to develop. Again, those basics are:

- Precipitating event (news, change in fundamentals, catastrophic event).

- Greed, fear, and/or hope stimulated (emotions more a priority than price).
- Timeline that requires action done quickly (TIME more important than price).
- Sense of certainty by the individual (everyone expects to make money NOW).

As we look deeper into time compression and how it develops in the market it is important to remember that the individual trader is where all this starts. When the market group of traders all come to the fairly same conclusion is when you get a time compressed market. But there doesn't need to be a big move in price for this to happen. There needs to be a sense of certainty by the individual and that sense of certainty needs to be shared by a large part of the entire group. Remember, nothing happens until an order is placed so we begin understanding time compression by observing and deducing the order-flow. How one individual thinks is a clue to how the whole group is thinking because they all think the same way.

### **Your key takeaway from this chapter:**

Time Compression is a way of understanding how a market develops order-flow and a way of understanding when liquidation potential has reached an exhaustion level resulting in a 100% reversal potential. Time Compression happens in markets with a certain regularity and the key to using it for your trading is understanding how people are motivated to protect themselves and how they are motivated to place themselves at risk. Traders either want to get pleasure (make money) or avoid pain (not have a loss); these motivators help you understand where time compression might be developing leading up to a liquidation event.

## **Part IV**

### **Putting it All Together**

## **Introduction to Part IV**

***“There is no greater challenge to a man than successful speculation”***

**--Robert Rhea**

When I first was introduced to the trading arena I was completely ignorant about the markets and trading; I had absolutely no idea what I was eventually getting into. The whole environment was really intoxicating to me, especially when I learned that profit opportunities could be found as prices declined in addition to when prices would rise; unlimited opportunity! Who wouldn't want that? Once I had done just enough homework to be dangerous, I simply could not understand why everyone who was working on building their fortune didn't trade; what was wrong with those people? You can make all kinds of money no matter what happens to the price—why don't you have at least a small account open somewhere?

Once I had begun trading for myself, I got a few “gut punches” fairly quickly; losing a large percent of my trading stake. All of a sudden trading didn't seem so easily exploited. I decided to begin a learning process in addition to banking some cash. I hoped I could “fill in a few holes” in my understanding on the way to my first million. As I discuss in my book The Art of the Trade (Willey & Sons Publishing, C. 2008) I began a journey that became losing year after losing year until I reached an emotional boiling point before things finally turned for me. I can't even begin to communicate how distressed I felt in those early years. You probably feel at least something like I did if you are still experiencing losses. I feel for you. It's horrible but there is a way out and there is a way to learn what you need to learn. It just will happen along a pathway you aren't expecting.

As I discovered, the experience I had was no different than anyone else's experience. The only difference I can ascertain between what I personally endured and what everyone else endures is that I never quit until I had my turning point. I really believe that I eventually learned to start asking the right questions more so than anything else; and that is what led me to my "epiphany" of understanding. Once that happened, I never looked back. My tenacity to never quit, combined with the ability to ask the right questions conspired together to create an environment where I could finally uncover the skills I needed to uncover so I could make more money than I lost. This didn't happen right away, but I was OK with that—I had been on the wrong track for years; now I was on the right track and I didn't care if it still took years to reach my goals. I was going to get there, and nothing was going to stop me.

The important lesson for you to have firmly in your mind as we complete The Psychology of Trading together is that what you need to acquire in your search to become a net-winning trader is the same thing every other net-winning trader has had to acquire: a better way to look at things and the discipline to enforce it. After you acquire a better way to look at things, you need to develop the discipline to execute a winning plan perfectly all the time. No exceptions. When you combine your better point of view with a perfectly executed plan, the probability of your observation paying you more money on winning trades than you will lose on losing trades goes up dramatically. Once you are somewhere north of 44% winning-trades-to-losing-trades ratio, AND, are somewhere better than two-dollars made on your winning trades for every one-dollar you lose on your losing trades; your success probability rises to above 95%. Remember, that is not my opinion, that is the undeniable mathematical reality of the Probability of Ruin Matrix.

In this section we are going to walk through some tools you can implement for yourself that will help you create and enforce a winning approach to participating. We are also going to provide resources and methods for controlling your behavior as well as confronting your behavior when it is not congruent with success. All of this will come from your record-keeping so you need to commit

to keeping the most accurate records you can; both your thinking journals and your trade-related records. Those different yet complimentary materials will start coming alive for you when seen in context; and we are going to create the context in the next few chapters. By the end of this book—you should have a very good idea of what you need to do to both FIND the winning pathway for you, as well as STAY ON the winning pathway for you.

I can't emphasize enough that there is no "right" way or "wrong" way to trade; there are only things that lead closer toward and things that lead farther away from optimal performance. You need to become sensitive to what those things are because everyone is slightly different. Until now, we have been discussing things that are accurate for anyone who trades; now we are going to start the process of becoming specific to an individual; meaning you. You might find that things you discover make your approach radically different than someone else's approach. You might find that there isn't really much you have to change at all, but what you have to change is significant enough to prevent you from actualizing the high side of the probability matrix right now. The point is, let your market-centric paradigm grow along the pathway that makes it the most prolific and profitable for you, even if that seems strange to you at first. In other words, if your self-created data and your thinking suggest a radical solution might work—don't reject that potential because it is unfamiliar or might take you in a direction you hadn't planned.

For example, I had one client who discovered that his point of view combined with his developing discipline exposed many opportunities to exploit price changes while the markets were trading in Asia and Europe. He really wasn't looking to stay up all night trading the Japan or London markets, until he saw his profitability going up dramatically because of it. He became a "Night Owl" trader and eventually moved to Hawaii so he could exploit those markets on a more reasonable timescale. Plus, he could afford living in Hawaii at that point too. His trading became what it is because he let it develop along the lines that were best; for him, not necessarily best for you or me.

Take this material in context. It is assuming that you have already begun the process of creating your market-centric trading paradigm. It assumes that you are trading regularly. It assumes that you are both willing and able to make needed changes to your thinking and your behavior. Look at this material as a viable solution for your trading needs if you can appropriate it correctly. There are some very challenging concepts in these next few pages. It would be a good thing for your method if you found something of value for yourself in each chapter.

Again, as we have discussed before, not everything will resonate with you right away—that is fine. Take the material in pieces and re-read what you find more difficult as time goes on. The most critical thing I can communicate to you in this last section of The Psychology of Trading is that it might take only one small thing; something you hadn't even considered before. I have had many students who flipped their switch from “lose” to “win” by applying only one or two vital concepts they discovered after they went through this entire process. How much could that one or two small things be worth to you if you had a similar experience?

## **Mental Ascent vs. True Discipline**

***“Whether our action is wholesome or unwholesome depends on whether that action or deed arises from a disciplined or undisciplined state of mind. It is felt that a disciplined mind leads to happiness and an undisciplined mind leads to suffering, and in fact it is said that bringing about discipline within one's mind is the essence of the Buddha's teaching.”***

**--Dalai Lama XIV, *The Art of Happiness***

Read the above quote slowly and very carefully. I personally am not a Buddhist for very sound reasons that tend to make most Buddhists' nervous, but I find value in most everything that has a connection with some form of self-improvement. Sometimes there is no “self” in “self-improvement” meaning we need guidance by an actual someone to help us reach wherever it is we are trying to go; and we will discuss mentoring later in the appendix. In this chapter, we want to bring 100% of our focus onto the things that are most under our control. We want “our self” to bring something to the table in order to assist our drive for trading success. As far as the Dalai Lama is concerned, our success or failure lies in how disciplined our minds are. He calls it “happiness”; but we are traders. We are happy when we are making money; and we are unhappy when we are not. As far as Buddhist teachings are concerned—and I am not ashamed to suggest that I have taken the great thoughts of the Buddhist tradition and transferred those into a 100% unadulterated drive for profit—my wholesome action and unwholesome action means I have gotten on the right side of the order-flow or I have not; that’s it. I am happy when I am on the right side of the order-flow; I am unhappy when I am not. I don’t have control of the order-flow; but I do have control over how I see things and how I decide to discipline myself. My happiness is profits, which comes from the right side of the order-flow, which comes from discipline

behavior, which comes from disciplined thinking.

In reality, there exists only one thing that is absolutely under our control. As people, who must live on and share a planet with almost 7 billion others of our own kind, we have about zero control of anything going around us about 100% of the time. Meaning, there is no control even when you think there is. There is an illusion we all operate under that suggests we have a modicum of control, but the fact is, those are really just probabilities playing out around us. Don't think for a minute that because you are not caught up in the result of a negative probability that you personally had anything to do with avoiding that. You didn't "avoid" anything. In a world where we seek control, even the control we actually do have is almost insignificant to the lack of control around us. And because the worst normally doesn't happen to us—we have a false sense of certainty and control about what we believe makes the difference. We think we are disciplined when in fact all we have done is stay out of the way of the probabilities that are sure to happen to someone, sooner or later. Sometimes we have contributed to those probabilities, sometimes we haven't, but that changes nothing. We have no control in any case.

Let me illustrate this by using a scenario that is probably fairly common. Every day there are general aviation pilots that climb inside a small airplane and go flying. A small percentage of those pilots will crash and burn every year. Why does this happen? Because it is statistically impossible for it to be any other way. Flying an airplane is a complicated process that involves many disciplines all working together to avoid a catastrophe. All it takes is ONE of those disciplines to be ignored (or fail) and it could then make another one of those disciplines fail; if enough of those disciplines fail—an accident will result. It's just probabilities. And it will happen.

For example, if I as a pilot fail to do a proper "preflight" inspection on my airplane, I might miss that a bird has built a nest in my air intake manifold for my engine. I might be able to start my engine and even get it up to power enough for me to take off—but once that bird's nest gets swallowed by my engine; my

engine is likely to fail. Suppose it fails on take-off and I don't have enough power to clear the power lines at the end of the runway? I will crash and burn. Why? A lack of discipline to do what is expected of anyone who is a pilot. Make sure your airplane is airworthy. Someone will crash this year and failure to do a proper pre-flight inspection will add to that probability.

There is a pilot, someone, somewhere in the world, sooner or later, who is going to ignore doing a preflight check and will miss the bird's nest in his air intake manifold. Don't think for a minute that because you are not that pilot that somehow you had anything to do with avoiding that probability. That probability exists for everyone. Just because you have never flown on a small airplane has nothing to do with the fact that a small airplane could drop out of the sky on top of your head because some pilot, somewhere, didn't do a preflight looking for bird's nests in his air intake manifold. You have no control. Anywhere. Ever. Even when you think you do. Except one place. That is inside your own head.

Rene Descartes famously said: "I think; therefore, I am..." Descartes crawled into a pizza oven and stayed there for days until he had a breakthrough in his quest for self-understanding. He didn't know if he was thinking about anything that was true or even real—but he knew he was thinking about it. Therefore, something must exist; that would be the one doing the thinking.

The only control you will ever have is over your own thinking. Your discipline must conform to this reality; otherwise your discipline is wasted and misplaced. For example, if you were to commit to three hours a day, every morning, to uninterrupted market study using Technical Analysis. And, you never wavered on that commitment; rain or shine, during holidays, even when the markets were closed, each and every day you commit to three uninterrupted hours of market study using Technical Analysis. Most people would say that you have great discipline to your method.

Except those three hours of discipline can't help you gain an advantage over

your market competition; nothing you can study in the traditional sense of Technical Analysis can assist your understanding of where the liquidation potential in the order-flow will develop. Those three hours of discipline are creating the illusion of control over your trading; but in reality, you are doing nothing different than the other losers in the market. Your attempt at discipline is misplaced. It has become “Mental Ascent”, not true discipline. Mental Ascent is the process of agreement with what is being discussed or is “at hand” There is a world of difference between talking and agreeing about something and actually changing your behavior for the better.

For example, you might agree that writing bad checks is a bad thing to do. When confronted with your own bounced checks you quickly agree that it would be good to stop writing bad checks. You can clearly discuss the savings in banking fees and how you would avoid causing problems for people who accept your checks. Still, every week, you have one or two bounced checks. You agree that it is a bad thing for you and every week you commit to getting help to avoid the problem; but it really never changes. You keep bouncing checks.

Why is this happening?

When you have a trusted friend look at your finances, that person notices that you keep spending money on movies through your cable service. Your pay-per-view fees using your debit card connected to your checking account are higher than anything else on your cable bill. Your friend says the problem can be solved by simply canceling your debit account connected with pay-per-view. You agree that is a good idea, but you never cancel your account. The problem continues despite more information about where the problem is coming from, despite a third pair of eyes helping you see the problem, and despite your own personal belief or commitment to do better.

Why is that?

Because you simply are too lazy to follow through. Or you want to watch pay-per-view events more than NOT paying bounced check fees. Or something else where staying in front of your TV while paying for shows you can't afford continues regardless of how it hurts you personally in your finances. You don't want to make a change in your behavior. It doesn't matter "why?" you don't want to make a change in your behavior; until you do, your bad-check problem will continue. End-of-story...

The whole conversation about making some sort of a change, but not actually following through, is called Mental Ascent. Mental Ascent is the process of making an emotional or mental agreement with what is best for you but lacking the actual change in your behavior. In reality, it doesn't matter how much you agree that a change would be a good thing for you. Until you actually make a change, the additional knowledge or information you acquire in the process is wasted. There is no point to it. True discipline, on the other hand, is different.

True discipline is the process of bringing permanent change to your behavior; regardless of how you feel about it or what you personally might believe. None of that matters. Regardless of how you feel about it. You don't have to agree with the change. You don't even have to plan for it. It becomes a lasting change to your behavior because you have decided to make it a lasting change to your behavior. True discipline is deciding, in advance, exactly how you will behave/take action when the time comes. True discipline is taking control of your thinking so you can control your behavior.

For example, if you have decided that you need to exercise more, and you agree that it would be good to work out three days a week; a true discipline would be deciding (in advance) that you are going to go to the gym every Monday, Wednesday, and Friday at 5:00 pm on the way home from work; and that is that. Once you get there, you are going to push some weights around. Now is the time to write down exactly what weights you are going to push and for how long. But you have decided, in advance, that you are beyond Mental Ascent, you are

beyond agreeing with how good for you it would be to get some exercise. You have decided to take positive action and you are going to the gym M-W-F; and that is that. Until your mental ascent goes a step further and becomes a change in your behavior—you gain nothing.

The only control you have is in your thinking. Your thinking must become a change to your behavior. You can't control your behavior until you control your thinking.

For you to create and enforce a winning trading paradigm, something that you can have a real degree of confidence in, to begin the process of actualizing winning behavior, you have to take control of your thinking until it becomes a change to your behavior. You can't control what happens in the markets. You can't control what happens in the news. You can't control what other traders do. You can't control what the government does, what your kids do, what your boss does, what other drivers on the road do, ad infinitum.... you have no control over anything in your life. Except your own thoughts. Which become your actions. The only control you will ever have is the decision to control your thinking, so you can control your actions better. That is the state of true discipline.

The failure to make this choice is the root problem all traders have. As long as you continue to believe that your trading issues are somehow “outside” of you, you will never see the need to control your thoughts. As long as you believe your losses come from “something out there” that you feel you can somehow extend a sense of control over; your losses will continue to mount until your money is gone.

You cannot extend control to your results by better study, or control reducing your risk through a better strategy, or control your results by paper-trading first, or waiting for confirmation, or any number of external non-essential things that have nothing to do with profits. If you want to win, and win consistently, you

have to decide now, right now, that the only thoughts you will allow in your thinking from here forward are those thoughts that assist you in finding the order-flow first; anything else is not going to be tolerated and will be removed. Only those thoughts will lead to making behavior changes that lead to more money in your account. Your behavior becomes your account balance. You have a huge amount of control over your account balance when you fully discipline your trading behavior; until you then, you don't. The key to wealth is disciplined behavior. Nothing else.

You must move past Mental Ascent and move into a state of True Discipline. That is the only choice you have any control over.

Once you have identified which thoughts move you closer to understanding order-flow you will find behavior changes that assist you in keeping those thoughts. For example, if you find that you are afraid of entering the markets once the news comes out—even though you see opportunity all the time after the news comes out—and the only reason you aren't getting paid is because your emotions are interfering—by making the choice that you MUST begin entering the market after the news comes out will lead you to asking questions about where to get in, how to get in, when to get in, and for how long to stay in. You will compile your after-trade data and compare it to your actual executions and find out where best to place your trades. You will find that waiting a certain amount of time will help you get better positioned. After a reasonable number of trades—regardless of results—you will uncover the best time to enter, the best amount of time to hold the trades, what to ignore while you are in, what to watch for should something change; whatever it takes. By making the choice that you must change your behavior—you now begin changing your behavior. After enough trades go by—you discover exactly what changes you need to make in critical detail. At that point—you have a winning edge. The winning edge was developed because you decided, in advance, to develop the winning edge. You stopped agreeing that it was a good idea to make a change, and then continue to do the same thing you always do; instead, you decided to change your behavior and the better results followed.

The first step in creating a personal and effective winning approach is making the choice to move beyond making an agreement with yourself into changing your actual behavior. That is the difference between Mental Ascent and True Discipline.

## **Your key takeaway from this chapter:**

**You have no control over anything in your world except your own thoughts. By controlling your thoughts, you create different behaviors. The more you control your thoughts to reflect the true nature of the markets the more likely your behavior can exploit the order-flow potential. Your choice is to make your thoughts congruent with the markets, so your behavior becomes profitable participation. If you don't make that choice, and then follow through, your results cannot change.**

## **“The Circle of the Trade”**

***“You have power over your mind, not outside events. Realize this, and you will find strength.”***

--***Marcus Aurelius, Emperor of Rome***

In the last chapter, we talked about the bedrock issue of true discipline. We discussed changing your thinking and how that will lead to a change in your behavior. In this chapter, we are going to discuss the changes in your thinking that point the way to better trading success. In the next chapter, we will talk about better trading behavior, but for now, I want to create a picture of how your market-centric trading paradigm might look like if it were an image you could actually look at every day. This is your winning paradigm disclosed in a global fashion; what it would “look like” for any consistently profitable trader.

Obviously, there are parts of this paradigm that might not resonate with you at first, and there are parts of the paradigm that might be confusing, but the bottom line is once you begin appropriating the knowledge disclosed in this image you will begin to take control of your thinking at a much more market-centric level than you have before. It is one thing to agree with the need for changing your thinking; it is another when you actually take the steps and follow a program of modifying and controlling how you think. You need tools for that, and this image is one of them.

(Click Here and navigate to “Bonus Material” to download the FREE “Circle of the Trade” poster)

If your system can support it, please print this image and have it near you while you are trading; such as posted on the wall in front of your desk or inside a plastic sheet protector so you can refer to it. As you go through your trading day refer back to this image and ask yourself how well you are following the “Circle of the Trade” and managing your emotions as they come into your thinking. Your goal is to develop a non-attachment mindset completely; absolutely no emotional interference of any kind at all. To do that requires practice and reinforcement.

Let's start the process of uncovering how you develop a non-attachment mindset. Look at the center of the image and focus on this concept; that you are **ALWAYS** participating. You are **EITHER** initiating or you are liquidating; but you are **ALWAYS** participating. You are not necessarily entering or leaving the market when you participate; but you are always participating:

- Initiation is: “Getting In” or “Staying Out”
- Liquidation is: “Getting Out” or “Staying In”

If you are waiting to enter a position you are initiating by Staying Out; maybe that is days or weeks (or maybe you are away on vacation), it doesn't matter because you are participating all the time. When your opportunity is present to take an active position, you initiate by Getting In. You actively take a position when your edge shows up. Once you have an active position on, you must now liquidate again, and you start liquidating immediately by Staying In. You continue to Liquidate by Staying In until your exit price/time relationship provides you with the opportunity to take the most money possible from that active trade or to limit your money lost if the trade went against you; you then liquidate by Getting Out. This choice can be disciplined in advance if you choose by placing a stop-loss order to limit downside risk, and/or a price-limit order to liquidate a winning trade.

You complete the Circle of the Trade all day, every day, by participating all the time; whether you have an active position on or not. An active trade occurs when your daily moment-to-moment participation meets a time/price relationship triggered by your edge; the opportunity you create by your impartial observational non-biased method you have developed for yourself. Until that price/time relationship is triggered there is nothing active to do so you are initiating by Staying Out. Once your edge has discovered an opportunity defined by your probabilities, your initiation executes an entry by Getting In. Now there is nothing to do so you liquidate by Staying In until your edge has discovered your exit point in the time/price relationship; then you liquidate by Getting out. This circle of activity is happening all the time all day, every day. You are either actively participating or you are actively sitting on the sidelines waiting for your edge to show; in either case, you are doing nothing the whole time as the never-ending sequence of unlimited opportunity unfolds around you. The only thing “to do” is take the money the market offers you while you remain in a state of complete emotional discipline and non-attachment. You are sitting there quietly doing nothing as the market unfolds around you—you are just watching & waiting for your edge to show up—then giving the market your edge.

It doesn't matter what the market does—because you are only waiting for the probabilities you personally have decided are the ones for you to show up (Your edge). Otherwise you wait.

It doesn't matter what other traders do—because they have no effect on creating your probabilities (Other than becoming the order-flow); which you have already decided what has a probability for you so you don't need “more” from other traders in some fashion.

There are no missed opportunities—because you are always participating. How can you miss anything if you are always involved?

There is no conflict from your emotions—because you have already decided

ahead of time what you will do, when you will do it and how you will do it. There is nothing to do—and no missed opportunities—until your edge show up. The only opportunity is YOUR edge, so where could there be a conflict?

You are always at rest, always in a state of emotional peace, always anticipating the next set of probabilities, and always doing nothing until those probabilities show up. You are always at rest

As a perfectly disciplined trader executing his plan perfectly—all you need do all day, every day, is follow the Circle of the Trade and accept what your results are as you create them. Whatever probabilities you have discovered and decided to use will have a percentage of successful trades and a series of losing trades. We already know that, so any one transaction doesn't really matter, because your probabilities exist over a reasonable sample set that is usually no less than 100 individual trades. Whatever happens on any one trade doesn't matter because you can only measure your success when you complete your total sample set. Until that point there is nothing to do but execute your edge with perfect discipline, there is nothing to think about except to follow through when your edge shows up.

Maybe you could improve those probabilities by making needed changes—but that is a different issue than following your trading plan at 100% discipline. To do that—you must follow the Circle of the Trade. Once you have collected enough data, then you can consider making enhancements or changes to your edge, money management, or other trading issues; all of which will be implemented the same way: by following the Circle of the Trade all day, every day.

Notice as you move around the other images on the page. You have clues to self-sabotage—which is listening to your self-talk. When you find that your inner voice is speaking in certain words or using certain thinking-patterns you can instantly see where that has the potential to take your eyes off the ball (so to

speak). You must immediately re-focus your thinking back to the non-attachment state of following the Circle of the Trade all day, every day.

While we are on the subject of non-attachment, I want to introduce you to an Eastern/Taoist concept called “The Principle of the Uncarved Block” I am not suggesting that trading has mystical roots or that The Psychology of Trading is a pathway to an obscure religious practice; or that you will be expected to become some sort of monk to become a winner—nothing of the sort. What I discovered about winning in the markets and what I learned from studying winning traders was an underlying principle of non-attachment that can be clearly defined. That definition is very close to the Taoist tradition; and in fact, would be considered one of the central themes of Buddhism. The only part of any pre-existing thinking pattern or belief structure that we are concerned with is how something like non-attachment allows us to better execute a winning trading approach.

## **The Principle of the Uncarved Block**

This is also defined as “A thing in its natural state” If you were intending to pass through life and be in as much harmony as possible with everything around you, you would not want to disrupt the flow of “How Things Are” A very basic example might be: water flowing down hill to meet the ocean eventually. By forcing water into a man-made canal and directing it to where you wanted it to go, you would be interrupting the path that water would naturally take on its own; thereby depriving something downstream of the water it ordinarily would have. That would be interrupting something in its natural state; creating disharmony and conflict. Water is a thing in its natural state; it flows downhill and, by its nature, will collect and flow the easiest pathway it can find downhill until it reaches the ocean and stops flowing. OTHER THINGS IN THEIR NATURAL STATE—like seeds and plants, will grow along the pathway where the water flows, because that is the nature of “How Plants Grow”; they require water to grow. So—if you change the flow of water to suit your own needs—you deprive something else from becoming what they are designed to be, and the potential to produce fruit/food goes down because somewhere, is no

longer in its natural state.

The basic idea is that when something is in its natural state, it flows in harmony with everything else and produces abundance because that is “How Things Are” when they are left to exist without interference. If you take a piece of wood and decided to carve it into a box for keeping something in; that would be disrupting the natural state of the wood as it exists in harmony with the world around it; by leaving the block uncarved when you find it—you are leaving things in a state of harmony. Your goal is to trade by the principle of the uncarved block.

A market is a thing in its natural state. All price action is in perfect harmony with the market as it seeks to balance the never-ending order-flow imbalance; all price action is correct. The market is a perfectly balanced inequality seeking to fill orders placed into it. There is nothing else. The market is a machine and this machine operates perfectly.

When you as a trader, become a thing in its natural state, you can interface with the market as you see the opportunity unfolding. If you are emotionally at peace with the market, willing to accept what the market will give you, or take away from you, not willing to impose your own thinking on the natural state of the market, not willing to force your own participation from something that would disrupt your understanding of how the market is flowing; you become a thing in its natural state seeking to keep a harmonious relationship with the world (market) around you. You and the market become the same thing; a thing in its natural state.

By letting the market just be whatever it is going to be, and just letting yourself be whatever you need to be; you participate with perfect clarity and perfect discipline, there will be no conflict in your participation. Trading becomes effortless as you simply do what you do when you do it and wait for the market to do whatever it is going to do when it does what it does. If you don’t see anything according to your plan, you remain at rest, doing nothing, executing

your initiation by Staying Out. If you have taken an active position because you perceived an opportunity was there, but the market has begun going against you; there is nothing to do but liquidate according to your plan. So, you do nothing until your exit stop-loss order is triggered and then you have liquidated by Getting Out shortly after you remained liquidating by Staying In. If the trade was going favorably you would liquidate by Staying In until the market reached your exit point, then you liquidate by Getting Out using a market order, a price-limit order, or perhaps a stop-loss order if you had chosen to use a “rolling stop” strategy for Staying In; until then you are at rest doing nothing. If it takes two weeks for that trade to make the most out of the potential you found, that simply doesn’t matter; because you are always participating and always at rest. Those two weeks would have passed anyway. You are a thing in its natural state. You and the market are the uncarved block; a thing in its natural state together.

As you control your thinking at a deeper and deeper level the markets will cease to agitate you or cause you emotional pain. Because—in reality—all the market is doing is what it would always have done regardless of whether you are participating along with it or not. Anything you perceive as “being done to you” argues that you have a sense of attachment to results or to price action. If you place a trade, and it goes against you, then you immediately feel a sense of panic —where is that coming from? It isn’t coming from the market because all the market is doing is processing orders and the market doesn’t know you have a position on. Whatever you are feeling is happening inside of your mind—and nowhere else. YOU are creating whatever emotions or pain you are feeling because YOU have a sense of attachment to what the market should have done for you—when that didn’t happen; you had an unmet expectation. All of that happened inside your head—it didn’t happen in the markets. The market is a perfect thing in its natural state in perfect harmony with everything else. If you can’t harmonize with the market—who has the problem?

Contrast that experience with the one of quietly sitting doing nothing. No matter what happens, you feel no conflict of any kind; just a sense of peace and serenity as the never-ending event of price action continues to play out forever. With or without you AND with or without you.

That sense of complete harmony and non-attachment is the market-centric paradigm of a winning trader. The practice of enforcing the Circle of the Trade moment-to-moment creates that harmony and sense of non-attachment. This becomes the fully disciplined state of “This is what the market says; this is what I do”. Think of it as: Dancing While Someone Else Leads...

### **Your key takeaway from this chapter:**

The market is a never-ending unfolding event that is a perfectly balanced inequality of correct price action. It is a thing in its natural state. When you choose to operate in complete harmony with the market you become the same thing as the market, a thing in its natural state. To properly interface with the market, you need to be participating all the time and executing all the time by sitting quietly doing nothing until your opportunity shows up. What to do next is self-evident and there is no need for emotions or other distractions to play any role in your participation. When you feel emotions or distractions that only means that something is interfering with your sense of harmony—and that has nothing to do with the market.

# Creating and Testing an Edge

***“Time is an illusion—timing is an art...”***

***--Stefan Emunds***

When I was a younger trader, I would get very confused when I had conversations with older, more experienced traders; they tended to look at the markets through the lens of something they called “their edge”. Bear in mind, like most people with little trading experience at the time, I thought the goal of all this analysis stuff was to figure out “which way the market would go” so that all I had to do was go “long” or “short” to profit. After I learned the lessons like “being right too soon” and “waiting for retracements” I began to understand the concept of “an edge” and why the need to be very defined. What is an edge?

An edge is nothing more than one set of probabilities being more likely than another set of probabilities. You could say that our conversation earlier about the 12 choices present in finding opportunity would be something like an edge; anything that helps you narrow down probabilities for you could be considered part of your edge. The important issue for creating an edge is that it needs to have a probability that is better than chance whenever possible. Now, there are a lot of very experienced traders who have created edges that are actually worse than chance, and typically the reason they use them is because when they are correct about the price action moving forward, it often is a price move of epic proportions; if you could buy the low for the year, for example, and hold that trade for several months; you might make hundreds of percent on your account balance. Maybe that edge needs to try buying a low print 7-or-8 times before it finally buys the actual bottom. That is a low-probability edge but when it hits—WOW...it is a monster edge. Part of refining your edge is understanding what

the edge is really doing. You can have a lower probability edge that is highly profitable if you know how to correctly deploy that edge; no one would say that is a bad thing. For now, I would suggest you focus on higher-probability edges and wait until you have a lot more experience if you wish to use a lower-probability edge for some reason at a later time.

An edge is just a probability. In order for the edge to have a probability that is higher, it needs to be congruent with the structure of the market. As we have discussed before, the structure of the market is a function of the underlying order-flow. Your edge needs to be something that understands a few things about the order-flow as it either could be changing or as it could be remaining the same. If we look at the markets as a whole, we already know there are only three things any market can do as the underlying order-flow keeps presenting itself:

1. If the order-flow is basically larger on one side than the other side as time moves on; then the market is trending higher or lower; depending on whether sell orders are mostly larger than buy orders OR buy orders are mostly larger than sell orders.
2. If the order flow is basically the same from both sides most of the time the market is temporarily balanced, and the market is trading in a range.

Therefore, a market can do only three things: Trend UP, Trend DOWN, or Trend SIDEWAYS.

With that in mind, you only need to decide how to participate in those three market scenarios and you can begin creating and testing an edge. As we discussed in Part III there are a total of 12 choices present in creating opportunity. Six of those choices have to do with something remaining the same and six are anticipating something might be changing. If you narrow your choices down to the best one for you within the three kinds of market price action, creating and testing your edge become a very simple thing to do. Before

we create and test a basic edge for you, we need to have a short discussion about how the market delineates time.

## **Understanding Multiple Timeframes**

The average market participant operates on a time frame of 72 hours or less. The Typical losing trader, someone who buys into the “Technical Analysis” argument, someone who plots hundreds of charts expecting them all to help him make money, someone who is allowing his emotions to control when he trades; all operate on lower timeframes. In fact, they “study” the market on 1/3/5-minute time scales and rarely look at anything above a 15-minute time scale. The winning trader, on the other hand, typically operates on time scales that are 60-minutes or more. The simplest reason “why?” is because winning traders know it takes days or weeks for any market to process enough orders to create a liquidation scenario big enough to make a larger move. Winning traders are OK with taking time to win; losing traders all want to make money “right now” and they define “right now” as the next few minutes; in rare cases they define “right now” as meaning “by the end of the day” or something.

You need to think of the larger, more defined market move that happens over days or weeks as the underlying “theme” to the market’s “music”; whereas the moment-to-moment chop and switchbacks in price as the “random noise” inside of the music. Part of the reason why losing traders lose so consistently is that they are trying to exploit price action that is really just random noise and is not significant or definable enough to represent the overall price potential. If you go back to our illustration of a “loser chart” you will notice that the timeframe for the chart is the 5-minute time scale. If you look at the typical “buy-point” on the “loser chart” and then scale out to the 60-minute or the 120-minute price chart you will see that usually the 5-minute “buy point” on the “loser chart” is right about where the highs form on the larger timeframe charts for a good-quality “sell” opportunity. You will find that typically the market is lower in price from the 5-minute buy-point 24 hours later—and often by the end of the current trading period; say a week or so. The winner has a short positioned for a larger

move as the losing trader begins liquidating his losing longs from a buy-point that didn't see "the big picture" potential as being more likely. Probabilities tend to favor the higher timeframes.

Your best potential for creating an edge is to use the largest timeframe you are comfortable with and consider how the losing trader would be getting positioned in the same market if he was using a smaller timeframe to find his entries.

### Context and Deployment of an Edge

To reach your full potential as a trader, you need to see the issue of trading more as a specific and particular way of seeing things, combined with a high probability of exploiting what you see when the conditions are right for you.

Let me illustrate:

If a market can only do one of three things at a time—what is it doing now? Let's suppose the market is trending higher. How do you make money in a market that is trending higher in price? You have to be long that market. Where is the best place to buy an up-trending market? The lowest price possible before it rises in price. Where is that price point?

I can hear all the heads spinning out there right now. “Of course, I know that! But how do I find that low price to get in?” “Well, that depends...how long has the trend been in place? Maybe it is near ending.” “That is just great—except how do I know the trend isn’t over when it sells off to that buy point, if I can even find that buy point?” Do you see what I am getting at? The above illustration is an entirely accurate reasoning process to join an uptrend...except that everyone sees it differently and doesn’t know how to get positioned. That’s why they rely on things “outside” of themselves to “study”. It helps them form a context; except they are approaching the context all wrong. It’s OK for everyone to see it differently—because the only person we care about seeing it correctly is YOU.

What is the correct way of seeing it? Any way you want to...as long as it is consistent from your point of view and from your urge to action. In other words, it doesn’t matter how you personally choose to look at the market opportunity as long as you do it the same way all the time and when you place trades you are also doing it the same way all the time. Doing your actions all the same way all the time increases the potential for the probabilities you have identified to fall to the bottom line as a profit. It is similar to when a professional baseball player will “wait for his pitch” or when a professional racing driver will “drive his line” It doesn’t matter what other traders see or don’t see—it doesn’t matter how other traders participate. They don’t know anything of value anyway, otherwise they wouldn’t be losing 85% of the time.

How you consistently see things is the starting point for developing your edge. With that in mind, let's pick up with creating you first edge. What is the market doing now?

1. Use the SAME timeframe every time to decide what the market is doing right now.
2. Use the SAME criteria to define what the market is doing all the time.
3. Ask the SAME question: "Is anything changing or are things staying the same?"

A trend can only continue as long as the order-flow imbalance continues the same way. A trend will end when the order-flow goes temporarily into a balanced state (in which case the trend will end in range for a period of time) or when the order-flow imbalance reverses completely (in which case the market trend will end abruptly and prices will reverse quickly).

Now, as long as you are viewing the market under the same timeframe and conditions all the time, identifying uptrend, downtrend and range are all very simple because you already know what that looks like. An uptrend is prices mostly rising with a consistent ebb-and-flow of prices providing opportunity to buy the dips regularly. A downtrend is basically the opposite of that price action as prices decline consistently. A range is when prices stay in the same general area trading up to the top and then down to the bottom price areas regularly. Now, you can create your edge.

If you have decided that "going with the trend" is your best opportunity; then you need to decide how and when you will buy a price sell-off during uptrend and sell a price-rally during downtrend. So, you need one edge expressed two

ways. What is that edge for you?

Here are a few samples of entry rules developed by my students as guidelines for you. Remember, how you see things is all that matters—you want your edge to be as congruent with the market structure as you can make it:

“I draw a trendline on the 60-minute chart using the last two rejected lows; as long as the 50 bar Moving Average stays above that trendline—I am OK to buy dips. I buy each time the market trades to my trendline—goes below it—then closes back above it—I buy the close of that bar with a 1% stop on my equity.”

“I buy every sell-off that includes a test of the previous weeks closing range. If the market can’t go any lower than last week’s close—nothing is changing as far as I can tell.”

“My best entry is a 50% pullback from a weekly high price that includes the monthly low price. I figure the losers are all short by then, but the big money is still sitting tight. I buy on the daily close and run a 1.5% risk-stop...the trade is even better if that stop can be UNDER the monthly low.”

As you can see, price action is what is important to these traders—not what the price is. Price action is a discussion about what is more likely and not a search for certainty.

Now, if you see things a different way—that is fine. As long as you define that observation very well—and follow it the same way every time. You then will have no trouble creating a few edges for yourself as time goes on. But for the sake of clarity—you need only a handful of edges to make your fortune. Let’s put some basic edges on the table to give you a starting point. These edges are only for the illustration of how to create edges; I don’t expect you to take these edges as described here and begin trading them exactly as we discuss here. These are guidelines for creating edges; they can be very accurate guidelines, but

they are still guidelines. You need to take the guidelines and decide on an execution timeframe for your entries/exits, decide how to define “a pullback”, how to define “staying the same”, and how to define “something is changing”; you need to make these specifics very clear so that you can enforce them.

## **Basic Edges:**

1. Join a trend in progress I.E. BUY a sell-off during uptrend, SELL a rally during downtrend. This is the same edge but written inversely for each market condition.
2. Join a RANGE in progress: I.E. BUY the bottom of the range and/or sell the top of the range with a protective risk-stop outside the range (less probability of getting hit). I personally do my buy-entries and sell-entries inside the top or bottom 5-10% of the price range.

How will you choose to define uptrend, downtrend, and range? What will you say constitutes a pullback so you can get positioned? What size leverage (if any) to use on your first entry using these edges? What will tell you the trend or range is over and something else is coming next? How can you tell if something is changing or if it is remaining the same?

The number and depth of your questions to create your edge will help you in refining it so that the probabilities will get better with use. Remember, there is no perfect edge and there are no 100% probabilities. This is why you must keep meticulous records and review them regularly searching for cultural myth and self-sabotage. You want to create a working edge without any interference from your emotions or sense of attachment, without a need for certainty, etc. Your edge is YOUR edge; keep working on it until you are making consistent and solid winning trades with it. Make it enforceable by being very specific and disciplining yourself to take every signal. If you “fudge” on your plan—write

that down too and ask yourself: “What was I thinking here?” You need a lot of accurate data to help enforce your edge as it unfolds. DO NOT listen to other traders for “help” in refining your edge(s). They don’t know what they are doing in the first place, most of them.

As your market knowledge grows and your skill level becomes more disciplined you can start the process of finding and creating edges that are more detailed and specific. Perhaps your next edge might be finding a way to exploit reversal potential. Very dangerous if you don’t know what you are doing—but the most profitable method out there. Maybe you might want to try your hand at a breakout trade—again, very dangerous but highly profitable. If you take some time to think it through, you could do very well exploiting option-time-decay if you could sell premium during periods of high volatility; again—everyone knows about that potential in these types of trades, but how would YOU create YOUR edge in order to take advantage of what you already know? The upside for edge creation is really unlimited except for our own thinking. If you can begin the process of creating better and more lucrative edges by simply getting very good at making your basic edges profitable; how far could you go?

## **Liquidation**

Probably the hardest part of creating your edges is the issue of liquidation. When do I get out??? The answer is the same as creating your edge—how do you see it? At what point will it (meaning the current trade you have on) be over? Whenever you think that it is—that is the right answer. As you do more and more entries/exits you will compare that data to your “after-trade data” for clues to how solid of an entry your edge really is and how much opportunity it really does uncover. You might find that holding your trades longer would have resulted in a significantly higher profit level; so how can you write better rules for holding your trades? What are the clues to look for before getting out of a trade?

I sincerely wish I could give you more help with this issue in these pages—but I really can't. This part of The Psychology of Trading is a very personal part and most of the time it requires a solid process of mentoring for a trader to learn his/her best strategies for liquidation. “Getting out” of a market is the most difficult part of the “Circle of the Trade” but it is still important that it be done according to a process and a plan. Your process and your plan start by just doing what you think is the right thing, then comparing it to your data. Now—you need to look for clues that will lead to better liquidation and sometimes those clues will not be apparent to you right away. Mentoring is the process of helping the trader see what he/she can't see without help. Once you see it properly—you don't need help. Remember, liquidation is both “Staying In” and “Getting Out”; part of your liquidation process is a way for you to hold your winners for as long as the potential is still there for order-flow to remain net-in-your-favor BEFORE actually exiting the market. You need to keep highly accurate records of WHY you feel the need to liquidate the way you do. Do a lot of comparing of what you actually create to what the market did AFTER your exit using your accurate “After Trade” data.

My suggestion is to learn how your personal liquidation style plays out by using it in real-time to the absolute best potential you can manage. Once you have a solid sample set of your behavior compared with your after-trade data you can take that information to a qualified mentor. But in any case—some of the clues will be apparent to you right away—keep following the process of observation and record keeping. Eventually everything you need will be right there in front of you—assuming you have been as accurate as you could be with your record keeping. You will find that as time goes on and you continue to improve your exit strategies, your willingness to stay in trades longer will cause you to increase your active participation timeframes. If your edge provides a trade and you find that you are getting out too early most of the time—you will naturally want to expand your time horizons. That is a really good thing to do because your edge will eventually uncover some really big trades—those trades will need a lot of time to pay you really big wins. They are worth finding and holding.

However, there is one form of trade-liquidation that I would suggest you try implementing right away and that is the “rolling stop” strategy. This is not the

same as a “trailing stop” strategy, which is a highly effective method for cutting profits short. The “rolling stop” strategy is a way of letting profits run.

The basic strategy involves attempting to hold a trade forever; as long as the market is continuing to move favorably. Simply put—if a market is trending lower you would want to stay short forever until the price reaches zero. Most likely, that won’t actually happen—but a trending market can go one-way for quite a long time; even to the point where it surprises the most seasoned traders. Why not try to get most of that move?

I found that if I roll my stop to protect open-trade gains it is best to look back about 72 hours or more and place my exit stop somewhere beyond the reach of price action during the past 72 hours. Sometimes that means that very little of my open trade gains are actually protected but that is OK because if this trade really has potential then it will take weeks or longer to play out and it will need room to maneuver anyway. As long as the weekly high/low for that trade continues to get better and better every week—I just roll the stop to lock about a 1% gain on equity each week. If it turns out that I have a really big open-trade gain that might be something like 15% of my account balance or more I will move the stop to lock about half of that—and then just let it ride. Additionally, I ALWAYS look to ADD to open-trade winners; and I have a whole rule set for that—but first the initial trade has to be holding a big win.

Along with the rolling-stop and the let-it-ride liquidation strategy I often employ an option strategy. If I am long a Futures market and I have a nice gain locked in—I will look to see when put-options for that market are set to expire. When the options have less than a month to expiration—I will buy an at-the-money or one-strike out-of-the-money put option against my open futures position. Basically—I can lock a permanent profit for the next 30 days or so with absolutely no downside risk. It will cost a few dollars for the expiring premium but that will be really cheap by then anyway. Once this trade is locked up—I can let it ride for 30 days no matter what the market is doing. It’s cheap insurance that allows me to sit through ANYTHING that happens in that market waiting for further price

action my way. Sometimes I go on vacation when I have trades locked-up like this. Nothing to do but wait anyway. This is a great strategy to hold winners through something that might cause a LOT of volatility; like a central bank changing interest rates or a government starting a war. All of these strategies and techniques have their basis in the assumption that we have an idea of what we are doing first; so, don't try any of this until your skill at managing your basic edges is well-defined.

## **Testing Your Edges**

It is my opinion that you cannot reasonably test your edges any other way except by taking real trades in real time with them. Paper-trading and “back-testing” are all forms of mental masturbation that can provide you with no real help. All they will do is create a false sense of security about the “validity” of your edges and shield you from the real risks of trading while they do it.

Let's talk about “Back-Testing” first. This is the process where someone finds what they believe is an edge, and then compares it to what the market did in the past in order to see how successful it would have been. None of these hypothetical trades were ever done by anyone. How easy is it to say: “Since we know the market was eventually moving lower—I would have found a way to be short”? or vice versa. “Back testing” is just a method of convincing yourself you have found something that will be profitable. Once you begin using it in real-time you will find that it doesn't do so well. Why? Because there never was any risk to the trader and conditions are never exactly the same twice. Once you begin trading in real-time, with real money, you begin to experience all the emotions and issues related to live trading—nothing can prepare you for that—not even reams of old data that says “You could have been successful already!” You will have things begin to happen that you weren't prepared for—including price action that didn't appear to be the same as it was in the past, stops that are too close, volatility that wipes out gains, etc. “Back-Testing” doesn't consider all the far more critical components of trading—the day-to-day management of your thinking, emotions and actions. “Back-Testing” suggests you could have made

money if only you had done such-and-such. Well, Guess what? We already know that. Any one of us could make money if we get on the right side of the market. All “Back-Testing” does is provide a level of false confidence to someone who otherwise lacks the real confidence to test his market-hypothesis in real time with real money. Additionally, “Back-Testing” operates from an assumption that is REALLY dangerous to the trader. The price action that happened in the past happened because certain traders placed orders a certain way; assuming that the orders placed moving forward will be placed the exact same way by the exact same traders. It is completely possible that the actual traders who placed the orders in that market last year are wiped out already and they won’t be there to place any more orders this year; conditions in the market moving forward are not “static” like the historical records are.

Think of it this way: The market can only trade the orders that are placed into it. If the people trading now think differently this year from last year, then their order-placement will be different. If there are different people trading entirely—the order-flow could be dramatically different. All back-testing says is this: “If you would have traded the order-flow as it actually was in the past using the trade rules we are testing now—you would have made money” All Back-Testing does is provide you with this scenario: “If the order-flow moving forward is exactly like it was in the past—then using these trade rules we just tested should provide you with similar trading results”

But the order-flow is NEVER going to be exactly like it was in the past, because the people trading in the market are different, the fundamentals that drive people’s assumptions will be different, the people using certain size trades will be different; there are a whole group of variables that exist constantly that make it virtually impossible to know what conditions or prices in the markets will be until after the market gets there. The order-flow moving forward is never going to be exactly like it was in the past—“Back-Testing” an edge to see how it performed on a historical level can’t provide you with anything more than a “maybe” it has any potential moving forward. “Back-Testing” assumes conditions in all markets are exactly the same moving forward as they were in the past; and we all know that is not true. This is why heavily “Back-Tested” systems never do as well moving forward as the systems-developer claims they

do. In fact, as most traders who buy these heavily “Back-Tested” systems can tell you, they almost never make anywhere near the money claimed by the developers; rather most of them have losses.

In my view, paper-trading does even more damage and is just a ridiculous waste of time & effort. In this case, the trader who “paper-trades” is not even intending to get into the market at all. The idea behind this form of Bull-Cookies is: “If I PRETEND to be a successful trader—eventually I can become one.” By that reasoning—if you play enough Microsoft Flight Simulator—you could learn enough about an F-16 to go into LIVE COMBAT with a Russian MIG-29 pilot trained to kill you—and do it just as well as Chuck Yeager. It is an absolute fantasy to think you can learn to trade by pretending to trade. If you are paper-trading now—just go hang yourself. You have a better shot at seeing God than you do making any consistently winning trades. Besides, talking with God will be more fun than watching your money evaporate once you have convinced yourself that paper-trading has made you a real pro at this.

One of the funniest statistics I ever saw was the actual percentage of losing traders who had “Graduated” from the online paper-trading forum/classroom/division offered by Alaron Trading, Chicago, IL. Alaron Trading is gone now, so I feel I can discuss what I discovered about how they did business. I happened to personally know one of the managers who previously worked with Alaron Trading and he told me about the paper-trading division of the company. This is where the company offered to train/educate/help anyone who thought they needed the help by offering an online classroom/chat room where people were encouraged to paper-trade their trading ideas and discuss it with the entire group of paper-traders. They even had “expert” traders hold regular education webinars for these people. Once someone felt they had enough confidence to begin trading for real, the company would have them open a real-money trading account. The failure rate was 100%. That is not an exaggeration. 100% of the people who invested time in the paper-trading forum before trading a real-money account lost money when they finally stopped pretending to trade and began actually trading. The reason I thought it was funny is because I didn’t think there really were people who actually paper-traded anymore. I thought people were smart enough to see what they were doing.

Playing “HALO” online with a bunch of your computer-geek friends is not going to actually qualify you as a real Navy SEAL. I thought it was clear that “B.S.ing” yourself was a sure-fire way to lose all your trading capital. But I guess people will believe anything if money could be involved. I think that says it all.

The only way to really test your edge is to trade it. You will learn more about yourself and how the market works the more time you invest in the real world. There are things you can do to help with the real risks of trading, and I would suggest a few for you:

1. If you think you can afford to open a \$10,000 account somewhere—try opening a \$1000 account and trade the absolute smallest size your broker will allow. If possible—don’t use any leverage at all for at least a period of time. Add money to your account(s) only when you have proven to yourself that your edge is viable and will identify opportunities for you.
2. Don’t trade more than 2-3 markets at a time. If the truth were told, you really only need one market to excel at. Get really good at one market at a time.
3. Don’t reevaluate the quality of your edge until you have a solid sample set—usually 100 trades or more; and don’t forget to use your “after-trade” data for additional clues.
4. If you have earned gains; it’s OK to celebrate. I always suggest to my students that they plan on taking some amount of money home from their account to reward themselves for a winning month, or a winning quarter.
5. It takes time to become consistently profitable. Have low expectations for your account growth—BUT—have high expectations for your personal growth.

To close out this chapter it is very important that you learn to have a reasonable expectation of your edge potential. It might take a few tries before you finally settle on the best way to express your edge. The reason why I suggest that you

start small and give yourself some time before you make any changes is because slow, solid growth is lasting growth. I can tell you from personal experience that learning to trade needs to be a process that you honor with solid effort and solid time. When you finally “get it” you likely will have the ability to pay yourself anything you want anytime you want by exploiting a well-defined edge. Look at this like a true professional. Make time to learn, take time to learn. Use your edge in real-time with real money. Losses are part of the business and everyone has them. Learn to make your losses pay you a benefit by teaching you something. Your profits will take care of themselves.

### **Your key takeaway from this chapter:**

Your edge comes from inside you and there is no right or wrong way to create it. Your edge needs to be congruent with the structure of the market for it to have the highest probability of success. Test your edge in real time with real money for the best data to refine the edge. Make your edge definition simple until you have mastered regular profit. Start small but consistently until you have regular gains.

## **Proper Execution**

***“It does not do to leave a live dragon out of your calculations; if you live near one...”***

**--J.R.R. Tolkien, *The Hobbit***

I would like to believe that everyone has read The Lord of the Rings trilogy, including the prequel The Hobbit. I personally feel that The Hobbit was the best book in the series although the whole trilogy is a masterwork of literary fiction/fantasy. If you think about the risk you would be taking in an attempt to rid yourself of a dragon, it might actually be a better strategy to pass by without ever engaging a dragon in battle. Dragons have to be one of the most difficult adversaries around, I would think. Better to let sleeping dragons lie...

In the markets, your biggest adversary as a trader is YOU, actually. Learning to master yourself, your choices, your thinking, your behavior, and the whole host of inequalities you bring to the table when you have a bad day, or a conflict with a loved one, etc.; is the hardest part of trading. The list is endless. You are your own worst enemy and YOU are the dragon that must be tamed or slain. Make no mistake, mastering your participation means mastering your executions. Proper execution is a gateway to permanent success; without this discipline your risk of catastrophic loss is higher.

Most of the time when losing traders experience losses their emotions get more and more heated until they lose control of their participation. Stories are told of Pit-Traders working on the exchange floors having very heated days due to

something outside of everyone's control; something like a war or a hurricane affecting some market. Some of these men would completely lose control of what they were doing; traders stumbling out of the pits, staring nervously into space and declaring "I have no idea what my position is..." Can you imagine? Someone so emotionally upset that they don't even know if they are long or short! Or, even how big their position is! How do you lose control that far? Who is going to pay for that?!

Losing control of your execution is one of the worst mistakes a trader can make because it leads to exacerbating losses. Once those losses happen—there is no coming back from it. You have to have controls in place.

Before you begin trading you must prepare for proper execution. You must minimize the potential for you to lose control of your execution and end up unleashing the dragon who will burn through your equity in just minutes if you aren't careful.

If you are already trading, then I want you to take a step back and review how you execute your transactions in the market. First, if we are using true discipline and developing our non-attachment mindset through the Circle of the Trade, then your execution will follow along a disciplined pathway that needs very little to remain effective. Basically, everything about that execution will lead back to a sense of serenity. The first step is to create your execution rules and make certain they are followed. More on creating rules in the appendix.

Creating execution rules is slightly different than signal rules. A signal rule has to do more with when the market is at an entry area and your reason for entry has been satisfied. Your execution rules are the steps needed to take advantage of the signal. Think of execution rules as participation rules. When followed, they steer you through emotions that if left undisciplined could shipwreck your trading. They are controls on your behavior to manage daily effort.

For example, I personally have a proprietary signal I use for reversals. You can calculate the signal using any timeframe but because it is designed to point out a price/time relationship that suggests a reversal is due; it is best used on a higher timeframe; the bulk of a liquidation order-flow comes from traders using the higher timeframes I have discovered. So I calculate the signal on an hourly timeframe; when it shows up it might be the turning point for that market “near-term” By “near-term” I mean “within 12 hours” That means, I have identified a price/time relationship that has a better-than-chance potential for a reversal within 12 hours.

Next, I compare the signal bar to the next higher timeframes, and I look for what I call “congruence”; which is basically the same signal but calculated on the 120-minute timeframe, the 180-minute timeframe and the 240-minute timeframe. Which means that I am expecting to see the exact same signal fire off on at least one of those timeframes during the next 2-4 hours. If I see that congruence, I now have a really reliable signal, so I will place an order to enter the market at several different prices that are based on the 60-minute timeframe signal bar. If the signal bar is less than a certain range, I enter a market order based on the close of the next timeframe signal bar. If the signal bar has a range greater than a certain width, I enter a limit order to enter based on the market falling back to the signal bar area. If I wrote out the execution rule in English, it might read like this:

“When the X reversal shows up on the 60M timeframe; look for congruence on the 120/180/240 timeframes. If there is at least one more signal active, then enter the market at the close of the 120M active bar, IF the 60M timeframe signal bar is less than 22 PIPS wide. If the 60M signal bar is wider than 22 PIPS; enter a limit order on the close of the 120 when the market re-tests the opening range of the 60M timeframe signal bar”

Basically, what I am saying is that I want to get in for a potential reversal but not unless more than one timeframe shows that potential. If it does—I get in right

away unless the range is too wide; then I wait for the reasonable re-test of the opening range. Now, here is the important part. Once the orders are placed—that's it. There is nothing else to do but wait for the next 12 hours. Also, I write down exactly what the orders are and compare them to my entry rules. If I am “fudging” on the entry rules somehow—I want to bring that to my attention. ANY TIME AND EVERY TIME I have changed the entry rules “on the fly” or said to myself—"just this once I don't have to follow the rules exactly" I have lost money. At the end of the week, when I do my weekly checkout of my results and my performance, I look for times when I have not followed the rules. By confronting myself when I am compromising, I increase the probability for success. Your first clue that you are properly executing according to the “Circle of the Trade” is that you are following the rules you created for yourself completely and without error. If you are breaking any rules—your rules that make your edge work or your execution management rules—you are hurting yourself.

Now, I know that some readers don't have a set of execution rules just yet and many don't know how to tell the difference between signal rules and execution rules. What we are going to do today is provide you with a set of instructions to help you create your rule set and learn to enforce it. Don't forget, there is more on rules in the appendix.

Let's start with a premise or two:

Here's how you can know you are inside the “Circle of the Trade” and building the proper execution process for your trading:

1. You feel no conflict when you trade.
2. You follow the rules as you have them completely—no compromises.
3. Willingness to liquidate at any point if needed.

4. Immediate price action in your favor after you have gotten into the market.

Let's take these in order and discuss them a bit, starting with the first benefit, feeling no conflict:

1. When you do something you absolutely know is the right thing to do, what do you experience emotionally? Normally, for most people, a feeling of control, maybe a sense of finality; often people experience a sense of anticipation. But one thing should definitely be your feeling—nothing negative. When you have done the right thing for YOU—there should never be any stress, no fear, no emotional “what if?”, no mental agitation of any kind. If you are executing like you should—you should feel nothing negative and whatever you feel should be relaxing and pleasant. So, if you are feeling something other than a sense of serenity—something is wrong, and you need to liquidate and “reset” yourself. Ask yourself: “Why am I feeling like this if I am doing everything I have agreed with myself to do that is supposed to be in my favor?”

2. Did you follow your rules? This one is fairly clear. All you have to do is compare your written rules with your behavior and your journal. Is anything different? If you have gotten into the market and did it by breaking your rules—you need to liquidate (stand aside) and ask yourself: “Why did I break my rules?” The most common reason is because trader’s let their greed get ahold of them. They believe they “saw” something “right now” and they “didn’t want to miss it” before the market ran away from them. But all that is based on emotions or something else; it isn’t based on a solid understanding of the order-flow potential.

3. You should have a feeling that if anything—and I mean ANYTHING—gets in the way of your clarity of observation—you will immediately stand aside. You will instantly liquidate your position. The reason you need to be in this frame of mind is because the ONLY time you are not at risk for losing all your

money is when you are not in the market. Think of it this way: You got into the market because you believed that you had a better-than-chance probability to make money. You were willing to accept the risk you could be wrong—but you have done everything you can, to make as sure as you possibly can, that you have the probabilities on your side for at least some period of time. Now you discover that you got into the market for some reason that had nothing to do with defining the probabilities. That means, you are in a market, at risk for losing your money, and you are there because of something other than a clear sense of how to win. The probabilities have now dropped to below chance for a win on this trade. Why would you stay at risk when you have done something that will most surely lead to a loss? In other words, why take a loss that is avoidable by simply just getting out?

At this point, if you begin thinking things like: “Well, I am in now so let’s just see what happens” or “I have a small loss—let me just see if it comes back to even and then I will get out” or any number of emotional or conditional events, then you are exhibiting a sense of attachment to the results. The instant you discover you are doing a trade, staying in a trade, or attempting to get out of a trade but only after something else happens first; all because of something other than following your rules, what you are really doing is placing your expectation into the boundaries of an intended result. I call that a demand-back expectation. Something has to go your way, or be validated according to your terms, before something else can be done. That means something is affecting your clarity of observation. That means the trade is being done—or held on to—for some reason OTHER than a solid probability of where the order-flow liquidation pressure might be. That means you have just dropped your participation down to the level of the typical loser. A loss is more likely now.

Let me make it more convoluted for you. Suppose you are watching the market and suddenly you realize “I got in this trade too early because I forgot to follow my limit-order entry rule. I used a market order just this once...” This is a typical trading error. You broke a rule and that should NEVER be done. However—the trade is showing a small profit. If you are like most traders, you would just let that go because “the trade is working according to plan—getting in early was what was needed this time” But you are in that trade because you

broke a rule. You need to liquidate and WAIT for the proper time to get in that trade by following the rule you created to maximize your probabilities. If you don't follow the rules—you aren't trading your plan. That trade is a losing trade despite the fact it has a small open trade profit. You need to liquidate right now and study why you felt the need to break a rule.

4. The whole point of learning to observe the market order-flow potential and observe yourself is to avoid any observational bias so you can make your move at the proper time to make money from that point forward. Your ultimate goal is to place your orders or have your orders filled right at the moment the force in the order-flow changes in your favor. That means the moment you are in—the market starts going your way. If you did everything perfectly according to your plan, followed your edge perfectly, and the immediate result was order-flow in your favor—you correctly executed at the proper point. Maybe that is behavior you can learn to duplicate. Study that trade all the way; can you discover something about what led up to that point that you can effect a permanent change in your participation with? Suppose you can create an edge with an 85% probability from whatever it was that you did? Remember when we discussed that winning trades can sometimes be just dumb luck? Well—if that is the case—so what? Manage that win as if it was a well-defined trade and take the cash. But study it anyway—because if what you are doing is the kind of behavior you can duplicate; you have just found a way to increase your probabilities. As a side note, I teach my students that “immediate” price action means according to your execution timeframe. If you are executing your entries using the 60-minute timeframe, then “immediate price action your way” would mean within the first hour of you having the trade active.

Now, supposing all of the post-entry experience is basically along the lines I describe above, you need to continue executing inside the “Circle of the Trade” You do this by noting your personal feelings for this trade and what you are prepared to do if anything changes. Your thinking needs to be something along these lines:

“I executed perfectly according to my rules and I followed my edge perfectly. The trade is working, and I feel no conflict that I can tell. There is nothing to do but wait—so I am liquidating by staying in until something changes. I am watching for that change. The change could be in conditions leading to a change in the order-flow—and just in case I don’t see that coming soon enough to protect myself with a market-exit-order—I have my protective risk-stop active. I am also watching for a change in myself. If I start wishing/hoping/praying I am breaking my focus. I will liquidate by getting out immediately and I will write everything down in my journal(s).”

Everything is going just fine; but suppose now you get a phone call that your parents just died in a plane crash. Your emotions will suddenly and without warning be all over the place. Before you grab the box of Kleenex, grab the mouse and liquidate everything you are holding. You will not be in the frame of mind to clearly observe order-flow when your thinking is under duress. That sort of thing can happen at any time for any reason. Suppose the market moves against you instantly and 30 seconds later the news comes out that the president has just been shot. The entire world will be in a panic for at least a day or so—no one can predict what people will do under those sorts of conditions. Using probabilities to help discover order-flow imbalances might not be very accurate for a few days. Maybe you should just stand aside.

The point I am making is that it doesn’t matter if the issue is from inside you or it is an external thing that stimulates you to try and do something. If it is something that is not within your control—meaning how you behave—then you are at a greater risk for loss. When everything is “normal” according to your plan, and you can control how you participate fairly well, that environment can change very quickly and you MUST have a pre-determined point where no matter what is happening—no matter how “bad” or “good” for profits it might be—no matter what—you are going to close all your positions and walk away. You are going to turn off your screen and close your office door when you leave.

If you don’t plan for this eventuality—here’s what will happen:

You will lose 100% of your account balance in hours or sometimes minutes. It will happen very quickly. It will happen because you start breaking all the rules that are in place to protect you. You start breaking those rules because your emotions get thrown into a state of agitation and that level of agitation comes with a HUGE desire to make things whole again.

When a human being suffers what they perceive as a major loss that is outside of their control, they also experience a strong desire to “fix” this problem so that things can go back to “normal” for them. When we can’t fix the issue—because the major loss is outside of our control—we begin to act irrationally in some attempt to ease the suffering we feel in order to bring our emotions back under balance. You probably know someone you would describe as level-headed and normal; until his wife died unexpectedly in a car accident. Then he lost control, lost his job and is now addicted to cocaine. He was looking to ease the pain from a loss outside of his control—a big loss, but he was unable to “fix” the pain.

When it involves trading, almost without exception—you will be on the “wrong side” of something when this catastrophe to your emotions occurs. You have an instantaneous loss—and that hurts. You will try to get your money back; you might double up on the next trade (increasing your size of the trade)—but that loses too as the volatility is now immeasurable; the market whipsaws between highs and lows by the minute. You try again and get hammered a third time. All of a sudden, it is four trades in six minutes—each one larger than the last one—all losers and all done because you feel strong emotions; not because of anything else. You broke all your rules—and blew up your account.

You lost control of your execution. You let the dragon loose.

To avoid losing control of your execution you need to put controls in place that you will follow at absolutely zero tolerance. You cannot break this rule.

Personally, I have a “walk away” rule that I put in place for my trading. If ANYTHING happens in my world that causes me to suffer an emotional high or an emotional low—I close all my positions that are not option-hedged. In other words, when something happens that is not a normal thing, I hit the liquidate button and that is that. I know what my normal day is—and I know that drama is not part of it. I have created a work environment that makes it almost impossible for the real world to force its way into my trading space. But when it does—it could be a big deal—and it will likely be something that requires my full attention. Since the markets don’t have my full attention at that point—I don’t let them take anything from me.

What is your “walk away” rule going to be? How will you be able to enforce it? To help you prepare for this eventuality we will discuss proper work environments as a tool but for the most part you need to do some advance planning for yourself. You don’t need to speculate on what the catastrophe might be, but you need to have a plan in place in the event something big for you to handle shows up when you are trading.

To close out this chapter, proper execution is a process of applying your edge in a way that allows for maximum control of your behavior. As the “Circle of the Trade” is followed, our thinking becomes more and more market-centric. As we follow a method of Proper Execution, our behavior becomes more and more market-centric. Proper execution involves creating a set of participation rules designed to implement our edge according to the probabilities and not anything else. Those execution/participation rules are designed to fully control our execution for two reasons:

1. We want to control our executions so we can duplicate winning behavior.
2. We want to control our executions to prevent losing behavior and/or minimize the effect of losing behavior.

Because these two conditions could apply at any time we are prepared to fully accept how we must participate, including the potential of getting out of trades if we haven't followed the rules all the way; even to the point of not participating at all if we run the risk of losing control of our execution.

### **Your key takeaway from this chapter:**

Proper execution is a method of behavior control. Your account balance is solely determined by the difference between your entry price and your exit price. You must fully control your entry so that it is executed according to the probabilities inside your edge. If your entry is not done under this degree of control, or trades are done for any other reason, your potential for loss is greater and you must liquidate those low-potential trades quickly; or not do them at all if conditions are poor. Liquidation of your trades is mandated by following the "Circle of the Trade" until something changes. "Something is changing" can mean both inside your understanding of the order-flow AND inside your understanding of yourself; you must protect what you have if you sense "something is changing"

## Proper Work Environments

***“Empathic, emotionally intelligent work environments have a good track record of increasing creativity, improving problem solving and raising productivity”***

***--Daniel Goleman***

Most traders never really stop to consider how best to work every day. Their work environment sort of evolves out of what they believe they need and typically doesn't really address the entire experience of trading. I personally have a very well-defined and developed work area in my home, and I feel very much like my work environment contributes to my general overall positive market presence. I think that because we are discussing the underlying psychology required to make our trading the most profitable, a short discussion centered around our physical workspace and how it could affect our performance would be very beneficial. It's up to you to decide how much impact your personal workspace actually affects your performance, and if you personally don't feel that your workspace is all that crucial to maintaining your performance, I think that is OK too. I think the conversation is a good one to have and it is your call if you feel you need to make some changes to your work area.

The key fundamental of your workspace is to allow you to function with no distractions.

When you consider how many things can derail you as a trader and wreck your

performance, it is critical to operate with as many positive components all working together as you can. You must reduce or eliminate anything from your environment if it has any capacity at all to break your concentration, cause you to forget something, increase your potential for procrastination, lead you to excuse some behavior, take your mind off critical items, or any number of other ways of increasing your potential for loss. When you lose your focus, your potential for loss increases. What you want from your work environment is something that helps you stay focused and doesn't make it easy to break your concentration when you are participating in the market.

Jesse Livermore was a man far ahead of his time as it pertains to creating a winning trade approach. In addition to creating a huge data base of written records (most, sadly, are all lost) he spared no expense in creating a workspace that served his needs as a trader in a way that was truly spectacular for its time.

He had constructed a private office/library on the top floor of his Manhattan Penthouse not far from the New York Stock Exchange. It was a complete copy of a trading floor, it had upper & lower quote floors where Livermore had private "chalk boys" writing prices on blackboards positioned where he could view them from a huge centrally located desk. He had a stock ticker machine in the center of the room where he had a "pit boss" calling out prices of stocks & commodities constantly during the trading day, and he had several telegraph wires all directly linked to his floor brokers where he had a personal assistant placing orders and reporting orders all day long. It was the 1910 equivalent of an online trading account. From this private office he executed his trades and tracked his performance using huge volumes of blank books he filled in with his notes and records all day long. He refused to have any telephones installed when that technology became available because the ringing was a distraction. All the "chalk boys" and "pit bosses" worked in shifts so they wouldn't get tired on the job. Livermore enforced one strict rule—breaking it could get you fired—there was to be no talking at all when the markets were open. Not a sound. Livermore worked in that office all day long and the only sound was the clicking of the ticker and the sound of the private telegraph wires. Absolute silence otherwise. Nothing was going to distract him from what he was doing, and he used every tool available to keep him on top of what was happening every day.

I think there is a huge lesson to be learned from Livermore's commitment to his trading. This man was not "poking it with a stick" on any level. Whatever it took to make certain he controlled the one environment he had control over—that was going to be done without any question of expense. He didn't go into an office where others would distract him, he didn't have to worry about what he wore to work every day, he made sure his employees were not wasting his time, etc., he really took the idea of "no distractions" to a higher level than most traders would.

I don't expect you the reader to make that level of commitment because, quite frankly, you don't have to. You can invest in a reasonable computer hardware/software set-up and as long as you have reasonable internet access—you can download a trading platform for free, in many cases, as well as find many resources and tools to use at little or no cost to you. What you can get for free today over the internet dwarfs what I had to pay thousands of dollars for when I first got started in the business. From the standpoint of "market access", the cost is minimal. The expense of setting up your own private trading facility might vary a bit depending on how complex or sophisticated you would like it to be; but a functional workspace that offers true benefits doesn't have to be expensive either.

To give you a few clues to a proper work area, I thought I would just describe my work area and the reasons behind why I have it configured the way I do. I really don't think there is any one perfect way to create your trading office but there are a few things I think would be very helpful based on your unique circumstances. In my case, I don't have some of the circumstances other traders do. As such, some things that I include as part of a functional space for me might not be something you would require. Again, that is OK as long as you feel that you are in an environment where you can perform at your best.

I have taken the spare bedroom of our home and created my trading office within it. I have my desk facing a blank wall with the only window behind me and to

the side; I don't want to be distracted by what might be happening in the back yard—which includes a firepit, outdoor furniture, and BBQ grill in sight. My wife and I often entertain on weekends and evenings and there are times when I am trading overnight/overseas markets when we have guests. I will politely excuse myself for a moment if needed and then check the markets. I never discuss trading with anyone on any level. All guests might know is that “Jason is checking something” I don't want to be distracted by a freshman level discussion about a particular stock/Futures/FOREX opportunity I might be trying to capture. I don't hang out with other traders for very sound reasons. First, there is very little they can offer me as far as market insights are concerned; no one I know my age is still trading anyway. Second, most traders want to discuss price direction and they don't really understand you don't need to know anything about prices to win. Last, they all want to waste huge amounts of time looking at charts and analysis. It bores me no end to hang with most other traders, so NO ONE gets access to my trading office and I don't discuss trading with anyone. I personally believe you would benefit as well if you made the same level of commitment.

I have installed low-level lighting for nighttime as it is more comfortable than the harsh bright light of a day-time office; and I prefer natural lighting anyway. I also have candles for nighttime trading. All the cats and the dog can come and go anytime and a few of them make it a point to hang out with me all day and/or all night in my office. I rarely close the door or lock it unless I have a large group of people over, I don't want to be disturbed if my wife has a client over to the house, or we have a contractor working on something. If you are a trader who has children I would make some sort of house rule that your kids can't disturb you when the door to your office is closed or something—there are times when your children will be a big distraction from your trading and you need to have some control over how that happens.

I have an ergonomic chair that cost a lot of money—I can sit in it for hours without getting tired. You never know when you might need to be awake and fully functioning if you are involved in a 24-hour market like FOREX. I wanted to have one less reason for becoming tired. I also keep a dorm-refrigerator and food in my office—I make regular time to eat/drink/care for my physical needs. I

have an attached bathroom so I don't have to wander through the house and get dragged into a conversation or an issue with someone when I would rather not. Although I have a television in my office, I rarely turn it on. I never turn on the radio or other form of entertainment. If I am currently flat and waiting for an opportunity—then maybe I might allow some music or maybe watch a movie. But either is rare.

I have a complete set-up for my library—if I do anything at my trading desk it is read. I also have my trading records available too, and when things are slow, I might review past performance from the previous trading events for clues to my behavior. Everything in my office is trading related—I have clocks set to different time zones, I have wall art and posters that are trading-themed, there is nothing in my office or on my desk that is of a different theme. No pictures of friends/family, no personal stuff, no jar of pennies or any of that typical “man cave” crap people surround themselves with. I do have my currency collection in my office—but that is only because I wanted it somewhere I could work on it when I wasn't busy in a trade. Because I trade the FOREX markets almost exclusively now, I thought it was apropos. I also have a back entrance to the house so I can leave without disturbing anyone or anything inside the house if I need to. Sometimes I want to just go outside and take a walk or play with the dog.

This sort of set-up works fine for me. I don't have a huge space—with a giant desk and a dozen monitors; nothing of that sort. I think I spent a total of \$250 at IKEA for my office furniture. The important things for me are the ability to lock myself away without interruption if needed, I don't have to leave for any reason should something develop while I am there, and I can control people's access to me if needed. Like Livermore, I don't allow a telephone in my trading office. I leave my cell phone outside on the side of my bed, or I turn it off when I am in my office. When I am in my office—I am trading and looking to build wealth. I am not interested in anything else—not friends, family, personal interests, hobbies, problems, mail, guests, etc., Once I leave my office—all of that is all good. But when I am in there—it would take the second coming of Jesus Christ to break my focus; and even then—he needs to wait until I get my fills back.

## **Your key takeaway from this chapter:**

Take time to consider if your trading environment is working for you or against you. Your trade office should be a place that will prevent or minimize distraction. As long as you feel that condition is being met—however you want to set it up and what you want to include is really up to you.

## Staying on Course

***“If you don’t know where you are going, any road will take you there.”***

--*Anonymous*

Any sailor will tell you that there is a world of difference between setting a course and staying on a course. Setting a course could be compared to book knowledge or “mental ascent” and staying on a course could be compared to the experience of knowing a particular part of the ocean because you sail it all the time. In one case, it takes very little experience or skill to take a set of variables and plot a solution to the question: “How do we get there?” In the other case, it takes the ability to know the difference between types of wind, tides and currents; it might mean sailing a different route if the seas get too rough, or not going at night if a lee shore is involved. All things that book knowledge can’t tell you about. In the trading environment, setting the course is the easy part. All you have to do is create a reasonable edge with a solid probability of winning trades. Then—execute flawlessly both your entry and your exit. Next—just don’t do anything stupid...that is where the work is.

And that brings us to real tools for staying on course. Staying on course could be called the solutions for the “don’t do anything stupid” part of your plan to make your fortune. Any number of things you would never think about being an issue can suddenly take you off course if you aren’t careful and you fail to plan ahead. It involves so many variables it is scary to try and substantiate all of them in one place. I think we would all get very discouraged in that case. Staying on course is a lot harder than coming up with trades; but using a few simple tools can reduce the risk that something you never considered could cost you money.

What we need are some tools to assist us in the goal of keeping focused. In the last chapter we discussed how a proper work environment can help us by reducing the number of distractions that might come our way each day. In this chapter, we are going to discuss additional tools that keep us on track if we do them regularly. Distractions take us off our path; everything else causes us to simply fail to walk the path each day. Or get lazy with the work we need to do. So, in this chapter I am going to show you some tools that myself and other winning traders use to keep our focus sharp. Bear in mind, not all traders use 100% of this information all the time. A lot of this is totally subjective—you can choose to use it or not. You might not find value in some of it. For the most part, these tools are designed to assist traders who are doing this full-time and consider themselves occupational traders; they are not doing anything else to earn their income/wealth. If you are not a full-time trader at this point—no worries. Please consider using these tools anyway. Anything and everything you could use to improve your market presence is a good thing. Remember, what we need as traders is absolute disciplined behavior arising from a completely disciplined thinking. This is not a simple thing to create for most of us—and it is not an easy thing to do every day, day in and day out. Implementing these tools can help reduce the potential for “missing” something, forgetting something, or breaking your discipline.

## Checklists

Checklists are great tools for anyone involved in a high-risk environment with several variables that need to be considered. Before an airline pilot decides to do his takeoff roll, there is a checklist that needs to be done. Some things on that checklist have nothing to do with the takeoff but have something to do with the question: “What if something goes wrong?” For example, testing a backup hydraulic pump. No need for that item if everything is working OK but if something breaks when we are taking off—we need to know the backup pump is working—just in case.

In the trading environment there are several variables that could lead to a loss. It is always a good idea to consider those variables as part of your daily participation and check to see if those variables might make a difference right now. For example, I have an “AM Checklist” and a “PM Checklist” that I have written down and posted on one of my monitors. It is impossible not to see it each and every day when I start my trading day. One of the things on those checklists is the question “How much did you journal today?” It isn’t even a “Y/N” question for me, it’s a “how much?” question. I journal every day; it is really rare to miss a day—so the question for me is: “How well are you doing this?”

Some students of mine have created a “Pre-Trade” checklist of items they need to have before they take a position, an “Entry Checklist” with items that should be done for every trade entry, an “Exit Checklist” for items that should be done when trades are liquidated. Additionally, I have a quarterly record keeping spreadsheet I use to record my daily activities on. Both my checklists and my quarterly trade logs are hand-written notes that require me to review necessary items I find are crucial to my success. For me, I need to know that all of these variables are being considered each day and that I am not compromising on any of my record keeping each and every day.

You might find that having other things on your checklists can be helpful to focusing your mind while you are trading. These listed here are from actual students who developed daily working checklists for themselves:

Office door locked

Cell phone OFF

“Loser Charts” updated for reference

Kids off to school OK

Updated personal exercise/workout log

Ate breakfast

No more than three cups of coffee

Checked personal notes for after-trade needs (this student constantly forgets to return calls)

Be in bed by 9:00

Did I follow my plan at 100% today?

These are just a few of what could be considered more personal in nature, but the idea should be clear. In the appendix I have sample checklists for you to review.

## **AM Ritual/PM Ritual**

Every morning I get up at the same time each and every day. I start my day with my “AM Rituals” which includes my AM checklist, my daily “to do” checklist, I read my 3x5 cards, and any notes from the previous trading day. All of my notes are put in my thinking journal and all of my trade logs are updated each morning and each afternoon.

Included in my daily AM ritual is my daily health plan, including workouts, diet, juicing, herbal tea, and my supplements. Every day I exercise, eat healthy, do my herbal supplements and drink my organic juice. Although I am 60 years old, my body is in better condition than many people my age and that helps with my trading mindset. My AM ritual helps me maintain my trading focus and helps me stay disciplined to avoid trading errors.

My PM rituals are used at the end of my trading day. I try to consider the 3:00

PM time as my “end of day” and that is my preferred time to “checkout” for the day. I have a checklist that I refer to and I have a final entry to my journal. Once I am done for the day—that’s it. I leave the office and I close the door. I consider that part of my day over and I am not going to be involved with any more market-related work. I feel it is very important to do that because otherwise—I would never get any sleep, have any sort of positive relationship with my spouse, or I would likely never have another friendship with any of my neighbors; it could be really unsettling to think that I was unavailable for any sort of well-rounded lifestyle. My PM ritual and checklist helps me to keep a sense of balance by having a “stop-doing-things” time that keeps me grounded. In the appendix are samples of my AM & PM ritual reminders as well as my log sheets.

## **Weekly Discipline Spreadsheets**

I use custom 11x17 spreadsheets for my discipline record keeping. I use others for my daily health tracking, my weekly performance tracking, and my quarterly performance summary. Samples are included with the other samples in the appendix.

I include everything I feel is significant enough to push me forward on my trading. Anything that includes my physical health, my work effort each day, and my trading results each day including each and every execution and the results of the trade. I even use these logs on the weekends because how I invest my time/effort on weekends helps me maintain my performance during market hours. My intention with this data is to physically hand-write everything that pertains to my state of mind. By reviewing it regularly I can see where my discipline is strong and where it is getting weak. As long as I have a check on my intended discipline, I can make certain I never get too far off track during any one day or any one week.

I take these hard-written logs/spreadsheets and compile them into a quarterly summary at the end of each trading quarter. I collect all my trade signal logs, I collect my execution logs by traded market, I collect my 11x17 custom spreadsheets of my health plan, my daily discipline plan, and my quarterly trade results. Additionally, I print out a complete copy of my daily “thinking journal” along with my weekly checkouts by traded market, my weekly summary, and my trade error log. I take all this data and I bind it into an 11x17 portfolio binder along with my weekly account statements from my broker. I also take all this information and burn it to a DVD in case anything should happen to the hand-written records.

I now have a complete quarterly record of each and every day I was trading, my results, my after-trade data, my execution notes and my thinking journal all in one big “book” of data. I usually take this huge binder of data and head down to the beach. I typically sit on the beach off-and-on for a few days each quarter and review my notes. I keep a highlighter handy and yet ANOTHER hand-written notebook of observations I find about myself, my thinking, my behavior, and my trade results. Often times I find a lot of inconsistencies in what I am doing and/or what I was thinking at the time. Also, I am amazed at how many missed opportunities I typically have every quarter. I find that I have missed trades, early exits, losing trades that could have been winners, etc. almost every quarter. Despite my health program being better than a lot of people’s plan for health—I typically lack some follow through somewhere each quarter. All of this insight helps me stay better prepared for the challenges of trading and the changes that inevitably occur when you are trying to exploit a dynamic environment like the markets. In the appendix I have samples of my custom spreadsheets and my quarterly summary logbook.

## Flash Cards

When I have suggested to my students that they consider using regular daily positive affirmations each and every day, twice every day, they usually agree it is a good idea. When I give them specifics as to how to actually do this every day,

they usually have some hesitation. When I help them create their daily affirmations, they all remember when this was called “flash cards” back when they were in school. I personally call them “3x5’s” and I have at least a thousand of them all indexed and organized in a file drawer. I use them for everything in my life—and I ALWAYS have a group of them with me all the time. I keep about 10-12 on my desk every day and I review them daily, twice a day, by reading them out-loud to myself.

I learned this technique for training your mind and your behavior from Anthony Robbins in his book Unlimited Power (Ballantine Books, C. 1986); which he calls “State Management” This book is a great read for those finding it harder to get and stay motivated every day. Here’s how “Flash Cards” contribute to effective state management. Ask yourself exactly what it is you want to change or what you want to appropriate for yourself. It doesn’t matter what it is—just write it down as concisely as you can. Once you have it written down, either pick out a sentence that is the sum-total of what you are looking to positively impact or sum up your notes in one sentence. Write that one sentence down and put it in quotes—as if you were writing down a quote you heard someone say. Transfer that quote to a 3x5 index card and read it to yourself outloud in the morning when you start your day; and then again in the evening when you end your day. You need to fully focus your mind and “see” yourself already in possession of the desired skill, change, or thinking. Your mind will see and hear you creating a new mental discipline and change for yourself. Your subconscious will “agree” with what you are re-programming your thinking to become and will now begin motivating you to follow-through. If you do this, fully focused twice a day, typically within 3-4 weeks you will notice changes beginning in your life.

When done right, your 3x5 cards (Your “Flash Cards”) can be a powerful tool to keep your mind focused on doing what you know is the right thing for you. They can help you modify and change your behavior into the kind of thing that leads to lasting success. Listed here are a few sample cards taken from my own collection. These are trading-related and work-related; there are more samples in the appendix:

- “I never compromise on placing a protective stop. I use a stop-loss order on every trade”

- “I am responsible for my success; I always follow my plan”

- “I write all my thinking into my thinking journal every day; I value myself enough to do

the things I need to do to get the right data I need to win”

- “I don’t care what happens on each trade; I only need to follow my probabilities”

- “Today I begin a new life, my future is what I make it today”

- “I cannot break discipline. The moment I do that I lose.”

- “I never liquidate trades manually. I always wait for my stops or limits to get filled”

There are many more in the appendix. The point is that you can use these 3x5 “Flash Cards” for any part of your life. You need to write them in a positive light, you need to write them in quotes whenever possible, and you need to write them as if you have already accomplished what you are looking to produce. When you write a positive affirmation down it becomes very motivating. When you put it in writing and keep it in front of you constantly—it becomes unstoppable. Using your 3x5’s daily will help you stay focused and will help you enforce your rule set.

## **Visual Aids**

I have a picture of Jesse Livermore when he was near the height of his trading

career; circa 1922. I have a quote from Livermore printed under the picture and the picture is nicely framed. I hung it on the wall where I can see it regularly when I am sitting at my desk. Every time I look at it, I ask myself: “If Livermore was alive right now, watching me trade, would he think I was on the right path with how I trade?” I have studied quite a few winning traders and I can say with absolute certainty they all would answer that question differently; but Livermore’s answer would matter to me. I find that having that “pretend” relationship helps me review my thinking and my focus. It’s like having a mentor looking over your shoulder.

Visual aids can be anything that you feel assists your focus in some way. Some students of mine have had framed artwork in their office, some have had “desk trinkets” that remind them of positive behaviors or positive events they are working to enjoy again. One client had a golf ball that he had used when he scored a hole-in-one; he was planning a trip to play golf at Pebble Beach that year and he was working so that his trading could allow him to go first-class all the way. I personally have a coffee mug with a picture of Albert Einstein on it; although I don’t drink coffee from it—I use it to hold pens. Einstein is someone I consider a mentor of mine too.

One client had several large poster-size O-H-L-C charts printed of big winning trades he had done during his career. These were to remind him that no matter what was happening right now, another huge winner was going to show up again soon. Will he be ready? Will he find it?

I personally don’t believe any trader needs to have massive displays of monitors and market analysis spread out over his entire desk area so that his workspace looks like launch control for NASA; I feel like I can get by just fine with one monitor for the market and one monitor for me. If you feel that having multiple displays of all kinds of market-related information is a visual aid that helps you stay focused, then so be it. Visual aids are visual.

## A Trading Plan

Suppose you owned a small business and you were hoping to use it to make enough cash so you could retire. If someone asked you “So, what’s your plan to get there?” and your response was “Well, I plan to work every day until I make enough money—then retire”; can you see where that isn’t really a plan yet? What specifically are you intending to do? Is any of this written down anywhere? Do you have any notes to refer back to?

Studies have shown that people who physically write down their goals and plans have somewhere around 9 times the probability of reaching those goals. The trading environment is no different than any other enterprise when it comes to planning and reaching milestones along the way. It is my opinion that you must have a written plan that you intend to enforce for your daily participation.

A trading plan is about controlling the things that are most likely within your control and not about making forecasts on your performance. You will never know how well you could do over the course of time because you really don’t know what any market will do or how much opportunity your edge will uncover. You could make significantly more than you think is “out there” to get over a given time period—can you plan for that? I don’t believe you can. I think your trading plan needs to address the things you are most vulnerable to messing up and reinforce the things you are really good at. A trading plan is an active performance measurement tool.

For example, in my personal trading, one of the things I know I am really susceptible to doing is “overtrading” Most of you might know what that is but for the reader who isn’t familiar with the term it basically means trading “too much” for your edge or skill set. If for some reason on a particular day I enter a trade that immediately goes against me and stops me out; I get mildly annoyed. If the market comes right back to my entry price—now I get angry. I am upset

that the market took money from me so quickly—didn't even give me a chance to think—and then teased me by coming back to where I got in just as fast. Now, if you have been paying attention, that is an emotional response to price action—it has nothing to do with finding opportunity or staying focused on the next probability. Which is what I need to be doing. But occasionally—I will slip and fall into the emotional trap. Now I will quickly execute again, and once again—I hand myself a loss. I might do this 4-5 times before I realize I am just not doing it right; I am trading from emotions and not from my edges' defined probabilities. Now—my plan comes in—when I have more than 3 losing trades in a row—I take a trading break. I study those losses and I would very quickly come to the same conclusion anyone else would come to—I was emotionally involved, and it led to over-trading. “3 losers in a row—take a trading break” is one of my rules. My daily trading plan is to enforce the rules every day without compromise. I read my rules and my trading plan every morning as part of my AM Ritual. Included in the appendix in the “Tools” section is a sample trading plan. Please review it and notice that it is written to include all the things I can personally do to control my bad behavior; and it is designed to enhance all my winning behavior. Also, I personally use a trading plan designed around a quarterly basis. That means I have four of them every year and I change/enhance them every 90 days; usually at the start of every quarter.

In my view, staying on course is really about a daily ritual and daily discipline that promotes your willingness to do whatever needs to be done in order for you to keep your developing market-centric trading paradigm growing. No one is a perfect trader. But we don't have to be. All we have to do is perfect follow-through on our plan.

I look at it this way:

My trading career is only one day long. Everything I did yesterday created a set of results. Those results are in the past and have nothing to do with what my results could be today. Tomorrow's results cannot influence my day today because they don't exist yet. The only thing I need to do is be 100% disciplined

just for today; just for only this one day. All I have to do is today's part of whatever plan I have in place. It is one-day-at-a-time.

No one can be a 100% winning trader, but I can be 100% disciplined for one day. If I put together 6 days of 100% discipline; then I have had a 100% disciplined week. I don't have to do that on Monday—all I have to do is Monday's discipline. A disciplined day can become a disciplined week; which can become a disciplined month, which can become a disciplined quarter; finally ending in a completely disciplined year. If you tried to visualize all that on January 1st last year, you likely would have overwhelmed yourself with the appearance of this mountain of activity. But it isn't really like that. It's only one-day-at-a-time. Just do your plan at 100% for just today's opportunities. Then burn the past when you leave the office. No matter what your results, positive or negative—it's over until tomorrow.

Vince Lombardi said it best: "Practice doesn't make perfect; perfect practice makes perfect."

If you take these suggestions for tools into your own trading, or come up with a few on your own, the important consideration is to make them a daily practice. The art of remaining focused, and Staying on Course, is all about bringing your day into the discipline of a mindful non-attached person who operates with the daily practice of doing it right every day. You only have to do it one-day-at-a-time. Anyone can do a 100% disciplined plan for only one day.

## **Your key takeaway from this chapter**

Staying on course is about the daily practice of doing the right thing for yourself without compromise. Using effective tools includes putting as much of your daily activity into the place where it can be confronted and reviewed by you

without fail every day. That might include using checklists, rituals, notes, or visual aids; but whatever it is that you decide to use as your tool set, remember it is about bringing yourself into a 100% daily disciplined practice.

## In Conclusion

***“He will win who, prepared himself, waits to take the enemy unprepared.”***

-- *Sun Tzu, The Art of War*

I can't tell you how many books I have read on the markets and business in general. Some have been powerful reads on significant topics; some a complete waste of time. The ones that I felt had timeless insights, or were of special value to me, I kept in my library; the rest I threw away. Looking back, many of the books I threw away I should have kept, but that is a different issue. I learned what I learned and maybe I will learn more still, but there isn't any need to replace those discarded items. If a book was something I found less than valuable—that was that. Why waste time going back for something that most likely isn't going to be of value to me anyway? But every now and then something will surprise me. Very few books have gone from “completely irrelevant” to me all the way back up the ladder to “masterwork” on my shelves; one of them being The Art of War by Sun Tzu.

Sun Tzu was a Chinese military general during the time when parts of China were ruled by the Wu emperor, roughly 2500 years ago. The Art of War is really a collection of his military observations and was well known in the orient for centuries but was never translated into English until 1905. His wisdom is basically new to the West and yet it is almost universally ignored for some reason. I personally think it is because it is considered “old” and it comes from China. Most people in the West have a view of China that is based solely on their knowledge of Chairman Mao Tse-Tung; who was a criminal and a communist (like most politicians). Most people don't like Mao, so they don't have a real positive affinity for China either. What isn't so well known is that Mao's “Little

Red Book” is filled with several quotes and sayings stolen by Mao yet attributed to Sun Tzu. It seems that Sun Tzu has enjoyed more fame than previously known about. Perhaps Marxists are interested in winning wars too...

I first read The Art of War when I was a U. S. Air Force ROTC cadet. Although I was a good student and had an active/inquisitive mind when I was younger, I felt the material was dry and uninteresting. I didn’t see the value to all the mystical cloak & dagger rhetoric as I saw it; if I was going to be a fighter pilot what is the point of studying the pots and pans of the enemy?

It wasn’t until after I had my catharsis in thinking that I re-read The Art of War. It was like reading it for the first time. I saw it completely differently. For me now, the insights are very relevant, and I see a lot value in his principles. The experience of having one point of view on something, and then having a 180-degree change to a completely different point of view on the same material, is really enlightening. That is the fascinating part for me: the material is the same material. It was ME who was different. No matter who or what we are, no matter the point of view we bring to the table, no matter how complex or simple something might really be; the bedrock bottom line to our existence is this: Reality is what we choose it to be. And it’s that way for everyone. Things are what you think they are. Things are the way you are.

What is truly fascinating to me is that it doesn’t matter how insane someone’s point of view might be. That is reality for them and that is how they are going to see you. Knowing you can change your thinking anytime to create a new reality seems to be lost on most people. Or they just don’t see the value in making a change to their thinking. So, reality stays the same for those people. No matter what they do, no matter the actions they take. That is why no matter the desire someone has for things to become “better” (however they are defining “better”) “things” never get any better. No matter what they do. They don’t change what’s on the inside so the outside circumstances never can change.

As I discuss in *The Art of the Trade* (Wiley & Sons Publishing, C. 2008), in my case, my inner world changed dramatically enough to have a completely different sense of reality and how I see the world; so much so that my perspective on some things would change completely, like my point of view on Sun Tzu. But the initial major benefit for me was how I see the markets. The change that happened to me was literally the difference between being in the dark and being in the light. That kind change is something most people won't have happen to them. But the fact is, a change that dramatic and powerful could happen to you, if you were looking for it. Are you looking for it?

The reason you purchased a copy of *The Psychology of Trading* is because you hope to find something—anything—that will help your own trading improve. Inside these pages are things that can help you become a better trader and your results will improve. The information you have reviewed has the potential to change your entire life, if you let it. Whatever it is that you desire, the answer is there—somewhere—to create the changes you need to make for that to become a reality in your life. Some of what you need is in this book, some of it might be in other places; but it is all available to you sooner or later if you keep looking for it. You can do anything you want with your life and experience anything you want. Trading opens the door to reaching those goals because you can do anything you can imagine when you have enough money. Isn't that the whole point of your trading?

In my opinion, and as I stated in the introduction, you might need to undergo a catharsis of thinking for yourself in order to get there; to reach those goals. A complete change in the paradigm of your thinking is going to put you in a place that might be uncomfortable at first. But this is a needed and necessary process, and I really don't think you can become a truly consistent trader without developing some other personal growth attributes. I think you need to be ready for them because as you develop better thinking, and become a better person, it is going to cause all sorts of conflict in your world. You need to be ready for those conflicts.

For example, if you are a younger trader who enjoys spending time with friends and you value those late nights out, those weekend getaways, those Sundays watching football; all that could go away. You might find that you can't really stay out partying on a Thursday night because reports are due out early on Friday morning and you need to be ready to adjust or take positions after the news drives pricing. Maybe you can't commit to a Sunday BBQ because you need to finish doing your record-keeping before the markets open on Sunday night. You might really want to do something with your friends, but the time lost from maintaining your trading business could mean a financial loss in the following week. It's happened to me—you think it would be different for you? Your buddies will put tremendous pressure on you to "be one of the guys" and hassle you for all the time you spend "Wasting your time with that market stuff" "Nobody wins at that—don't you know that?" "My uncle tried stocks once—he'll never do that again!"

Once you commit to becoming the best trader you can be you are going to have to make some changes in how you behave every day. Those behavior changes will arise from changes you must make in your thinking. That process of making real and lasting change is going to put you in conflict with the world you are currently in. Eventually that will change—but you have to be ready for the conflict because it is going to happen. It's going to happen everywhere.

Suppose you conclude that in order to free your thinking better you absolutely must get rid of your credit card debt and never go into debt again? You might just cancel your all your credit cards or at least a few of them. Your wife wants to know when the trip to Italy is coming—so when you tell her "I think it is better for me and my trading to get rid of all this debt—not spend another four-grand on a 2-week trip to Italy this summer" what will happen? Suppose she tells you: "Just forget that trading business—you aren't making any money at it anyway—you promised me we would take a trip to Europe"; what would be your response? Are you ready for a conflict that might mean the relationship could be over? I've seen stuff like that happen; don't think for a minute it is off the table.

Suppose it would be better for your trading to sell-off a lot of unneeded crap that is hovering around your life; like the ski-boat you used only twice in the past year, the second car; maybe cancel the lawn service (It would be good exercise to cut the grass yourself). Maybe you should quit your job (the one you hate anyway and the one you want trading to replace) right now. Maybe it is time to take that risk—scary as it might be.

The change you make in you is going to create change in the world around you. Are you ready for that change? Suppose it costs you something you didn't expect it would cost you? On the other hand—suppose that change created benefits you didn't expect?

That is what you need to focus on. The change you are making will create benefits—some you are expecting to see, others will be completely unexpected and maybe those will be the best ones of all.

In my life, that is what happened to me. When my thinking became market-centric enough to really see how my trading needed to be done in order to profit from it consistently, it brought with it other benefits I never saw coming. Those benefits—the unexpected ones—were the really important benefits. Those benefits were not about money—those benefits were enhanced with money. Those benefits were about better friendships, better relationships, better experiences; better life all around. Yes, better finances certainly didn't hurt—but as I learned after one of my blow-outs and career reversals, the really important things stick around. Money comes and goes; AND YES—trading is about making money, a lot of money. But what really are you going to spend it on?

You are going to invest it in the people that matter to you, the places that matter to you. Maybe you will invest that money into the “things” that matter to you; whatever that is. What really matters? You can't find out what really matters until you risk everything to find out what really matters. I personally can tell you what matters for me—because I didn't do this process half-way. You need to find

out for YOU—so don't do it half-way either. Be the person you need to be because that is the only trader you want to be. Part of becoming a great trader is becoming a great person. I don't think you will reach your true potential in the markets without bringing your soul along for the ride. Please consider the human side of your market presence as being equally important as the profit side; because in the final analysis—it already is more significant. The market will eventually show you the true cost of trading and the true profits—right now it's all about the green (I get it). Your adversary, the trader on the other side, doesn't understand what he is doing let alone the true pathway to winning. Now that you do—go forth and conquer. Take the losers money. Take all his money. Please leave some for the rest of us to get.

So, to conclude The Psychology of Trading for you, let me say thank you for investing part of your capital with me. As you already know, I am out there trading every day—just like you—trying to take your money from you anyway. It is nice to get some of it without a lot of work. Please don't forget to review the data in the appendix; there are a lot of samples and examples there to highlight some of what we have been discussing. Also, I have a lot of completely FREE additional material for you, all of it designed around improving your personal trading psychology and your daily market presence. Just follow the links provided in the appendix. Or contact me through my website if you wish: [www.TheLionOnline.com](http://www.TheLionOnline.com)

Until we meet again,

Jason Alan Jankovsky

“The Lion of LaSalle Street”

Spring 2020

## **Appendix**

## **Recommended Reading**

***“There is no end to the expressing of ideas. Excessive devotion to books and the studying of opinion is tiresome and wearing to the mind...”***

**--King Solomon, *The Book of Ecclesiastes 12:12***

I am going to provide a short list of recommended reading. You will find that there are more than just trading related books on this list and that is because I believe that trading is really an Art Form; not just something you “do” and then stop doing. Real trading, like a real artist, comes from inside you, and you express what you see by your act of buying & selling; more is involved than just your wallet. A really solid trader is also a solid person and often has a real appreciation for things that require time & effort to produce. Most really good traders I have known are what you would call “well-rounded” people who have varied interests in life; and one of the very important things for them is acquiring a sense of balance. I think you will find that the top performers in any field are very much the same way. Highly successful people in all disciplines of business, arts and the sciences, physical skill, etc., are all seeking more than just the next dollar, the next win, or the next discovery. They tend to see what they “do” as more of a journey; it’s a kind of exploration, if you will.

In my journey to become a winning trader, I was exposed to all sorts of ideas and opinion; and a lot of it was really just the same sort of material wrapped with a different bow. I discovered a whole other world of opportunity and excellence once I developed the thinking process required to be a consistent winning participant in the markets. I don’t think I would have ever developed that thinking process if I had not walked the path I walked. I can tell you with

complete authority that the way you think will determine the reality & circumstances you will live under. All of the books on this list influenced me to go down the pathway of high-achievement and develop my thinking into what it is now. Some methods of thought are immediately transferrable to the markets and trading, some are more to help with maintaining a strong sense of self; and/or of purpose. I don't think you would still think the same way you do now if you truly opened your mind and heart to some of the things these volumes can show you. I would hope you will make the time to read all of them.

The list is not in any particular order of value to me. I just started with the books that were on the closest bookshelf in my office and went through my entire library. If you already own some of these titles, I hope that shows you something. I believe it shows you that you are already on the right pathway—or at least heading in the right direction. Stay with it.

I don't believe any of these titles are out of print. If they are—nothing I can personally do to help with that (I don't think). If there is a particular book on this list that isn't available from its publisher anymore—try writing to the publisher directly. Oftentimes they will still have a few copies lying around if they check —plus—some publishers contract out their older titles to “print on demand” companies. You might still be able to find that title with a little work.

There is always the local “Used Book” store and the regular sale that libraries have every year to clear the shelves of older books. Don't be afraid to start shopping at the local “Goodwill” or thrift shop too, I have found some great books that way; including a first edition I was looking for. Of course, you can find anything on the internet if you are willing to look.

I've grouped the titles together for reference and I listed them as: “Book Title, Author, Publisher, Copyright Date” The date listed is the date for the edition I personally own, in some cases the book was published earlier by another publisher; so I am assuming that there might be many editions or print runs of

these books. Some of these might have newer updated versions available as of todays' date, but the titles are the same ones I personally found beneficial to my growth.

## **Financial/Market Related History and Commentary**

Reminiscences of a Stock Operator, Edwin LeFevre, Fraser Publishing Company, 1980

The Art of Speculation, Phillip J. Carret, Fraser Publishing Company, 1979

The Art of Contrary Thinking, Humphrey B. Neill, Trader's Press INC, 1985

How Shrewd Speculators Win, Fred C. Kelly & Sullivan Burgess, Fraser Publishing Comp., 1990

The Predators Ball, Connie Bruck, The American Lawyer/Simon & Schuster, 1988

Where are all the Customers' Yachts?, Fred Schwed, Jr., Wiley & Sons Publishing, 1995

The Predictors, Thomas A. Bass, Henry Holt & Company, 1999

The Vandals' Crown, Gregory J. Millman, The Free Press/Simon & Schuster, 1995

The Origin of Wealth, Eric D. Beinhocker, Harvard Business School Press, 2006

Extraordinary Popular Delusions and the Madness of Crowds, Charles Mackay, Harmony Books/Crown Publishers, INC, 1980

The Richest Man in Babylon, George S. Clason, Signet/Penguin Publishing, 1988

Interviews and Top Traders

Market Wizards, Jack D. Schwager, NY Institute of Finance/Harper Business, 1989

The New Market Wizards, Jack D. Schwager, HarperCollins Books, 1992

Methods of a Wall Street Master, Victor Sperandeo, Wiley & Sons Publishing, 1993

Master Traders, Fari Hamzei, Wiley & Sons Publishing, 2006

Viewpoints of a Commodities Trader, Roy W. Longstreet, Trader's Press INC, 1986

Volume and Open Interest, Kenneth H. Shaleen, Probus Publishing Company, 1991

The Disciplined Trader, Mark Douglas, NY Institute of Finance, 1990

Trading in the Zone, Mark Douglas, NY Institute of Finance, 2000

The Psychology of Risk, Ari Kiev MD, Wiley & Sons Publishing, 2002

The Tao of Trading, Robert Koppel, Dearborn Financial Publishing, 1998

The Inner Voice of Trading, Michael Martin, FT Press, 2012

Zen in the Markets, Edward Allen Toppel, Samurai Press, 1992

Trading Chicago Style, Neal Weintraub, McGraw Hill Publishing, 1999

## **Psychology, Self-Improvement, Strategies for Excellence**

The Crowd, Gustave Le Bonn, Cherokee Publishing Company, 1982

Evolve Your Brain, Joe Dispenza D.C., Health Communications, INC, 2007

FLOW, Mihaly Csikszentmihalyi, Harper Perennial, 1990

Talent is Overrated, Geoff Colvin, Penguin Books, 2010

The 4-Hour Workweek, Timothy Ferriss, Crown Publishers, 2007

How to Think Like Leonardo Da Vinci, Michael J. Gelb, Delacorte Press/Bantam Doubleday, 1998

Inner Simplicity, Elaine St. James, Hyperion, 1995

Man's Search for Meaning, Viktor E. Frankl, Simon & Schuster, 1984

Bushido-The Way of the Samurai, Tsunetomo Yamamoto, Square One Publishing, 2002

Zen and the Art of Motorcycle Maintenance, Robert M. Pirsig, Harper Perennial, 2005

The Power of Now, Eckhart Tolle, Namaste Publishing, 1999

Unlimited Power, Anthony Robbins, Ballentine Books, 1986

Awaken the Giant Within, Anthony Roberts, Fireside/Simon & Schuster, 1992

## **Biographies**

Peter the Great, Robert K. Massie, Ballentine Books, 1980

Alexander the Great, John Maxwell O'Brien, Routledge Publishing, 1994

Tesla, Margaret Cheney, Barnes & Noble/Prentice Hall, 1981

Personal Memoirs, Ulysses S. Grant, Penguin Classics Publishing, 1999

## **Health & Lifestyle**

Ageless Body, Timeless Mind, Deepak Chopra, Harmony Books/Crown Publishers, 1993

The China Study, T. Colin Campbell, PhD & Thomas M Campbell II, BenBella Books, INC, 2006

Prevent and Reverse Heart Disease, Caldwell B. Esselstyn, Jr. MD, Penguin Group Pub., 2007

Eat and Heal, The Editors of FC & A Medical Publishing, FC & A Medical Publishing, 2007

The Easy Way to Stop Smoking, Allen Carr, Sterling Publishing, 2004

While reviewing this list please remember that in earlier chapters I specifically wanted to draw your attention to the issue of there being “nothing new” available to us as traders, and that there is really “nothing new” at all inside the human experience except that we are developing technologies that if left unbalanced could create an environment where we (the human race) end up losing control of our technology and/or destroying ourselves by advancing beyond what we can handle.

While reviewing the market-related books I want you to try and see that almost everything of value in those books speaks of the human element of inner control and discipline applied to the outer method of making sense of price action (Market Analysis). In many cases—different authors make the same observations. THAT is the point I was referring to. There really isn’t anything “new” in the way of market thought or analysis; everything you have access to is really the same thinking being expressed in different ways. You need to develop your own personal method of thinking to exploit the loser/winner relationship. That is the essence of this book.

I purposely left out books related to advances in technology in general. I left out books on Industry specific advances in the understanding of various disciplines; such as Physics/Artificial Intelligence/Religion/Exobiology, etc. If the truth were told, I left out more books than I included in this list. I am telling you this because I didn't want you to view the education process I personally chose to accept as being something I believe is "mandatory" for any new trader looking to create a winning method. I included the books I think adequately support my hypothesis for personal growth and market-related growth; the essentials If you will. I don't expect you or anyone to share my wider point of view on other topics.

## **FREE Tools for Disciplined Psychology**

***“Discipline is the foundation upon which all success is based. Lack of discipline inevitably leads to failure”***

**--Jim Rohn**

I love the fact that Mark Douglas titled his first book The Disciplined Trader. I personally believe with all the hyperbole & hype surrounding the use of Technical Analysis, Artificial Intelligence, Automated Systems, and the countless numbers of online webinars/sources of training and “help” to win at trading; it is becoming an obsolete thought to include “Discipline” in your winning method. People really want to believe that trading is “easy” and that all these “tools” are going to make trading even easier than ever.... “You don’t need discipline! You need more computing power! And, of course, my latest software...” Personally, I think that is the wrong pathway and I sincerely hope you won’t make the mistake of thinking you are going to become a successful trader without doing the work the rest of us have had to do.

People don’t seem to believe that the basics of success are the same and they never change. All the tools in the world will not help you if you can’t stay focused enough to use them correctly. Plus, you need a solid grasp of the basics before any of the “state-of-the-art” equipment can be of any help anyway. How are you going to acquire that knowledge without discipline?

Outlined for you are some things I found very helpful relating to the development of my daily trading discipline. Most of these tools are “low-tech”;

meaning they are at the pen and paper level. Believe me when I tell you they can be more significant to you than you probably would like to accept at first. Please try them out. Give yourself a fair chance to absorb what these tools can assist you with. I think you will see the value over time.

To view the material, you need to visit my website: [www.TheLionOnline.com](http://www.TheLionOnline.com) and register. Once you are registered you can visit the page titled “Tools for Disciplined Psychology” and scroll through all the samples provided. Feel free to use the “Contact Me” form if you have questions about any of my documentation or how to use these tools.

Also, don’t forget, I have some Bonus FREE Material in addition to Samples of my Personal Trading Records and the tools listed on this page. Once you register you will have access to all of those pages as well.

## **FREE Samples of my Personal Trading Records**

***“Anything you can do to stay organized and free up the creative side of your brain is a good thing.”***

**--Chuck Hogan**

I like to consider myself one of the more organized persons you might know; I find that when I am very organized, I operate with a lot more freedom. By that I mean mental freedom. There is a certain feeling of power I seem to get when I know that my mind is free to dwell on highly creative thoughts and I know I don't have to worry about things getting in the way of my trading.

All of the records I keep are organized by trading quarter. I have included a short video that goes through one entire quarter's worth of material after it has been compiled, and I have blank documents & files to show you. I think it should be very clear that the material I am recording and compiling is designed to offer insights into my trading mindset and my trading results. There are times when my thinking is very clear and times when I can see I am not thinking in a very focused way at all. All of these different kinds of documentation and record-keeping make it very easy for me to get back on track when I fall off the pathway; as well as keep me very focused when I am right on track. I also feel that because I keep so much of my material so well-organized, I can change things in my approach or my thinking very quickly and prove those changes out (or invalidate them) very quickly.

To view the material, you need to visit my website: [www.TheLionOnline.com](http://www.TheLionOnline.com)

and register. Once you are registered you can visit the page titled “Samples of my Personal Trading Records” and scroll through all the samples provided. Feel free to use the “Contact Me” form if you have questions about any of my documentation or how I do my record-keeping.

Also, don’t forget, I have some Bonus FREE Material in addition to Samples of my Personal Trading Records and the Tools for Disciplined Psychology. Once you register you will have access to all of those pages as well.

## Bonus FREE Material

***“Free stuff always comes with the biggest cost. Be mindful, some people don’t do anything without wanting something in return”***

--***Jazz Zo Marcellus***

You got me.

I have some FREE stuff for you but there are some strings attached. First—you have to register with my website: [www.TheLionOnline.com](http://www.TheLionOnline.com). Once you follow that link and get to the website, there is a page titled “Bonus FREE Material” On that page you will be prompted to register. Once you are registered, you will find a list of items you can review anytime. Yes, I am going to send you emails on a regular basis. But in fairness to you, this is a two-way street. I have a “Contact Me” page for you to reach out to me if you wish as well. I welcome the dialogue with other like-minded traders, and I continue to offer my personal mentoring/coaching options.

Second, I have selected some of my better recordings and materials from over the years for you to review. It’s not everything. However, there is a possibility I will ADD more material to the “Free Stuff” page as time goes on. You are welcome to ask for older materials if you know specifically what they are (which happens occasionally from traders who know me and have followed me for years). If I can find that older content, I will be happy to pass it along.

Last, you are welcome to follow me on Twitter and LinkedIn. I don't do a lot on social media at this point, but I am told that as I get more familiar with the benefits it is a great way to stay in touch with my audience.

Both my handles for Twitter and LinkedIn are the same: TheLionOnline

Feel free to sign up with me. I have a YouTube channel with the same handle, but I haven't posted anything there in quite a long time. I might take that page down in the future, but for now—feel free to have a look at what is there. Please feel-free to use the "Contact Me" form if you would like to discuss mentoring/coaching or have questions about any of my material.

## **About the Author**

Jason Alan Jankovsky is a 30+ year veteran of leveraged transaction trading. Trading extensively in Futures, Options, and FOREX since 1986; first as a customer and then as a registered Series III broker. He is self-taught and self-educated. Working in almost all facets of the trading business, he has authored several trading systems, trained other successful traders and has had his insights published in many industry periodicals. His numerous articles on global cash FOREX and trading issues have appeared in "Traders Savvy", "The Perspective", "SFO Magazine", "Futures Magazine", "FX Magazine" and other industry publications. He is a regular guest on The Timing Research Show as well as other business radio and television shows. He is the author several titles, "Trading Rules that Work: The 28 essential lessons every trader must master" (John Wiley & Sons, October 2006), "The Art of the Trade: What I learned (and lost) trading the Chicago futures markets" (John Wiley & Sons, October 2008), which is the autobiography of his education as a trader; and his third book, titled "Time Compression Trading: Exploiting multiple time frames in zero sum markets" (John Wiley & Sons, October 2010). He has focused on the Psychology of Trading as the key component to a successful trading methodology and teaches an eight-week course on trading psychology regularly to traders around the world. He appears regularly as a guest speaker at many public and private trading forums and has been invited to speak at round table discussions offered by events such as "The Orlando MoneyShow" and "The New York Trader's Expo". He regularly offers trade coaching & mentoring; working directly with traders of all skill levels. He trades his own accounts every day. Born and raised in Chicago, IL, he is an avid Sailor, Private Pilot, and occasionally gets into the cockpit of a Formula Ford open-wheel racing car.

# # #

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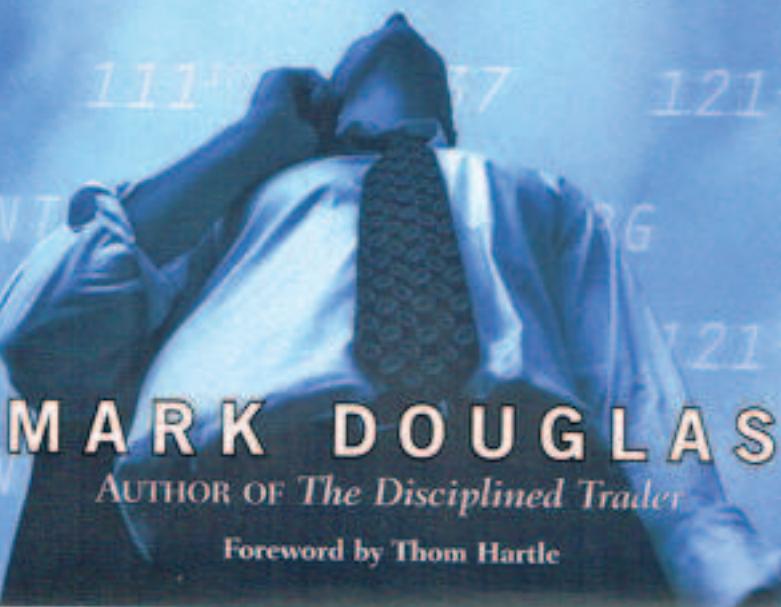
“The Lion of LaSalle Street”

MASTER THE MARKET WITH  
CONFIDENCE, DISCIPLINE AND  
A WINNING ATTITUDE

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# TRADING IN THE ZONE

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MARK DOUGLAS

AUTHOR OF *The Disciplined Trader*

Foreword by Thom Hartle

# **MASTER THE MARKET WITH CONFIDENCE, DISCIPLINE AND A WINNING ATTITUDE**

**MARK DOUGLAS**  
**Foreword by Thorn Hartle**

NEW YORK INSTITUTE OF FINANCE

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## **DEDICATION**

This book is dedicated to all of the traders I have had the pleasure of working with over the last 18 years as a trading coach. Each of you in your own unique way is a part of the insight and guidance this book will provide to those who choose to trade from a confident, disciplined, and consistent state of mind.

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## FOREWORD

The great bull market in stocks has led to an equally great bull market in the number of books published on the subject of how to make money *trading* the markets. Many ideas abound, some good, some not, some original, some just a repackaging of earlier works. Occasionally, though, a writer comes forward with something that really sets him or her apart from the pack, something special. One such writer is Mark Douglas. Mark Douglas, in *Trading in the Zone*, has written a book that is the accumulation of years of thought and research—the work of a lifetime—and for those of us who view trading as a profession, he has produced a gem.

*Trading in the Zone* is an in-depth look at the challenges that we face when we take up the challenge of trading. To the novice, the only challenge appears to be to find a way to make money. Once the novice learns that tips, brokers' advice, and other ways to justify buying or selling do not work consistently, he discovers that he either needs to develop a reliable trading strategy or purchase one. After that, trading *should* be easy, right? All you have to do is follow the rules, and the money will fall into your lap.

At this point, if not before, novices discover that trading can turn into one of the most frustrating experiences they will ever face.

This experience leads to the oft-started statistic that 95 percent of futures traders lose all of their money within the first year of trading. Stock traders generally experience the same results, which is why pundits always point to the fact that most stock traders fail to outperform a simple buy and hold investment scenario.

So, why do people, the majority of whom are extremely successful in other occupations, fail so miserably as traders? Are successful traders born and not made? Mark Douglas says no. What's necessary, he says, is that the individual acquire the trader's mindset. It sounds easy, but the fact is, this mindset is very foreign when compared with the way our life experiences teach us to think about the world.

That 95-percent failure rate makes sense when you consider how most of us experience life, using skills learned as we grow. When it comes to trading, however, it turns out that the skills we learn to earn high marks in school, advance our careers, and create relationships with other people, the skills we are taught that should carry us through life, turn out to be inappropriate for trading. Traders, we find out, must learn to think in terms of probabilities and to surrender all of the skills we have acquired to achieve in virtually every other aspect of our lives. In *Trading in the Zone*, Mark Douglas teaches us how. He has put together a very valuable book. His sources are his own personal experiences as a trader, a traders coach in Chicago, author, and lecturer in his field of trading psychology.

**My recommendation?** First see how [a trading community](#) looks like and then Enjoy Douglas's Trading in the Zone and, in doing so, develop a trader's mindset

## PREFACE

The goal of any trader is to turn profits on a regular basis, yet so few people ever really make consistent money as traders. What accounts for the small percentage of traders who are consistently successful? To me, the determining factor is psychological—the consistent winners think differently from everyone else. I started trading in 1978. At the time, I was managing a commercial casualty insurance agency in the suburbs of Detroit, Michigan. I had a very successful career and thought I could easily transfer that success into trading. Unfortunately, I found that was not the case.

By 1981, I was thoroughly disgusted with my inability to trade effectively while holding another job, so I moved to Chicago and got a job as a broker with Merrill Lynch at the Chicago Board of Trade. How did I do? Well, within nine months of moving to Chicago, I had lost nearly everything I owned. My losses were the result of both my trading activities and my exorbitant life style, which demanded that I make a lot of money as a trader. From these early experiences as a trader, I learned an enormous amount about myself, and about the role of psychology in trading. As a result, in 1982, I started working on my first book, *The Disciplined Trader: Developing Winning Attitudes*.

When I began this project I had no concept of how difficult it was to write a book or explain something that I understood for myself in a manner and form that would be useful to other people. I thought it was going to take me between six and nine months to get the job done. It took seven and a half years and was finally published by Prentice Hall in 1990. In 1983, I left Merrill Lynch to start a consulting firm, Trading Behavior Dynamics, where I presently develop and conduct seminars on trading psychology and act in the capacity of what is commonly referred to as a trading coach. I've done countless presentations for trading companies, clearing firms, brokerage houses, banks, and investment conferences all over the world.

I've worked at a personal level, one on one, with virtually every type of trader in the business, including some of the biggest floor traders, hedgers, option specialists, and CTAs, as well as neophytes. As of this writing, I have spent the last seventeen years dissecting the psychological dynamics behind trading so that I could develop effective methods for teaching the proper principles of success.

What I've discovered is that, at the most fundamental level, there is a problem with the way we think. There is something inherent in the way our minds work that doesn't fit very well with the characteristics shown by the markets. Those traders who have confidence in their own trades, who trust themselves to do what needs to be done without hesitation, are the ones who become successful. They no longer fear the erratic behavior of the market. They learn to focus on the information that helps them

spot opportunities to make a profit, rather than focusing on the information that reinforces their fears. While this may sound complicated, it all boils down to learning to believe that: (1) you don't need to know what's going to happen next to make money; (2) anything can happen; and (3) every moment is unique, meaning every edge and outcome is truly a unique experience. The trade either works or it doesn't. In any case, you wait for the next edge to appear and go through the process again and again. With this approach you will learn in a methodical, non-random fashion what works and what doesn't. And, just as important, you will build a sense of self-trust so that you won't damage yourself in an environment that has the unlimited qualities the markets have.

Most traders don't believe that their trading problems are the result of the way they think about trading or, more specifically, how they are thinking while they are trading. In my first book, *The Disciplined Trader*, I identified the problems confronting the trader from a mental perspective and then built a philosophical framework for understanding the nature of these problems and why they exist.

I had five major objectives in mind in writing *Trading in the Zone*:

To prove to the trader that more or better market analysis is not the solution to his trading difficulties or lack of consistent results.

To convince the trader that it's his attitude and "state of mind" that determine his results.

To provide the trader with the specific beliefs and attitudes that are necessary to build a winner's mindset, which means learning how to think in probabilities.

To address the many conflicts, contradictions, and paradoxes in thinking that cause the typical trader to assume that he already does think in probabilities, when he really doesn't.

To take the trader through a process that integrates this thinking strategy into his mental system at a functional level.

(*Note:* Until recently, most traders were men, but I recognize that more and more women are joining the ranks. In an effort to avoid confusion and awkward phrasing, I have consistently used the pronoun "he" throughout this book in describing traders. This certainly does not reflect any bias on my part.)

*Trading in the Zone* presents a serious psychological approach to becoming a consistent winner in your trading. I do not offer a trading system; I am more interested in showing you how to think in the way necessary to become a profitable trader. I assume that you already have your own system, your own edge. You must learn to trust your edge. The edge means there is a higher probability of one outcome than another. The greater your confidence, the easier it will be to execute your trades. This book is

designed to give you the insight and understanding you need about yourself and the nature of trading, so that actually doing it becomes as easy, simple, and stressfree as when you're just watching the market and thinking about doing it.

In order to determine how well you "think like a trader," take the following Attitude Survey. There are no right or wrong answers.

Your answers are an indication of how consistent your current mental framework is with the way you need to think in order to get the most out of your trading.

## ATTITUDE SURVEY

1. To make money as a trader you have to know what the market is going to do next.

Agree Disagree

2. Sometimes I find myself thinking that there must be a way to trade without having to take a loss.

Agree Disagree

3. Making money as a trader is primarily a function of analysis.

Agree Disagree

4. Losses are an unavoidable component of trading.

Agree Disagree

5. My risk is always defined before I enter a trade.

Agree Disagree

6. In my mind there is always a cost associated with finding out what the market may do next.

Agree Disagree

7. I wouldn't even bother putting on the next trade if I wasn't sure that it was going to be a winner.

Agree Disagree

8. The more a trader learns about the markets and how they behave, the easier it will be for him to execute his trades.

Agree Disagree

9. My methodology tells me exactly under what market conditions to either enter or exit a trade.

Agree Disagree

10. Even when I have a clear signal to reverse my position, I find it extremely difficult to do.

Agree Disagree

11. I have sustained periods of consistent success usually followed by some fairly drastic draw-downs in my equity.

Agree Disagree

12. When I first started trading I would describe my trading methodology as haphazard, meaning some success in between a lot of pain.

Agree Disagree

13. I often find myself feeling that the markets are against me personally.

Agree Disagree

14. As much as I might try to "let go," I find it very difficult to put past emotional wounds behind me.

Agree Disagree

15. I have a money management philosophy that is founded in the principle of always taking some money out of the market when the market makes it available.

Agree Disagree

16. A trader's job is to identify patterns in the markets' behavior that represent an opportunity and then to determine the risk of finding out if these patterns will play themselves out as they have in the past.

Agree Disagree

17. Sometimes I just can't help feeling that I am a victim of the market.

Agree Disagree

18. When I trade I usually try to stay focused in one time frame.

Agree Disagree

19. Trading successfully requires a degree of mental flexibility far beyond the scope of most people.

Agree Disagree

20. There are times when I can definitely feel the flow of the market; however, I often have difficulty acting on these feelings.

Agree Disagree

21. There are many times when I am in a profitable trade and I know the move is basically over, but I still won't take my profits.

Agree Disagree

22. No matter how much money I make in a trade, I am rarely ever satisfied and feel that I could have made more.

Agree Disagree

23. When I put on a trade, I feel I have a positive attitude. I anticipate all of the money I could make from the trade in a positive way.

Agree Disagree

24. The most important component in a trader's ability to accumulate money over time is having a belief in his own consistency.

Agree Disagree

25. If you were granted a wish to be able to instantaneously acquire one trading skill, what skill would you choose?

26. I often spend sleepless nights worrying about the market.

Agree Disagree

27. Do you ever feel compelled to make a trade because you are afraid that you might miss out?

Yes No

28. Although it doesn't happen very often, I really like my trades to be perfect. When I make a perfect call it feels so good that it makes up for all of the times that I don't.

Agree Disagree

29. Do you ever find yourself planning trades you never execute, and executing trades you never

planned?

Yes No

30. In a few sentences explain why most traders either don't make money or aren't able to keep what they make.

Set aside your answers as you read through this book. After you've finished the last chapter ("Thinking Like a Trader"), take the Attitude Survey again—it's reprinted at the back of the book. You may be surprised to see how much your answers differ from the first time.

## ACKNOWLEDGMENTS

I would especially like to thank all of the traders who bought the signed limited edition manuscript of the first seven chapters of this book. Your feedback gave me the inspiration to add the additional four chapters.

Next, I would like to thank fellow traders Robert St. John, Greg Bieber, Larry Pesavento, and Ted Hearne for their friendship and the special ways in which each of them contributed to the development of this book.

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# **CHAPTER 1**

## **THE ROAD TO SUCCESS: FUNDAMENTAL, TECHNICAL, OR MENTAL ANALYSIS?**

### **IN THE BEGINNING: FUNDAMENTAL ANALYSIS**

Who remembers when fundamental analysis was considered the only real or proper way to make trading decisions? When I started trading in 1978, technical analysis was used by only a handful of traders, who were considered by the rest of the market community to be, at the very least, crazy. As difficult as it is to believe now, it wasn't very long ago when Wall Street and most of the major funds and financial institutions thought that technical analysis was some form of mystical hocus-pocus.

Now, of course, just the opposite is true. Almost all experienced traders use some form of technical analysis to help them formulate their trading strategies. Except for some small, isolated pockets in the academic community, the "purely" fundamental analyst is virtually extinct. What caused this dramatic shift in perspective? I'm sure it's no surprise to anyone that the answer to this question is very simple: Money! The problem with making trading decisions from a strictly fundamental perspective is the inherent difficulty of making money consistently using this approach.

For those of you who may not be familiar with fundamental analysis, let me explain. Fundamental analysis attempts to take into consideration all the variables that could affect the relative balance or imbalance between the supply of and the possible demand for any particular stock, commodity, or financial instrument. Using primarily mathematical models that weigh the significance of a variety of factors (interest rates, balance sheets, weather patterns, and numerous others), the analyst projects what the price should be at some point in the future.

The problem with these models is that they rarely, if ever, factor in other traders as variables. People, expressing their beliefs and expectations about the future, make prices move—not models. The fact that a model makes a logical and reasonable projection based on all the relevant variables is not of much value if the traders who are responsible for most of the trading volume are not aware of the model or don't believe in it.

As a matter of fact, many traders, especially those on the floors of the futures exchanges who have the ability to move prices very dramatically in one direction or the other, usually don't have the slightest concept of the fundamental supply and demand factors that are supposed to affect prices. Furthermore, at any given moment, much of their trading activity is prompted by a response to emotional factors that are completely outside the parameters of the fundamental model. In other words, the people who trade (and consequently move prices) don't always act in a rational manner.

Ultimately, the fundamental analyst could find that a prediction about where prices should be at some point in the future is correct. But in the meantime, price movement could be so volatile that it would be very difficult, if not impossible, to stay in a trade in order to realize the objective.

## THE SHIFT TO TECHNICAL ANALYSIS

Technical analysis has been around for as long as there have been organized markets in the form of exchanges. But the trading community didn't accept technical analysis as a viable tool for making money until the late 1970s or early 1980s. Here's what the technical analyst knew that it took the mainstream market community generations to catch on to.

A finite number of traders participate in the markets on any given day, week, or month. Many of these traders do the same kinds of things over and over in their attempt to make money. In other words, individuals develop behavior patterns, and a group of individuals, interacting with one another on a consistent basis, form collective behavior patterns. These behavior patterns are observable and quantifiable, and they repeat themselves with statistical reliability. Technical analysis is a method that organizes this collective behavior into identifiable patterns that can give a clear indication of when there is a greater probability of one thing happening over another. In a sense, technical analysis allows you to get into the mind of the market to anticipate what's likely to happen next, based on the kind of patterns the market generated at some previous moment.

As a method for projecting future price movement, technical analysis has turned out to be far superior to a purely fundamental approach. It keeps the trader focused on what the market is doing *now* in relation to what it has done in the past, instead of focusing on what the market should be doing based solely on what is logical and reasonable as determined by a mathematical model. On the other hand, fundamental analysis creates what I call a "reality gap" between "what should be" and "what is." The reality gap makes it extremely difficult to make anything but very long-term predictions that can be difficult to exploit, even if they are correct.

In contrast, technical analysis not only closes this reality gap, but also makes available to the trader a virtually unlimited number of possibilities to take advantage of. The technical approach opens up many more possibilities because it identifies how the same repeatable behavior patterns occur in every time frame—moment-to-moment, daily, weekly, yearly, and every time span in between. In other words, technical analysis turns the market into an endless stream of opportunities to enrich oneself.

## THE SHIFT TO MENTAL ANALYSIS

If technical analysis works so well, why would more and more of the trading community shift their focus from technical analysis of the market to mental analysis of themselves, meaning their own individual trading psychology? To answer this question, you probably don't have to do anything more

than ask yourself why you bought this book. The most likely reason is that you're dissatisfied with the difference between what you perceive as the unlimited potential to make money and what you end up with on the bottom line. That's the problem with technical analysis, if you want to call it a problem. Once you learn to identify patterns and read the market, you find there are limitless opportunities to make money. But, as I'm sure you already know, there can also be a huge gap between what you understand about the markets, and your ability to transform that knowledge into consistent profits or a steadily rising equity curve.

Think about the number of times you've looked at a price chart and said to yourself, "Hmmm, it looks like the market is going up (or down, as the case may be)," and what you thought was going to happen actually happened. But you did nothing except watch the market move while you anguished over all the money you could have made.

There's a big difference between predicting that something will happen in the market (and thinking about all the money you could have made) and the reality of actually getting into and out of trades. I call this difference, and others like it, a "psychological gap" that can make trading one of the most difficult endeavors you could choose to undertake and certainly one of the most mysterious to master.

The big question is: Can trading be mastered? Is it possible to experience trading with the same ease and simplicity implied when you are only watching the market and thinking about success, as opposed to actually having to put on and take off trades? Not only is the answer an unequivocal "yes," but that's also exactly what this book is designed to give you—the insight and understanding you need about yourself and about the nature of trading. So the result is that actually doing it becomes as easy, simple, and stress-free as when you are just watching the market and thinking about doing it.

This may seem like a tall order, and to some of you it may even seem impossible. But it's not. There are people who have mastered the art of trading, who have closed the gap between the possibilities available and their bottom-line performance. But as you might expect, these winners are relatively few in number compared with the number of traders who experience varying degrees of frustration, all the way to extreme exasperation, wondering why they can't create the consistent success they so desperately desire.

In fact, the differences between these two groups of traders (the consistent winners and everyone else) are analogous to the differences between the Earth and the moon. The Earth and moon are both celestial bodies that exist in the same solar system, so they do have something in common. But they are as different in nature and characteristics as night and day. By the same token, anyone who puts on a trade can claim to be a trader, but when you compare the characteristics of the handful of consistent winners with the characteristics of most other traders, you'll find they're also as different as night and day.

If going to the moon represents consistent success as a trader, we can say that getting to the moon is possible. The journey is extremely difficult and only a handful of people have made it. From our perspective here on Earth, the moon is usually visible every night and it seems so close that we could

just reach out and touch it.

Trading successfully feels the same way. On any given day, week, or month, the markets make available vast amounts of money to anyone who has the capacity to put on a trade. Since the markets are in constant motion, this money is also constantly flowing, which makes the possibilities for success greatly magnified and seemingly within your grasp. I use the word "seemingly" to make an important distinction between the two groups of traders. For those who have learned how to be consistent, or have broken through what I call the "threshold of consistency," the money is not only within their grasp; they can virtually take it at will. I'm sure that some will find this statement shocking or difficult to believe, but it is true. There are some limitations, but for the most part, money flows into the accounts of these traders with such ease and effortlessness that it literally boggles most people's minds.

However, for the traders who have not evolved into this select group, the word "seemingly" means exactly what it implies. It seems as if the consistency or ultimate success they desire is "at hand," or "within their grasp," just before it slips away or evaporates before their eyes, time and time again. The only thing about trading that is consistent with this group is emotional pain. Yes, they certainly have moments of elation, but it is not an exaggeration to say that most of the time they are in a state of fear, anger, frustration, anxiety, disappointment, betrayal, and regret. So what separates these two groups of traders? Is it intelligence? Are the consistent winners just plain smarter than everyone else? Do they work harder? Are they better analysts, or do they have access to better trading systems? Do they possess inherent personality characteristics that make it easier for them to deal with the intense pressures of trading?

All of these possibilities sound quite plausible, except when you consider that most of the trading industry's failures are also some of society's brightest and most accomplished people. The largest group of consistent losers is composed primarily of doctors, lawyers, engineers, scientists, CEOs, wealthy retirees, and entrepreneurs.

Furthermore, most of the industry's best market analysts are the worst traders imaginable. Intelligence and good market analysis can The Road to Success certainly contribute to success, but they are not the defining factors that separate the consistent winners from everyone else. Well, if it isn't intelligence or better analysis, then what could it be?

Having worked with some of the best and some of the worst traders in the business, and having helped some of the worst become some of the best, I can state without a doubt that there are specific reasons why the best traders consistently out-perform everyone else.

If I had to distill all of the reasons down to one, I would simply say that the best traders think differently from the rest. I know that doesn't sound very profound, but it does have profound implications if you consider what it means to think differently.

To one degree or another, all of us think differently from everyone else. We may not always be mindful of this fact; it seems natural to assume that other people share our perceptions and interpretations of events. In fact, this assumption continues to seem valid until we find ourselves in a basic, fundamental

disagreement with someone about something we both experienced. Other than our physical features, the way we think is what makes us unique, probably even more unique than our physical features do.

Let's get back to traders. What is different about the way the best traders think as opposed to how those who are still struggling think? While the markets can be described as an arena of endless opportunities, they simultaneously confront the individual with some of the most sustained, adverse psychological conditions you can expose yourself to. At some point, everyone who trades learns something about the markets that will indicate when opportunities exist. But learning how to identify an opportunity to buy or sell does not mean that you have learned to think like a trader.

The defining characteristic that separates the consistent winners from everyone else is this: The winners have attained a mind-set—a unique set of attitudes—that allows them to remain disciplined, focused, and, above all, confident in spite of the adverse conditions. As a result, they are no longer susceptible to the common fears and trading errors that plague everyone else. Everyone who trades ends up learning something about the markets; very few people who trade ever learn the attitudes that are absolutely essential to becoming a consistent winner. Just as people can learn to perfect the proper technique for swinging a golf club or tennis racket, their consistency, or lack of it, will without a doubt come from their attitude. Traders who make it beyond "the threshold of consistency" usually experience a great deal of pain (both emotional and financial) before they acquire the kind of attitude that allows them to function effectively in the market environment. The rare exceptions are usually those who were born into successful trading families or who started their trading careers under the guidance of someone who understood the true nature of trading, and, just as important, knew how to teach it.

Why are emotional pain and financial disaster common among traders? The simple answer is that most of us weren't fortunate enough to start our trading careers with the proper guidance.

However, the reasons go much deeper than this. I have spent the last seventeen years dissecting the psychological dynamics behind trading so that I could develop effective methods for teaching the principles of success. What I've discovered is that trading is chock full of paradoxes and contradictions in thinking that make it extremely difficult to learn how to be successful. In fact, if I had to choose one word that encapsulates the nature of trading, it would be "paradox."

(According to the dictionary, a paradox is something that seems to have contradictory qualities or that is contrary to common belief or what generally makes sense to people.)

Financial and emotional disaster are common among traders because many of the perspectives, attitudes, and principles that would otherwise make perfect sense and work quite well in our daily lives have the opposite effect in the trading environment. They just don't work. Not knowing this, most traders start their careers with a fundamental lack of understanding of what it means to be a trader, the skills that are involved, and the depth to which those skills need to be developed.

Here is a prime example of what I am talking about: Trading is inherently risky. To my knowledge, no trade has a guaranteed outcome; therefore, the possibility of being wrong and losing money is always present. So when you put on a trade, can you consider yourself a risk-taker? Even though this may

sound like a trick question, it is not.

The logical answer to the question is, unequivocally, yes. If I engage in an activity that is inherently risky, then I must be a risktaker. This is a perfectly reasonable assumption for any trader to make. In fact, not only do virtually all traders make this assumption, but most traders take pride in thinking of themselves as risk-takers. The problem is that this assumption couldn't be further from the truth. Of course, any trader is taking a risk when you put on a trade, but that doesn't mean that you are correspondingly accepting that risk. In other words, all trades are risky because the outcomes are probable—not guaranteed. But do most traders really believe they are taking a risk when they put on a trade? Have they really accepted that the trade has a non-guaranteed, probable outcome? Furthermore, have they fully accepted the possible consequences?

The answer is, unequivocally, no! Most traders have absolutely no concept of what it means to be a risk-taker in the way a successful trader thinks about risk. The best traders not only take the risk, they have also learned to accept and embrace that risk. There is a huge psychological gap between assuming you are a risk-taker because you put on trades and fully accepting the risks inherent in each trade.

When you fully accept the risks, it will have profound implications on your bottom-line performance. The best traders can put on a trade without the slightest bit of hesitation or conflict, and just as freely and without hesitation or conflict, admit it isn't working. They can get out of the trade—even with a loss—and doing so doesn't resonate the slightest bit of emotional discomfort. In other words, the risks inherent in trading do not cause the best traders to lose their discipline, focus, or sense of confidence.

If you are unable to trade without the slightest bit of emotional discomfort (specifically, fear), then you have not learned how to accept the risks inherent in trading. This is a big problem, because to whatever degree you haven't accepted the risk, is the same degree to which you will avoid the risk. Trying to avoid something that is unavoidable will have disastrous effects on your ability to trade successfully.

Learning to truly accept the risks in any endeavor can be difficult, but it is extremely difficult for traders, especially considering what's at stake. What are we generally most afraid of (besides dying or public speaking)? Certainly, losing money and being wrong both rank close to the top of the list. Admitting we are wrong and losing money to boot can be extremely painful, and certainly something to avoid. Yet as traders, we are confronted with these two possibilities virtually every moment we are in a trade. Now, you might be saying to yourself, "Apart from the fact that it hurts so much, it's natural to not want to be wrong and lose something; therefore, it's appropriate for me to do whatever I can to avoid it." I agree with you. But it is also this natural tendency that makes trading (which looks like it should be easy) extremely difficult.

Trading presents us with a fundamental paradox: How do we remain disciplined, focused, and confident in the face of constant uncertainty? When you have learned how to "think" like a trader, that's exactly what you'll be able to do. Learning how to redefine your trading activities in a way that allows you to completely accept the risk is the key to thinking like a successful trader. Learning to accept the risk is a trading skill—the most important skill you can learn. Yet it's rare that developing traders focus

any attention or expend any effort to learn it.

When you learn the trading skill of risk acceptance, the market will not be able to generate information that you define or interpret as painful. If the information the market generates doesn't have the potential to cause you emotional pain, there's nothing to avoid. It is just information, telling you what the possibilities are. This is called an objective perspective—one that is not skewed or distorted by what you are afraid is going to happen or not happen.

I'm sure there isn't one trader reading this book who hasn't gotten into trades too soon—before the market has actually generated a signal, or too late—long after the market has generated a signal. What trader hasn't convinced himself not to take a loss and, as a result, had it turn into a bigger one; or got out of winning trades too soon; or found himself in winning trades but didn't take any profits at all, and then let the trades turn into losers; or moved stoplosses closer to his entry point, only to get stopped out and have the market go back in his direction? These are but a few of the many errors traders perpetuate upon themselves time and time again. These are not market-generated errors. That is, these errors do not come from the market. The market is neutral, in the sense that it moves and generates information about itself. Movement and information provide each of us with the opportunity to do something, but that's all! The markets don't have any power over the unique way in which each of us perceives and interprets this information, or control of the decisions and actions we take as a result. The errors I already mentioned and many more are strictly the result of what I call "faulty trading attitudes and perspectives." Faulty attitudes that foster fear instead of trust and confidence.

I don't think I could put the difference between the consistent winners and everyone else more simply than this: The best traders aren't afraid. They aren't afraid because they have developed attitudes that give them the greatest degree of mental flexibility to flow in and out of trades based on what the market is telling them about the possibilities from its perspective. At the same time, the best traders have developed attitudes that prevent them from getting reckless. Everyone else is afraid, to some degree or another. When they're not afraid, they have the tendency to become reckless and to create the kind of experience for themselves that will cause them to be afraid from that point on.

Ninety-five percent of the trading errors you are likely to make—causing the money to just evaporate before your eyes—will stem from your attitudes about being wrong, losing money, missing out, and leaving money on the table. What I call the four primary trading fears.

Now, you may be saying to yourself, "I don't know about this: I've always thought traders should have a healthy fear of the markets." Again, this is a perfectly logical and reasonable assumption. But when it comes to trading, your fears will act against you in such a way that you will cause the very thing you are afraid of to actually happen. If you're afraid of being wrong, your fear will act upon your perception of market information in a way that will cause you to do something that ends up making you wrong. When you are fearful, no other possibilities exist. You can't perceive other possibilities or act on them properly, even if you did manage to perceive them, because fear is immobilizing. Physically, it causes us to freeze or run. Mentally, it causes us to narrow our focus of attention to the object of our fear. This

means that thoughts about other possibilities, as well as other available information from the market, get blocked. You won't think about all the rational things you've learned about the market until you are no longer afraid and the event is over. Then you will think to yourself, "I knew that. Why didn't I think of it then?" or, "Why couldn't I act on it then?"

It's extremely difficult to perceive that the source of these problems is our own inappropriate attitudes. That's what makes fear so insidious. Many of the thinking patterns that adversely affect our trading are a function of the natural ways in which we were brought up to think and see the world. These thinking patterns are so deeply ingrained that it rarely occurs to us that the source of our trading difficulties is internal, derived from our state of mind. Indeed, it seems much more natural to see the source of a problem as external, in the market, because it feels like the market is causing our pain, frustration, and dissatisfaction.

Obviously these are abstract concepts and certainly not something most traders are going to concern themselves with. Yet understanding the relationship between beliefs, attitudes, and perception is as fundamental to trading as learning how to serve is to tennis, or as learning how to swing a club is to golf. Put another way, understanding and controlling your perception of market information is important only to the extent that you want to achieve consistent results.

I say this because there is something else about trading that is as true as the statement I just made: You don't have to know anything about yourself or the markets to put on a winning trade, just as you don't have to know the proper way to swing a tennis racket or golf club in order to hit a good shot from time to time. The first time I played golf, I hit several good shots throughout the game even though I hadn't learned any particular technique; but my score was still over 120 for 18 holes. Obviously, to improve my overall score, I needed to learn technique. Of course, the same is true for trading. We need technique to achieve consistency. But what technique? This is truly one of the most perplexing aspects of learning how to trade effectively. If we aren't aware of, or don't understand, how our beliefs and attitudes affect our perception of market information, it will seem as if it is the market's behavior that is causing the lack of consistency. As a result, it would stand to reason that the best way to avoid losses and become consistent would be to learn more about the markets.

This bit of logic is a trap that almost all traders fall into at some point, and it seems to make perfect sense. But this approach doesn't work. The market simply offers too many—often conflicting—variables to consider. Furthermore, there are no limits to the market's behavior. It can do anything at any moment. As a matter of fact, because every person who trades is a market variable, it can be said that any single trader can cause virtually anything to happen. This means that no matter how much you learn about the market's behavior, no matter how brilliant an analyst you become, you will never learn enough to anticipate every possible way that the market can make you wrong or cause you to lose money. So if you are afraid of being wrong or losing money, it means you will never learn enough to compensate for the negative effects these fears will have on your ability to be objective and your ability to act without hesitation. In other words, you won't be confident in the face of constant uncertainty. The

hard, cold reality of trading is that every trade has an uncertain outcome. Unless you learn to completely accept the possibility of an uncertain outcome, you will try either consciously or unconsciously to avoid any possibility you define as painful. In the process, you will subject yourself to any number of self-generated, costly errors.

Now, I am not suggesting that we don't need some form of market analysis or methodology to define opportunities and allow us to recognize them; we certainly do. However, market analysis is not the path to consistent results. It will not solve the trading problems created by lack of confidence, lack of discipline, or improper focus. When you operate from the assumption that more or better analysis will create consistency, you will be driven to gather as many market variables as possible into your arsenal of trading tools. But what happens then? You are still disappointed and betrayed by the markets, time and again, because of something you didn't see or give enough consideration to. It will feel like you can't trust the markets; but the reality is, you can't trust yourself.

Confidence and fear are contradictory states of mind that both stem from our beliefs and attitudes. To be confident, functioning in an environment where you can easily lose more than you intend to risk, requires absolute trust in yourself. However, you won't be able to achieve that trust until you have trained your mind to override your natural inclination to think in ways that are counterproductive to being a consistently successful trader. Learning how to analyze the market's behavior is simply not the appropriate training. You have two choices: You can try to eliminate risk by learning about as many market variables as possible. (I call this the black hole nf analv<!i<: bpoanif\* it is fhp nafh nf ultimate frustration.) Or you can learn how to redefine your trading activities in such a way that you truly accept the risk, and you're no longer afraid.

When you've achieved a state of mind where you truly accept the risk, you won't have the potential to define and interpret market information in painful ways. When you eliminate the potential to define market information in painful ways, you also eliminate the tendency to rationalize, hesitate, jump the gun, hope that the market will give you money, or hope that the market will save you from your inability to cut your losses.

As long as you are susceptible to the lands of errors that are the result of rationalizing, justifying, hesitating, hoping, and jumping the gun, you will not be able to trust yourself. If you can't trust yourself to be objective and to always act in your own best interests, achieving consistent results will be next to impossible. Trying to do something that looks so simple may well be the most exasperating thing you will ever attempt to do. The irony is that, when you have the appropriate attitude, when you have acquired a "trader's mind-set" and can remain confident in the face of constant uncertainty, trading will be as easy and simple as you probably thought it was when you first started out.

So, what is the solution? You will need to learn how to adjust your attitudes and beliefs about trading in such a way that you can trade without the slightest bit of fear, but at the same time keep a framework in place that does not allow you to become reckless. That's exactly what this book is designed to teach you. As you move ahead, I would like you to keep something in mind.

The successful trader that you want to become is a future projection of yourself that you have to grow into. Growth implies expansion, learning, and creating a new way of expressing yourself. This is true even if you're already a successful trader and are reading this book to become more successful. Many of the new ways in which you will learn to express yourself will be in direct conflict with ideas and beliefs you presently hold about the nature of trading. You may or may not already be aware of some of these beliefs. In any case, what you currently hold to be true about the nature of trading will argue to keep things just the way they are, in spite of your frustrations and unsatisfying results.

These internal arguments are natural. My challenge in this book is to help you resolve these arguments as efficiently as possible. Your willingness to consider that other possibilities exist—possibilities that you may not be aware of or may not have given enough consideration to—will obviously make the learning process faster and easier.

# **CHAPTER 2**

## **THE LURE (AND THE DANGERS) OF TRADING**

In January 1994, I was asked to speak at a trading conference in Chicago, sponsored by *Futures Magazine*. At one of the luncheons I happened to be sitting next to an editor for one of the major publishers of books about trading. We were having a lively conversation about why so few people become successful at trading, even people who are otherwise very accomplished. At one point, the editor asked me if a possible explanation for this phenomenon might be that people were getting into trading for the wrong reasons.

### **THE ATTRACTION**

I had to pause for a moment to think about this. I agree that many of the typical reasons people are motivated to trade—the action, euphoria, desire to be a hero, the attention one can draw to himself by winning, or the self-pity that comes from losing—create problems that will ultimately detract from a trader's performance and overall success. But the true underlying attraction to trading is far more fundamental and universal. Trading is an activity that offers the individual unlimited freedom of creative expression, a freedom of expression that has been denied most of us for most of our lives.

Of course, the editor asked me what I meant by this. I explained that in the trading environment, we make almost all of the rules. This means there are very few restrictions or boundaries on how we can choose to express ourselves. Of course there are some formalities such as having to become a member of an exchange to be a floor trader, or meeting the minimum financial requirements to open a brokerage account if you're an off-the-floor trader. But otherwise, once you are in a position to start trading, the possibilities that exist for how you go about doing it are virtually limitless.

I went on to give him an example from a seminar I attended several years ago. Someone had calculated that, if you combined bond futures, bond options, and the cash bond markets, there would be over eight billion possible spread combinations. Now add the timing considerations based on how you read the prevailing market conditions, and the various ways to trade become virtually limitless.

The editor paused for a moment and asked, "But why would having access to such an unrestricted environment result in fairly consistent failure?" I answered, "Because unlimited possibilities coupled with the unlimited freedom to take advantage of those possibilities present the individual with unique and specialized psychological challenges, challenges that very few people are properly equipped to deal

with, or have any awareness of for that matter, and people can't exactly work on overcoming something if they don't even know it's a problem."

The freedom is great. All of us seem to naturally want it, strive for it, even crave it. But that doesn't mean that we have the appropriate psychological resources to operate effectively in an environment that has few, if any, boundaries and where the potential to do enormous damage to ourselves exists. Almost everyone needs to make some mental adjustments, regardless of their educational background, intelligence or how successful they've been in other endeavors.

The kind of adjustments I'm talking about have to do with creating an internal mental structure that provides the trader with the greatest degree of balance between the freedom to do anything and the potential that exists to experience both the financial and psychological damage that can be a direct result of that freedom.

Creating a mental structure can be difficult enough, especially if what you want to instill is in conflict with what you already believe. But for those of us who want to be traders, the difficulty of creating the appropriate structure is invariably compounded by a backlog of mental resistance that starts developing at the very earliest stages of our lives.

All of us are born into some sort of social environment. A social environment (or society), whether it's a family, city, state, or country, implies the existence of structure. Social structures consist of rules, restrictions, boundaries, and a set of beliefs that become a code of behavior that limits the ways in which individuals within that social structure can or cannot express themselves. Furthermore, most of the limitations of social structure were established before we are born. In other words, by the time any of us get here, most of the social structure governing our individual expression is in place and well entrenched. It's easy to see why a society's need for structure and the individual's need for self-expression can conflict. Every person who wants to master the art of trading faces just such a fundamental conflict. I'd like you to ask yourself what one characteristic (a form of personal expression) is common to every child born on this planet, regardless of the location, culture, or social situation the child is born into. The answer is curiosity. Every child is curious. Every child is eager to learn. They can be described as little learning machines.

Consider the nature of curiosity. At its most fundamental level, it is a force. More specifically, it is an inner-directed force, which means there's no necessity to motivate a child to learn something. Left on their own, children will naturally explore their surroundings. What is more, this inner-directed force also seems to have its own agenda; in other words, even though all children are curious, not all children are naturally curious about the same things. There's something inside each of us that directs our awareness.

Even infants seem to know what they want and don't want. When adults encounter this unique display of individuality expressed by an infant, they're usually surprised. They assume that infants have nothing inside of them that makes them uniquely who they are. How else would infants express their individuality than by what in their environment attracts or repels them? I call this inner-directed

guidance the force of natural attractions.

Natural attractions are simply those things about which we feel a natural or passionate interest. Ours is a big and diverse world, and it offers each of us a great deal to learn about and experience. But that doesn't mean each of us has a natural or passionate interest in learning about or experiencing all there is. There's some internal mechanism that makes us "naturally selective."

If you think about it, I'm sure you could list many things to do or be that you have absolutely no interest in. I know I could. You could also make another list of the things you are only marginally interested in. Finally, you could list everything you have a passionate interest in. Of course, the lists get smaller as the interest levels rise. Where does passionate interest come from? My personal view is that it comes from the deepest level of our being—at the level of our true identity. It comes from the part of us that exists beyond the characteristics and personality traits we acquire as a result of our social upbringing.

## THE DANGERS

It is at the deepest level of our being that the potential for conflict exists. The social structure that we're born into may or may not be sensitive to these inner-directed needs and interests. For example, you may have been born into a family of extremely competitive athletes, but feel a passionate interest in classical music or art. You may even have natural athletic ability, but no real interest in participating in athletic events. Is there any potential for conflict here?

In a typical family, most members would put a great deal of pressure on you to follow in the footsteps of your brothers, sisters, or parents. They do everything possible to teach you their ways and how to get the most out of your athletic ability. They discourage you from seriously pursuing any other interests. You go along with what they want, because you don't want to be ostracized, but at the same time, doing what they want you to do just doesn't feel right, although everything you've learned and been taught argues in favor of becoming an athlete. The problem is, it doesn't feel like who you are.

The conflicts that result from what we're taught about who we're supposed to be and the feeling that resonates at the deepest levels of our being is not at all uncommon. I would say that many, if not most people, grow up in a family and cultural environment that gives little, if any, objective, nonjudgmental support to the unique ways in which we feel compelled to express ourselves. This lack of support is not simply an absence of encouragement. It can be as deep as the outright denial of some particular way in which we want to express ourselves. For example, let's look at a common situation: A toddler, who for the first time in his life, notices "this thing," which we call a vase, on the coffee table. He is curious, which means there's an inner force that's compelling him to experience this object. In a sense, it's as if this force creates a vacuum in his mind that has to be filled with the object of his interest. So, he focuses on the vase, and, with deliberate intent, crawls across the vast expanse of the living room floor to the coffee table. When he gets there, he reaches up to the edge of the table to pull himself to his feet.

With one hand firmly on the table to maintain his balance, his other hand reaches out to touch this thing he has never experienced. Just at that moment, he hears a scream from across the room, "NO! DON'T TOUCH THAT!"

Startled, the child falls back on his butt, and begins to cry. Obviously, this is a very common occurrence and one that is completely unavoidable. Children have absolutely no concept of how they can injure themselves or how valuable something like a vase can be. In fact, learning what is safe and what isn't and the value of things are important lessons the child must learn. However, there are some extremely important psychological dynamics at work here that have a direct effect on our ability to create the kind of discipline and focus necessary to trade effectively later in life.

What happens when we're denied the opportunity to express ourselves in the way we want to, or we're forced to express ourselves in a way that doesn't correspond with the natural selection process?

The experience creates an upset. Being "up-set" implies an imbalance. But what exactly is out of balance? For something to be out of balance, there has to be something that's in balance or in equal proportion in the first place. That something is the relative degree of correspondence that exists between our inner, mental environment and the exterior environment where we experience our lives. In other words, our needs and desires are generated in our mental environment, and they are fulfilled in the exterior environment . If these two environments are in correspondence with one another, we're in a state of inner balance and we feel a sense of satisfaction or happiness. If these environments are not in correspondence, we experience dissatisfaction, anger, and frustration, or what is commonly referred to as emotional pain.

Now, why would not getting what we want or being denied the freedom to express ourselves in some particular way cause us to experience emotional pain? My personal theory is that needs and desires create mental vacuums. The universe in which we live has a natural tendency to not tolerate a vacuum and moves to fill it, whenever one exists. (The philosopher Spinoza observed centuries ago that, "Nature abhors a vacuum.")

Suck the air out of a bottle and your tongue and lips will stick to the mouth of the bottle, because you have created an imbalance (a vacuum), which now must be filled. What are the dynamics behind the expression "Necessity is the mother of all invention"? The recognition that a need creates a mental vacuum that the universe will fill with inspiring thoughts (if your mind is receptive). The thoughts, in turn, can inspire movement and expression that result in the fulfillment of that need.

In this respect, I think our mental environment works like the universe at large. Once we recognize a need or desire, we move to fill the vacuum with an experience in the exterior environment. If we are denied the opportunity to pursue the object of this need or desire, it literally feels as if we are not whole, or that something is missing, which puts us into a state of imbalance or emotional pain. (Do our minds also abhor a vacuum, once one has been created?) Take a toy away from a child who is not finished playing with it (regardless of how good your reasons may be for doing so) and the universal response will be emotional pain.

By the time we're 18 years old, we've been on Earth approximately 6,570 days. On average, how many times per day does the typical child hear statements like:

"No, no, you can't do that."

"You can't do it that way. You have to do it this way."

"Not now; let me think about it."

"I'll let you know."

"It can't be done."

"What makes you think you can do it?"

"You have to do it. You have no choice."

These are just a few of the relatively nice ways in which all of us are denied individual expression as we grow up. Even if we only heard such statements once or twice a day, that still adds up to several thousand denials by the time we reach adulthood.

I call these kinds of experiences "denied impulses" to learn—impulses that are based on an inner need, originating from the deeper part of our identity, from the natural selection process.

What happens to all of these impulses that have been denied and left unfulfilled? Do they just go away? They can, if they are reconciled in some way: if we do something, or someone else does something, to put our mental environment back into balance. What can put our mental environment back into balance? There are a number of techniques.

The most natural one, especially for a child, is simply to cry. Crying is a natural mechanism (nature's way) for reconciling these denied, unfulfilled impulses. Scientific researchers have found tears to be composed of negatively charged ions. If allowed to take its natural course, crying will expel the negatively charged energy in our minds and bring us back to a state of balance, even though the original impulse was never fulfilled.

The problem is that, most of the time, events are not allowed to take their natural course and the denied impulses are never reconciled (at least, not while we're still children). There are many reasons why adults don't like it when their children (especially boys) cry, and do everything they can to discourage this behavior. There are just as many reasons why adults will not bother to explain to children why they are being forced to do something they don't want to do. Even if adults do try, there are no assurances that they will be effective enough to reconcile the imbalance. What happens if these impulses aren't reconciled?

They accumulate and usually end up manifesting themselves in any number of addictive and compulsive behavior patterns. A very loose rule of thumb is: Whatever we believe we were deprived of as children can easily become addictions in adulthood. For example, many people are addicted to attention. I am referring to people who will do most anything to draw attention to themselves. The most common reason for this is that they believe they either didn't get enough attention when they were

young or didn't get it when it was important to them. In any case, the deprivation becomes unresolved emotional energy that compels them to behave in ways that will satisfy the addiction. What's important for us to understand about these unreconciled, denied impulses (that exist in all of us) is how they affect our ability to stay focused and take a disciplined, consistent approach to our trading.

## THE SAFEGUARDS

To operate effectively in the trading environment, we need rules and boundaries to guide our behavior. It is a simple fact of trading that the potential exists to do enormous damage to ourselves—damage that can be way out of proportion to what we may think is possible. There are many kinds of trades in which the risk of loss is unlimited.

To prevent the possibility of exposing ourselves to damage, we need to create an internal structure in the form of specialized mental discipline and a perspective that guides our behavior so that we always act in our own best interests. This structure has to exist within each of us, because unlike society, the market doesn't provide it. The markets provide structure in the form of behavior patterns that indicate when an opportunity to buy or sell exists. But that's where the structure ends—with a simple indication. Otherwise, from each individual's perspective, there are no formalized rules to guide your behavior. There aren't even any beginnings, middles, or endings as there are in virtually every other activity we participate in.

This is an extremely important distinction with profound psychological implications. The market is like a stream that is in constant motion. It doesn't start, stop, or wait. Even when the markets are closed, prices are still in motion. There is no rule that the opening price on any day must be the same as the closing price the day before. Nothing we do in society properly prepares us to function effectively in such a "boundary-less" environment. Even gambling games have built-in structures that make them much different from trading, and a lot less dangerous. For example, if we decide to play blackjack, the first thing we have to do is decide how much we are going to wager or risk. This is a choice we are forced to make by the rules of the game. If we don't make the choice, we don't get to play.

In trading, no one (except yourself) is going to force you to decide in advance what your risk is. In fact, what we have is a limitless environment, where virtually anything can happen at any moment and only the consistent winners define their risk in advance of putting on a trade. For everyone else, defining the risk in advance would force you to confront the reality that each trade has a probable outcome, meaning that it could be a loser. Consistent losers do almost anything to avoid accepting the reality that, no matter how good a trade looks, it could lose. Without the presence of an external structure forcing the typical trader to think otherwise, he is susceptible to any number of justifications, rationalizations, and the kind of distorted logic that will allow him to get into a trade believing that it can't lose, which makes determining the risk in advance irrelevant.

All gambling games have specified beginnings, middles, and endings, based on a sequence of events

that determine the outcome of the game. Once you decide you are going to participate, you can't change your mind—you're in for the duration. That's not true of trading. In trading, prices are in constant motion, nothing begins until you decide it should, it lasts as long as you want, and it doesn't end until you want it to be over. Regardless of what you may have planned or wanted to do, any number of psychological factors can come into play, causing you to become distracted, change your mind, become scared or overconfident: in other words, causing you to behave in ways that are erratic and unintended. Because gambling games have a formal ending, they force the participant to be an active loser. If you're on a losing streak, you can't keep on losing without making a conscious decision to do so. The end of each game causes the beginning of a new game, and you have to actively subject more of your assets to further risk by reaching into your wallet or pushing some chips to the center of the table.

Trading has no formal ending. The market will not take you out of a trade. Unless you have the appropriate mental structure to end a trade in a manner that is always in your best interest, you can become a passive loser. This means that, once you're in a losing trade, you don't have to do anything to keep on losing. You don't even have to watch. You can just ignore the situation, and the market will take everything you own—and more.

One of the many contradictions of trading is that it offers a gift and a curse at the same time. The gift is that, perhaps for the first time in our lives, we're in complete control of everything we do. The curse is that there are no external rules or boundaries to guide or structure our behavior. The unlimited characteristics of the trading environment require that we act with some degree of restraint and self-control, at least if we want to create some measure of consistent success. The structure we need to guide our behavior has to originate in your mind, as a conscious act of free will. This is where the many problems begin.

### **PROBLEM: The willingness to Create Rules**

I have not yet encountered a person interested in trading who didn't resist the notion of creating a set of rules. The resistance isn't always overt. Quite the contrary, it's usually very subtle. We agree on the one hand that rules make sense, but we really have no intention of doing whatever is being suggested. This resistance can be intense, and it has a logical source.

Most of the structure in our minds was given to us as a result of our social upbringing and based on choices made by other people. In other words, it was instilled in our minds, but did not originate in our minds. This is a very important distinction. In the process of instilling structure, many of our natural impulses to move, express, and learn about the nature of our existence through our own direct experience were denied. Many of these denied impulses were never reconciled and still exist inside of us as frustration, anger, disappointment, guilt, or even hatred. The accumulation of these negative feelings acts as a force inside our mental environment causing us to resist anything that denies us the freedom to do and be whatever we want, when we want.

In other words, the very reason we are attracted to trading in the first place—the unlimited freedom of creative expression—is the same reason we feel a natural resistance to creating the kinds of rules and boundaries that can appropriately guide our behavior. It's as if we have found a Utopia in which there is complete freedom, and then someone taps us on the shoulder and says, "Hey, you have to create rules, and not only that, you also have to have the discipline to abide by them."

The need for rules may make perfect sense, but it can be difficult to generate the motivation to create these rules when we've been trying to break free of them most of our lives. It usually takes a great deal of pain and suffering to break down the source of our resistance to establishing and abiding by a trading regime that is organized, consistent, and reflects prudent money-management guidelines. Now, I'm not implying that you have to reconcile all of your past frustrations and disappointments to become a successful trader, because that's not the case. And you certainly don't have to suffer.

I've worked with many traders who have achieved their objectives of consistency and haven't done anything to reconcile their backlog of denied impulses. However, I am implying that you can't take for granted how much effort and focus you may have to put into building the kind of mental structure that compensates for the negative effect denied impulses can have on your ability to establish the skills that will assure your success as a trader.

### **PROBLEM: Failure to Take Responsibility**

Trading can be characterized as a pure, unencumbered personal choice with an immediate outcome. Remember, nothing happens until we decide to start; it lasts as long as we want; and it doesn't end until we decide to stop. All of these beginnings, middles, and endings are the result of our interpretation of the information available and how we choose to act on our interpretation. Now, we may want the freedom to make choices, but that doesn't mean we are ready and willing to accept the responsibility for the outcomes. Traders who are not ready to accept responsibility for the outcomes of their interpretations and actions will find themselves in a dilemma: How does one participate in an activity that allows complete freedom of choice, and at the same time avoid taking responsibility if the outcome of one's choices are unexpected and not to one's liking?

The hard reality of trading is that, if you want to create consistency, you have to start from the premise that no matter what the outcome, you are completely responsible. This is a level of responsibility few people have aspired to before they decide to become traders. The way to avoid responsibility is to adopt a trading style that is, to all intents and purposes, random. I define random trading as poorly-planned trades or trades that are not planned at all. It is an unorganized approach that takes into consideration an unlimited set of market variables, which do not allow you to find out what works on a consistent basis and what does not.

Randomness is unstructured freedom without responsibility.

When we trade without well-defined plans and with an unlimited set of variables, it's very easy to take

credit for the trades that turn out to our liking (because there was "some" method present). At the same time, it's very easy to avoid taking responsibility for the trades that didn't turn out the way we wanted (because there's always some variable we didn't know about and therefore couldn't take into consideration beforehand). If the markets behavior were truly random, then it would be difficult if not impossible to create consistency. If it's impossible to be consistent, then we really don't have to take responsibility. The problem with this logic is that our direct experience of the markets tells us something different. The same behavior patterns present themselves over and over again. Even though the outcome of each individual pattern is random, the outcome of a series of patterns is consistent (statistically reliable). This is a paradox, but one that is easily resolved with a disciplined, organized, and consistent approach.

I've worked with countless traders who would spend hours doing market analysis and planning trades for the next day. Then, instead of putting on the trades they planned, they did something else. The trades they did put on were usually ideas from friends or tips from brokers. I probably don't have to tell you that the trades they originally planned, but didn't act on, were usually the big winners of the day.

This is a classic example of how we become susceptible to unstructured, random trading—because we want to avoid responsibility. When we act on our own ideas, we put our creative abilities on the line and we get instant feedback on how well our ideas worked. It's very difficult to rationalize away any unsatisfactory results. On the other hand, when we enter an unplanned, random trade, it's much easier to shift the responsibility by blaming the friend or the broker for their bad ideas.

There's something else about the nature of trading that makes it easy to escape the responsibility that comes with creating structure in favor of trading randomly: It is the fact that any trade has the potential to be a winner, even a big winner. That big winning trade can come your way whether you are a great analyst or a lousy one; whether you do or don't take responsibility. It takes effort to create the kind of disciplined approach that is necessary to become a consistent winner. But, as you can see, it's very easy to avoid this kind of mental work in favor of trading with an undisciplined, random approach.

### **PROBLEM: Addiction to Random Rewards**

Several studies have been done on the psychological effects of random rewards on monkeys. For example, if you teach a monkey to do a task and consistently reward it every time the task is done, the monkey quickly learns to associate a specific outcome with the efforts. If you stop rewarding it for doing the task, within a very short period of time the monkey will simply stop doing the task. It won't waste its energy doing something that it has now learned it won't be rewarded for. However, the monkey's response to being cut off from the reward is very different if you start out on a purely random schedule, instead of a consistent one. When you stop offering the reward, there's no way the monkey can know that it will never be rewarded again for doing that task. Every time it was rewarded in the past, the reward came as a surprise. As a result, from the monkey's perspective, there's no reason to quit

doing the task. The monkey keeps on doing the task, even without being rewarded for doing it. Some will continue indefinitely.

I'm not sure why we're susceptible to becoming addicted to random rewards. If I had to guess, I would say that it probably has something to do with the euphoria-inducing chemicals that are released in our brains when we experience an unexpected, pleasant surprise. If a reward is random, we never know for sure if and when we might receive it, so expending energy and resources in the hope of experiencing that wonderful feeling of surprise again isn't difficult. In fact, for many people it can be very addicting. On the other hand, when we expect a particular outcome and it doesn't come about, we're disappointed and feel bad. If we do it again and get the same disappointing outcome, it isn't likely that we will keep doing something we know will cause us emotional pain.

The problem with any addiction is that it leaves us in a state of "choicelessness." To whatever degree the addiction dominates our state of mind, to that same degree our focus and efforts will be geared toward fulfilling the object of that addiction. Other possibilities that exist in any given moment to fulfill other needs (like the need to trust ourselves and not to subject too many of our assets to risk) are either ignored or dismissed. We feel powerless to act in any other way than to satisfy the addiction. An addiction to random rewards is particularly troublesome for traders, because it is another source of resistance to creating the kind of mental structure that produces consistency.

### **PROBLEM: External versus Internal Control**

Our upbringing has programmed us to function in a social environment, which means we've acquired certain thinking strategies for fulfilling our needs, wants and desires that are geared toward social interaction. Not only have we learned to depend on each other to fulfill the needs, wants and desires we cannot fulfill completely on our own, but in the process we've acquired many socially-based controlling and manipulating techniques for assuring that other people behave in a manner that is consistent with what we want.

The markets may seem like a social endeavor because there are so many people involved, but they're not. If, in today's modern society, we have learned to depend on each other to fulfill basic needs, then the market environment (even though it exists in the midst of modern society) can be characterized as a psychological wilderness, where it's truly every man or woman for himself or herself. Not only can we not depend on the market to do anything for us, but it is extremely difficult, if not impossible, to manipulate or control anything that the market does. Now, if we've become effective at fulfilling our needs, wants and desires by learning how to control and manipulate our environment, but suddenly find ourselves, as traders, in an environment that does not know, care, or respond to anything that is important to us, where does that leave us? You're right if you said up the proverbial creek without a paddle.

One of the principal reasons so many successful people have failed miserably at trading is that their

success is partly attributable to their superior ability to manipulate and control the social environment, to respond to what they want. To some degree, all of us have learned or developed techniques to make the external environment conform to our mental (interior) environment. The problem is that none of these techniques work with the market. The market doesn't respond to control and manipulation (unless you're a very large trader). However, we can control our perception and interpretation of market information, as well as our own behavior. Instead of controlling our surroundings so they conform to our idea of the way things should be, we can learn to control ourselves. Then we can perceive information from the most objective perspective possible, and structure our mental environment so that we always behave in a manner that is in our own best interest.

# **CHAPTER 3**

## **TAKING RESPONSIBILITY**

Although the words "taking responsibility" sound simple, the concept is neither easy to grasp nor easy to put into practice in your trading. We have all heard the words and been confronted with the need to take responsibility so many times in our lives that it is easy to take for granted that we know exactly what the phrase means.

Taking responsibility in your trading and learning the appropriate principles of success are inextricably connected. You have to understand, with every fiber of your being, the ways in which you are and are not responsible for your success as a trader. Only then can you take on the characteristics that will allow you to join the select group of traders who are consistently successful in the markets.

At the end of Chapter 1, I introduced the idea of stepping into a future projection of yourself. In other words, the consistently successful trader that you want to become doesn't exist yet. You must create a new version of yourself, just as a sculptor creates a likeness of a model.

## **SHAPING YOUR MENTAL ENVIRONMENT**

The tools you will use to create this new version of yourself are your willingness and desire to learn, fueled by your passion to be successful. If the willingness and desire to learn are your primary tools, then what is your medium? An artist creating a sculpture can choose to work in a number of mediums—clay, marble, or metal, for example—but if you want to create a new version of your personality that expresses itself as a consistently successful trader, you have only your beliefs and attitudes. The medium for your artistic endeavor will be your mental environment, where with your desire to learn, you can restructure and install the beliefs and attitudes that are necessary to achieve your ultimate goal.

I am assuming your ultimate goal is consistency. If you're like most traders, you don't realize the fullest potential of the opportunities available to you. To realize more and more of that potential, to make it more and more of a reality in your life, your primary goal has to be to learn how to think like a consistently successful trader. Remember, the best traders think in a number of unique ways. They have acquired a mental structure that allows them to trade without fear and, at the same time, keeps them from becoming reckless and committing fear-based errors. This mind-set has a number of components, but the bottom line is that successful traders have virtually eliminated the effects of fear and recklessness from their trading.

These two fundamental characteristics allow them to achieve consistent results.

When you acquire this mind-set, you, too, will be able to trade without fear. You will no longer be

susceptible to the multitude of fear-based errors that come from rationalizing, subconsciously distorting information, hesitating, jumping the gun, or hoping. Once the fear is gone, there just won't be a reason to make these errors and, as a result, they will virtually disappear from your trading.

However, eliminating fear is only half the equation. The other half is the need to develop restraint. Excellent traders have learned that it is essential to have internal discipline or a mental mechanism to counteract the negative effects of euphoria or the overconfidence that comes from a string of winning trades. For a trader, winning is extremely dangerous if you haven't learned how to monitor and control yourself.

If we start from the premise that to create consistency traders must focus their efforts on developing a trader's mind-set, then it is easy to see why so many traders don't succeed. Instead of learning to think like traders, they think about how they can make more money by learning about the markets. It's almost impossible not to fall into this trap. There are a number of psychological factors that make it very easy to assume that it's what you don't know about the markets that causes your losses and lack of consistent results.

However, that's just not the case. The consistency you seek is in your mind, not in the markets. It's attitudes and beliefs about being wrong, losing money, and the tendency to become reckless, when you're feeling good, that cause most losses—not technique or market knowledge.

For example, if you could choose one of the following two traders to manage your money, which one would you pick? The first trader uses a simple, possibly even mediocre trading technique, but possesses a mind-set that is not susceptible to subconsciously distorting market information, hesitating, rationalizing, hoping, or jumping the gun. The second trader is a phenomenal analyst, but is still operating out of the typical fears that make him susceptible to all of the psychological maladies that the other trader is free of. The right choice should be obvious. The first trader is going to achieve far better results with your money.

Attitude produces better overall results than analysis or technique. Of course, the ideal situation is to have both, but you really don't need both, because if you have the right attitude—the right mind-set—then everything else about trading will be relatively easy, even simple, and certainly a lot more fun. I know for some of you this may be difficult to believe, or even distressing especially if you've been struggling for years to learn everything you can about the market.

Interestingly, most traders are closer to the way they need to think when they first begin trading than at any other time in their careers. Many people begin trading with a very unrealistic concept of the inherent dangers involved. This is particularly true if their first trade is a winner. Then they go into the second trade with little or no fear. If that trade is a winner, they go into the next trade with even less concern for what would otherwise be the unacceptable possibility of a loss. Each subsequent win convinces them that there is nothing to fear and that trading is the easiest possible way to make money. This lack of fear translates into a carefree state of mind, similar to the state of mind many great athletes describe as a "zone." If you've ever had the occasion to experience the zone in some sport, then you

know it is a state of mind in which there is absolutely no fear and you act and react instinctively. You don't weigh alternatives or consider consequences or second-guess yourself. You are in the moment and "just doing it." Whatever you do turns out to be exactly what needed to be done.

Most athletes never reach this level of play, because they never get past the fear of making a mistake. Athletes who reach the point where there is absolutely no fear of the consequences of screwing up will usually, and quite spontaneously, enter into "the zone." By the way, a psychological zone is not a condition you can will yourself into, the way you can will yourself into a feat of endurance. It is a state of mind you find yourself in that is inherently creative, and usually if you start thinking about your actions at a rational or conscious level, you pop right out of it.

Even though you cannot force or will yourself into a zone, you can set up the kind of mental conditions that are most conducive to experiencing "the zone," by developing a positive winning attitude. I define a positive winning attitude as expecting a positive result from your efforts, with an acceptance that whatever results you get are a perfect reflection of your level of development and what you need to learn to do better. That's what the great athletes have: a winning attitude that allows them to easily move beyond their mistakes and keep going.

Others get bogged down in negative self-criticism, regret, and self pity. Not many people ever develop a positive winning attitude. The curious anomaly of trading is that, if you start with a winning trade, you will automatically experience the kind of carefree mind-set that is a by-product of a winning attitude, without having developed the attitude itself. I know this may sound a bit confusing, but it has some profound implications.

If a few winning trades can cause you to enter into the kind of carefree state of mind that is an essential component to your success, but is not founded on the appropriate attitudes, then -what you have is a prescription for extreme misunderstanding about the nature of trading that inevitably results in both emotional and financial disaster. Putting on a few (or more) winning trades does not mean you have become a trader, but that's the way it feels, because it taps us into a state of mind that only the most accomplished people experience on a consistent basis. The fact is, you don't need the slightest bit of skill to put on a winning trade, and if it's possible to put on one winning trade without the slightest bit of skill, it is certainly possible to put on another and another. I know of several people who started their trading careers with fairly substantial strings of winning trades.

When you're feeling confident and unencumbered by fears and worries, it isn't difficult to put on a string of winning trades because it's easy to get into a flow, a kind of natural rhythm, where what you need to do seems obvious or self-evident. It's almost as if the market screams at you when to buy and when to sell, and you need very little in the way of analytical sophistication. And, of course, because you have no fear, you can execute your trades with no internal argument or conflict.

The point I am making is that winning in any endeavor is mostly a function of attitude. Many people are certainly aware of this, but at the same time, most people don't understand the significant part attitude plays in their results. In most sports or other competitive activities, participants must develop

physical skills as well as mental skills in the form of strategies. If opponents are not evenly matched in the skills department, the one with superior skills usually ("but not always) wins. When an underdog beats a superior opponent, what's the determining factor? When two opponents are evenly matched, what's the factor that tips the balance one way or the other? In both cases, the answer is attitude.

What makes trading so fascinating and, at the same time, difficult to learn is that you really don't need lots of skills; you just need a genuine winning attitude. Experiencing a few or more winning trades can make you feel like a winner, and that feeling is what sustains the winning streak. This is why it is possible for a novice trader to put on a string of winning trades, when many of the industry's best market analysts would give their right arms for a string of winning trades. The analysts have the skills, but they don't have the winning attitude.

They're operating out of fear. The novice trader experiences the feeling of a winning attitude because he's not afraid. But that doesn't mean he has a winning attitude; it only means he hasn't experienced any pain from his trading activities to make him afraid. Eventually, our novice trader will experience a loss and being wrong, regardless of how positive he's feeling. Losing and being wrong are inevitable realities of trading. The most positive attitude imaginable coupled with the best analytical skills can't prevent a trader from eventually experiencing a losing trade. The markets are just too erratic and there are too many variables to consider for any trader to be right every time.

What happens when the novice trader finally does lose? What effect will it have on his carefree state of mind? The answers will depend on his expectations going into the trade and how he interprets the experience. And how he interprets the experience is a function of his beliefs and attitudes.

What if he is operating out of a belief that there's no possible way to avoid a loss, because losing is a natural consequence of trading — no different from, let's say, a restaurant owner incurring the expense of having to buy food? Furthermore, suppose that he has completely accepted the risk, meaning that he has considered and accounted for all of what would otherwise be the unacceptable possibilities in the market's behavior, both financially and emotionally.

With these beliefs and expectations, it is unlikely that he would experience a deterioration of his attitude, and would simply go on to the next trade. By the way, this is an example of an ideal set of trading beliefs and attitudes.

Now suppose that he hasn't completely accepted the risk. What if his expectations didn't take into account any market behavior other than what he wanted? From this mental perspective, if the market doesn't do what he wants, he is going to feel pain—emotional pain.

Expectations are our mental representations of how some future moment in the environment is going to look, sound, feel, smell, or taste. Depending upon how much energy is behind the expectation, it can hurt a lot when it isn't fulfilled. Of the two different perspectives I just described, which one is likely to be held by our novice trader? The latter, of course. Only the very best traders have acquired the perspective described in the first scenario. And, as I indicated in Chapter 1, unless these very best traders grew up in successful trading families or had super traders for mentors (where appropriate

attitudes about risk and loss were instilled in them from the very beginning of their careers), virtually every one of them had the common experience of losing one or more fortunes before they realized how they needed to think in order to be consistently successful.

It's a fundamental shift in attitude that accounts for their success, not some brilliant realization about the market, as most people erroneously assume. This erroneous assumption is prevalent among traders simply because very few of them really understand, at the deepest levels, just how critical a component attitude is in determining one's success.

We can safely assume that after a loss, our novice trader will be in a state of emotional pain. As a result, his trading will take on a whole new quality. He'll definitely lose that carefree state of mind, but more important, he will feel that the market did this to him: The market caused him to feel the pain he is experiencing; the market took away his winning feeling by subjecting him to a loss.

Notice how our trader is blaming the markets for losing or what he didn't get. Notice, too, how natural it is to feel the way he does. Think about how many times in our lives, especially as children, we were doing something we really enjoyed, like playing with a toy or with our friends, and someone with more power and authority forced us to stop what we were doing and do something we didn't want to do. All of us have lost things, had things taken away from us, been denied things we wanted or believed we deserved, been prevented from continuing an activity we were in the middle of, or been blocked from pursuing an idea we were passionate about. The point is that in many of these situations, we did not need to take personal responsibility for what happened to us or for the pain we experienced, because we were powerless to do anything about it.

We didn't choose to be forced out of a state of joy and happiness, into a state of emotional pain. The decision was out of our hands, against our will, and usually quite abrupt. Even though we may have been told we were responsible for what was happening to us, we may not have believed it or understood what it meant. What's tangible, and what we can most easily relate to, is that we were having fun, and someone or something took us out of that fun and into pain. It wasn't our choice. The cause of our pain came to us from the outside; therefore, whatever force acted upon us in that moment was to blame. We learned not only that feeling good can instantly be replaced with feeling bad through no fault of our own; we also learned about betrayal. We felt betrayed because many of these situations were completely unexpected or unanticipated, meaning, we were unprepared for how some people in our lives had the potential to behave. If their behavior caused us to flip into a state of emotional pain, then we quite naturally would have felt betrayed.

As a side note, I feel it is important to say that many of our past, emotionally painful experiences were the result of well-meaning parents, teachers and friends, many of whom were only doing what they K/^lie»i7QH of fho fimo ix7oc Vv^ct fcir nc Trip nn<;t pyamrtle is a child playing with a toy that is inherently dangerous. Take the toy away, and the child will cry to express the emotional pain he is experiencing, and, if we are dealing with a very young or immature child, in all likelihood he will not listen to anything reasonable that we say about why he cannot play with that toy.

But, at the same time, many people are born to immature and unreasonable parents, or encounter emotionally disturbed teachers, coaches, and employees who subconsciously or intentionally inflict their personal problems on anyone they perceive as having less power. What's even worse is many of the people who have a tendency toward victimizing others are also clever enough to do it in a way that makes their victims believe they caused their own pain. In any case, whether our painful experiences are the result of an act of love or intentionally inflicted is something each of us will have to determine for ourselves. The bottom line is that, as adults when we get into a trading mode, we don't realize how natural it is to associate the instantaneous shift from joy to pain that we experienced so often as children with the same instantaneous shift from joy to pain that occurs when we trade. The implications are that if we haven't learned to accept the inherent risks of trading and don't know how to guard against making these natural connections between our past and the present, we will end up blaming the market for our results instead of taking responsibility for them.

Even though most people who trade consider themselves responsible adults, only the very best traders have reached a point where they can and do accept complete responsibility for the outcome of any particular trade. Everyone else to one degree or another assumes they are taking responsibility; but the reality is that they want the market to do it for them. The typical trader wants the market to fulfill his expectations, his hopes, and dreams.

Society may work this way but the markets certainly don't. In society, we can expect other people to behave in reasonable and responsible ways. When they don't, and if we suffer as a result, society makes remedies available to rectify the imbalance and make us whole again. The market, on the other hand, has no responsibility to give us anything or do anything that would benefit us. This may not be the way markets are advertised and certainly not the impression they want to project, but the reality is, every trader who participates in the markets does so for his own benefit. The only way one trader can benefit is if some other trader loses, whether the loss is in actual dollars as in a futures trade, or lost opportunity as in a stock trade. When you put on a trade, it is in anticipation of making money. Every other trader in the world who puts on a trade does so for the same reason. When you look at your relationship with the market from this perspective, you could say that your purpose is to extract money from the markets, but, by the same token, the market's sole purpose is to extract money or opportunity from you.

If the market is a group of people interacting to extract money from one another, then what is the market's responsibility to the individual trader? It has no responsibility other than to follow the rules it has established to facilitate this activity. The point is, if you have ever found yourself blaming the market or feeling betrayed, then you have not given enough consideration to the implications of what it means to play a zero-sum game. Any degree of blaming means you have not accepted the reality that the market owes you nothing, regardless of what you want or think or how much effort you put into your trading.

In the market, typical social values of exchange do not come into play. If you don't understand this and

find a way to reconcile the differences between the social norms you grew up with and the way the market works, you will continue to project your hopes, dreams, and desires onto the market believing it's going to do something for you. When it doesn't, you'll feel angry, frustrated, emotionally distraught, and betrayed.

Taking responsibility means acknowledging and accepting, at the deepest part of your identity, that *you*—not the market—are completely responsible for your success or failure as a trader. Granted, the market's purpose is to separate you from your money; but in the process of doing so, it also provides you with an endless stream of opportunities for you to take money from it. When prices move, that movement represents the collective actions of everyone participating at that moment. The market also generates information about itself, and makes it extremely easy to enter and exit trades (depending, of course, on the number of people participating).

From the individual's perspective, price movement, information, and the ability to enter and exit trades represent opportunities to see something and to act on what you perceive. During each moment the markets are open, you have an opportunity to enter a position, lighten up a position, add to a position, or exit a position. These are all opportunities to enrich yourself by taking profits or, at least, cutting your losses. Let me pose a question. Do you feel responsible for fulfilling some other traders' expectations, hopes, dreams, and desires? Of course you don't. It sounds absurd to even ask. However, if you ever find yourself blaming the market and feeling betrayed, that is essentially what you are doing. You are expecting the collective actions of everyone participating in the market to make the market act in a way that gives you what you want. You have to learn for yourself how to get what you want out of the markets. The first major step in this learning process is taking complete and absolute responsibility.

Taking responsibility means believing that all of your outcomes are self-generated; that your results are based on your interpretations of market information, the decisions you make and the actions you take as a result. Taking anything less than complete responsibility sets up two major psychological obstacles that will block your success.

First, you will establish an adversarial relationship with the market that takes you out of the constant flow of opportunities. Second, you will mislead yourself into believing that your trading problems and lack of success can be rectified through market analysis.

Let's consider the first obstacle. When you project any degree of responsibility onto the market for giving you money or cutting your losses, the market can all too easily take on the quality of an adversary or enemy. Losing (when you expected the market to do something different from what it did) will tap you into the same childlike feelings of pain, anger, resentment, and powerlessness that all of us felt when someone took something away from us, didn't give us what we wanted, or wouldn't let us do what we wanted.

No one likes to feel denied, especially if we believe that getting what we want will make us happy. In each of these situations, something or someone outside of us prevented us from expressing ourselves in

some particular way. In other words, some outside force was acting against the inner force of our desires and expectations. As a result, it feels natural to assign the market the power of an outside force that either gives or takes away. But consider the fact that the market presents its information from a neutral perspective. That means the market doesn't know what you want or expect, nor does it care, unless, of course, you trade the kind of position that can have a major impact on prices. Otherwise, each moment, each bid, and each offer gives you the opportunity to do something. You can put on a trade, take profits, or take off a loser. This is also true for those of you who are floor traders and are personally known to other floor traders, who may also know your position and, to your detriment, purposely take advantage of that knowledge. It just means that you have to be faster and more focused, or take whatever limitations you have in these areas into consideration and trade accordingly.

From the market's perspective, each moment is neutral; to you, the observer, every moment and price change can have meaning. But where do these meaning exist? The meanings are based on what you've learned, and exist inside your mind, not in the market. The market doesn't attach meanings or interpret the information it generates about itself (although there are always individuals who will offer an interpretation if you're willing to listen). Furthermore, the market doesn't know how you define an opportunity or a loss. The market doesn't know whether you perceive it as an endless stream of opportunities to enter and exit trades for both profits and losses at each and every moment, or whether you perceive it as a greedy monster ready and willing in any given moment to devour your money.

If you perceive the endless stream of opportunities to enter and exit trades without self-criticism and regret, then you will be in the best frame of mind to act in your own best interest and learn from your experiences. On the other hand, if what you perceive in market information is painful in some way, then you will naturally try to avoid that pain by either consciously or subconsciously blocking that information from your awareness. In the process of blocking that information, you'll systematically cut yourself off from any number of opportunities to enrich yourself. In other words, you cut yourself off from the opportunity flow. Furthermore, it will feel like the market is against you but only if you expect it to do something for you, or if you believe that it owes you something. If someone or something is against you and causes you pain, how are you likely to respond? You'll feel compelled to fight, but what exactly are you fighting? The market is certainly not fighting you. Yes, the market wants your money, but it also provides you with the opportunity to take as much as you can. Although it may feel as if you are fighting the market, or it is fighting you, the reality is you are simply fighting the negative consequences of not fully accepting that the market owes you nothing; and that you need to take advantage of the opportunities it presents by yourself, 100 percent and not one degree less.

The way to take maximum advantage of a situation where you are being offered unlimited opportunities to do something for yourself is to get into the flow. The market does have a flow. It is often erratic, especially in the shorter time frames, but it does display symmetrical patterns that repeat themselves over and over again. Obviously, it's a contradiction to flow with something you are against. If you want to start sensing the flow of the market, your mind has to be relatively free of fear, anger,

regret, betrayal, despair, and disappointment.

You won't have a reason to experience these negative emotions when you assume absolute responsibility. Earlier, I said that when you don't take responsibility, one of the major psychological obstacles that can block your success is that you will mislead yourself into believing that your trading problems and lack of consistency can be rectified through market analysis. To illustrate this point, let's go back to our novice trader who started out with a carefree state of mind until he experienced his first loss. After winning with such ease and effortlessness, the abrupt shift to emotional pain can be quite shocking—not shocking enough, however, to quit trading. Besides, in his mind the situation wasn't his fault anyway; the market did it to him. Instead of quitting, the great feeling that he experienced when he was winning will be fresh in his mind, and will inspire him with a sense of determination to continue trading.

Only now he's going to be smarter about it. He's going to put some effort into it and learn everything he can about the markets. It's perfectly logical to think that if he can win not knowing anything, he'll be able to clean up when he does know something. But there's a big problem here that very few, if any, traders will have any awareness of until long after the damage is done. Learning about the markets is fine and doesn't cause a problem in itself. It's the underlying reason for learning about the market that will ultimately prove to be his undoing.

As I said a moment ago, the sudden shift from joy to pain usually creates quite a psychological shock. Very few people ever learn how to reconcile these kinds of experiences in a healthy way.

Techniques are available, but they aren't widely known. The typical response in most people, especially in the type of person attracted to trading, is revenge. For traders, the only way to extract that revenge is to conquer the market, and the only way to conquer the market is through market knowledge, or so they think. In other words, the underlying reason for why the novice trader is learning about the market is to overcome the market, to prove something to it and himself, and most important, to prevent the market from hurting him again. He is not learning the market simply as a means to give himself a systematic way of winning, but rather as a way to either avoid pain or prove something that has absolutely nothing to do with looking at the market from an objective perspective. He doesn't realize it, but as soon as he made the assumption that knowing something about the market can prevent him from experiencing pain or can help satisfy his desire for revenge or to prove something, he sealed his fate to become a loser.

In effect what he has done is set up an irreconcilable dilemma.

He is learning how to recognize and understand the market's collective behavior patterns, and that's good. It even feels good. He's inspired because he assumes he's learning about the market in order to become a winner. As a result, he will typically go on a knowledge quest, learning about trend lines, chart patterns, support and resistance, candlesticks, market profiles, point and line charts, Elliott waves, Fibonacci retracements, oscillators, relative strength, stochastics, and many more technical tools too numerous to mention.

Curiously, even though his knowledge has increased, he now finds that he's developed problems executing his trades. He hesitates, second guesses himself, or doesn't put on a trade at all, in spite of any number of clear signals to do so. It's all frustrating, even maddening, because what's happened doesn't make sense. He did what he was supposed to do—he learned—only to find that the more he learned, the less he took advantage of. He would never believe that he did anything wrong by devoting himself to learning; he simply did it for the wrong reasons.

He won't be able to trade effectively if he is trying to prove something or anything for that matter. If you have to win, if you have to be right, if you can't lose or can't be wrong, you will cause yourself to define and perceive categories of market information as painful. In other words, you will view as painful any information the market generates that is in opposition to what will make you happy.

The dilemma is that our minds are wired to avoid both physical and emotional pain, and learning about the markets will not compensate for the negative effects our pain-avoidance mechanisms have on our trading. Everybody understands the nature of avoiding physical pain. Accidentally set your hand on a hot burner, and your hand moves away from the heat automatically; it's an instinctive reaction.

However, when it comes to avoiding emotional pain and the negative consequences it creates, especially for traders, very few people understand the dynamics. It's absolutely essential to your development that you understand these negative effects and learn how to take conscious control in a way that helps you fulfill your goals.

Our minds have a number of ways to shield us from information that we have learned to perceive as painful. For example, at a conscious level, we can rationalize, justify, or make a case for staying in a losing trade. Some of the more typical ways we do this are to call our trading buddies, talk to our broker, or look at indicators we never use, all for the express purpose of gathering nonpainful information in order to deny the validity of the painful information. At a subconscious level, our minds will automatically alter, distort, or specifically exclude information from our conscious awareness. In other words, we don't know at a conscious level that our pain-avoidance mechanisms are either excluding or altering the information being offered by the market.

Consider the experience of being in a losing trade when the market is making consistently higher highs and higher lows or lower highs and lower lows against your position, while you refuse to acknowledge you are in a losing trade because you have focused all your attention on the ticks that go in your favor. On the average, you are only getting one out of four or five ticks in your direction; but it doesn't matter because every time you get one, you are convinced the market has reversed and is coming back. Instead the market keeps going against you. At some point, the dollar value of the loss becomes so great that it cannot be denied and you finally exit the trade. The first reaction that traders universally have when looking back at such a trade is, "Why didn't I just take my loss and reverse?"

The opportunity to put on a trade in the opposite direction was easily recognized once there was nothing at stake. But we were blinded to this opportunity while we were in the trade, because at that time the information indicating it was an opportunity was defined as painful, so we blocked it from our

awareness.

When our hypothetical trader first started trading, he was having fun; he was in a carefree state of mind; he had no personal agendas and nothing to prove. As long as he was winning, he put his trades on from a "let's see what will happen" perspective. The more he won, the less he considered the possibility of ever losing. When he finally did lose, he was probably in a state of mind where he least expected it. Instead of assuming that the cause of his pain was his erroneous expectation about what the market was supposed to do or not do, he blamed the market, and resolved that by gaining market knowledge, he could prevent such experiences from recurring. In other words, he made a dramatic shift in his perspective from carefree to preventing pain by avoiding losses.

The problem is that preventing pain by avoiding losses can't be done. The market generates behavior patterns and the patterns repeat themselves, but not every time. So again, there is no possible way to avoid losing or being wrong. Our trader won't sense these trading realities, because he is being driven forward by two compelling forces: (1) he desperately wants that winning feeling back, and (2) he is extremely enthusiastic about all of the market knowledge he is acquiring. What he doesn't realize is that, in spite of his enthusiasm, when he went from a carefree state of mind to a prevent-and-avoid mode of thinking, he shifted from a positive to a negative attitude.

He's no longer focused on just winning, but rather on how he can avoid pain by preventing the market from hurting him again. This kind of negative perspective isn't any different from the tennis player or golfer who is focused on trying not to make a mistake, the more he tries not to make a mistake, the more mistakes he makes. However, this mode of thinking is much easier to recognize in sports because there's a more discernable connection between one's focus and one's results. With trading, the connection can be obscured and more difficult to recognize as a result of the positive feelings being generated from discovering new relationships in market data and behavior.

Since he is feeling good, there's no reason to suspect that anything is wrong, except that the degree to which his focus is weighted toward pain-avoidance is the same degree by which he will create the very experiences he is trying to avoid. In other words, the more he has to win and not lose, the less tolerance he will have for any information that might indicate he is not getting what he wants. The more information that he has the potential to block, the less he will be able to perceive an opportunity to act in his own best interests.

Learning more and more about the markets only to avoid pain will compound his problems because the more he learns, the more he will naturally expect from the markets, making it all the more painful when the markets don't do their part. He has unwittingly created a vicious cycle where the more he learns, the more debilitated he becomes; the more debilitated he becomes, the more he feels compelled to learn. The cycle will continue until he either quits trading in disgust or recognizes that the root cause of his trading problems is his perspective, not his lack of market knowledge.

## **WINNERS, LOSERS, BOOMERS, AND BUSTERS**

It takes some time before most traders either throw in the towel or find out the true source of their success. In the meantime, some traders manage to get enough right about trading to enter into what is commonly referred to as the "boom and bust cycle."

Contrary to what some of you may have inferred from the example of the novice trader, not everyone has an inherently negative attitude and is therefore doomed to lose consistently. Yes, it is true that some traders do consistently lose, often until they lose everything or quit trading because they can't tolerate any more emotional pain. However, there are also many traders who are tenacious students of the market and have a sufficiently winning attitude going into trading so that, in spite of the many difficulties, they eventually learn how to make money. But, and I want to emphasize this, they learn how to make money only on a limited basis; they haven't yet learned how to counteract the negative effects of euphoria or how to compensate for the potential for self-sabotage.

Euphoria and self-sabotage are two powerful psychological forces that will have an extremely negative effect on your bottom line. But, they are not forces you have to concern yourself with until you start winning, or start winning on a consistent basis, and that's a big problem. When you're winning, you are least likely to concern yourself with anything that might be a potential problem, especially something that feels as good as euphoria. One of the primary characteristics of euphoria is that it creates a sense of supreme confidence where the possibility of anything going wrong is virtually inconceivable.

Conversely, errors that result from self-sabotage have their root in any number of conflicts that traders have about deserving the money or deserving to win. It's when you're winning that you are most susceptible to making a mistake, overtrading, putting on too large a position, violating your rules, or generally operating as if no prudent boundaries on your behavior are necessary. You may even go to the extreme of thinking you are the market. However, the market rarely agrees, and when it disagrees, you'll get hurt. The loss and the emotional pain are usually significant. You will experience a boom, followed by the inevitable bust.

If I were to classify traders based on the kind of results they achieve, I would put them into three broad categories. The smallest group, probably fewer than 10 percent of the active traders, are the consistent winners. They have a steadily rising equity curve with relatively minor drawdowns. The drawdowns they do experience are the type of normal losses that any trading methodology or system incurs.

Not only have they learned how to make money, but they are no longer susceptible to the psychological forces that cause the boom-and-bust cycle.

The next group, which consists of between 30 and 40 percent of the active traders, are consistent losers. Their equity curves are mirror images of the consistent winners' curves, but in the opposite direction—many losing trades with an occasional winner. Regardless of how long they have been trading, there's much about it that they haven't learned. They either have illusions about the nature of trading or are addicted to it in ways that make it virtually impossible for them to be winners.

The largest group, the remaining 40 to 50 percent of the active traders, are the "boom and busters." They have learned how to make money, but they haven't learned there's a whole body of trading skills that have to be mastered in order to keep the money they make. As a result, their equity curves typically look like roller-coaster rides, with a nice, steady ascent into a steep dropoff, then another nice, steady ascent into another steep dropoff. The roller-coaster cycle continues on and on.

I have worked with many experienced traders who have put together incredible winning streaks, sometimes going months without a losing day; having fifteen or twenty winning trades in a row is not unusual for them. But for the boom and busters, these streaks always end the same way—in huge losses that are the result of either euphoria or self-sabotage.

If the losses are the result of euphoria, it really doesn't matter what form the streak takes—a number of wins in a row, a steadily rising equity curve, or even one winning trade. Everyone seems to have a different threshold for when overconfidence or euphoria starts to take hold of the thinking process. However, the moment euphoria takes hold, the trader is in deep trouble. In a state of overconfidence or euphoria, you can't perceive any risk because euphoria makes you believe that absolutely nothing can go wrong. If nothing can go wrong, there's no need for rules or boundaries to govern your behavior. So putting on a larger than usual position is not only appealing, it's compelling.

However, as soon as you put on the larger-than-usual position, you're in danger. The larger the position, the greater the financial impact small fluctuations in price will have on your equity. Combine the larger-than-normal impact of a move against your position with a resolute belief that the market will do exactly as you expect, and you have a situation in which one tic in the opposition direction of your trade can cause you to go into a state of "mind-freeze" and become immobilized.

When you finally do pull yourself out of it, you'll be dazed, disillusioned, and betrayed, and you'll wonder how something like that could have happened. In fact, you were betrayed by your own emotions. However, if you're not aware of or don't understand the underlying dynamics I just described, you'll have no other choice but to blame the market. If you believe the market did this to you, then you'll feel compelled to learn more about the market in order to protect yourself. The more you learn, the more confident you will naturally become in your ability to win. As your confidence grows, the more likely that at some point you will cross the threshold into euphoria and start the cycle all over again.

Losses that result from self-sabotage can be just as damaging, but they're usually more subtle in nature. Making errors like putting in a sell for a buy or vice versa, or indulging yourself in some distracting activity at the most inopportune time are typical examples of how traders make sure they don't win.

Why wouldn't someone want to win? It's really not a question of what someone wants, because I believe that all traders want to win. Yet, there are often conflicts about winning. Sometimes these conflicts are so powerful that we find our behavior is in direct conflict with what we want. These conflicts could stem from religious upbringing, work ethic or certain types of childhood trauma. If these conflicts exist, it means that your mental environment is not completely aligned with your goals.

In other words, not all parts of you would argue for the same outcome. Therefore, you can't assume that you have the capacity to give yourself an unlimited amount of money just because you have learned how to trade and the money is there for the taking.

A futures broker at one of the major brokerage firms once commented that when it comes to his customers, he lives by the motto that all commodity traders are terminal, and it is his job to keep them happy until they're gone. He said this facetiously, but there is a lot of truth to his statement. Obviously, if you lose more money than you make, you can't survive. What's less obvious, and one of the mysteries of being successful, is that if you win, you may still be terminal; that is, if you win and you haven't learned how to create a healthy balance between confidence and restraint, or you haven't learned how to recognize and compensate for any potential you have to self-destruct, you will sooner or later lose.

If you are among those in the boom-and-bust cycle, consider this: If you could redo every losing trade that was the result of an error or recklessness, how much money would you have now? Based on these recalculated results, what would your equity curve look like? I'm sure many of you would fall into the category of consistent winners. Now think about how you responded to your losses when they occurred. Did you assume complete responsibility for them? Did you try to identify how you might change your perspective, attitude, or behavior? Or did you look to the market and wonder what you might learn about it to prevent such a thing from happening again? Obviously, the market has nothing to do with your potential for recklessness, nor does it have anything to do with the errors you make as a result of some internal conflict about deserving the money.

Probably one of the hardest concepts for traders to effectively assimilate is that the market doesn't create your attitude or state of mind; it simply acts as a mirror reflecting what's inside back to you. If you are confident, it's not because the market is making you feel that way; it is because your beliefs and attitudes are aligned in a way that allows you to step forward into an experience, take responsibility for the outcome, and extract the insight that's been made available. You maintain your confident state of mind simply because you are constantly learning. Conversely, if you're angry and afraid, it's because you believe to some degree that the market creates your outcomes, not the other way around. Ultimately, the worst consequence of not taking responsibility is that it keeps you in a cycle of pain and dissatisfaction. Think about it for a moment. If you're not responsible for your results, then you can assume there's nothing for you to learn, and you can stay exactly as you are.

You won't grow and you won't change. As a result, you will perceive events in exactly the same way, and therefore respond to them in the same way, and get the same dissatisfying results. Or, you might also assume the solution to your problems is to gain more market knowledge. It is always virtuous to learn, but in this case if you don't take responsibility for your attitudes and perspective, then *I* you're learning\* snmpfhinff valuaVilp fnr wrnnrr that will cause you to use what you've learned in inappropriate ways. Without realizing it, you'll be using your knowledge to avoid the responsibility of taking risks. In the process, you end up creating the very things you are trying to avoid, keeping you in

a cycle of pain and dissatisfaction. However, there is one tangible benefit to be gained from blaming the market for what you wanted and didn't get.

You can temporarily shield yourself from your own harsh self-criticism. I say "temporarily" because, when you shift responsibility, you cut yourself off from whatever you needed to learn from the experience. Remember our definition of a winning attitude: a positive expectation of your efforts with an acceptance that whatever results you get are a perfect reflection of your level of development and what you need to learn to do better. If you shift the blame in order to block the painful feelings that result from beating yourself up, all you've done is put an infected Band-Aid on the wound. You may think you have solved the problem, but the problem is only going to resurface later, worse than before. It has to, simply because you haven't learned anything that would cause you to make the kind of interpretations that would result in a more satisfying experience.

Did you ever wonder why leaving money on the table is often more painful than taking a loss? When we lose, there are any number of ways in which we can shift the blame to the market and not accept responsibility. But when we leave money on the table, we can't blame the market. The market didn't do anything but give us exactly what we wanted, but for whatever reason, we weren't capable of acting on the opportunity appropriately. In other words, there's no way to rationalize the pain away. You are not responsible for what the market does or doesn't do, but you are responsible for everything else that results from your trading activities. You are responsible for what you have learned, as well as for everything you haven't learned yet that's waiting to be discovered by you. The most efficient path to discovering what you need to be successful is to develop a winning attitude, because it's an inherently creative Dersoective. Not only does a winnin? attitude open you up to what you need to learn; it also produces the kind of mind-set that is most conducive to discovering something no one else has experienced. Developing a winning attitude is the key to your success. The problem for many traders is that either they think they already have one, when they don't, or they expect the market to develop the attitude for them by giving them winning trades. You are responsible for developing your own winning attitude. The market is not going to do it for you, and, I want to be as emphatic as I can, no amount of market analysis will compensate for developing a winning attitude if you lack one.

Understanding the markets will give you the edge you need to create some winning trades, but your edge won't make you a consistent winner if you don't have a winning attitude. Certainly one could argue that some traders lose because they don't understand enough about the markets and therefore they usually pick the wrong trades. As reasonable as this may sound, it has been my experience that traders with losing attitudes pick the wrong trades regardless of how much they know about the markets. In any case, the result is the same—they lose.

On the other hand, traders with winning attitudes who know virtually nothing about the markets can pick winners; and if they know a lot about the markets, they can pick even more winners. If you want to change your experience of the markets from fearful to confident, if you want to change your results from an erratic equity curve to a steadily rising one, the first step is to embrace the responsibility and

stop expecting the market to give you anything or do anything for you. If you resolve from this point forward to do it all yourself, the market can no longer be your opponent. If you stop fighting the market, which in effect means you stop fighting yourself, you'll be amazed at how quickly you will recognize exactly what you need to learn, and how quickly you will learn it. Taking responsibility is the cornerstone of a winning attitude.

## **CHAPTER 4**

### **CONSISTENCY: A STATE OF MIND**

I hope that after reading the first three chapters you are getting the idea that just because you are acting in the capacity of a trader, doesn't mean that you've learned the appropriate ways to think about what you do. As I have already stressed several times, what separates the best traders from everyone else is not what they do or when they do it, but rather how they think about what they do and how they're thinking when they do it. If your goal is to trade like a professional and be a consistent winner, then you must start from the premise that the solutions are in your mind and not in the market. Consistency is a state of mind that has at its core certain fundamental thinking strategies that are unique to trading. Experiencing a few or more winning trades can convince almost anyone that trading is easy. Recall your own experiences; think back to those trades that brought a stream of money flowing into your account when all you had done was make a simple decision to buy or sell.

Now, combine the extremely positive feeling you get from winning and getting money with no effort, and it's almost impossible not to conclude that making money as a trader is easy. But if that's the case, if trading is so easy, then why is it so difficult to master? Why are so many traders at their wits' end, grappling with the obvious contradiction? If it is true that trading is easy — and traders know it is because they've had the direct experience of how easy and effortless it is — then how can it also be possible that they can't make what they've learned about the markets work for them over and over again? In other words, how do we account for the contradiction between what we believe about trading and our actual trading results over time?

### **THINKING ABOUT TRADING**

The answers are all in the way you think about it. The irony is that trading can be as much fun and as effortless as your experience of it has been on occasion; but experiencing these qualities consistently is a function of your perspective, your beliefs, your attitudes, or your mindset.

Choose the term you are most comfortable with; they all refer to the same thing: Winning and consistency are states of mind in the same way that happiness, having fun, and satisfaction are states of

mind. Your state of mind is a by-product of your beliefs and attitudes. You can try to create consistency without having the appropriate beliefs and attitudes, but your results won't be any different than if you try to be happy when you're not having fun. When you're not having fun, it can be very difficult to change your perspective to one where you, all of a sudden, start enjoying yourself. Of course, the circumstances of your situation could suddenly shift in a way that causes you to experience joy. But then your state of mind would be the result of an external shift in conditions, not a result of an internal shift in your attitude. If you depend on outside conditions and circumstances to make you happy (so that you always are enjoying yourself), then it is extremely unlikely that you will experience happiness on a consistent basis.

However, you can greatly increase the possibility of your being happy by developing fun-type attitudes and, more specifically, by working on neutralizing the beliefs and attitudes that prevent you from having fun or enjoying yourself. Creating consistent success as a trader works the same way. You can't rely on the market to make you consistently successful, any more than you can rely on the outside world to make you consistently happy. People who are truly happy don't have to do anything in order to be happy.

They are happy people who do things. Traders who are consistently successful are consistent as a natural expression of who they are. They don't have to try to be consistent; they are consistent. This may seem like an abstract distinction, but it is vitally important that you understand the difference. Being consistent is not something you can try to be, because the very act of trying will negate your intent by mentally taking you out of the opportunity flow, making it less likely that you will win and more likely you will lose. Your very best trades were easy and effortless. You didn't have to try to make them easy; they were easy. There was no struggle. You saw exactly what you needed to see, and you acted on what you saw. You were in the moment, a part of the opportunity flow. When you're in the flow, you don't have to try, because everything you know about the market is available to you. Nothing is being blocked or hidden from your awareness, and your actions seem effortless because there's no struggle or resistance. On the other hand, having to try indicates that there is some degree of resistance or struggle. Otherwise, you would just be doing it and not have to try to be doing it. It also indicates that you're trying to get what you want from the market. While it seems natural to think this way, it's a perspective fraught with difficulties.

The best traders stay in the flow because they don't try to get anything from the market; they simply make themselves available so they can take advantage of whatever the market is offering at any given moment. There's a huge difference between the two perspectives.

In Chapter 3, I briefly illustrated how our minds are wired to avoid both physical and emotional pain. If you trade from the perspective of trying to get what you want or what you expect from the markets, what happens when the market doesn't behave in a way that will fulfill your expectations? Your mental defense mechanisms kick in to compensate for the difference between what you want and what you're not getting, so that you don't experience any emotional pain.

Our minds are designed to automatically block threatening information or find a way to obscure that information, in order to shield us from the emotional discomfort we naturally feel when we don't get what we want. You won't realize it in the moment, but you will pick and choose information that is consistent with what you expect, so that you can maintain a pain-free state of mind.

However, in the process of trying to maintain a pain-free state of mind, you also take yourself out of the opportunity flow and enter the realm of the "could have," the "should have," the "would have," and the "if only." Everything that you could have, should have, or would have recognized in the moment appeared invisible, then all becomes painfully evident after the fact, after the opportunity is long gone. To be consistent, you have to learn to think about trading in such a way that you're no longer susceptible to conscious or subconscious mental processes that cause you to obscure, block, or pick and choose information on the basis of what will make you happy, give you what you want, or avoid pain. The threat of pain generates fear, and fear is the source of 95 percent of the errors you are likely to make. Certainly, you can't be consistent or experience the flow if you're consistently making errors, and you will make errors, as long as you're afraid that what you want or what you expect won't happen. Furthermore, everything you attempt to do as a trader will be a struggle, and it will seem as if you are struggling against the market or that the market is against you personally. But, the reality is that it's all taking place inside your mind. The market doesn't perceive the information it makes available; you do. If there's a struggle, it is you who are struggling against your own TV^^oT\*n 11 T-acic^onoo /">r^T-iTlir»l-c anri r^avc

Now, you may be asking yourself, how can I think about trading in such a way that I'm no longer afraid and, therefore, no longer susceptible to the mental processes that cause me to block, obscure, or pick and choose information? The answer is: Learn to accept the risk.

## REALY UNDERSTANDING RISK

Other than the many issues surrounding responsibility that we discussed in Chapter 3, there isn't anything about trading that is more central to your success and also more misunderstood than the concept of accepting the risk. As I mentioned in the first chapter, most traders erroneously assume that because they are engaged in the inherently risky activity of putting on and taking off trades, they are also accepting that risk. I will repeat that this assumption couldn't be further from the truth.

Accepting the risk means accepting the consequences of your trades without emotional discomfort or fear. This means that you must learn how to think about trading and your relationship with the markets in such a way that the possibility of being wrong, losing, missing out, or leaving money on the table doesn't cause your mental defense mechanisms to kick in and take you out of the opportunity flow. It doesn't do you any good to take the risk of putting on a trade if you are afraid of the consequences, because your fears will act on your perception of information and your behavior in a way that will cause you to create the very experience you fear the most, the one you are trying to avoid. I am offering

you a specific thinking strategy composed of a set of beliefs that will keep you focused, in the moment, and in the flow. With this perspective, you will not be trying to get anything from the market or to avoid anything. Rather, you will let the market unfold and you will make yourself available to take advantage of whatever situations you define as opportunities. When you make yourself available to take advantage of an opportunity, you don't impose any limitations or expectations on the market's behaviour. You are satisfied to let the market do whatever it's going to do.

However, in the process of doing something, the market will create certain conditions you define and perceive as opportunities. You act on those opportunities to the best of your ability, but your state of mind is not dependent upon or affected by the market's behavior. If you can learn to create a state of mind that is not affected by the market's behavior, the struggle will cease to exist. When the internal struggle ends, everything becomes easy. At that point, you can take full advantage of all your skills, analytical or otherwise, to eventually realize your potential as a trader. Here's the challenge! How do you accept the risks of trading without emotional discomfort and fear, when at the moment you perceive the risk, you simultaneously feel discomfort and fear? In other words, how do you remain confident and pain-free when you are absolutely certain you can be proved wrong, lose money, miss out, or leave money on the table?

As you can see, your fear and feeling of discomfort are completely justified and rational. Each of those possibilities becomes real the moment you contemplate interacting with the market. However, as true as all of these possibilities are for every trader, what isn't true or the same for every trader is what it means to be wrong, lose, miss out, or leave money on the table. Not everyone shares the same beliefs and attitudes about these possibilities and, therefore, we don't share the same emotional sensitivities. In other words, not everyone is afraid of the same things.

This may seem obvious, but I assure you it is not. When we're afraid, the emotional discomfort we feel in the moment is so real that it's beyond question, and it's natural to assume that everyone shares our reality. I will give you a perfect example of what I am talking about. I recently worked with a trader, who was deathly afraid of snakes. As far as he was concerned, he had always been afraid of snakes because he couldn't recall a time when he wasn't. Now he is married and has a three-year-old daughter. One evening, while his wife was out of town, his daughter and he were invited to a friend's house for dinner. Unbeknownst to my client, his friend's child had a pet snake.

When the friend's child brought out the snake for everyone to see, my client freaked and practically leapt to the other side of the room to get as far away from the snake as possible. His daughter, on the other hand, was completely enthralled with the snake, and wouldn't leave it alone. When he related this story to me, he said that he was not only shocked by the unexpected confrontation with the snake, but that he was just as shocked by his daughter's reaction. She wasn't afraid and he assumed that she would be. I explained to him that his fear was so intense and his attachment to his daughter was so great that it was inconceivable to him that his daughter would not automatically share his reality about snakes. But then I pointed out, there really wasn't any way she could have shared his experience, unless he

specifically taught her to be afraid of snakes or she had had her own painful frightening experience. Otherwise, without anything to the contrary in her mental system, the most likely reaction to her first encounter with a living snake would be pure, unadulterated fascination.

Just as my client assumed that his daughter would be afraid of snakes, most traders assume the best traders, like themselves, are also afraid of being wrong, losing, missing out, and leaving money on the table. They assume that the best traders somehow neutralize their fears with an inordinate amount of courage, nerves of steel, and self-control.

Like many other things about trading, what seems to make sense, just isn't the case. Certainly, any one or all of these characteristics may be present in any top trader. But what is not true is that these characteristics play any role in their superior performance. Needing courage, nerves of steel, or self-control would imply an internal conflict where one force is being used to counteract the effects of another. Any degree of struggle, trying, or fear associated with trading will take you out of the moment and flow and, therefore, diminish your results. This is where professional traders really separate themselves from the crowd. When you accept the risk the way the pros do, you won't perceive anything that the market can do as threatening. If nothing is threatening, there's nothing to fear. If you're not afraid, you don't need courage. If you're not stressed, why would you need nerves of steel? And if you're not afraid of your potential to get reckless, because you have the appropriate monitoring mechanisms in place, then you have no need for self-control.

As you contemplate the implications of what I am saying, I want you to keep something in mind: Very few people who go into trading start out with the appropriate beliefs and attitudes about responsibility and risk. There are some who do but it's rare. Everyone else goes through the same cycle I described in the example of the novice trader: We start out carefree, then become scared, and our fears continually diminish our potential. The traders who break through the cycle and ultimately make it are the ones who eventually learn to stop avoiding and start embracing the responsibility and the risk.

Most of those who successfully break the cycle don't make the shift in thinking until they have experienced so much pain from large losses that it has the positive effect of stripping away their illusions about the nature of trading. With respect to your development, the *how* of their transformation is not that important, because in most cases it happened inadvertently. In other words, they weren't completely aware of the shifts that were taking place inside their mental environment until they experienced the positive effects their new perspective had on the ways in which they interacted with the market. This is why very few top traders can really explain what accounts for their success, except to speak in axioms like "cut your losses" and "go with the flow."

What is important is that you understand it is completely possible to think the way the professionals do and to trade without fear, even though your direct experience as a trader would argue otherwise.

## ALIGNING YOUR MENTAL ENVIRONMENT

Now we're going to start zeroing in on exactly how you can align your mental environment in order to accept the risk and function like a professional trader. Most of what I've discussed up to this point was designed to get you ready to do the real work. I'm going to teach you a thinking strategy that has, at its core, a firm belief in probabilities and edges.

With this new thinking strategy, you'll learn how to create a new relationship with the market, one that disassociates your trading from what it typically means to be wrong or to lose, and that precludes you from perceiving anything about the market as threatening. When the threat of pain is gone, the fear will correspondingly disappear, as will the fear-based errors you are susceptible to. You will be left with a mind that is free to see what is available and to act on what you see. Getting to this carefree, fearless state of mind, in spite of being burned over and over again, will take some work, but it's not going to be so difficult as you may think. In fact, by the time you've finished reading this book, most of you will be amazed at how simple the solutions to your problems really are. In many respects, a state of mind or perspective is like software code.

You could have several thousand lines of perfectly written code, with only one flawed line, and in that one flawed line there might be only one character out of place. Depending on the purpose of the software and where that flaw is in relation to everything else, that one misplaced character could ruin the performance of an otherwise perfectly written system. You see, the solution was simple: Fix the misplaced character, and everything runs smoothly. However, finding the error or even knowing it exists in the first place can take considerable expertise.

When it comes to the ideal trading mentality, everybody is a certain psychological distance away. In other words, virtually everyone starts out with flawed software code. I use terms like clicks or degrees to indicate psychological distance but these terms don't imply a specific distance. So, for example, many of you will find that you are only, let's say, one click away in perspective from the ideal mindset. That one click could represent one or two erroneous or misplaced assumptions you have about the nature of trading. As you reflect upon some of the ideas presented in this book, your perspective may shift.

To use the analogy of software code, that shift would be equivalent to finding the flawed line in your mental system and replacing it with something that works properly. People normally describe this kind of internal mental shift as an "ah, ha" experience, or the moment when the light goes on. Everyone has had these kinds of experiences, and there are some common qualities associated with them. First, we usually feel different. The world even seems different, as if it had suddenly changed. Typically, we might say at the moment of the breakthrough something like, "Why didn't you tell me this before?" or, "It was right in front of me the whole time, but I just didn't see it" or, "It's so simple; why couldn't I see it?"

Another interesting phenomenon of the "ah, ha" experience, is that sometimes within moments,

although the amount of time can vary, we feel as if this new part of our identity has always been a part of who we are. It then becomes difficult to believe that we were ever the way we were before we had the experience. In short, you may already have some awareness of much of what you need to know to be a consistently successful trader. But being aware of something doesn't automatically make it a functional part of who you are. Awareness is not necessarily a belief. You can't assume that learning about something new and agreeing with it is the same as believing it at a level where you can act on it. Take the example of my client who is afraid of snakes. He is certainly aware that not all snakes are dangerous, and that learning how to make a distinction between the ones that are dangerous and the ones that aren't would not be difficult.

Will learning how to make these distinctions suddenly cause him not to be afraid of "non-dangerous snakes"? Can we assume that his awareness will drop down to a level in his mental environment where he can now interact with snakes without fear or immobility? No, we cannot make this assumption. His awareness that some snakes aren't dangerous and his fear of snakes can exist side by side in his mental environment, as a contradiction to each other. You could confront him with a snake and he might readily acknowledge that he knows the snake is not dangerous and wouldn't hurt him; but, at the same time, he would still find it extremely difficult to touch the snake, even if he wanted to. Does this mean that he is doomed to be afraid of snakes for the rest of his life? Only if he wants to be. It's really a matter of willingness.

It's certainly possible to neutralize his fear, but he will have to work at it, and working at anything requires sufficient motivation. Many of us have what we know to be irrational fears and simply choose to live with the contradiction because we don't want to go through the emotional work that is necessary to overcome the fear. In this example, the contradiction is obvious. However, in my many years of working with traders, I have uncovered several typical contradictions and conflicts surrounding the issues of risk and responsibility, where holding two or more conflicting beliefs can easily cancel out your positive intentions, no matter how motivated you are to be successful.

The problem is that none of these contradictions are really obvious, at least not at first glance. Contradictory beliefs, however, aren't the only problems. What about assertions like "I'm a risk taker," that traders typically assume have dropped down to the functional level of a belief when, in fact, the underlying dynamics of the way they perceive the market indicates they are doing everything possible to avoid risk. Contradictory beliefs and nonfunctional awareness represent flawed mental software code; code that destroys your ability to stay focused and accomplish your goals; code that makes it seem as if you simultaneously have one foot on the accelerator and the other on the brake; code that gives learning how to trade a mysterious quality that will be challenging in a fun way at first, but usually turns into pure, unadulterated exasperation. When I was in college in the late 1960s, one of my favorite movies was *Cool Hand Luke*, starring Paul Newman. It was a very popular movie back then, so I'm sure some of you have seen it on late-night TV.

Luke was in a Georgia chain gang. After he escaped and was caught for the second time, the warden

and guards were determined not to let Luke make fools of them a third time. So while forcing him to do an inordinate amount of work with no rest and giving him intermittent beatings, they kept asking, "Have you got your mind right yet, Luke?" Eventually, after considerable suffering, Luke finally told the prison bosses that he had his mind right. They said that if he didn't, and tried to escape again, they'd kill him for sure. Of course, Luke attempted another escape, and true to their word, the guards killed him. Like Luke, many traders, whether they realize it or not, are trying to have it their way by beating the market; as a result, they get financially and emotionally killed. There are easier, infinitely more satisfying ways of getting what you want from the market, but first you have to be willing to "get your mind right."

## CHAPTER 5

### **THE DYNAMICS OF PERCEPTION**

One of the primary objectives of this book is to teach you how to take the threat of pain out of market information. The market doesn't generate happy or painful information. From the markets perspective, it's all simply information. It may seem as if the market is causing you to feel the way you do at any given moment, but that's not the case. It's your own mental framework that determines how you perceive the information, how you feel, and, as a result, whether or not you are in the most conducive state of mind to spontaneously enter the flow and take advantage of whatever the market is offering. Professionals don't perceive anything about the markets as painful; therefore, no threat exists for them. If there's no threat, there's nothing to defend against. As a result, there isn't any reason for their conscious or subconscious defense mechanisms to kick in. That's why professionals can see and do things that mystify everyone else. They're in the flow, because they're perceiving an endless stream of opportunities, and when they're not in the flow, the very best of the best can recognize that fact and then compensate by either scaling back or not trading at all.

If your goal is to be able to trade like the professionals, you must be able to see the market from an objective perspective, without distortion. You must be able to act without resistance or hesitation, but with the appropriate amount of positive restraint to counteract the negative effects of overconfidence or euphoria. In essence, your objective is to be able to create a unique state of mind, a traders mentality. When you've accomplished this, everything else about your success as a trader will fall into place. To help you achieve that objective, I'm going to give you a way to redefine your relationship to market information so that there will be little or no potential to perceive any of it as threatening.

By "redefine," I mean to change your perspective and operate out of a mental framework that keeps you focused on the opportunities available instead of tapping you into emotional pain.

## **DEBUGGING YOUR MENTAL SOFTWARE**

In other words, we want to get the bugs out of our mental software code and get our minds right. Doing this effectively will require an understanding of the nature of mental energy and how you can use that energy to change a perspective that is generating an unwanted, negative, emotional response to market information. There's much to learn, but I think you will be amazed at how some simple changes can make a huge difference in your trading results. The process of trading starts with perceiving an opportunity. Without the perception of an opportunity, we wouldn't have a reason to trade. So I think it is only fitting that we start our examination of mental energy by breaking down the process of perception.

What are the underlying dynamics of perception? What factors determine how we perceive information or what we perceive in relationship to what is available? How is perception connected with what we experience at any given moment? Probably the easiest way to understand the dynamics of perception and answer these questions is to think of everything (and I do this) in terms of forces—forces that generate information about the properties, characteristics, and traits that make them uniquely what they are. Everything that exists outside of our bodies—all plants and all categories of life; all planetary phenomena in the form of weather conditions, earthquakes, and volcanic eruptions; all active and inert physical matter; and all noncorporeal phenomena such as light, sound waves, microwaves, and radiation—generates information about the nature of its existence. That information has the potential to act as a force on one of our five physical senses. Before we go any further, notice that I use the verb "generate" in an all-inclusive way implying that everything is in an active state of expression, including inanimate objects.

To illustrate why I do that, let's look at something as simple as a rock. It's an inanimate object, composed of unique atoms and molecules expressing themselves as a rock. I can use the active verb "expressing" because the atoms and molecules that make up the rock are in constant motion. So, even though the rock doesn't appear active except in the most abstract sense, it has characteristics and properties that will act as forces on our senses, causing us to experience and make distinctions about the nature of its existence. For example, a rock has texture, and that texture acts as a force on our sense of touch if we run our fingers across the rock's surface.

A rock has shape and color, which act as a force on our vision; the rock takes up space that no other object can occupy, so that we see it instead of an empty space or some other object. A rock can also have an odor that acts as a force on our sense of smell, or taste like something, although I haven't licked any rocks lately to find out. When we encounter anything in the environment that expresses its properties and characteristics, an exchange of energy takes place. Energy from the outside, in the form of whatever is expressing itself, gets transformed by our nervous system into electrical impulses and then gets stored in our inner, mental environment. To be more specific, whatever we are seeing, hearing, tasting, smelling, or feeling through our senses gets transformed into electrical impulses of

energy and stored in our mental environment as a memory and/or dis- I think all of this is fairly self-evident to most people, but there are some profound implications here that aren't self-evident, and we typically take them completely for granted.

First of all, there's a cause-and-effect relationship that exists between ourselves and everything else that exists in the external environment. As a result, our encounters with external forces create what I am going to call "energy structures" inside our minds. The memories, distinctions, and, ultimately, the beliefs we acquire throughout our lives exist in our mental environment in the form of structured energy. Structured energy is an abstract concept. You might be asking yourself, "How does energy take shape or form?" Before I answer this question, an even more fundamental question needs to be addressed.

How do we know that memories, distinctions, and beliefs exist in the form of energy in the first place? I don't know if it's been scientifically proven or completely accepted by the scientific community, but ask yourself in what other form could these mental components exist? Here's what we know for sure: Anything composed of atoms and molecules takes up space and, therefore, can be observed. If memories, distinctions, and beliefs existed in some physical form, then we should be able to observe them. To my knowledge, no such observations have been made.

The scientific community has dissected brain tissue (both living and dead) examined it at the level of the individual atom, mapped various regions of the brain in terms of their functions, but nobody, as yet, has *observed* a memory, distinction, or belief in its natural form. By "in its natural form" I mean that although a scientist can observe the individual brain cells that contain certain memories, he can't experience those memories first hand. He can only experience them if the person to whom the memories belong is alive and chooses to express them in some way. If memories, distinctions, and beliefs don't exist as physical matter, then there really isn't any alternative way for them to exist except as some form of energy. If this is in fact the case, can this energy take on a specific shape? Can it be structured in a way that reflects the external forces that caused it to come into existence? Most definitely! Is there anything in the environment that is analogous to energy having shape

Thoughts are energy. Because you think in a language, your thoughts are structured by the limitations and rules that govern the particular language in which you think. When you express those thoughts aloud, you create sound waves, which are a form of energy. The sound waves created by the interaction of your vocal cords and tongue are structured by the content of your message. Microwaves are energy. Many phone calls are relayed by microwaves, which means that the microwave energy has to be structured in a way that reflects the message it is carrying.

Laser light is energy, and if you've ever witnessed a demonstration of a laser light show, or laser art, what you've seen is pure energy taking a shape that reflects the creative desires of the artists. All of these are good examples of how energy can take shape, form, and structure. Of course, there are many more, but there is one more example that illustrates the point in the most graphic way. At the most fundamental level, what are dreams? I am not asking you what dreams mean or what you think their

purpose is, but rather, what are they? What are their properties? If we assume that dreams take place within the confines of our skulls, then they can't be composed of atoms and molecules, because there wouldn't be enough space for all of the things that exist and take place in our dreams. Dream experiences seem to have the same proportions and dimensions as the things we perceive when we are awake and experiencing life through our five senses.

The only way this could be possible is if dreams were a form of structured energy, because energy can take on any size or dimension, but, in doing so, doesn't actually take up any space. Now, if it hasn't already occurred to you, there's something here that's really profound. If the memories, distinctions, and beliefs we've acquired as a result of our encounters with the external environment represent what we've learned about that environment and how it works; and if these memories, distinctions, and beliefs exist in our mental environment as energy; and if energy doesn't take up any space; then it also could be said that we have an unlimited capacity for learning.

Well, not only do I think it could be said, I'm saying it. Consider the development of human consciousness and what to know to function effectively compared to just 100 years ago. There is absolutely nothing to indicate that we don't have an unlimited capacity to learn. The difference between what we are aware of now and what we can do as a result of this expanded awareness would boggle the mind of anyone living 100 years ago.

## **PERCEPTION AND LEARNING**

However, we must be careful not to equate storage capacity with learning capacity. Learning, and becoming aware of what is available to be learned, is not just a function of storage capacity. If it were, then what would stop us from knowing everything? And if we knew everything, then what would stop us from perceiving every possible characteristic, property, or trait of everything that is expressing itself in any given moment? What stops us now? These questions get to the very heart of why you have to understand that mental components like memories, distinctions, and beliefs exist as energy. Anything that is energy has the potential to act as a force expressing its form, and that is exactly what our memories, distinctions and beliefs do.

They act as a force on our senses from the inside, expressing their form and content, and, in the process of doing so, they have a profoundly limiting effect on the information we perceive in any given moment, making much of the information that is available from the environment's perspective, and the possibilities inherent within that information, literally invisible.

I am saying here that, in any given moment the environment is generating an enormous amount of information about its properties, characteristics, and traits. Some of that information is beyond the physiological range of our senses. For example, our eyes can't see every wavelength of light nor can our ears hear every frequency of sound the environment produces, so there's definitely a range of information that is beyond the physiological capabilities of our senses. What about the rest of the

information the environment is generating about itself? Do we see, hear, taste, smell, or feel through our senses every possible distinction, trait, and characteristic being sensed? Absolutely not! The energy that's inside of us will categorically limit and block our awareness of much of this information by working through the same sensory mechanisms the external environment works through. Now, if you take a moment and think about it, some of what I just said should be self-evident. For example, there are many ways in which the external environment can express itself that we don't perceive simply because we haven't learned about them yet.

This is easy to illustrate. Think back to the first time you ever looked at a price chart. What did you see? Exactly what did you perceive? With no previous exposure, I'm sure, like everyone else, you saw a bunch of lines that had no meaning. Now if you're like most traders, when you look at a price chart you see characteristics, traits, and behavior patterns that represent the collective actions of all the traders who participated in those particular trades. Initially, the chart represented undifferentiated information. Undifferentiated information usually creates a state of confusion, and that's probably what you experienced when you first encountered a chart.

Gradually, however, you learned to make distinctions about that information, such as trends and trend lines, consolidations, support and resistance, retracements or significant relationships between volume, and open interest and price action, just to name a few. You learned that each of these distinctions in the market's behavior represented an opportunity to fulfill some personal need, goal, or desire. Each distinction now had a meaning and some relative degree of significance or importance attached to it. Now, I want you to use your imagination and pretend that I just set before you the very first price chart you ever saw. Would there be a difference between what you see now and what you saw then? Absolutely. Instead of a bunch of undifferentiated lines, you would see everything you've learned about those lines between then and now. In other words, you would see all the distinctions you've learned to make, as well as all the opportunities those distinctions represent.

Yet, everything you can see as you look at that chart now existed then, and, furthermore, was available to be perceived. What's the difference? The structured energy that's inside of you now—the knowledge you have gained—acts as a force on your eyes, causing you to recognize the various distinctions that you've learned about. Since that energy wasn't there the first time you looked at the chart, all the opportunities that you now see were there, but at the same time invisible to you. Furthermore, unless you've learned to make every possible distinction based on every possible relationship between the variables in that chart, what you haven't learned yet is still invisible. Most of us have no concept of the extent to which we are continually surrounded by the invisible opportunities inherent in the information we're exposed to.

More often than not, we never learn about these opportunities and, as a result, they remain invisible. The problem, of course, is that unless we're in a completely new or unique situation or we're operating out of an attitude of genuine openness, we won't perceive something that we haven't learned about yet. To learn about something, we have to be able to experience it in some way. So what we have here is a

closed loop that prevents us from learning. Perceptual closed loops exist in all of us, because they are natural functions of the way mental energy expresses itself on our senses. Everyone has heard the expression, "People see what they want to see."

I would put it a little differently: People see what they've learned to see, and everything else is invisible until they learn how to counteract the energy that blocks their awareness of whatever is unlearned and waiting to be discovered. To illustrate this concept and make it even clearer, I am going to give you another example, one that demonstrates how mental energy can affect how we perceive and experience the environment in a way that it actually reverses the cause-and-effect relationship. Let's look at a very young child's first encounter with a dog. Because it's a first-time experience, the child's mental environment is a clean slate, so to speak, with respect to dogs. He won't have any memories and certainly no distinctions about a dog's nature. Therefore, up to the moment of his first encounter, from the child's perspective, dogs don't exist. Of course, from the environment's perspective, dogs do exist and they have the potential to act as a force on the child's senses to create an experience. In other words, dogs expressing their nature can act as a cause to produce an effect inside the child's mental environment. What kind of effect are dogs capable of producing? Well, dogs have a range of expression. By range of expression I mean dogs can behave in a number of ways toward humans. They can be friendly, loving, protective, and fun to play with; or they can be hostile, mean, and dangerous—just to name a few of the many behaviors they're capable of. All of these traits can be observed, experienced, and learned about. When the child sees the dog for the first time, there is absolutely nothing in his mental environment to tell him what he is dealing with. Unfamiliar, unknown, and unclassified environmental information can generate a sense of curiosity—when we want to find out more about what we're experiencing—or it can generate a state of confusion, which can easily turn to fear if we can't place the information into an understandable or meaningful organizational framework or context. In our example, the child's sense of curiosity kicks in and he rushes to the dog to get more sensory experience.

Notice how children are literally compelled to thrust themselves into a situation they know nothing about. However, in this example, the environmental forces at hand do not react favorably to the child's advances. The dog the child is interested in is either inherently mean or having a bad day. In any case, as soon as the child gets close enough, the dog bites him. The attack is so severe that the dog has to be pulled off the child. This kind of unfortunate experience is certainly not typical, but it's not that uncommon either. I chose it for two reasons: First, most people can relate to it in some way either from their own direct experience or through the experience of someone they know. Second, as we analyze the underlying dynamics of this experience from an energy perspective, we're going to learn about

- 1) how our minds are designed to think,
- 2) process information,
- 3) how these processes affect what we experience and
- 4) our ability to recognize new possibilities.

I know this may seem like a lot of insight from just one example, but the principles involved apply to the dynamics beneath virtually all learning. As a result of being physically and emotionally traumatized, the little boy in our example now has a memory and one distinction about the way dogs can express themselves.

If the boy's ability to remember his experiences is normal, he can store this incident in a way that represents all of the senses the experience had an impact on: For example the attack can be stored as mental images based on what he saw, as well as mental sounds representing what he heard, and so on. Memories representing the other three senses will work the same way.

However, the kind of sensory data in his memory is not as important as the kind of energy the sensory data represents. We basically have two kinds of mental energy: positively charged energy, which we call love, confidence, happiness, joy, satisfaction, excitement, and enthusiasm, to name a few of the pleasant ways we can feel; and negatively charged energy, representing fear, terror, dissatisfaction, betrayal, regret, anger, confusion, anxiety, stress, and frustration, all representing what is commonly referred to as emotional pain. Because the boy's first experience with a dog was intensely painful, we can assume that regardless of what senses were affected, all of his memories of this experience will be in painful, unpleasant-feeling, negative energy.

Now, what effect will this negatively charged mental energy have on his perception and behavior if and when he encounters another dog? The answer is so obvious that it may seem ridiculous even to ask, but the underlying implications are not obvious, so bear with me. Clearly, the moment he comes into contact with another dog, he will experience fear. Notice that I used the word "another" to describe the next dog he has any contact with. What I want to point out is that *any* dog can cause the boy to feel fear, not just the one that actually attacked him. It won't make a bit of difference if the next dog he comes into contact with is the friendliest dog in the world, one whose nature is only to express playfulness and love. The child will still be afraid, and furthermore, his fear could quickly turn to unrestrained terror especially if the second dog (seeing a child and wanting to play) attempts to approach him. Each of us has at one time or another witnessed a situation in which someone was experiencing fear, when from our perspective there wasn't the least bit of danger or threat. Although we may not have said it, we probably thought to ourselves that this person was being irrational.

## **PERCEPTION AND RISK**

If we tried to point out why there was no need to be afraid, we probably found that our words had little, if any, impact. We could easily think the same thing about the boy in our example, that he is just being irrational, because it's clear from our perspective that other possibilities exist than the one his mind has focused on. But is his fear any less rational than, let's say, your fear (or hesitation) about putting on the next trade, when your last trade was a loser?

Using the same logic, a top trader would say that your fear is irrational because this "now moment"

opportunity has absolutely nothing to do with your last trade. Each trade is simply an edge with a probable outcome, and statistically independent of every other trade. If you believe otherwise, then I can see why you're afraid; but I can assure you that your fears are completely unfounded. As you can see, one person's perception of risk can easily be perceived as irrational thinking by another. Risk is relative, but to the person who perceives it in the moment, it seems absolute and beyond question. When the child encountered his first dog, he was bubbling with excitement and curiosity. What is it about the way our minds think and process information that could automatically flip the boy into a state of fear the next time he encounters a dog, even if it's months or years later? If we look at fear as a natural mechanism warning us of threatening conditions, then what is it about the way our minds function that would automatically tell the boy that the next encounter with a dog is something to be afraid of? What happened to the boy's natural sense of curiosity? There is surely more to learn about the nature of dogs than this one experience has taught him, especially in light of the fact that our minds seem to have an unlimited capacity for learning. And why would it be virtually impossible to talk the boy out of his fear?

### **THE POWER OF ASSOCIATION**

As complex as these questions may seem at first glance, most of them can be answered quite easily. I'm sure many of you already know the answer: Our minds have an inherent design characteristic that causes us to associate and link anything that exists in the external environment that is similar in quality, characteristics, properties, or traits to anything that already exists in our mental environment as a memory or distinction. In other words, in the example of the child being afraid of dogs, the second dog or any other dog he encounters thereafter, doesn't have to be the dog that attacked in order for him to experience emotional pain.

There just has to be enough of a likeness or similarity for his mind to make a connection between the two. This natural tendency for our minds to associate is an unconscious mental function that occurs automatically. It's not something we have to think about or make a decision about. An unconscious mental function would be analogous to an involuntary physical function such as a heartbeat. Just as we don't have to consciously think about the process of making our hearts beat, we don't have to think about linking experiences and our feelings about them. Its simply a natural function of the way our minds process information, and, like a heartbeat, it's a function that has a profound effect on the way we experience our lives.

I'd like you to try and visualize the two-way flow of energy that reverses the cause-and-effect relationship that will make it difficult (if not impossible) for the boy to perceive any other possibilities than the one that's in his mind. To help you, I'm going to break this process down into its smallest parts, and go through what happens step by step. All of this may seem a bit abstract, but understanding this process plays a big part in unlocking your potential to achieve consistent success as a big trader. First,

let's get right down to the basics. There's structured energy on the outside of the boy and structured energy on the inside of the boy. The outside energy is positively charged in the form of a friendly dog that wants to express itself by playing.

The inside energy is a negatively charged memory in the form of mental images and sounds that represent the boy's first experience with a dog. Both the inside and the outside energy have the potential to make themselves felt on the boy's senses and, as a result, create two different kinds of situations for him to experience. The outside energy has the potential to act as a force on the boy in a way that he could find very enjoyable. This particular dog expresses behavior characteristics like playfulness, friendliness, and even love. But keep in mind that these are characteristics that the child still has not experienced in a dog, so from his perspective they don't exist. Just as in the price chart example I presented earlier, the child won't be able to perceive what he hasn't yet learned about, unless he is in a state of mind that is conducive to learning.

The inside energy also has potential and is just waiting, so to speak, to express itself. But it will act on the boy's eyes and ears in a way that causes him to feel threatened. This in turn will create an experience of emotional pain, fear, and possibly even terror. From the way I've set this up, it may seem as if the boy has a choice between experiencing fun or experiencing fear, but that's really not the case, at least not in the moment. Of the two possibilities that exist in this situation, he will undoubtedly experience the pain and fear, instead of the fun. This is true for several reasons. First, as I've already indicated, our minds are wired to automatically and instantaneously associate and link information that has similar characteristics, properties, and traits. What's outside of the child in the form of a dog, looks and sounds similar to the one that's in his mind. However, the degree of similarity that is necessary for his mind to link the two is an unknown variable, meaning

I don't know the mental mechanism that determines how much or how little similarity is required for our minds to associate and link two or more sets of information. Since everyone's mind functions in a similar way, but, at the same time is unique, I would assume there is a range of tolerance for similarity or dissimilarity and each of us has a unique capacity somewhere within the range. Here's what we do know: As this next dog comes into contact with the boy's eyes or ears, if there is enough similarity between the way it looks or sounds and the dog that's embedded in his memory, then his mind will automatically connect the two.

This connection, in turn, will cause the negatively charged energy in his memory to be released throughout his body, causing him to be overcome with a very uncomfortable sense of foreboding or terror. The degree of discomfort or emotional pain that he experiences will be equivalent to the degree of trauma that he suffered as a result of his first encounter with a dog. What happens next is what psychologists call a projection. I'm going to refer to it simply as another instantaneous association that makes the reality of the situation from the boy's perspective seem like the absolute, unquestionable truth. The boy's body is now filled with negatively charged energy.

At the same time, he is in sensory contact with the dog. Next, his mind associates whatever sensory

information his eyes or ears perceive with the painful energy he's experiencing inside himself, which makes it seem as if the source of his pain and fear is the dog he is seeing or hearing in that moment. Psychologists call the dynamics of what I just described a projection because, in a sense, the boy is projecting the pain he is experiencing in the moment onto the dog. That painful energy then gets reflected back to him, so that he perceives a dog that is threatening, painful, and dangerous. This process makes the second dog identical in character, properties, and traits to the one that is in the boy's memory bank, even though the information the second dog is generating about its behavior is not identical, or even similar, to the behavior of the dog that actually attacked the boy.

Since the two dogs, the one in the boy's mind and the one outside of the boy's mind, feel exactly the same, it's extremely unlikely the boy will be able to make any type of distinctions in the second dog's behavior that would suggest to him that it is any different than the one in his mind. So, instead of perceiving this next encounter with a dog as an opportunity to experience something new about the nature of dogs, he perceives a threatening and dangerous dog. Now, if you think about it for a moment, what is it about this process that would indicate to the boy that his experience of the situation was not the absolute, unquestionable truth? Certainly the pain and fear that he experienced in his body was the absolute truth. But what about the possibilities that he perceived? Were they true? From our perspective, they weren't.

However, from the boy's perspective, how could they be anything but the true reality of the situation? What alternatives did he have? First, he can't perceive possibilities that he hasn't learned about yet. And it is extremely difficult to learn anything new if you're afraid, because, as you already well know, fear is a very debilitating form of energy. It causes us to withdraw, to get ready to protect ourselves, to run, and to narrow our focus of attention —all of which makes it veiy difficult, if not impossible, to open ourselves in a way that allows us to learn something new. Second, as I have already indicated, as far as die boy is concerned, the dog is the source of his pain, and in a sense this is true.

The second dog did cause him to tap into the pain that was already in his mind, but it was not the true source of that pain. This was a positively charged dog that got connected to the boy's negatively charged energy by an automatic, involuntary mental process, functioning at speeds faster than it takes to blink an eye (a process that the boy has absolutely no awareness of). So as far as he's concerned, why would he be afraid if what he perceived about the dog wasn't the absolute truth? As you can see, it wouldn't make any difference how the dog was acting, or what someone might say to the contrary about why the boy shouldn't be afraid, because he will perceive whatever information the dog is generating about itself (regardless of how positive) from a negative perspective. He will not have the slightest notion that his experience of pain, fear, and terror was completely self-generated.

Now, if it's possible for the boy to self-generate his own pain and terror and, at the same time, be firmly convinced that his negative experience was coming from the environment, is it also possible for traders to self-generate their own experiences of fear and emotional pain as they interact with market information and be thoroughly convinced that their pain and fear was completely justified by the

circumstances? The underlining psychological dynamics work in exactly the same way. One of your basic objectives as a trader is to perceive the opportunities available, not the threat of pain. To learn how to stay focused on the opportunities, you need to know and understand in no uncertain terms the source of the threat. It's not the market.

The market generates information about its potential to move from a neutral perspective. At the same time, it provides you (the observer) with an unending stream of opportunities to do something on your own behalf. If what you perceive at any given moment causes you to feel fear, ask yourself this question: Is the information inherently threatening, or are you simply experiencing the effect of your own state of mind reflected back to you (as in the above illustration)? I know this is a difficult concept to accept, so I'll give you another example to illustrate the point. Let's set up a scenario, where your last two or three trades were losers.

You are watching the market, and the variables you use to indicate that an opportunity exists are now present. Instead of immediately executing the trade, you hesitate. The trade feels very risky, so risky, in fact, that you start questioning whether this is "really" a signal. As a result, you start gathering information to support why this trade probably won't work. This is information you normally wouldn't consider or pay attention to, and it's certainly not information that is part of your trading methodology. In the meantime, the market is moving. Unfortunately, it is moving away from your original entry point, the point at which you would have gotten into the trade if you hadn't hesitated. Now you are conflicted, because you still want to get in; the thought of missing a winning trade is painful. At the same time, as the market moves away from your entry point, the dollar value of the risk to participate increases. The tug of war inside your mind intensifies.

You don't want to miss out, but you don't want to get whipsawed either. In the end, you do nothing, because you are paralyzed by the conflict. You justify your state of immobility by telling yourself that it's just too risky to chase the market, while you agonize over every tic the market moves in the direction of what would have been a nice winning trade. If this scenario sounds familiar, I want you to ask yourself whether, at the moment you hesitated, were you perceiving what the market was making available, or perceiving what was in your mind reflected back to you? The market gave you a signal. But you didn't perceive the signal from an objective or positive perspective. You didn't see it as an opportunity to experience the positive feeling you would get from winning or making money, but that's exactly what the market was making available to you.

Think about this for a moment: If I change the scenario so that your last two or three trades were winners instead of losers, would you have perceived the signal any differently? Would you have perceived it more as an opportunity to win than you did in the first scenario? If you were coming off three winners in a row, would you have hesitated to put that trade on? Very unlikely! In fact, if you're like most traders, you probably would have been giving very strong consideration to loading up (putting on a position much larger than your normal size). In each situation, the market generated the same signal. But your state of mind was negative and fear-based in the first scenario, and that caused

you to focus on the possibility of failure, which in turn caused you to hesitate. In the second scenario, you hardly perceived any risk at all. You may even have thought the market was making a dream come true.

That, in turn, would make it easy, if not compelling, to financially overcommit yourself. If you can accept the fact that the market doesn't generate positively or negatively charged information as an inherent characteristic of the way it expresses itself, then the only other way information can take on a positive or negative charge is in your mind, and that is a function of the way the information is processed. In other words, the market doesn't cause you to focus on failure and pain, or on winning and pleasure. What causes the information to take on a positive or negative quality is the same unconscious mental process that caused the boy to perceive the second dog as threatening and dangerous, when all the dog was offering was playfulness and friendship.

Our minds constantly associate what's outside of us (information) with something that's already in our mind (what we know), making it seem as if the outside circumstances and the memory, distinction, or belief these circumstances are associated with are exactly the same. As a result, in the first scenario, if you were coming off two or three losing trades, the next signal the market gives you that an opportunity was present will feel overly risky. Your mind is automatically and unconsciously linking the "now moment" with your most recent trading experiences. The link taps you into the pain of losing, creating a fearful state of mind and causing you to perceive the information you're exposed to in that moment from a negative perspective. It seems as if the market is expressing threatening information, so, of course, your hesitation is justified. In the second scenario, the same process causes you to perceive the situation from an overly positive perspective, because you are coming off three winners in a row.

The association between the "now moment" and the elation of the last three trades creates an overly positive or euphoric state of mind, making it seem as if the market is offering you a riskless opportunity. Of course, this justifies overcommitting yourself. In Chapter 1, I said that many of the mental patterns that cause traders to lose and make errors are so self-evident and deeply ingrained that it would never occur to us that the reason we aren't consistently successful is because of the way we think. Understanding, becoming consciously aware of, and then learning how to circumvent the mind's natural propensity to associate is a big part of achieving that consistency. Developing and maintaining a state of mind that perceives the opportunity flow of the market, without the threat of pain or the problems caused by overconfidence, will require that you take conscious control of the association process.

# **CHAPTER 6**

## **THE MARKET'S PERSPECTIVE**

For the most part, a typical traders perception of the risk in any given trading situation is a function of the outcome of his most recent two or three trades (depending on the individual). The best traders, on the other hand, are not impacted (either negatively or too positively) by the outcomes of their last or even their last several trades. So their perception of the risk of any given trading situation is not affected by this personal, psychological variable. There's a huge psychological gap here that might lead you to believe that the best traders have inherent design qualities in their minds that account for this gap, but I can assure you this is not the case. Every trader I've worked with over the last 18 years has had to learn how to train his mind to stay properly focused in the "now moment opportunity flow." This is a universal problem, and has to do both with the way our minds are wired and our common social upbringing (meaning, this particular trading problem is not personspecific).

There are other factors relating to self-esteem that may also act as obstacles to your consistent success, but what we are going to discuss now is the most important and fundamental building block to your success as a trader.

## **THE "UNCERTAINTY" PRINCIPLE**

If there is such a thing as a secret to the nature of trading, this is it: At the very core of one's ability 1) to trade without fear or overconfidence, 2) perceive what the market is offering from its perspective, 3) stay completely focused in the "now moment opportunity flow," and 4) spontaneously enter the "zone," it is a strong virtually unshakeable belief in an uncertain outcome with an edge in your favor. The best traders have evolved to the point where they believe, without a shred of doubt or internal conflict, that "anything can happen."

They don't *just suspect* that anything can happen or give lip service to the idea. Their belief in uncertainty is so powerful that it actually prevents their minds from associating the "now moment" situation and circumstance with the outcomes of their most recent trades. By preventing this association, they are able to keep their minds free of unrealistic and rigid expectations about how the market will express itself. Instead of generating the kind of unrealistic expectations that more often than not result in both emotional and financial pain, they have learned to "make themselves available" to take advantage of whatever opportunities the market may offer in any given moment. "Making yourself available" is a perspective from which you understand that the framework from which you are perceiving information is limited relative to what's being offered.

Our minds don't automatically perceive every opportunity that presents itself in any given moment. (The "boy and the dog" illustration from Chapter 5 is a perfect example of how our own personal versions of the truth are reflected back to us.) This same land of perceptual blindness happens all the time in trading. We can't perceive the potential for the market to continue to move in a direction that is already against our position if, for example, we are operating out of a fear of being wrong. The fear of admitting we are wrong causes us to place an inordinate amount of significance on information that tells us that we're right. This happens even if there's ample information to indicate that the market has in fact established a trend in the opposite direction of our position.

A trending market is a distinction about the market's behavior we can ordinarily perceive, but this distinction can easily become invisible if we are operating out of fear. The trend and the opportunity to trade in the direction of that trend don't become visible until we are out of the trade. In addition, there are opportunities that are invisible to us because we haven't learned to make the distinctions that would allow us to perceive them. Recall our discussion in Chapter 5 of the first price chart you ever looked at. What we haven't learned yet is invisible to us, and remains invisible until our minds are open to an exchange of energy. A perspective from which you make yourself available takes into consideration both the known and the unknown: For example, you've built a mental framework that allows you to recognize a set of variables in the markets behavior that indicates when an opportunity to buy or sell is present. This is your edge and something you know.

However, what you don't know is exactly how the pattern your variables identify will unfold. With the perspective of making yourself available, you know that your edge places the odds of success in your favor, but, at the same time, you completely accept the fact that you don't know the outcome of any particular trade. By making yourself available, you consciously open yourself up to find out what will happen next; instead of giving way to an automatic mental process that causes you to think you already know. Adopting this perspective leaves your mind free of internal resistance that can prevent you from perceiving whatever opportunity the market is making available from its perspective (its truth). Your mind is open for an exchange of energy. Not only can you learn something about the market that you previously didn't know, but you also set up the mental condition most conducive to entering "the zone." The essence of what it means to be in "the zone" is that your mind and the market are in sync. As a result, you sense what the market is about to do as if there is no separation between yourself and the collective consciousness of everyone else participating in the market. The zone is a mental space where you are doing more than just reading the collective mind, you are also in complete harmony with it. If this sounds a bit strange to you, ask yourself how it is that a flock of birds or a school of fish can change direction simultaneously. There must be a way in which they are linked to one another. If it is possible for people to become linked in the same way, then there will be times when information from those with whom we are linked can and will bleed through to our consciousness.

Traders who have experienced being tapped into the collective consciousness of the market can anticipate a change in direction just as a bird in the middle of a flock or a fish in the middle of a school

will turn at the precise moment that all of the others turn. However, setting up the kind of mental conditions most conducive to experiencing this seemingly magical synchronicity between you and the market is no easy task. There are two mental hurdles to overcome.

The first is the focus of this chapter: learning how to keep your mind focused in the "now moment opportunity flow." In order to experience synchronicity, your mind has to be open to the market's truth, from its perspective. The second hurdle has to do with the division of labor between the two halves of our brain. The left side of our brain specializes in rational thought, based on what we already know. The right side specializes in creative thought. It is capable of tapping into an inspiration, an intuition, a hunch, or a sense of knowing that usually can't be explained at a rational level. It can't be explained because if the information is really creative in nature, then it is something that we wouldn't know at a rational level. By definition, true creativity brings forth something that didn't previously exist. There's an inherent conflict between these two modes of thought, that the rational, logical part will almost always win, unless we take specific steps to train our minds to accept and trust creative information. Without that training, we will usually find it very difficult to act on our hunches, intuitive impulses, inspirations, or sense of knowing.

Acting appropriately on anything requires belief and clarity of intent, which keeps our minds and senses focused on the purpose at hand. If the source of our actions is creative in nature, and our rational mind hasn't been properly trained to trust this source, then at some point in the process of acting on this information, our rational brain will flood our consciousness with conflicting and competing thoughts. Of course, all of these thoughts will be sound and reasonable in nature, because they will be coming from what we already know at a rational level, but they will have the effect of flipping us out of "the zone" or any other creative state of mind. There are few things in life more frustrating than recognizing the possibilities evident from a hunch, intuition, or an inspired idea, and not taking advantage of that potential because we talked ourselves out of it. I realize that what I've just said is still much too abstract to implement on a practical basis. So, I'm going to take you step-by-step through what it means to be completely focused in the "now moment opportunity flow."

My objective is that by the time you've read this chapter and Chapter 7, you will understand without a shred of doubt why your ultimate success as a trader cannot be realized until you develop a resolute, unshakeable belief in uncertainty. The first step on the road toward getting your mind and the market in sync is to understand and completely accept the psychological realities of trading. This step is where most of the frustrations, disappointments, and mysteriousness associated with trading begin.

Very few people who decide to trade ever take the time or expend the effort to think about what it means to be a trader. Most people who go into trading think that being a trader is synonymous with being a good market analyst. As I have mentioned, this couldn't be further from the truth. Good market analysis can certainly contribute to and play a supporting role in one's success, but it doesn't deserve the attention and importance most traders mistakenly attach to it. Beneath the market behavior patterns that are so easy to become fixated on are some very unique psychological characteristics. It's the nature

of these psychological characteristics that determines how one needs "to be" in order to operate effectively in the market environment.

Operating effectively in an environment that has qualities, traits, or characteristics that are different from what we're used to requires making some adjustments or changes in the way we normally think about things. For example, if you were to travel to an exotic place with certain objectives or goals to accomplish, the first thing you would do is familiarize yourself with the local traditions and customs. By doing so, you would learn about the various ways in which you would have to adapt in order to function successfully in that environment. Traders frequently ignore the fact that they may have to adapt in order to become consistently successful traders. There are two reasons for this.

The first is that you need absolutely no skill of any kind to put on a winning trade. For most traders it usually takes years of pain and suffering before they figure out or finally admit to themselves that there's more to being consistent than the ability to pick an occasional winner. The second reason is that you don't have to travel anywhere to trade. All you need is access to a phone. You don't even have to roll out of bed in the morning. Even traders who normally trade from an office don't have to be in the office to put on or take off their trades. Because we can access and interact with the market from personal environments that we are intimately familiar with, it seems as if trading won't require any special adaptations in the way we think.

To some degree, you are probably already aware of many of the fundamental truths (psychological characteristics) about the nature of trading. But having an awareness or an understanding of some principle, insight, or concept doesn't necessarily equate to acceptance and belief. When something has been truly accepted, it isn't in conflict with any other component of our mental environment. When we believe in something, we operate out of that belief as a natural function of who we are, without struggle or extra effort. To whatever degree there is a conflict with any other component of our mental environment, to the same degree there is a lack of acceptance. It isn't difficult, therefore, to understand why so few people make it as traders.

They simply don't do the mental work necessary to reconcile the many conflicts that exist between what they've already learned and believe, and how that learning contradicts and acts as a source of resistance to implementing the various principles of successful trading. Getting into and taking advantage of the kind of free-flowing states of mind that are ideal for trading requires that those conflicts be thoroughly resolved.

## **MARKETS MOST FUNDAMENTAL CHARACTERISTIC (IT CAN EXPRESS ITSELF IN AN ALMOST INFINITE COMBINATION OF WAYS )**

The market can do virtually anything at any time. This seems obvious enough, especially for anybody who has experienced a market that has displayed erratic and volatile price swings. The problem is that all of us have the tendency to take this characteristic for granted, in ways that cause us to make the most fundamental trading errors over and over again. The fact is that if traders really believed that anything could happen at any time, there would be considerably fewer losers and more consistent winners. How do we know that virtually anything can happen? This fact is easy to establish. All we have to do is dissect the market into its component parts and look at how the parts operate. The most fundamental component of any market is its traders. Individual traders act as a force on prices, making them move by either bidding a price up or offering it lower.

Why do traders bid a price up or offer it lower? To answer this question we have to establish the reasons why people trade. There are many reasons and purposes behind a person's motivation to trade in any given market. However, for the purposes of this illustration, we don't have to know all the underlying reasons that compel any individual trader to act because ultimately they all boil down to one reason and one purpose: to make money. We know this because there are only two things a trader can do (buy and sell) and there are only two possible outcomes for every trade (profit or loss). Therefore, I think we can safely assume that regardless of one's reasons for trading, the bottom line is that everyone is looking for the same outcome: Profits. And there are only two ways to create those profits: Either buy low and sell high, or sell high and buy low. If we assume that everyone wants to make money, then there's only one reason why any trader would bid a price up to the next highest level: because he believes he can sell whatever he's buying at a higher price at some point in the future.

The same is true for the trader who's willing to sell something at a price that is less than the last posted price (offer a market lower). He does it because he believes he can buy back whatever he's selling at a lower price at some point in the future. If we look at the market's behavior as a function of price movement, and if price movement is a function of traders who are willing to bid prices up or offer them lower, then we can say that all price movement (market behavior) is a function of what traders believe about the future. To be more specific, all price movement is a function of what individual traders believe about what is high and what is low. The underlying dynamics of market behavior are quite simple. Only three primary forces exist in any market: traders who believe the price is low, traders who believe the price is high, and traders who are watching and waiting to make up their minds about whether the price is low or high. Technically, the third group constitutes a potential force. The reasons that support any given traders belief that something is high or low are usually irrelevant, because most people who trade act in an undisciplined, unorganized, haphazard, and random manner. So, their reasons wouldn't necessarily help anyone gain a better understanding of what is going on. But, understanding what's going on isn't that difficult, if you remember that all price movement or lack of

movement is a function of the relative balance or imbalance between two primary forces: traders who believe the price is going up, and traders who believe the price is going down.

If there's balance between the two groups, prices will stagnate, because each side will absorb the force of the other side's actions. If there is an imbalance, prices will move in the direction of the greater force, or the traders who have the stronger convictions in their beliefs about in what direction the price is going. Now, I want you to ask yourself, what's going to stop virtually anything from happening at any time, other than exchange-imposed limits on price movement. There's nothing to stop the price of an issue from going as high or low as whatever some trader in the world believes is possible—if, of course, the trader is willing to act on that belief. So the range of the market's behavior in its collective form is limited only by the most extreme beliefs about what is high and what is low held by any given individual participating in that market. I think the implications are self-evident:

There can be an extreme diversity of beliefs present in any given market in any given moment, making virtually anything possible. When we look at the market from this perspective, it's easy to see that every potential trader who is willing to express his belief about the future becomes a market variable. On a more personal level, this means that it only takes one other trader, anywhere in the world, to negate the positive potential of your trade. Put another way, it takes only one other trader to negate what you believe about what is high or what is low. That's all, only one! Here's an example to illustrate this point. Several years ago, a trader came to me for help. He was an excellent market analyst; in fact, he was one of the best I've ever met. But after years of frustration during which he lost all his money and a lot of other people's money, he was finally ready to admit that, as a trader, he left a lot to be desired. After talking to him for a while, I determined that a number of serious psychological obstacles were preventing him from being successful.

One of the most troublesome obstacles was that he was a know-it-all and extremely arrogant, making it impossible for him to achieve the degree of mental flexibility required to trade effectively. It didn't matter how good an analyst he was. When he came to me, he was so desperate for money and help that he was willing to consider anything. The first suggestion I made was that instead of looking for another investor to back what ultimately would be another failed attempt at trading, he would be better off taking a job, doing something he was truly good at. He could be paid a steady income while working through his problems, and at the same time provide someone with a worthwhile service. He took my advice and quickly found a position as a technical analyst with a fairly substantial brokerage house and clearing firm in Chicago.

The semiretired chairman of the board of the brokerage firm was a longtime trader with nearly 40 years of experience in the grain pits at the Chicago Board of Trade. He didn't know much about technical analysis, because he never needed it to make money on the floor. But he no longer traded on the floor and found the transition to trading from a screen difficult and somewhat mysterious. So he asked the firm's newly acquired star technical analyst to sit with him during the trading day and teach him technical trading. The new hire jumped at the opportunity to show off his abilities to such an

experienced and successful trader. The analyst was using a method called "point and line," developed by Charlie Drummond. (Among other things, point and line can accurately define support and resistance.) One day, as the two of them were watching the soybean market together, the analyst had projected major support and resistance points and the market happened to be trading between these two points.

As the technical analyst was explaining to the chairman the significance of these two points, he stated in very emphatic, almost absolute terms that if the market goes up to resistance, it will stop and reverse; and if the market goes down to support, it will also stop and reverse. Then he explained that if the market went down to the price level he calculated as support, his calculations indicated that would also be the low of the day. As they sat there, the bean market was slowly trending down to the price the analyst said would be the support, or low, of the day. When it finally got there, the chairman looked over to the analyst and said, "This is where the market is supposed to stop and go higher, right?"

The analyst responded, "Absolutely! This is the low of the day." "That's bullshit!" the chairman retorted. "Watch this." He picked up the phone, called one of the clerks handling orders for the soybean pit, and said, "Sell two million beans (bushels) at the market." Within thirty seconds after he placed the order, the soybean market dropped ten cents a bushel. The chairman turned to look at the horrified expression on the analysts face. Calmly, he asked, "Now, where did you say the market was going to stop? If I can do that, anyone can."

The point is that from our own individual perspective as observers of the market, anything can happen, and it takes only one trader to do it. This is the hard, cold reality of trading that only the very best traders have embraced and accepted with no internal conflict. How do I know this? Because only the best traders consistently predefine their risks before entering a trade. Only the best traders cut their losses without reservation or hesitation when the market tells them the trade isn't working. And only the best traders have an organized, systematic, money-management regimen for taking profits when the market goes in the direction of their trade. Not predefining your risk, not cutting your losses, or not systematically taking profits are three of the most common—and usually the most costly—trading errors you can make. Only the best traders have eliminated these errors from their trading. At some point in their careers, they learned to believe without a shred of doubt that anything can happen, and to always account for what they don't know, for the unexpected. Remember that there are only two forces that cause prices to move: traders who believe the markets are going up, and traders who believe the markets are going down. At any given moment, we can see who has the stronger conviction by observing where the market is now relative to where it was at some previous moment. If a recognizable pattern is present, that pattern may repeat itself, giving us an indication of where the market is headed. This is our edge, something we know. But there's also much that we don't know, and will never know unless we learn how to read minds. For instance, do we know how many traders may be sitting on the sidelines and about to enter the market? Do we know how many of them want to buy and how many want to sell, or how many shares they are willing to buy or sell? What about the traders whose

participation is already reflected in the current price? At any given moment, how many of them are about to change their minds and exit their positions?

If they do, how long will they stay out of the market? And if and when they do come back into the market, in what direction will they cast their votes? These are the constant, never-ending, unknown, hidden variables that are always operating in every market—*always*) The best traders don't try to hide from these unknown variables by pretending they don't exist, nor do they try to intellectualize or rationalize them away through market analysis. Quite the contrary, the best traders take these variables into account, factoring them into every component of their trading regimes. For the typical trader, just the opposite is true. He trades from the perspective that what he can't see, hear, or feel must not exist. What other explanation could account for his behavior? If he really believed in the existence of all the hidden variables that have the potential to act on prices in any given moment, then he would also have to believe that every trade has an uncertain outcome. And if every trade truly has an uncertain outcome, then how could he ever justify or talk himself into not predefining his risk, cutting his losses, or having some systematic way to take profits? Given the circumstances, not adhering to these three fundamental principles is the equivalent of committing financial and emotional suicide. Since most traders don't adhere to these principles, are we to assume that their true underlying motivation for trading is to destroy themselves? It's certainly possible, but I think the percentage of traders who either consciously or subconsciously want to rid themselves of their money or hurt themselves in some way is extremely small. So, if financial suicide is not the predominant reason, then what could keep someone from doing something that would otherwise make absolute, perfect sense? The answer is quite simple: The typical trader doesn't predefine his risk, cut his losses, or systematically take profits because the typical trader doesn't believe it's necessary. The only reason why he would believe it isn't necessary is that he believes he already knows what's going to happen next, based on what he perceives is happening in any given "now moment."

If he already knows, then there's really no reason to adhere to these principles. Believing, assuming, or thinking that "he knows" will be the cause of virtually every trading error he has the potential to make (with the exception of those errors that are the result of not believing that he deserves the money). Our beliefs about what is true and real are very powerful inner forces.

They control every aspect of how we interact with the markets, from our perceptions, interpretations, decisions, actions, and expectations, to our feelings about the results. It's extremely difficult to act in a way that contradicts what we believe to be true. In some cases, depending on the strength of the belief, it can be next to impossible to do anything that violates the integrity of a belief. What the typical trader doesn't realize is that he needs an inner mechanism, in the form of some powerful beliefs, that virtually compels him to perceive the market from a perspective that is always expanding with greater and greater degrees of clarity, and also compels him always act appropriately, given the psychological conditions and the nature of price movement. The most effective and functional trading belief that he can acquire is "anything can happen." Aside from the fact that it is the truth, it will act as a solid

foundation for building every other belief and attitude that he needs to be a successful trader. Without that belief, his mind will automatically, and usually without his conscious awareness, cause him to avoid, block, or rationalize away any information that indicates the market may do something he hasn't accepted as possible.

If he believes that anything is possible, then there's nothing for his mind to avoid. Because *anything* includes everything, this belief will act as an expansive force on his perception of the market that will allow him to perceive information that might otherwise have been invisible to him. In essence, he will be making himself available (opening his mind) to perceive more of the possibilities that exist from the markets perspective. Most important, by establishing a belief that anything can happen, he will be training his mind to think in probabilities. This is by far the most essential as well as the most difficult principle for people to grasp and to effectively integrate into their mental systems.

## **CHAPTER 7**

### **THE TRADER'S EDGE: THINKING IN PROBABILITIES**

Exactly what does it mean to think in probabilities, and why is it so essential to one's consistent success as a trader? If you take a moment and analyze the last sentence, you will notice that I made consistency a function of probabilities. It sounds like a contradiction: How can someone produce consistent results from an event that has an uncertain probabilistic outcome? To answer this question, all we have to do is look to the gambling industry. Corporations spend vast amounts of money, in the hundreds of millions, if not billions, of dollars, on elaborate hotels to attract people to their casinos.

If you've been to Las Vegas you know exactly what I am talking about. Gaming corporations are just like other corporations, in that they have to justify how they allocate their assets to a board of directors and ultimately to their stockholders. How do you suppose they justify spending vast sums of money on elaborate hotels and casinos, whose primary function is to generate revenue from an event that has a purely random outcome?

### **PROBABILITIES PARADOX: RANDOM OUTCOME, CONSISTENT RESULTS**

Here's an interesting paradox. Casinos make consistent profits day after day and year after year, facilitating an event that has a purely random outcome. At the same time, most traders believe that the outcome of the market's behavior is not random, yet can't seem to produce consistent profits. Shouldn't a consistent, nonrandom outcome produce consistent results, and a random outcome produce random, inconsistent results? What casino owners, experienced gamblers, and the best traders understand that the typical trader finds difficult to grasp is: even though probable outcomes can produce consistent

results, if you can get the odds in your favor and there is a large enough sample size. The best traders treat trading like a numbers game, similar to the way in which casinos and professional gamblers approach gambling. To illustrate, let's look at the game of blackjack. In blackjack, the casinos have approximately a 4.5-percent edge over the player, based on the rules they require players to adhere to. This means that, over a large enough sample size (number of hands played), the casino will generate net profits of four and a half cents on every dollar wagered on the game. This average of four and a half cents takes into account all the players who walked away big winners (including all winning streaks), all the players who walked away big losers, and everybody in between. At the end of the day, week, month, or year, the casino always ends up with approximately 4.5 percent of the total amount wagered. That 4.5 percent might not sound like a lot, but let's put it in perspective. Suppose a total of \$100 million dollars is wagered collectively at all of a casino's blackjack tables over the course of a year. The casino will net \$4.5 million. What casino owners and professional gamblers understand about the nature of probabilities is that each individual hand played is statistically independent of every other hand. This means that each individual hand is a unique event, where the outcome is random relative to the last hand played or the next hand played. If you focus on each hand individually, there will be a random, unpredictable distribution between winning and losing hands. But on a collective basis, just the opposite is true. If a large enough number of hands is played, patterns will emerge that produce a consistent, predictable, and statistically reliable outcome.

Here's what makes thinking in probabilities so difficult. It requires two layers of beliefs that on the surface seem to contradict each other. We'll call the first layer the micro level. At this level, you have to believe in the uncertainty and unpredictability of each individual hand. You know the truth of this uncertainty, because there are always a number of unknown variables affecting the consistency of the deck that each new hand is drawn from. For example, you can't know in advance how any of the other participants will decide to play their hands, since they can either take or decline additional cards. Any variables acting on the consistency of the deck that can't be controlled or known in advance will make the outcome of any particular hand both uncertain and random (statistically independent) in relationship to any other hand. The second layer is the macro level. At this level, you have to believe that the outcome over a series of hands played is relatively certain and predictable. The degree of certainty is based on the fixed or constant variables that are known in advance and specifically designed to give an advantage (edge) to one side or the other.

The constant variables I am referring to are the rules of the game. So, even though you don't or couldn't know in advance (unless you are psychic) the sequence of wins to losses, you can be relatively certain that if enough hands are played, whoever has the edge will end up with more wins than losses. The degree of certainty is a function of how good the edge is. It's the ability to believe in the unpredictability of the game at the micro level and simultaneously believe in the predictability of the game at the macro level that makes the casino and the professional gambler effective and successful at what they do. Their belief in the uniqueness of each hand prevents them from engaging in the pointless

endeavor of trying to predict the outcome of each individual hand. They have learned and completely accepted the fact that they don't know what's going to happen next. More important, they don't need to know in order to make money consistently.

Because they don't have to know what's going to happen next, they don't place any special significance, emotional or otherwise, on each individual hand, spin of the wheel, or roll of the dice. In other words, they're not encumbered by unrealistic expectations about what is going to happen, nor are their egos involved in a way that makes them have to be right. As a result, it's easier to stay focused on keeping the odds in their favor and executing flawlessly, which in turn makes them less susceptible to making costly mistakes.

They stay relaxed because they are committed and willing to let the probabilities (their edges) play themselves out, all the while knowing that if their edges are good enough and the sample sizes are big enough, they will come out net winners. The best traders use the same thinking strategy as the casino and professional gambler. Not only does it work to their benefit, but the underlying dynamics supporting the need for such a strategy are exactly the same in trading as they are in gambling.

A simple comparison between the two will demonstrate this quite clearly. First, the trader, the gambler, and the casino are all dealing with both known and unknown variables that affect the outcome of each trade or gambling event. In gambling, the known variables are the rules of the game. In trading, the known variables (from each individual trader's perspective) are the results of their market analysis. Market analysis finds behavior patterns in the collective actions of everyone participating in a market. We know that individuals will act the same way under similar situations and circumstances, over and over again, producing observable patterns of behavior. By the same token, groups of individuals interacting with one another, day after day, week after week, also produce behavior patterns that repeat themselves. These collective behavior patterns can be discovered and sub- «pnii<=-nfv identified by nsinf analytical tools such as trend lines, moving averages, oscillators, or retracements, just to name a few of the thousands that are available to any trader. Each analytical tool uses a set of criteria to define the boundaries of each behavior pattern identified. The set of criteria and the boundaries identified are the trader's known market variables.

They are to the individual trader what the rules of the game are to the casino and gambler. By this I mean, the trader's analytical tools are the known variables that put the odds of success (the edge) for any given trade in the trader's favor, in the same way that the rules of the game put the odds of success in favor of the casino. Second, we know that in gambling a number of unknown variables act on the outcome of each game. In blackjack, the unknowns are the shuffling of the deck and how the players choose to play their hands. In craps, it's how the dice are thrown. And in roulette, it's the amount of force applied to spin the wheel. All these unknown variables act as forces on the outcome of each individual event, in a way that causes each event to be statistically independent of any other individual event, thereby creating a random distribution between wins and losses. Trading also involves a number of unknown variables that act on the outcome of any particular behavior pattern a trader may identify

and use as his edge. In trading, the unknown variables are all other traders who have the potential to come into the market to put on or take off a trade.

Each trade contributes to the market's position at any given moment, which means that each trader, acting on a belief about what is high and what is low, contributes to the collective behavior pattern that is displayed at that moment. If there is a recognizable pattern, and if the variables used to define that pattern conform to a particular trader's definition of an edge, then we can say that the market is offering the trader an opportunity to buy low or sell high, based on the trader's definition. Suppose the trader seizes the opportunity to take advantage of his edge and puts on a trade. What factors will determine whether the market unfolds in the direction of his edge or against it? The answer is: the behavior of other traders!

At the moment he puts a trade on, and for as long as he chooses to stay in that trade, other traders will be participating in that market. They will be acting on their beliefs about what is high and what is low. At any given moment, some percentage of other traders will contribute to an outcome favorable to our traders edge, and the participation of some percentage of traders will negate his edge. There's no way to know in advance how everyone else is going to behave and how their behavior will affect his trade, so the outcome of the trade is uncertain.

The fact is, the outcome of every (legal) trade that anyone decides to make is affected in some way by the subsequent behavior of other traders participating in that market, making the outcome of all trades uncertain. Since all trades have an uncertain outcome, then like gambling, each trade has to be statistically independent of the next trade, the last trade, or any trades in the future, even though the trader may use the same set of known variables to identify his edge for each trade. Furthermore, if the outcome of each individual trade is statistically independent of every other trade, there must also be a random distribution between wins and losses in any given string or set of trades, even though the odds of success for each individual trade may be in the traders favor.

Third, casino owners don't try to predict or know in advance the outcome of each individual event. Aside from the fact that it would be extremely difficult, given all the unknown variables operating in each game, it isn't necessary to create consistent results. Casino operators have learned that all they have to do is keep the odds in their favor and have a large enough sample size of events so that their edges have ample opportunity to work.

## **TRADING IN THE MOMENT**

Traders who have learned to think in probabilities approach the markets from virtually the same perspective. At the micro level, they believe that each trade or edge is unique. What they understand about the nature of trading is that at any given moment, the market may look exactly the same on a chart as it did at some previous moment; and the geometric measurements and mathematical calculations used to determine each edge can be exactly the same from one edge to the next; but the

actual consistency of the market itself from one moment to the next is never the same.

For any particular pattern to be exactly the same now as it was in some previous moment would require that every trader who participated in that previous moment be present. What's more, each of them would also have to interact with one another in exactly the same way over some period of time to produce the exact same outcome to whatever pattern was being observed. The odds of that happening are nonexistent. It is extremely important that you understand this phenomenon because the psychological implications for your trading couldn't be more important.

We can use all the various tools to analyze the market's behavior and find the patterns that represent the best edges, and from an analytical perspective, these patterns can appear to be precisely the same in every respect, both mathematically and visually. But, if the consistency of the group of traders who are creating the pattern "now" is different by even one person from the group that created the pattern in the past, then the outcome of the current pattern has the potential to be different from the past pattern. (The example of the analyst and chairman illustrates this point quite well.) It takes only one trader, somewhere in the world, with a different belief about the future to change the outcome of any particular market pattern and negate the edge that pattern represents. The most fundamental characteristic of the market's behavior is that each "now moment" market situation, each "now moment" behavior pattern, and each "now moment" edge is always a unique occurrence with its own outcome, independent of all others. Uniqueness implies that anything can happen, either what we know (expect or anticipate), or what we don't know (or can't know, unless we had extraordinary perceptual abilities). A constant flow of both known and unknown variables creates a probabilistic environment where we don't know for certain what will happen next.

This last statement may seem quite logical, even self-evident, but there's a huge problem here that is anything but logical or self-evident. Being aware of uncertainty and understanding the nature of probabilities does not equate with an ability to actually function effectively from a probabilistic perspective. Thinking in probabilities can be difficult to master, because our minds don't naturally process information in this manner. Quite the contrary, our minds cause us to perceive what we know, and what we know is part of our past, whereas, in the market, every moment is new and unique, even though there may be similarities to something that occurred in the past. This means that unless we train our minds to perceive the uniqueness of each moment, that uniqueness will automatically be filtered out of our perception. We will perceive only what we know, minus any information that is blocked by our fears; everything else will remain invisible.

The bottom line is that there is some degree of sophistication to thinking in probabilities, which can take some people a considerable amount of effort to integrate into their mental systems as a functional thinking strategy. Most traders don't fully understand this; as a result, they mistakenly assume they are thinking in probabilities, because they have some degree of understanding of the concepts. I've worked with hundreds of traders who mistakenly assumed they thought in probabilities, but didn't. Here is an example of a trader I worked with whom I'll call Bob. Bob is a certified trading advisor (CTA) who

manages approximately \$50 million in investments. He's been in the business for almost 30 years. He came to one of my workshops because he was never able to produce more than a 12- to 18-percent annual return on the accounts he managed.

This was an adequate return, but Bob was extremely dissatisfied because his analytical abilities suggested that he should be achieving an annual return of 150 to 200 percent. I would describe Bob as being well-versed in the nature of probabilities. In other words, he understood the concepts, but he didn't function from a probabilistic perspective. Shortly after attending the workshop, he called to ask me for some advice. Here is the entry from my journal written immediately after that phone conversation.

**9-28-95:** Bob called with a problem. He put on a belly trade and put his stop in the market. The market traded about a third of the way to his stop and then went back to his entry point, where he decided to bail out of the trade. Almost immediately after he got out, the bellies went 500 points in the direction of this trade, but of course he was out of the market. He didn't understand what was going on. First, I asked him what was at risk. He didn't understand the question. He assumed that he had accepted the risk because he put in a stop. I responded that just because he put in a stop it didn't mean that he had truly accepted the risk of the trade. There are many things that can be at risk: losing money, being wrong, not being perfect, etc., depending on one's underlying motivation for trading. I pointed out that a person's beliefs are always revealed by their actions.

We can assume that he was operating out of a belief that to be a disciplined trader one has to define the risk and put a stop in. And so he did. But a person can put in a stop and at the same time not believe that he is going to be stopped out or that the trade will ever work against him, for that matter. By the way he described the situation, it sounded to me as if this is exactly what happened to him. When he put on the trade, he didn't believe he would be stopped out. Nor did he believe the market would trade against him. In fact, he was so adamant about this, that when the market came back to his entry point, he got out of the trade to punish the market with an "I'll show you" attitude for even going against him by one tic. After I pointed this out to him, he said this was exactly the attitude he had when he took off the trade. He said that he had been waiting for this particular trade for weeks and when the market finally got to this point, he thought it would immediately reverse.

I responded by reminding him to look at the experience as simply pointing the way to something that he needs to learn. A prerequisite for thinking in probabilities is that you accept the risk, because if you don't, you will not want to face the possibilities that you haven't accepted, if and when they do present themselves. When you've trained your mind to think in probabilities, it means you have fully accepted all the possibilities (with no internal resistance or conflict) and you always do something to take the unknown forces into account. Thinking this way is virtually impossible unless you've done the mental work necessary to "let go" of the need to know what is going to happen next or the need to be right on each trade. In fact, the degree by which you think you know, assume you know, or in any way need to know what is going to happen next, is equal to the degree to which you will fail as a trader. Traders

who have learned to think in probabilities are confident of their overall success, because they commit themselves to taking every trade that conforms to their definition of an edge.

They don't attempt to pick and choose the edges they think, assume, or believe are going to work and act on those; nor do they avoid the edges that for whatever reason they think, assume, or believe aren't going to work. If they did either of those things, they would be contradicting their belief that the "now" moment situation is always unique, creating a random distribution between wins and losses on any given string of edges. They have learned, usually quite painfully, that they don't know in advance which edges are going to work and which ones aren't. They have stopped trying to predict outcomes. They have found that by taking every edge, they correspondingly increase their sample size of trades, which in turn gives whatever edge they use ample opportunity to play itself out in their favor, just like the casinos. On the other hand, why do you think unsuccessful traders are obsessed with market analysis.

They crave the sense of certainty that analysis appears to give them. Although few would admit it, the truth is that the typical trader wants to be right on every single trade. He is desperately trying to create certainty where it just doesn't exist. The irony is that if he completely accepted the fact that certainty doesn't exist, he would create the certainty he craves: He would be absolutely certain that certainty doesn't exist. When you achieve complete acceptance of the uncertainty of each edge and the uniqueness of each moment, your frustration with trading will end. Furthermore, you will no longer be susceptible to making all the typical trading errors that detract from your potential to be consistent and destroy your sense of self-confidence. For example not reflecting the risk before entering into a trade is probably the most common of all trading errors, and starts the whole process of trading from an inappropriate perspective. In light of the fact that anything can happen, wouldn't it make perfect sense to decide before executing a trade what the market has to look, sound, or feel like to tell you your edge isn't working? So why doesn't the typical trader decide to do it or do it every single time?

I have already given you the answer in the last chapter, but there's more to it and there's also some tricky logic involved, but the answer is simple. The typical trader won't predefine the risk of getting into a trade because he doesn't believe it's necessary. The only way he could believe "it isn't necessary" is if he believes he knows what's going to happen next. The reason he believes he knows what's going to happen next is because he won't get into a trade until he is convinced that he's right. At the point where he's convinced the trade will be a winner, it's no longer necessary to define the risk (because if he's right, there is no risk). Typical traders go through the exercise of convincing themselves that they're right before they get into a trade, because the alternative (being wrong) is simply unacceptable. Remember that our minds are wired to associate.

As a result, being wrong on any given trade has the potential to be associated with any (or every) other experience in a trader's life where he's been wrong. The implication is that any trade can easily tap him into the accumulated pain of every time he has been wrong in his life. Given the huge backlog of unresolved, negative energy surrounding what it means to be wrong that exists in most people, it's easy

to see why each and every trade can literally take on the significance of a life or death situation. So, for the typical trader, determining what the market would have to look, sound, or feel like to tell him that a trade isn't working would create an irreconcilable dilemma. On one hand, he desperately wants to win and the only way he can do that is to participate, but the only way he will participate is if he's sure the trade will win. On the other hand, if he defines his risk, he is willfully gathering evidence that would negate something he has already convinced himself of.

He will be contradicting the decision-making process he went through to convince himself that the trade will work. If he exposed himself to conflicting information, it would surely create some degree of doubt about the viability of the trade. If he allows himself to experience doubt, it's very unlikely he will participate. If he doesn't put the trade on and it turns out to be a winner, he will be in extreme agony. For some people, nothing hurts more than an opportunity recognized but missed because of self-doubt. For the typical trader, the only way out of this psychological dilemma is to ignore the risk and remain convinced that the trade is right. If any of this sounds familiar, consider this: When you're convincing yourself that you're right, what you're saying to yourself is, "I know who's in this market and who's about to come into this market. I know what they believe about what is high or what is low. Furthermore, I know each individual's capacity to act on those beliefs (the degree of clarity or relative lack of inner conflict), and with this knowledge, I am able to determine how the actions of each of these individuals will affect price movement in its collective form a second, a minute, an hour, a day, or a week from now."

Looking at the process of convincing yourself that you're right from this perspective, it seems a bit absurd, doesn't it? For the traders who have learned to think in probabilities, there is no dilemma. Predefining the risk doesn't pose a problem for these traders because they don't trade from a right or wrong perspective. They have learned that trading doesn't have anything to do with being right or wrong on any individual trade. As a result, they don't perceive the risks of trading in the same way the typical trader does. Any of the best traders (the probability thinkers) could have just as much negative energy surrounding what it means to be wrong as the typical trader.

But as long as they legitimately define trading as a probability game, their emotional responses to the outcome of any particular trade are equivalent to how the typical trader would feel about flipping a coin, calling heads, and seeing the coin come up tails. A wrong call, but for most people being wrong about predicting the flip of a coin *would not* tap them into the accumulated pain of every other time in their lives they had been wrong. Why? Most people know that the outcome of a coin toss is random. If you believe the outcome is random, then you naturally expect a random outcome. Randomness implies at least some degree of uncertainty. So when we believe in a random outcome, there is an implied acceptance that we don't know what that outcome will be. When we accept in advance of an event that we don't know how it will turn out, that acceptance has the effect of keeping our expectations neutral and open-ended. Now we're getting down to the very core of what ails the typical trader. Any expectation about the markets behavior that is specific, well-defined, or rigid—instead of being neutral

and open-ended—is unrealistic and potentially damaging. I define an unrealistic expectation as one that does not correspond with the possibilities available from the market's perspective. If each moment in the market is unique, and anything is possible, then any expectation that does not reflect these boundary-less characteristics is unrealistic.

## MANAGING EXPECTATIONS

The potential damage caused by holding unrealistic expectations comes from how it affects the way we perceive information. Expectations are mental representations of what some future moment will look, sound, taste, smell, or feel like. Expectations come from what we know. This makes sense, because we can't expect something that we have no knowledge or awareness of. What we know is synonymous with what we have learned to believe about the ways in which the external environment can express itself. What we believe is our own personal version of the truth. When we expect something, we are projecting out into the future what we believe to be true.

We are expecting the outside environment a minute, an hour, a day, a week, or a month from now to be the way we have represented it in our minds. We have to be careful about what we project out into the future, because nothing else has the potential to create more unhappiness and emotional misery than an unfulfilled expectation. When things happen exactly as you expect them to, how do you feel? The response is generally wonderful (including feelings like happiness, joy, satisfaction, and a greater sense of well-being), unless, of course, you were expecting something dreadful and it manifested itself. Conversely, how do you feel when your expectations are not fulfilled? The universal response is emotional pain.

Everyone experiences some degree of anger, resentment, despair, regret, disappointment, dissatisfaction, or betrayal when the environment doesn't turn out to be exactly as we expected it to be (unless, of course, we are completely surprised by something much better than we imagined). Here's where we run into problems. Because our expectations come from what we know, when we decide or believe that we know something, we naturally expect to be right. At that point, we're no longer in a neutral or open state of mind, and it's not difficult to understand why. If we're going to feel great if the market does what we expect it to do, or feel horrible if it doesn't, then we're not exactly neutral or open-minded. Quite the contrary, the force of the belief behind the expectation will cause us to perceive market information in a way that confirms what we expect (we naturally like feeling good); and our pain-avoidance mechanisms will shield us from information that doesn't confirm what we expect (to keep us from feeling bad).

As I've already indicated, our minds are designed to help us avoid pain, both physical and emotional. These pain-avoidance mechanisms exist at both conscious and subconscious levels. For example, if an object is coming toward your head, you react instinctively to get out of the way. Ducking does not require a conscious decision-making process. On the other hand, if you clearly see the object and have

time to consider the alternatives, you may decide to catch the object, bat it away with your hand, or duck. These are examples of how we protect ourselves from physical pain. Protecting ourselves from emotional or mental pain works in the same way, except that we are now protecting ourselves from information. For example, the market expresses information about itself and its potential to move in a particular direction. If there's a difference between what we want or expect and what the market is offering or making available, then our pain-avoidance mechanisms kick in to compensate for the differences. As with physical pain, these mechanisms operate at both the conscious and subconscious levels.

To protect ourselves from painful information at the conscious level, we rationalize, justify, make excuses, willfully gather information that will neutralize the significance of the conflicting information, get angry (to ward off the conflicting information), or just plain lie to ourselves. At the subconscious level, the pain-avoidance process is much more subtle and mysterious. At this level, our minds may block our ability to see other alternatives, even though in other circumstances we would be able to perceive them. Now, because they are in conflict with what we want or expect, our pain-avoidance mechanisms can make them disappear (as if they didn't exist). To illustrate this phenomenon, the best example is one I have already given you: We are in a trade where the market is moving against us. In fact, the market has established a trend in the opposite direction to what we want or expect. Ordinarily, we would have no problem identifying or perceiving this pattern if it weren't for the fact that the market was moving against our position. But the pattern loses its significance (becomes invisible) because we find it too painful to acknowledge.

To avoid the pain, we narrow our focus of attention and concentrate on information that keeps us out of pain, regardless of how insignificant or minute. In the meantime, the information that clearly indicates the presence of a trend and the opportunity to trade in the direction of that trend becomes invisible. The trend doesn't disappear from physical reality, but our ability to perceive it does. Our pain-avoidance mechanisms block our ability to define and interpret what the market is doing as a trend. The trend will then stay invisible until the market either reverses in our favor or we are forced out of the trade because the pressure of losing too much money becomes unbearable. It's not until we are either out of the trade or out of danger that the trend becomes apparent, as well as all the opportunities to make money by trading in the

All the distinctions that would otherwise be perceivable become perfectly clear, after the fact, when there is no longer anything for our minds to protect us from. We all have the potential to engage in self-protective painavoidance mechanisms, because they're natural functions of the way our minds operate. There may be times when we are protecting ourselves from information that has the potential to bring up deepseated emotional wounds or trauma that we're just not ready to face, or don't have the appropriate skills or resources to deal with. In these cases, our natural mechanisms are serving us well. But more often, our pain-avoidance mechanisms are just protecting us from information that would indicate that our expectations do not correspond with what is available from the environments

perspective. This is where our pain-avoidance mechanisms do us a disservice, especially as traders. To understand this concept, ask yourself what exactly about market information is threatening. Is it threatening because the market actually expresses negatively charged information as an inherent characteristic of the way it exists?

It may seem that way, but at the most fundamental level, what the market gives us to perceive are up-tics and down-tics or up-bars and down-bars. These up and down tics form patterns that represent edges. Now, are any of these tics or the patterns they form negatively charged? Again, it may certainly seem that way, but from the market's perspective the information is neutral. Each up-tic, down-tic, or pattern is just information, telling us the market's position. If any of this information had a negative charge as an inherent characteristic of the way it exists, then wouldn't everyone exposed to it experience emotional pain? For example, if both you and I get hit on the head with a solid object, there probably wouldn't be much difference in how we would feel. We'd both be in pain. Any part of our bodies coming into contact with a solid object with some degree of force will cause anyone with a normal nervous system to experience pain.

We share the experience because our bodies are constructed in basically the same way. The pain is an automatic physiological response to the impact with a tangible object. Information in the form of words or gestures expressed by the environment, or up and down tics expressed by the market, can be just as painful as being hit with a solid object; but there's an important difference between information and objects. Information is not tangible. Information doesn't consist of atoms and molecules. To experience the potential effects of information, whether negative or positive, requires an interpretation. The interpretations we make are functions of our unique mental frameworks. Everyone's mental framework is unique for two fundamental reasons.

First, all of us were born with different genetically encoded behavior and personality characteristics that cause us to have different needs from one another. How positively or negatively and to what degree the environment responds to these needs creates experiences unique to each individual. Second, everyone is exposed to a variety of environmental forces. Some of these forces are similar from one individual to the next, but none are exactly the same. If you consider the number of possible combinations of genetically encoded personality characteristics we can be born with, in relation to the almost infinite variety of environmental forces we can encounter throughout our lives, all of which contribute to the construction of our mental framework, then it's not difficult to see why there is no universal mental framework common to everyone.

Unlike our bodies, which have a common molecular structure that experiences physical pain, there is no universal mind-set to assure us that we will share the potential negative or positive effects of information in the same way. For example, someone could be projecting insults at you, intending to cause you to feel emotional pain. From the environment's perspective, this is negatively charged information. Will you experience the intended negative effects? Not necessarily! You have to be able to interpret the information as negative to experience it as negative. What if this person is insulting you in

a language you don't understand, or is using words you don't know the meaning of? Would you feel the intended pain? Not until you built a framework to define and understand the words in a derogatory way. Even then, we can't assume that what you'd feel would correspond to the intent behind the insult. You could have a framework to perceive the negative intent, but instead of feeling pain, you might experience a perverse type of pleasure. I've encountered many people who, simply for their own amusement, like to get people riled up with negative emotions.

If they happen to be insulted in the process, it creates a sense of joy because then they know how successful they've been. A person expressing genuine love is projecting positively charged information into the environment. Let's say the intent behind the expression of these positive feelings is to convey affection, endearment, and friendship. Are there any assurances that the person or persons this positively charged information is being projected toward will interpret and experience it as such? No, there aren't. A person with a very low sense of self-esteem, or someone who experienced a great deal of hurt and disappointment in relationships, will often misinterpret an expression of genuine love as something else. In the case of a person with low self-esteem, if he doesn't believe he deserves to be loved in such a way, he will find it difficult, if not impossible, to interpret what he is being offered as genuine or real. In the second case, where one has a significant backlog of hurt and disappointment in relationships, a person could easily come to believe that a genuine expression of love is extremely rare, if not non-existent, and would probably interpret the situation either as someone wanting something or trying to take advantage of him in some way.

I'm sure that I don't have to go on and on, sighting examples of all the possible ways there are to misinterpret what someone is trying to communicate to us or how what we express to someone can be misconstrued and experienced in ways completely unintended by us. The point that I am making is that each individual will define, interpret, and consequently experience whatever information he is exposed to in his own unique way. There's no standardized way to experience what the environment may be offering—whether it's positive, neutral, or negative information—simply because there is no standardized mental framework in which to perceive information. Consider that, as traders, the market offers us something to perceive at each moment. In a sense, you could say that the market is communicating with us.

If we start out with the premise that the market does not generate negatively charged information as an inherent characteristic of the way it exists, we can then ask, and answer, the question, "What causes information to take on a negative quality?" In other words, where exactly does the threat of pain come from? If it's not coming from the market, then it has to be coming from the way we define and interpret the available information. Defining and interpreting information is a function of what we assume we know or what we believe to be true. If what we know or believe is in fact true—and we wouldn't believe it if it weren't—then when we project our beliefs out into some future moment as an expectation, we naturally expect to be right. When we expect to be right, any information that doesn't confirm our version of the truth automatically becomes threatening. Any information that has the

potential to be threatening also has the potential to be blocked, distorted, or diminished in significance by our pain-avoidance mechanisms.

It's this particular characteristic of the way our minds function that can really do us a disservice. As traders, we can't afford to let our pain-avoidance mechanisms cut us off from what the market is communicating to us about what is available in the way of the next opportunity to get in, get out, add to, or subtract from a position, just because it's doing something that we don't want or expect. For example, when you're watching a market (one you rarely, if ever, trade in) with no intention of doing anything, do any of the up or down tics cause you to feel angry, disappointed, frustrated, disillusioned, or betrayed in any way? No! The reason is that there's nothing at stake. You're simply observing information that tells you where the market is at that moment. If the up and down tics that you're watching form into some sort of behavior pattern you've learned to identify, don't you readily recognize and acknowledge the pattern? Yes, for the same reason: There's nothing at stake.

There is nothing at stake because there's no expectation. You haven't projected what you believe, assume, or think you know about that market into some future moment. As a result, there's nothing to be either right about or wrong about, so the information has no potential to take on a threatening or negatively charged quality. With no particular expectation, you haven't placed any boundaries on how the market can express itself. Without any mental boundaries, you will be making yourself available to perceive everything you've learned about the nature of the ways in which the market moves.

There's nothing for your pain-avoidance mechanisms to exclude, distort, or diminish from your awareness in order to protect you. In my workshops, I always ask participants to resolve the following primary trading paradox: In what way does a trader have to learn how to be rigid and flexible at the same time? The answer is: We have to be rigid in our rules and flexible in our expectations. We need to be rigid in our rules so that we gain a sense of self-trust that can, and will always, protect us in an environment that has few, if any, boundaries. We need to be flexible in our expectations so we can perceive, with the greatest degree of clarity and objectivity, what the market is communicating to us from its perspective. At this point, it probably goes without saying that the typical trader does just the opposite: He is flexible in his rules and rigid in his expectations. Interestingly enough, the more rigid the expectation, the more he has to either bend, violate, or break his rules in order to accommodate his unwillingness to give up what he wants in favor of what the market is offering.

## **ELIMINATING THE EMOTIONAL RISK**

To eliminate the emotional risk of trading, you have to neutralize your expectations about what the market will or will not do at any given moment or in any given situation. You can do this by being willing to think from the markets perspective. Remember, the market is always communicating in probabilities. At the collective level, your edge may look perfect in every respect; but at the individual level, every trader who has the potential to act as a force on price movement can negate the positive

outcome of that edge. To think in probabilities, you have to create a mental framework or mind-set that is consistent with the underlying principles of a probabilistic environment. A probabilistic mind-set pertaining to trading consists of five fundamental truths.

1. Anything can happen.
2. You don't need to know what is going to happen next in order to make money.
3. There is a random distribution between wins and losses for any given set of variables that define an edge.
4. An edge is nothing more than an indication of a higher probability of one thing happening over another.
5. Every moment in the market is unique.

Keep in mind that your potential to experience emotional pain comes from the way you define and interpret the information you're exposed to. When you adopt these five truths, your expectations will always be in line with the psychological realities of the market environment. With the appropriate expectations, you will eliminate your potential to define and interpret market information as either painful or threatening, and you thereby effectively neutralize the emotional risk of trading. The idea is to create a carefree state of mind that completely accepts the fact that there are always unknown forces operating in the market. When you make these truths a fully functional part of your belief system, the rational part of your mind will defend these truths in the same way it defends any other belief you hold about the nature of trading.

This means that, at least at the rational level, your mind will automatically defend against the idea or assumption that you can know for sure what will happen next. It's a contradiction to believe that each trade is a unique event with an uncertain outcome and random in relationship to any other trade made in the past; and at the same time to believe you know for sure what will happen next and to expect to be right. If you really believe in an uncertain outcome, then you also have to expect that virtually anything can happen. Otherwise, the moment you let your mind hold onto the notion that you *know*, you stop taking all of the unknown variables into consideration. Your mind won't let you have it both ways. If you believe you know something, the moment is no longer unique.

If the moment isn't unique, then everything is known or knowable; that is, there's nothing not to know. However, the moment you stop factoring in what you don't or can't know about the situation instead of being available to perceive what the market *is* offering, you make yourself susceptible to all of the typical trading errors. For example, if you really believed in an uncertain outcome, would you ever consider putting on a trade without defining your risk in advance? Would you ever hesitate to cut a loss, if you really believed you didn't know? What about trading errors like jumping the gun? How could you anticipate a signal that hasn't yet manifested itself in the market, if you weren't convinced that you were going to miss out? Why would you ever let a winning trade turn into a loser, or not have

a systematic way of taking profits, if you weren't convinced the market was going your way indefinitely? Why would you hesitate to take a trade or not put it on at all, unless you were convinced that it was a loser when the market was at your original entry point? Why would you break your money management rules by trading too large a position relative to your equity or emotional tolerance to sustain a loss, if you weren't positive that you had a sure thing? Finally, if you really believed in a random distribution between wins and losses, could you ever feel betrayed by the market? If you flipped a coin and guessed right, you wouldn't necessarily expect to be right on the next flip simply because you were right on the last.

Nor would you expect to be wrong on the next flip if you were wrong on the last. Because you believe in a random distribution between the sequence of heads and tails, your expectations would be perfectly aligned with the reality of the situation. You would certainly like to be right, and if you were that would be great, but if you were wrong then you would not feel betrayed by the flip, because you know and accept that there are unknown variables at work that affect the outcome. Unknown means "not something your rational thinking process can take into consideration in advance of the Hi-r" ?jXCi>vL ^ fu!Iv accept that you don't know As a result, there is little, if any, potential to experience the kind of emotional pain that wells up when you feel betrayed. As a trader, when you're expecting a random outcome, you will always be at least a little surprised at whatever the market does—even if it conforms exactly to your definition of an edge and you end up with a winning trade. However expecting a random outcome doesn't mean that you can't use your full reasoning and analytical abilities to project an outcome, or that you can't guess what's going to happen next, or have a hunch or feeling about it, because you can. Furthermore, you can be right in each instance.

You just can't *expect* to be right. And if you are right, you can't expect that whatever you did that worked the last time will work again the next time, even though the situation may look, sound, or feel exactly the same. Anything that you are perceiving "now" in the market will never be exactly the same as some previous experience that exists in your mental environment. But that doesn't mean that your mind (as a natural characteristic of the way it functions) won't try to make the two identical. There will be similarities between the "now moment" and something that you know from the past, but those similarities only give you something to work with by putting the odds of success in your favor. If you approach trading from the perspective that you don't know what will happen next, you will circumvent your mind's natural inclination to make the "now moment" identical to some earlier experience.

As unnatural as it seems to do so, you can't let some previous experience (either negative or extremely positive) dictate your state of mind. If you do, it will be very difficult, if not impossible, to perceive what the market is communicating from its perspective. When I put on a trade, all I expect is that something will happen. Regardless of how good I think my edge is, I expect nothing more than for the market to move or to express itself in some way. However, there are some things that I do know for sure. I know that based on the markets past behavior, the odds of it moving in the direction of my trade are good or acceptable, at least in relationship to how much I am willing to spend to find out if it does. I

also know before getting into a trade how much I am willing to let the market move against my position. There is always a point at which the odds of success are greatly diminished in relation to the profit potential. At that point, it's not worth spending any more money to find out if the trade is going to work. If the market reaches that point, I know without any doubt, hesitation, or internal conflict that I will exit the trade.

The loss doesn't create any emotional damage, because I don't interpret the experience negatively. To me, losses are simply the cost of doing business or the amount of money I need to spend to make myself available for the winning trades. If, on the other hand, the trade turns out to be a winner, in most cases I know for sure at what point I am going to take my profits. (If I don't know for sure, I certainly have a veiy good idea.) The best traders are in the "now moment" because there's no stress. There's no stress because there's nothing at risk other than the amount of money they are willing to spend on a trade. They are not trying to be right or trying to avoid being wrong; neither are they trying to prove anything. If and when the market tells them that their edges aren't working or that it's time to take profits, their minds do nothing to block this information. They completely accept what the market is offering them, and they wait for the next edge.

## **CHAPTER 8**

### **WORKING WITH YOUR BELIEFS**

Now the task before you is to properly integrate the five fundamental truths presented in Chapter 7 in your mental environment at *a* functional level. To help you do that, we will take an in-depth look at beliefs—their nature, properties, and characteristics. However, before we do that I will review and organize the major concepts presented thus far into a much clearer and more practical framework. What you learn from this and the next two chapters will form the foundation for understanding everything you need to do to achieve your goals as a trader.

### **DEFINING THE PROBLEM**

At the most fundamental level, the market is simply a series of up and down tics that form patterns. Technical analysis defines these patterns as edges. Any particular pattern defined as an edge is simply an indication that there is a higher probability that the market will move in one direction over the other. However, there is a major mental paradox here because a pattern implies consistency, or, at least, a consistent outcome. But the reality is each pattern is a unique occurrence. They may look (or measure) exactly the same from one occurrence to the next, but the similarities are only on the surface. The underlying force behind each pattern is traders, and the traders who contribute to the formation of one

pattern are always different from the traders who contribute to the next; so the outcome of each pattern is random relative to one another.

Our minds have an inherent design characteristic (the association mechanism) that can make this paradox difficult to deal with. Now these edges, or the patterns they represent, flow by in every time frame, making the market a never-ending stream of opportunities to get in, get out (scratch a trade), take profits, cut losses, or add to or detract from a position. In other words, from the market's perspective, each moment presents each one of us traders with the opportunity to do something on our own behalf.

## **DEFINING THE TERMS**

What prevents us from perceiving each "now moment" as an opportunity to do something for ourselves or to act appropriately even when we do? Our fears! What is the source of our fears? We know its not the market, because from the market's perspective, the up and down tics and the patterns they create are neither positively or negatively charged.

As a result, the up and down tics themselves have no capacity to cause us to enter into any particular state of mind (negative or positive), lose our objectivity, make errors, or take us out of the opportunity flow. If it's not the market that causes us to experience a negatively charged state of mind, then what does cause it? The way we define and interpret the information we perceive. If that's the case, then what determines what we perceive and how we define and interpret that information? What we believe or what we assume to be true. Our beliefs working in conjunction with the association and pain-avoidance mechanisms act as a force on our five senses, causing us to perceive, define, and interpret market information in a way that is consistent with what we expect. What we expect is synonymous with what we believe or assume to be true. Expectations are beliefs projected into some future moment. Each moment from the market's perspective is unique; but if the information being generated by the market is similar in quality, properties, or characteristic to something that is already in our minds, the two sets of information (outside and inside) automatically become linked. When this connection is made, it triggers a state of mind (confidence, euphoria, fear, terror, disappointment, regret, betrayal, etc.) that corresponds to whatever belief, assumption, or memory the outside information was linked. This makes it *seem as* if what is outside is exactly the same as whatever is already inside of us. It's our state of mind that makes the truth of whatever we're perceiving outside of us (in the market) seem indisputable and beyond question.

Our state of mind is always the absolute truth. If I feel confident, then I am confident. If I feel afraid, then I am afraid. We can't dispute the quality of energy flowing through our mind and body at any given moment. And because I *know* as an indisputable fact how I feel, you could say that I also know the truth of what I'm perceiving outside of me in the same moment. The problem is that how we feel is always the absolute truth, but the beliefs that triggered our state of mind or feeling may or may not be

true relative to the possibilities that exist in the market at any given moment. Recall the example of the boy and the dog.

The boy "knew" for an absolute fact that each dog he encountered after the first was threatening, because of the way he felt when one came into his field of awareness. These other dogs did not cause his fear; his negatively charged memory working in conjunction with the association and his pain-avoidance mechanism caused his fear. He experienced his own version of the truth, although that did not correspond with the possibilities that existed from the environment's perspective. His belief about the nature of dogs was limited relative to the possible characteristics and traits expressed by dogs. Yet the state of mind he experienced every time he encountered a dog caused him to believe that he "knew" exactly what to expect from them.

This same process causes us to believe that we "know" exactly what to expect from the market, when the reality is there are always unknown forces operating at every moment. The trouble is, the instant we think we "know" what to expect, we simultaneously stop taking all the unknown forces and the various possibilities created by those forces into consideration. The unknown forces are other traders waiting to enter or exit trades, based on their beliefs about the future. In other words, we really can't know exactly what to expect from the market, until we can read the minds of all the traders who have the potential to act as a force on price movement. Not a very likely possibility. As traders, we can't afford to indulge ourselves in any form of "I know what to expect from the market." We can "know" exactly what an edge looks, sounds, or feels like, and we can "know" exactly how much we need to risk to find out if that edge is going to work.

We can "know" that we have a specific plan as to how we are going to take profits if a trade works. *But that's it!* If what we think we know starts expanding to what the market is going to do, we're in trouble. And all that's required to put us into a negatively charged, "I know what to expect from the market" state of mind is for any belief, memory, or attitude to cause us to interpret the up and down ticks or any market information as anything but an opportunity to do something on our own behalf.

**What Are the Objectives?** Ultimately, of course, making money is everyone's objective. But if trading were only a matter of making money, reading this book wouldn't be necessary. Putting on a winning trade or even a series of winning trades requires absolutely no skill. On the other hand, creating consistent results and being able to keep what we've created does require skill. Making money consistently is a by-product of acquiring and mastering certain mental skills. The degree to which you understand this is the same degree to which you will stop focusing on the money and focus instead on how you can use your trading as a tool to master these skills.

**What Are the Skills?** Consistency is the result of a carefree, objective state of mind, where we are making ourselves available to perceive and act upon whatever the market is offering us (from its perspective) in any given "now moment."

**What Is a Carefree State of Mind?** Carefree means confident, but not euphoric. When you are in a carefree state of mind, you won't feel any fear, hesitation, or compulsion to do anything, because

you've effectively eliminated the potential to define and interpret market information as threatening. To remove the sense of threat, you have to accept the risk completely. When you have accepted the risk, you will be at peace with any outcome. To be at peace with any outcome, you must reconcile anything in your mental environment that conflicts with the five fundamental truths about the market. What's more, you also have to integrate these truths into your mental system as core beliefs.

**What Is Objectivity?** Objectivity is a state of mind where you have conscious access to everything you have learned about the nature of market movement. In other words, nothing is being blocked or altered by your painavoidance mechanisms.

**What Does it Mean to Make Yourself Available?** Making yourself available means trading from the perspective that you have nothing to prove. You aren't trying to win or to avoid losing. You aren't trying get your money back or to take revenge on the market. In other words, you come to the market with no agenda other than to let it unfold in any way that it chooses and to be in the best state of mind to recognize and take advantage of the opportunities it makes available to you.

**What Is the "Now Moment"?** Trading in the "now moment" means that there is no potential to associate an opportunity to get into, get out of, add too, or detract from a trade with a past experience that already exists in your mental environment.

## HOW THE FUNDAMENTAL TRUTHS RELATE TO THE SKILLS

**1. Anything can happen.** Why? Because there are always unknown forces operating in every market at every moment, it takes only one trader somewhere in the world to negate the positive outcome of your edge. That's all: only one. Regardless of how much time, effort, or money you've invested in your analysis, from the market's perspective there are no exceptions to this truth. Any exceptions that may exist in your mind will be a source of conflict and potentially cause you to perceive market information as threatening.

**2. You don't need to know what is going to happen next in order to make money.** Why? Because there is a random distribution between wins and losses for any given set of variables that define an edge. (See number 3.) In other words, based on the past performance of your edge, you may know that out of the next 20 trades, 12 will be winners and 8 will be losers. What you don't know is the sequence of wins and losses or how much money the market is going to make available on the winning trades. This truth makes trading a probability or numbers game.

When you really believe that trading is simply a probability game, concepts like right and wrong or win and lose no longer have the same significance. As a result, your expectations will be in harmony with the possibilities. Keep in mind that nothing has more potential to cause emotional discord than our unfulfilled expectations. Emotional pain is the universal response when the outside world expresses itself in a way that doesn't reflect what we expect or believe to be true. As a result, any market information that does not confirm our expectations is automatically defined and interpreted as

threatening. That interpretation causes us to adopt a negatively charged, defensive state of mind, where we end up creating the very experience we are trying to avoid. Market information is only threatening if you are expecting the market to do something for you.

Otherwise, if you don't expect the market to make you right, you have no reason to be afraid of being wrong. If you don't expect the market to make you a winner, you have no reason to be afraid of losing. If you don't expect the market to keep going in your direction indefinitely, there is no reason to leave money on the table. Finally, if you don't expect to be able to take advantage of every opportunity just because you perceived it and it presented itself, you have no reason to be afraid of missing out. On the other hand, if you believe that all you need to know is:

1. the odds are in your favor before you put on a trade;
2. how much it's going to cost to find out if the trade is going to work;
3. you don't need to know what's going to happen next to make money on that trade; and
4. anything can happen;

Then how can the market make you wrong? What information could the market generate about itself that would cause your pain-avoidance mechanisms to kick in so that you exclude that information from your awareness? None that I can think of.

If you believe that anything can happen and that you don't need to know what is going to happen next to make money, then you will always be right. Your expectations will always be in harmony with the conditions as they exist from the market's perspective, effectively neutralizing your potential to experience emotional pain. By the same token, how can a losing trade or even a series of losers have the typical negative effect, if you really believe that trading is a probability or numbers game? If your edge puts the odds in your favor, then every loss puts you that much closer to a win. When you really believe this, your response to a losing trade will no longer take on a negative emotional quality.

### ***3. There is a random distribution between wins and losses for any given set of variables that define an edge.***

If every loss puts you that much closer to a win, you will be looking forward to the next occurrence of your edge, ready and waiting to jump in without the slightest reservation or hesitation. On the other hand, if you still believe that trading is about analysis or about being right, then after a loss you will anticipate the occurrence of your next edge with trepidation, wondering if it's going to work. This, in turn, will cause you to start gathering evidence for or against the trade. You will gather evidence for the trade if your fear of missing out is greater than your fear of losing. And you will gather information against the trade if your fear of losing is greater than your fear of missing out. In either case, you will not be in the most conducive state of mind to produce consistent results.

### ***4. An edge is nothing more than an indication of a higher probability of one thing happening over another.***

Creating consistency requires that you completely accept that trading isn't about hoping, wondering, or gathering evidence one way or the other to determine if the next trade is going to work. The only

evidence you need to gather is whether the variables you use to define an edge are present at any given moment. When you use "other" information, outside the parameters of your edge to decide whether you will take the trade, you are adding random variables to your trading regime.

Adding random variables makes it extremely difficult, if not impossible, to determine what works and what doesn't. If you're never certain about the viability of your edge, you won't feel too confident about it. To whatever degree you lack confidence, you will experience fear. The irony is, you will be afraid of random, inconsistent results, without realizing that your random, inconsistent approach is creating exactly what you are afraid of. On the other hand, if you believe that an edge is simply a higher probability of one thing happening over another, and there's a random distribution between wins and losses for any given set of variables that define an edge, why would you gather "other" evidence for or against a trade? To a trader operating out of these two beliefs, gathering "other" evidence wouldn't make any sense.

Or let me put it this way: Gathering "other" evidence makes about as much sense as trying to determine whether the next flip of a coin will be heads, after the last ten flips came up tails. Regardless of what evidence you find to support heads coming up, there is still a 50-percent chance that the next flip will come up tails. By the same token, regardless of how much evidence you gather to support acting or not acting on a trade, it still only takes one trader somewhere in the world to negate the validity of any, if not all, of your evidence. The point is *why bother!* If the market is offering you a legitimate edge, determine the risk and take the trade.

### **5. Every moment in the market is unique.**

Take a moment and think about the concept of uniqueness. "Unique" means not like anything else that exists or has ever existed. As much as we may understand the concept of uniqueness, our minds don't deal with it very well on a practical level. As we have already discussed, our minds are hardwired to automatically associate (without conscious awareness) anything in the exterior environment that is similar to anything that is already inside of us in the form of a memory, belief, or attitude. This creates an inherent contradiction between the way we naturally think about the world and the way the world exists. No two moments in the external environment will ever exactly duplicate themselves. To do so, every atom or every molecule would have to be in the exact same position they were in some previous moment.

Not a very likely possibility. Yet, based on the way our minds are designed to process information, we will experience the "now moment" in the environment as being exactly the same as some previous moment as it exists inside our minds. If each moment is like no other, then there's nothing at the level of your rational experience that can tell you for sure that you "know" what will happen next. So I will say again, why bother trying to know?! When you try to know, you are, in essence, trying to be right. I am not implying here that you can't predict what the market will do next and be right, because you most certainly can. It's in the trying that you run into all of the problems. If you believe that you correctly predicted the market once, you will naturally try to do it again.

As a result, your mind will automatically start scanning the market for the same pattern, circumstance, or situation that existed the last time you correctly predicted its movement. When you find it, your state of mind will make it seem as if everything is exactly as it was the last time. The problem is that, from the market's perspective, it is not the same. As a result, you are setting yourself up for disappointment. What separates the best traders from all the rest is that they have trained their minds to believe in the uniqueness of each moment (although this training usually takes the form of losing several fortunes before they "really" believe in the concept of uniqueness). This belief acts as a counteracting force, neutralizing the automatic association mechanism. When you truly believe that each moment is unique, then by definition there isn't anything in your mind for the association mechanism to link that moment to. This belief acts as an internal force causing you to disassociate the "now" moment in the market from any previous moment filed away in your mental environment. The stronger your belief in the uniqueness of each moment, the lower your potential to associate. The lower your potential to associate, the more open your mind will be to perceive what the market is offering you from its perspective.

### **MOVING TOWARD "THE ZONE"**

When you completely accept the psychological realities of the market, you will correspondingly accept the risks of trading. When you accept the risks of trading, you eliminate the potential to define market information in painful ways. When you stop defining and interpreting market information in painful ways, there is nothing for your mind to avoid, nothing to protect against.

When there's nothing to protect against, you will have access to all that you know about the nature of market movement. Nothing will get blocked, which means you will perceive all the possibilities you have learned about (objectively), and since your mind is open to a true exchange of energy, you will quite naturally start discovering other possibilities (edges) that you formerly couldn't perceive. For your mind to be open to a true exchange of energy, you can't be in a state of knowing or believing that you already know what's going to happen next. When you are at peace with not knowing what's going to happen next, you can interact with the market from a perspective where you will be making yourself available to let the market tell you, from its perspective, what is likely to happen next. At that point, you will be in the best state of mind to spontaneously enter "the zone," where you are tapped into the "now moment opportunity flow."

# **CHAPTER 9**

## **THE NATURE OF BELIEFS**

At this point, if you can sense the benefits of adopting the five fundamental truths about trading, then the task is to learn how to properly integrate these truths into your mental system as core beliefs that are not in conflict with any other beliefs you may hold. At first glance, this may seem like a daunting task and under other circumstances I would agree with you, but it won't be, because in Chapter 11 I'll give you a simple trading exercise specifically designed to properly install these truths as beliefs at a functional level.

A functional level is, one where you find yourself just naturally operating out of a carefree state of mind, perceiving exactly what you need to do and doing it without hesitation or internal conflict. However, I do have a word of caution for those of you who have already looked at the exercise. On the surface, the trading exercise looks so simple that you may be tempted to do it now, before you thoroughly understand the implications of what you are doing. I strongly suggest that you reconsider. There are some subtle yet profound dynamics involved in the process of learning how to install new beliefs and change any existing beliefs that are in conflict with the new ones. Understanding the trading exercise itself is easy. Understanding how to use the exercise to change your beliefs is another matter entirely. If you do the exercise without understanding the concepts presented in this chapter and the next, you will not achieve the desired results. It is also important that you not take for granted the amount of mental effort you may have to expend to train your mind to fully accept these principles of success, regardless of how well you understand them. Remember Bob, the CTA who believed he thoroughly understood the concept of probabilities, but didn't have the ability to function from a probabilistic perspective. Many people make the mistake of assuming that once they understand something, the insight inherent in their new understanding automatically becomes a functional part of their identity.

Most of the time, understanding a concept is only a first step in the process of integrating that concept at a functional level. This is especially true of concepts that deal with thinking in probabilities. Our minds are not naturally wired to be "objective" or to stay in the "now moment." This means we have to actively train our minds to think from these perspectives. In addition to the training involved, there may be any number of conflicting beliefs to work through. Conflicting beliefs will have the effect of sabotaging your best intentions to operate from an objective state of mind or to experience the "now moment opportunity flow." For example, let's say you've spent years learning how to read the markets, or spent large sums of money developing or buying technical systems, just so you could find out what was going to happen next.

Now you have come to understand that you don't have to know what's going to happen next, and that even trying to know will detract from your ability to be objective or to stay in the moment. What we have is a direct conflict between your old belief that you need to know what will happen next to be successful and your new understanding that you don't need to know. Now, will your new understanding suddenly neutralize all the time, money, and energy expended on reinforcing the belief that you "need to know"? I wish it were that easy. And for some lucky few, it may be. If you will recall in Chapter 4 when I talked about psychological distance in relationship to software code, I said that some traders may already be so close to these new perspectives that all they need is to put together a few of the missing pieces to create a mindaltering, "ah, ha" experience. However, based on my experience of working with well over a thousand traders, I can say that most are not close to these perspectives at all. For those of you who are not, it may take a considerable amount of mental work (over a considerable amount of time) to properly integrate your new understandings about trading into your mental environment.

The good news is that, ultimately, the exercise I present in Chapter 11 will install the five fundamental truths and resolve many of the potential conflicts, but only if you know exactly what you are doing and why you are doing it. That is the subject of this and the next chapter.

### **THE ORIGINS OF A BELIEF**

What can we learn about the nature of beliefs, and how can we use that knowledge to create a mind-set that fosters our desire to be a consistently successful trader? These are the two questions I am going to focus on answering in this chapter. First, let's look at the origin of our beliefs. As you may recall, memories, distinctions, and beliefs exist in the form of energy— specifically, structured energy. Earlier, I lumped these three mental components together to illustrate:

1. that memories, distinctions, and beliefs do not exist as physical matter;
2. that the cause-and-effect relationship that exists between ourselves and the external environment brings these components into existence; and
3. how the cause-and-effect relationship reverses so that we can perceive in the external environment what we have learned about.

To get at the origins of our beliefs, we're going to have to unbundle these components to illustrate the difference between a memory and a belief. The best way to do this is to imagine ourselves in the mind of an infant. I would think that at the very beginning of a child's life, the memories of his experiences would exist in their purest form. By that I mean that the memories of what he has seen, heard, smelled, touched, or tasted exist in his mind as pure sensory information that is not organized or attached to any specific words or concepts. Therefore, I am going to define a pure memory as sensory information

stored in its original form. A belief, on the other hand, is a concept about the nature of the way the external environment expresses itself.

A concept combines pure sensory information with a symbol system we call language. For example, most infants have a pure memory of how it feels to be lovingly nurtured by a parent, but it isn't until the infant is taught to link or associate certain words with the pure sensory information stored in his memory that he will form a concept about how it feels to be lovingly nurtured. The phrase "Life is wonderful" is a concept. By themselves, the words make up a meaningless collection of abstract symbols. But if a child is either taught or decides to connect these words to his positively charged feelings of being nurtured, then the letters are no longer a collection of abstract symbols and the words are no longer an abstract phrase. "Life is wonderful" becomes a definitive distinction about the nature of existence or the way the world works. By the same token, if the child didn't get enough nurturing, relative to his needs, he could just as easily link his feelings of emotional pain to a concept like "Life isn't fair" or "The world is an awful place." In any case, when the positive or negative energy from our memories or experiences become linked to a set of words we call a concept, the concept becomes energized and, as a result, is transformed into a belief about the nature of reality. If you consider that concepts are structured by the framework of a language and energized by our experiences, it becomes clear why I refer to beliefs as "structured energy."

When a belief comes into existence, what does it do? What is its function? In some ways it seems ludicrous to ask those questions. After all, we all have beliefs. We are constantly expressing our beliefs both verbally and through our actions. Furthermore, we are constantly interacting with other peoples beliefs as they express them. Yet, if I ask, "What exactly does a belief do?" chances are your mind will go blank. On the other hand, if I were to ask about the functions of your eyes, ears, nose, or teeth, you would have no problem answering. Since beliefs are such important component parts of our make-up (in terms of their impact on the quality of our lives), it certainly has to be one of life's great ironies that they are also the least thought about and understood. What I mean by "least thought about" is, if we have a problem with one of our body parts, we naturally focus our attention on that part and think about what we need to do to fix the problem.

However, it doesn't necessarily occur to us that the problems we may be having with the quality of our lives (for example, lack of happiness, a sense of dissatisfaction, or lack of success in some area) are rooted in our beliefs. This lack of consideration is a universal phenomenon. One of the prominent characteristics of beliefs is that they make what we experience seem self evident and beyond question. In fact, if it weren't for your intense desire to experience consistent success as a trader, it's unlikely you would be delving into this topic at all. Usually, it takes years of extreme frustration before people begin examining their beliefs as the source of their difficulties. However, even though beliefs are an intricate part of our identity, you don't have to take this process of self analysis so personally. Consider the fact that none of us was born with any of our beliefs. They were all acquired in a combination of ways. Many of the beliefs that have the most profound impact on our lives were not even acquired by us as an

act of free will. They were instilled by other people.

And it probably won't come as a surprise to anyone that usually the beliefs that cause us the most difficulty are those that were acquired from others without our conscious consent. By that I mean beliefs that we acquired when we were too young and uninformed to realize the negative implications of what we were being taught. Regardless of the source of our beliefs, once they are born into existence they all basically function in the same way. Beliefs have certain characteristic ways in which they do their jobs, not unlike the various parts of our bodies.

For example, if you compare my eyes and your eyes, or my hands and your hands, or my red blood cells and your red blood cells, we can see that they are not exactly the same, but they have characteristics in common that cause them to function in similar ways. By the same token, a belief that "Life is wonderful" will perform its function in the same way as a belief that "Life is awful." The beliefs themselves are different and the effect that each has on the quality of the holder's life will be vastly different, but both beliefs will function in exactly the same manner.

## **BELIEFS AND THEIR IMPACT ON OUR LIVES**

In the broadest sense, our beliefs shape the way we experience our lives. As I have already said, we're not born with any of our beliefs. They're acquired, and as they accumulate, we live our lives in a way that reflects what we have learned to believe. Consider how different your life would be if you had been born into a culture, religion, or political system that has very little, if anything, in common with the one you were born into. It might be hard to imagine, but what you would have learned to believe about the nature of life and how the world works may not be remotely similar to what you currently believe. Yet you would hold these other beliefs with the same degree of certainty as your current beliefs.

### **How Beliefs Shape Our Lives**

1. They manage our perception and interpretation of environmental information in a way that is consistent with what we believe.
2. They create our expectations. Keep in mind that an expectation is a belief projected into some future moment. Since we can't expect something we don't know about, we could also say that an expectation is what we know projected into some future moment.
3. Anything we decide to do or any outward expression of behavior will be consistent with what we believe.
4. Finally, our beliefs shape how we feel about the results of our actions.

There isn't much about the way we function that beliefs don't play a major role in. So what I am going

to do now is give you an example I used in my first book, *The Disciplined Trader*, to illustrate the various functions of a belief. In the spring of 1987, I was watching a locally produced television program called "Gotcha Chicago." It was about some local celebrities who played practical jokes on one another. In one segment of the program, the TV station hired a man to stand on the sidewalk along Michigan Avenue holding a sign that read "Free money. Today only." (For those of you who are not familiar with Chicago, Michigan Avenue is home to many fashionable, exclusive department stores and boutiques.) The TV station gave the man a considerable amount of cash, with instructions to give money to anyone who asked for it.

Now, when you consider that Michigan Avenue is one of the busiest areas of the city, and if we assume that most of the people who passed the man on the street could read the sign, how many people would you think took him up on his offer and asked for some money? Of all the people who walked by and read the sign, only one person stopped, and said, "Great! May I have a quarter to buy a bus transfer?" Otherwise, no one would even go near the man. Eventually, the man grew frustrated because people weren't reacting the way he expected them to. He started crying out, "Do you want any money? Please take my money; I can't give it away fast enough." Everyone just kept walking around him as if he didn't exist. In fact, I noticed that several people went out of their way to avoid him.

As a man wearing a suit and carrying a briefcase approached, he went right up to him and said, "Would you like some money?" The man responded, "Not today." Really frustrated now, he shot back, "How many days does this happen? Would you please take this?" as he tried to hand the man some cash. The man responded with a terse "No" and walked on. What was going on here? Why wouldn't anyone (except for the person who needed a bus transfer) ask for the money? If we assume that most or all of the passersby could read the sign, but still didn't make any effort to get the money, then one possible explanation for their behavior is that they just didn't care about money.

This is extremely unlikely, though, considering how much of our lives is devoted to the pursuit of money. If we agree that people could read the sign and that money is very important to most of us, then what could have stopped these people from helping themselves? The environment was making available an experience that most people would love to have: someone giving them money with no strings attached. Yet everyone walked by, oblivious to what was awaiting them. They must not have been able to perceive what was available. That's hard to imagine, because the sign clearly stated "Free money. Today only." However, it's not hard to imagine if you consider that most people have a belief (an energized concept about how the world works) that "Free money doesn't exist." If free money really doesn't exist, then how does someone reconcile the obvious contradiction between that belief and the sign saying that it does? That's easy, just decide the man with the sign is crazy; what else could account for such bizarre behavior if, in fact, free money doesn't exist? The reasoning process that could compensate for the contradiction might go something like this: "Everyone knows getting money with no strings attached rarely happens."

Certainly not from a stranger on one of the busiest streets in the city. In fact, if the man were really

giving away money, he would already be mobbed. He might even be endangering his life. He must be crazy. I had better take a wide path around him; who knows what he might do?" Notice that every component of the thought process described is consistent with the belief that free money doesn't exist.

1. The words "free money" were neither perceived nor interpreted as they were intended from the environment's perspective.

2. Deciding the person with the sign must be crazy created an expectation of danger, or at least a perception that caution was warranted.

3. Purposefully altering one's path to avoid the person with the sign is an action that is consistent with the expectation of danger.

4. How did each person feel about the outcome?

That's difficult to say without knowing each person individually, but a good generalization would be that they felt relieved that they successfully avoided an encounter with a crazy person. The feeling of relief that resulted from avoiding a confrontation is a state of mind. Remember that how we feel (the relative degree of positively or negatively charged energy flowing through our bodies and minds) is always the absolute truth.

But the beliefs that prompt any particular state of mind may not be the truth with respect to the possibilities available from the environment's perspective. Relief from confrontation was not the only possible outcome in this situation. Imagine how different the experience would be if they believed that "free money exists." The process described above would be the same, except it would make the belief that "free money exists," seem self-evident and beyond question, just as it made the belief that "free money doesn't exist," seem self-evident and beyond question. A perfect example would be the one person who said "great, may I have a quarter for a bus transfer." When I saw this, I had the anybody for a quarter. A panhandler is someone who definitely believes in the existence of free money. Therefore, his perception and interpretation of the sign were exactly what was intended by the TV station.

His expectation and behavior were consistent with his belief that free money exists. And how would he feel about the results? He got his quarter, so I would assume he felt a sense of satisfaction. Of course, what he didn't know is that he could have gotten a lot more. There's another possible outcome for our scenario. Let's look at a hypothetical example of someone who believes that "free money doesn't exist," but who takes a "what if approach to the situation. In other words, some people can be so intrigued and curious about the possibilities that they decide to temporarily suspend their belief that "free money doesn't exist." This temporary suspension allows them to act outside the boundaries created by a belief, in order to see what happens.

So instead of ignoring the man with the sign, which would be our hypothetical person's first inclination, he walks up to him and says, "Give me ten dollars." The man promptly pulls a ten-dollar bill out of his pocket and gives it to him. What happens now? How does he feel, having experienced something unexpected that completely contradicted his belief? For most people, the belief that free money doesn't exist is acquired through unpleasant circumstances, to put it mildly. The most common

way is being told that we can't have something because it's too expensive.

How many times does the typical child hear, "Who do you think you are anyway? Money doesn't grow on trees, you know." In other words, it is probably a negatively charged belief. So the experience of having money handed to him with no strings attached and without any negative comments would likely create a state of mind of pure elation. In fact, most people would be so happy that they'd feel compelled to share that happiness and this new discovery with everyone they knew. I can imagine him going back to his office or going home, and the moment he encounters someone he knows, the first words out of his mouth will be "You won't believe what happened to me today," and even though he desperately wants those he meets to believe his story, they probably won't. Why? Because their belief that free money doesn't exist will cause them to interpret his story in a way that negates its validity.

To take this example a little further, imagine what would happen to this person's state of mind if it occurred to him that he could have asked for more money. He is in a state of pure elation. However, the moment the thought either pops into his mind or someone he relates his story to offers the idea that he could have asked for a lot more money, his state of mind will immediately shift to a negatively charged state of regret or despair. Why? He tapped into a negatively charged belief about what it means to miss out on something or not get enough. As a result, instead of being happy over what he got, he will lament what he could have had but didn't get.

## BELIEFS VS. THE TRUTH

In all three of these examples (including the hypothetical one), everybody experienced their own unique version of the situation. If asked, each person would describe what he or she experienced from their perspective, as if it were the only true and valid version of the reality of the situation. The contradiction between these three versions of the truth suggests to me a larger philosophical issue that needs to be resolved. If beliefs limit our awareness of the information being generated by the physical environment, so that what we perceive is consistent with whatever we believe, then how do we know what the truth is? To answer this question, we have to consider four ideas:

1. The environment can express itself in an infinite combination of ways. When you combine all the forces of nature interacting with everything created by humans, then add to that the forces generated by all the possible ways people can express themselves, the result is a number of possible versions of reality that would surely overwhelm even the most onen-minded nerson.
2. Until we have acquired the ability to perceive eveiy possible way in which the environment can express itself, our beliefs will always represent a limited version of what is possible from the environment's perspective, making our beliefs a statement *about* reality, but not necessarily a definitive statement of reality.
3. If you find yourself taking exception to the second statement, then consider that if our beliefs were a true, 100-percent accurate reflection of physical reality, then our expectations would always be

fulfilled. If our expectations were always fulfilled, we would be in a perpetual state of satisfaction. How could we feel other than happy, joyful, elated, and with a complete sense of well-being if physical reality was consistently showing up exactly as we expected it to?

4. If you can accept the third statement as being valid, then the corollary is also true. If we are not experiencing satisfaction, then we must be operating out of a belief or beliefs that don't work very well relative to the environmental conditions. Taking these four ideas into consideration, I can now answer the question, "What is the truth?" The answer is, whatever works. If beliefs impose limitations on what we perceive as possible, and the environment can express itself in an infinite combination of ways, then beliefs can only be true relative to what we are attempting to accomplish at any given moment. In other words, the relative degree of truth inherent in our beliefs can be measured by how useful they are. Each of us has internally generated forces (curiosity, needs, wants, desires, goals, and aspirations) that compel or motivate us to interact with the physical environment. The particular set of steps we take to fulfill the object of our curiosity, needs, wants, desires, goals, or aspirations is a function of what we believe to be true in any given circumstance or situation. That truth, whatever it is, will determine:

1. the possibilities we perceive in relation to what is available from the environment's perspective,
2. how we interpret what we perceive,
3. the decisions we make,
4. our expectations of the outcome,
5. the action we take, and
6. how we feel about the results of our efforts.

At any given moment, if we find ourselves in a state of satisfaction, happiness, or well-being in relation to whatever we are attempting to accomplish, we can say that our truth (meaning whatever beliefs we are operating from) are useful because the process, as stated above, worked. What we perceived was not only consistent with our objective, it was also consistent with what was available from the environment's perspective. Our interpretation of the information we perceived resulted in a decision, expectation, and action that were in harmony with the environmental situation and circumstance. There was no resistance or counteracting force offered by the environment (or in our own mind) that would diminish the outcome we were trying to achieve. As a result, we find ourselves in a state of satisfaction, happiness, and well-being.

On the other hand, if we find ourselves in a state of dissatisfaction, disappointment, frustration, confusion, despair, regret, or hopelessness, we can say that relative to the environmental situation and circumstances, the beliefs we are operating from don't work well or at all, and therefore are not useful. Simply put, the truth is a function of whatever works in relation to what we are trying to accomplish at any given moment.

# **CHAPTER 10**

## **THE IMPACT OF BELIEFS ON TRADING**

If the external environment can express itself in an infinite combination of ways, then there's really no limit to the number and types of beliefs available to be acquired about the nature of our existence. That is an elaborate way of saying that there's a lot out there to be learned about. Yet, to make a general observation about the nature of humanity, I would say that we certainly don't live our lives in a manner that is consistent with that statement. If it's true that it's possible to believe almost anything, then why are we always arguing and fighting with each other? Why isn't it all right for all of us to express our lives in a way that reflects what we have learned to believe? There has to be something behind our relentless attempt to convince others of the validity of our beliefs and to deny the validity of theirs. Consider that every conflict, from the smallest to the largest, from the least to the most significant, whether between individuals, cultures, societies, or nations, is always the result of conflicting beliefs. What characteristics of our beliefs make us intolerant of divergent beliefs?

In some cases, we are so intolerant that we are willing to kill each other to get our point across. My personal theory is that beliefs are not only structured energy, but also energy that seems to be conscious, at least to the extent of having some degree of awareness.

Otherwise, how can we account for our ability to recognize on the outside what is on the inside? How would we know our expectations are being fulfilled? How would we know when they are not? How would we know we are being confronted with information or circumstances that contradict what we believe? The only explanation I have is that each individual belief has to have some quality of either awareness or self-awareness that causes it to function as it does.

The idea of energy that has some degree of awareness may be difficult for many of you to accept. But there are several observations we can make about our individual and collective natures that support the possibility. First, everyone wants to be believed. It doesn't matter what the belief is; the experience of being believed feels good. I think these positive feelings are universal, meaning that they apply to everyone. Conversely, no one likes to be disbelieved; it doesn't feel good. If I said, "I don't believe you," the negative feeling that would resonate throughout your body and mind is also universal. By the same token, none of us likes to have our beliefs challenged. The challenge feels like an attack. Everyone, regardless of the belief, seems to respond in the same way: The typical response is to argue, defend ourselves (our beliefs), and, depending on the situation, attack back. When expressing ourselves, we seem to like being listened to. If we sense our audience isn't paying attention, how does it feel? Not good! Again, I think this response is universal.

Conversely, why is it so difficult to be a good listener? Because to be a good listener, we actually have to listen, without thinking about how we are going to express ourselves the moment we can either

politely or rudely interrupt the person who's speaking. What's the compelling force behind our inability to listen without waiting to interrupt? Don't we like being with people with similar beliefs, because it feels comfortable and secure? Don't we avoid people with dissimilar or conflicting beliefs, because it feels uncomfortable or even threatening? The bottom line implication is, the moment we acquire a belief, it seems to take on a life of its own, causing us to recognize and be attracted to its likeness and repelled by anything that is opposite or contradictory.

Considering the vast number of divergent beliefs that exist, if these feelings of attraction or comfort and being repelled or threatened are universal, then each belief must somehow be conscious of its existence, and this conscious, structured energy must behave in characteristic ways that are common to all of us.

## THE PRIMARY CHARACTERISTICS OF A BELIEF

There are three basic characteristics you need to understand in order to effectively install the five fundamental truths about trading at a functional level in your mental environment:

1. Beliefs seem to take on a life of their own and, therefore, resist any force that would alter their present form.
2. All active beliefs demand expression.
3. Beliefs keep on working regardless of whether or not we are consciously aware of their existence in our mental environment.

*1. Beliefs resist any force that would alter their present form.* We may not understand the underlying dynamics of how beliefs maintain their structural integrity, but we can observe that they do so, even in the face of extreme pressure or force. Throughout human history, there are many examples of people whose belief in some issue or cause was so powerful that they chose to endure indignities, torture, and death rather than express themselves in a way that violated their beliefs. This is certainly a demonstration of just how powerful beliefs can be and the degree to which they can resist any attempt to be altered or violated in the slightest way.

Beliefs seem to be composed of a type of energy or force that naturally resists any other force that would cause them to exist in any form other than their present form. Does this mean that they can't be altered? Absolutely not! It just means that we have to understand how to work with them. Beliefs can be altered, but not in the way that most people may think. I believe that once a belief has been formed, it cannot be destroyed. In other words, there is nothing we can do that would cause one or more of our beliefs to cease to exist or to evaporate as if they never existed at all. This assertion is founded in a basic law of physics. According to Albert Einstein and others in the scientific community, energy can neither be created nor destroyed; it can only be transformed.

If beliefs are energy—structured, conscious energy that is aware of its existence—then this same principle of physics can be applied to beliefs, meaning, if we try to eradicate them, it's not going to work. If you knew someone or something was trying to destroy you, how would you respond? You would defend yourself, fight back, and possibly become even stronger than you were before you knew of the threat. Each individual belief is a component of what we consider to be our identity. Isn't it reasonable to expect that, if threatened, each individual belief would respond in a way that was consistent with how all the parts respond collectively? The same principle holds true if we try to act as if a particularly troublesome belief doesn't exist. If you woke up one morning and everyone you knew ignored you and acted as if you didn't exist, how would you respond? It probably wouldn't be long before you grabbed someone and got right in their face to try to force them to acknowledge you. Again, if purposely ignored, each individual belief will act in the very same way. It will find a way to force its presence into our conscious thought process or behavior. The easiest and most effective way to work with our beliefs is to gently render them inactive or nonfunctional by drawing the energy out of them. I call this process de-activation. After de-activation, the original structure of the belief remains intact, so technically it hasn't changed. The difference is that the belief no longer has any energy. Without energy, it doesn't have the potential to act as a force on our perception of information or on our behavior. Here is a personal illustration:

As a young child, I was taught to believe in both Santa Claus and the Tooth Fairy. In my mental system, both of these are perfect examples of what are now inactive, nonfunctional beliefs. However, even though they are inactive, they still exist inside my mental system, only now they exist as concepts with no energy. If you recall from the last chapter, I defined beliefs as a combination of sensory experience and words that form an energized concept. The energy can be drawn out of the concept, but the concept itself remains intact, in its original form. However, without energy, it no longer has the potential to act on my perception of information or on my behavior. So, as I'm sitting here typing into my computer, if someone came up to me and said that Santa Claus was at the door, how do you think I would define and interpret this information? I would treat it as being irrelevant or a joke, of course. However, if I were five years old and my mother told me that Santa Claus was at the front door, her words would have instantly tapped me into a huge reservoir of positively charged energy that would have compelled me to jump up and run to the front door as fast as I could.

Nothing would have been able to stop me. I would have overcome any obstacle in my path. At some point, my parents told me Santa Claus didn't exist. Of course, my first reaction was disbelief. I didn't believe them, nor did I want to believe them. Eventually, they convinced me. However, the process of convincing me did not destroy my belief in Santa Claus or cause it not to exist any longer; it just took all the energy out of the belief. The belief was transformed into a nonfunctional, inactive concept about how the world works. I'm not sure where all that energy went, but I know that some of it was transferred to a belief that Santa Claus doesn't exist.

Now I have two contradictory distinctions about the nature of the world that exist in my mental system: one, Santa exists; two, Santa doesn't exist. The difference between them is in the amount of energy they contain. The first has virtually no energy; the second has energy. So from a functional perspective, there is no contradiction or conflict. I propose that, if it's possible to render one belief inactive, then it's possible to de-activate any belief, despite the fact that all beliefs seem to resist any force that would alter their present form. The secret to effectively changing our beliefs is in understanding and, consequently, believing that we really aren't changing our beliefs; we are simply transferring energy from one concept to another concept, one that we find more useful in helping us to fulfill our desires or achieve our goals.

2. *All active beliefs demand expression.* Beliefs fall into two basic categories: active and inactive. The distinction between the two is simple. Active beliefs are energized; they have enough energy to act as a force on our perception of information and on our behavior. An inactive belief is just the opposite. It is a belief, that for any number of reasons, no longer has energy, or has so little energy that it's no longer able to act as a force on how we perceive information or how we express ourselves. When I say that all active beliefs demand expression, I don't mean to imply that every belief in our mental environment is demanding to express itself simultaneously. For example, if I ask you to think about what's wrong with the world today, the word "wrong" would bring to your mind ideas about the nature of the world that reflect what you believe to be troubling or disturbing. Unless, of course, there is nothing about the state of the world you find troubling. The point is, if there is something you do believe is wrong, you weren't necessarily thinking about those ideas before I asked the question; but the moment I did, your beliefs about these issues instantly moved to the forefront of your conscious thinking process. In effect, they demanded to be heard. I say that beliefs "demand" to be expressed because once something causes us to tap into our beliefs, it seems as if we can't stop the flood of energy that's released. This is especially true of emotionally sensitive issues or beliefs we feel particularly passionate about. You might ask, "Why would I want to hold back expressing my beliefs?" There could be several reasons. Consider a scenario in which you're this person is saying something that you completely disagree with, or even find utterly absurd. Will you express your truth or hold back? That will depend on the beliefs you have about what is proper in such a situation. If your beliefs dictate that speaking up would be inappropriate, and those beliefs have more energy than the ones that are being contradicted, then you'll probably hold back and not argue openly.

You might be looking at this person (the boss) and nodding your head in agreement. But is your mind in agreement? More to the point, is your mind silent? Absolutely not! Your position on the issues being presented are effectively countering each point the boss is making. In other words, your beliefs are still demanding expression, but they aren't being expressed externally (in the environment) because other beliefs are acting as a counteracting; force. However O O ' they will soon find a way to get out, won't they? As soon as you are out of the situation, you will probably

find a way to "unload," or even spew out your side of the argument. You will probably describe what you had to endure to anyone you think will lend a sympathetic ear. This is an example of how our beliefs demand to be expressed when they are in conflict with the external environment. But what happens when one or more of our beliefs are in conflict with our intents, goals, dreams, wants, or desires? The implications of such a conflict can have a profound effect on our trading. As we have already learned, beliefs create distinctions in how the external environment can express itself. Distinctions, by definition, are boundaries.

Human consciousness, on the other hand, seems to be larger than the sum total of everything we have learned to believe. This "larger than" quality of human consciousness gives us the ability to think in any direction we choose, either inside or outside of the boundaries imposed by our beliefs. Thinking outside of the boundaries of our beliefs is commonly referred to as creative thinking. When we purposely choose to question a belief (question what we know), and sincerely desire an answer, we make our minds available to receive a "brilliant idea," "inspiration," or "solution" to the issue at hand. Creativity, by definition, brings forth something- that didn't we will (by definition, automatically) receive ideas or thoughts that are outside of anything that already exists in our rational mind as a belief or memory.

As far as I know, there is no consensus among artists, inventors, or the religious or scientific communities as to exactly where creatively generated information comes from. However, what I do know is that creativity seems to be limitless and without boundaries. If there are any limits on the ways we can think, we certainly haven't found them yet. Consider the staggering pace at which technology has developed in the last 50 years alone. Every invention or development in the evolution of humanity was born in the minds of people who were willing to think outside the boundaries dictated by what they had learned to believe. If all of us have the inherent ability to think creatively (and I believe that we do), then we also have the potential to encounter what I call a "creative experience." I define a creative experience as the experience of anything new or outside the boundaries imposed by our beliefs. It could be a new sight—something we've never seen before, but from the environment's perspective was always there.

Or we could experience a new sound, smell, taste, or touch. Creative experiences, like creative thoughts, inspirations, hunches, and brilliant ideas, can occur as a surprise or can be the result of our conscious direction. In either case, when we experience them we can be confronted with a major psychological dilemma. A creative occurrence, whether in the form of a thought or an experience, can cause us to be attracted to or desire something that is in direct conflict with one or more of our beliefs. To illustrate the point, let's return to the example of the boy and dog. Recall that the boy has had several painful experiences with dogs. The first experience was real from the environment's perspective. The others, however, were the result of how his mind processed information (based on the operation of the association and painavoidance mechanisms). The end result is that he experiences fear every time he encounters a dog. Let's suppose that the boy was a toddler when he

had his first negatively charged experience.

As he grows up and begins associating specific words and concepts with his memories, he will form a belief about the nature of dogs. It would be reasonable to assume that he adopted a belief something like, "All dogs are dangerous." With the use of the word "all," the boy's belief is structured in a way that assures that he will avoid all dogs. He has no reason to question this belief, because every experience has confirmed and reinforced its validity. However, he (and everyone else on the planet) is susceptible to a creative experience. Under normal circumstances, the boy will do everything possible to make sure he does not encounter a dog. But what if something unexpected and unintended occurs? Suppose the boy is walking with his parents and, as a result, feels safe and protected. Now, suppose he and his parents come to a blind corner and cannot see what is on the other side. They encounter a scene in which several children of about the same age as the boy are playing with some dogs and, furthermore, they are obviously having a great deal of fun. This is a creative experience. The boy is confronted with indisputable information that what he believes about the nature of dogs isn't true. What happens now? First, the experience was not at the boy's conscious direction. He didn't make a decision to willingly expose himself to information that contradicted what he believed to be true. We might call this an inadvertent creative experience, because the external environment forced him to confront other possibilities that he didn't believe existed. Second, the experience of seeing other children playing with dogs and not getting hurt will throw his mind into a state of confusion.

After the confusion wears off, meaning as he begins to accept the possibility that not all dogs are dangerous, several scenarios are possible. Seeing other children his own age (with whom he could strongly identify) having such a great time playing with dogs could cause the boy to decide that he wants to be like the other children and have fun with dogs, too. If that's the case, this inadvertent creative encounter has caused him to become attracted to express himself in a way that he formerly didn't believe was possible (interacting with dogs). In fact, the notion was so impossible that it wouldn't have even occurred to him to consider it. Now, he not only considers it, he desires it. Will he be able to express himself in a way that is consistent with his desire? The answer to this question is a matter of energy dynamics.

There are two forces within the boy that are in direct conflict with each other, competing for expression: his belief that "all dogs are dangerous" and his desire to have fun and be like the other children. What he will do the next time he encounters a dog will be determined by which has more energy: his belief or his desire. Given the intensity of the energy in his belief that "All dogs are dangerous," we can reasonably assume that his belief will have far more energy than his desire. If that's the case, then he will find his next encounter with a dog very frustrating. Even though he may want to touch or pet the dog, he'll find that he can't interact with it in any way. The word "all" in his belief will act as a paralyzing force, preventing him from fulfilling his desire.

He might be well aware of the fact that the dog he wants to pet is not dangerous and won't hurt him;

but he won't be able to pet it until the balance of energy tips in favor of his desire. If the boy genuinely wants to interact with dogs, he will have to overcome his fear. This means that he will have to de-activate his belief that all dogs are dangerous so he can properly install a belief about dogs that is more consistent with his desire. We know that dogs can express themselves in a wide range of ways, from loving and gentle to mean and nasty. However, very few dogs on a percentage basis fall into the mean and nasty category. A good belief for the boy to adopt, then, would be something like, "Most dogs are friendly, but some can be mean and nasty."

This belief would allow him to learn to recognize characteristics and behavior patterns that will tell him which dogs he can play with and which ones to avoid. However, the larger issue is, how can the boy de-activate the "all" in the belief that "All dogs are dangerous" so he can overcome his fear? Remember that all beliefs naturally resist any force that would alter their present form, but, as I indicated above, the appropriate approach is not to try to alter the belief, but rather to draw the energy out of it and channel that energy into another belief that is better suited to our purposes. To de-activate the concept the word "all" represents, the boy will have to create a positively charged experience with a dog; at some point, he will have to step through his fear and touch one. Doing this might require a great deal of effort on the boy's part over a considerable amount of time.

Early in the process, his new realization about dogs might be strong enough only to allow him to be in the presence of a dog, at a distance, and not run away. However, each encounter with a dog, even at a distance, that doesn't result in a negative outcome will draw more and more of the negative energy out of his belief that "All dogs are dangerous." Eventually, each new positive experience will allow him to close the gap between himself and a dog, little by little, to the point that he can actually touch one. From an energy dynamics perspective, he will be able to touch a dog when his desire to do so is at least one degree greater in intensity than his belief that all dogs are dangerous.

The moment he actually does touch a dog, it will have the effect of drawing most of the remaining negative energy out of the "all" concept and transfer it to a belief that reflects his new experience. Although it's probably not that common, there are people who, for various reasons, are motivated enough to purposely put themselves through the above described process. However, they may not be consciously aware of the dynamics involved. People who work through a childhood fear of this magnitude usually do so somewhat haphazardly over a period of years, without knowing for sure exactly how they did it (unless they seek and get competent professional help). Later on, as adults, if they are asked or if they happen to encounter a situation that reminds them of their past (for instance, observing a child who is terrified of dogs), they typically characterize the process they went through as "I remember when I was afraid of dogs, but I grew out of it." The end result of the first scenario was that the boy worked through his fear by de-activating his limiting belief about the nature of dogs. This allowed him to express himself in a way that he finds pleasing and that otherwise would have been impossible. The second scenario that could result from the child's inadvertent creative experience with dogs is that he isn't attracted to the possibility of playing with a

dog. In other words, he could not care less about being like the other children or interacting with dogs. In this case, his belief that all dogs are dangerous and his new realization that all dogs are not dangerous will exist in his mental environment as contradictory concepts.

This is an example of what I call an active contradiction, when two active beliefs are in direct conflict with each other, both demanding expression. In this example, the first belief exists at a core level in the boy's mental environment, with a great deal of negatively charged energy. The second belief is at a more superficial level, and has very little positively charged energy. The dynamics of this situation are interesting, and extremely important. We have stated that beliefs control our perception of information. Under normal circumstances, the boy would have been perceptually blinded to the possibility of interacting with dogs, but the experience of seeing other children playing with them created a positively charged concept in his mental environment that dogs are not all dangerous; some can be friendly. However, he hasn't done anything to de-activate the "all" in his belief that "All dogs are dangerous," and, as far as I know, beliefs have no capacity to de-activate themselves.

As a result, beliefs exist in our mental environment from the moment they are born to the moment we die, unless we consciously take steps to deactivate them. However, in this scenario, the boy has no desire and consequently no motivation to step through his fear. Therefore, the boy is left with an active contradiction where his minimally charged belief that not all dogs are dangerous gives him the ability to perceive the possibility of playing with a dog, but his powerfully charged belief that all dogs are dangerous still causes him to experience some level of fear every time he encounters a dog (maybe not enough fear to cause him to run in terror, because some of that fear will be offset by the other belief, but there will certainly be enough fear to cause a great deal of discomfort).

The ability to "see" and consequently know that a situation is not dangerous, but at the same time find ourselves immobilized with fear, can be quite baffling if we don't understand that what we discover as the result of thinking creatively or realize from an inadvertent creative experience doesn't necessarily have enough energy to become a dominant force in our mental environment. In other words, our new awareness or discovery could very well have enough energy to act as a credible force on our perception of information, thereby causing us to perceive possibilities that would otherwise be invisible; but it might not have enough energy to act as a credible force on our behavior. In making this statement, I am operating out of the assumption that it takes more energy to act or express ourselves than the amount of energy it takes to observe something.

On the other hand, new awareness and discoveries instantly and effortlessly become dominant forces if there's nothing inside us that's in conflict with them. But if there are conflicting beliefs and we aren't willing to de-activate the conflicting forces (expending some effort), especially if they're negatively charged, then acting on what we've discovered will be a struggle at the very least, and perhaps down right impossible. What I have just described is the psychological dilemma that virtually every trader has to resolve. Let's say you have a firm grasp of the nature of probabilities

and, as a result, you "know" that the next trade is simply another trade in a series of trades that has a probable outcome. Yet you find you're still afraid to put that next trade on, or you're still susceptible to several of the fear-based trading errors we've discussed in previous chapters. Remember that the underlying cause of fear is the potential to define and interpret market information as threatening. What is the source of our potential to interpret market information as threatening? Our expectations! When the market generates information that doesn't conform to what we expect, the up and down ticks seem to take on a threatening quality (become negatively charged). Consequently, we experience fear, stress, and anxiety. What is the underlying source of our expectations? Our beliefs. In light of what you now understand about the nature of beliefs, if you are still experiencing negative states of mind when you trade, you can assume there's a conflict between what you "know" about probable outcomes and any number of other beliefs in your mental environment that are arguing (demanding expression) for something else. Keep in mind that all active beliefs demand expression, even if we don't want them to. To think in probabilities, you have to believe that every moment in the market is unique, or more specifically, that every edge has a unique outcome. When you believe at a functional level that every edge has a unique outcome (meaning that it's a dominant belief without any other beliefs arguing for something different), you will experience a state of mind that is free of fear, stress, and anxiety when you trade. It really can't work any other way. A unique outcome is not something we have already experienced, therefore it is not something we can already know. If it were known, it could not be defined as unique.

When you believe that you don't know what is going to happen next, what exactly are you expecting from the market? If you said "I don't know," you are absolutely right. If you believe that something will happen and that you don't need to know exactly what that something is to make money, then where is the potential to define and interpret market information as threatening and painful? If you said "There is none," you are absolutely right again. Here is one more example of how beliefs demand expression. Let's look at a situation where a child's first encounter with a dog was a very positive experience. As a result, he has absolutely no problem interacting with dogs (any dog for that matter), because he has not encountered one that's unfriendly. Therefore, he has no concept (an energized belief) that it is possible for a dog to inflict any damage or cause him to experience pain. As he learns to associate words with his memories, he will probably acquire a belief along the lines of "all dogs are friendly and fun." Therefore, every time a dog comes into his field of awareness, this belief will demand expression. From the perspective of someone who fits with a do?, it will seem as if this child has an attitude of reckless abandon.

If you tried to convince the child that he'll get bitten someday if he doesn't exercise caution, his belief will cause him to either discount or completely disregard your advice. His response would be something like "No way!" or "It can't happen to me." Let's say at some point in his life he approaches an unfamiliar dog that wants to be left alone. The dog growls. The warning will go unheeded and the dog attacks the boy. From the perspective of the boy's belief system, he's just had

a creative experience. What effect will this experience have on his belief that "all dogs are friendly"? Will he now be afraid of all dogs as the child in the first example was?

Unfortunately, the answers to these questions are not cut and dried, because there may be other beliefs, also demanding expression, that don't have anything specifically to do with dogs that come into play in a situation like this. For example, what if this child has a highly developed belief in betrayal (he believes he's been betrayed by some very significant people in some very significant situations that have caused him to experience intense emotional pain). If he associates the attack by this one dog as a "betrayal" by dogs in general (in essence a betrayal of his belief in dogs), then he could easily find himself afraid of all dogs.

All of the positive energy contained in his original belief could instantly be transformed into negatively charged energy. The boy could justify this shift with a rationalization like "If one dog can betray me, then any dog can." However, I do think this is an extreme and very unlikely occurrence. What is more likely is the word "all" in his original belief will instantly be de-activated and that energy will get transferred to a new belief that better reflects the true nature of dogs. This new experience caused an energy shift that forced him to learn something about the nature of dogs that he otherwise refused to consider possible.

His belief in the friendliness of dogs remains intact. He will still play with dogs, but he will now exercise some discretion by consciously looking for signs of friendliness or unfriendliness. I think that a fundamental truth about the nature of our existence is every moment in the market, as well as in everyday life, has elements of what we know (similarities) and elements that we don't or can't know because we haven't experienced it yet. Until we actively train our minds to expect a unique outcome, we will continue experiencing only what we know; everything else (other information and possibilities that are not consistent with what we know and expect) will pass us by, unperceived, discounted, distorted, outright denied, or attacked. When you truly believe that you don't need to know, you will be thinking in probabilities (the market perspective) and will have no reason to block, discount, distort, deny, or attack anything the market is offering about its potential to move in any particular direction. If you are not experiencing the quality of mental freedom implied in that statement, and it is your desire to do so, then you must take an active role in training your mind to believe in the uniqueness of each moment, and you must de-activate any other belief that argues for something different. This process isn't any different from the one the boy in the first scenario went through, nor is it going to happen by itself. He wanted to interact with dogs without fear, but to do so he had to create a new belief and de-activate the conflicting ones. This is the secret to achieving consistent success as a trader.

**3. Beliefs keep on working regardless of whether we are consciously aware of their existence in our mental environment.** In other words, we don't have to actively remember or have conscious access to any particular belief for that belief to act as a force on our perception of information or on our

behavior. I know it's hard to "believe" that something we can't even remember can still have an impact on our lives. But when you think about it, much of what we learn throughout our lives is stored at an unconscious or subconscious level. If I asked you to remember each specific skill you had to learn so that you could drive a car with confidence, chances are you wouldn't remember all the things you needed to concentrate and focus on while you were in the process of learning. The first time I had the opportunity to teach a teenager how to drive, I was absolutely amazed at how much there was to learn, how much of the process I took for granted and no longer thought about at a conscious level. Possibly the best example that illustrates this characteristic is people who drive under the influence of alcohol. On any given day or night, there are probably thousands of people who have had so much to drink that they have no idea that they have no conscious awareness of how they drove from point A to point B. It is difficult to imagine how this is possible, unless you consider that driving skills and one's belief in his ability to drive operate automatically on a much deeper level than waking consciousness. Certainly, some percentage of these drunk drivers get into accidents, but when you compare the accident rate with the estimated number of people driving under the influence of alcohol, it's remarkable that there aren't a great many more accidents. In fact, a drunk driver is probably most likely to cause an accident when he either falls asleep or something requires a conscious decision and a fast reaction. In other words, the driving conditions are such that operating out of one's subconscious skills is not enough.

### **SELF EVALUATION AND TRADING**

How this characteristic applies to our trading is also quite profound. The trading environment offers us an arena of unlimited opportunities to accumulate wealth. But just because the money is available and we can perceive the possibility of getting it, that doesn't necessarily mean that we (as individuals) have an unlimited sense of selfvaluation. In other words, there could be a huge gap between how much money we desire for ourselves, how much we perceive is available, and how much we actually believe we are worth or deserve. Everyone has a sense of self-valuation. The easiest way to describe this sense is to list every active belief, both conscious and subconscious, that has the potential to argue either for or against accumulating or achieving greater and greater levels of success and prosperity. Then match the energy from the positively charged beliefs against the energy from the negatively charged beliefs. If you have more positively charged energy arguing for success and prosperity than negatively charged energy arguing against them, then you have a positive sense of self-valuation. Otherwise, you have a negative sense of self-valuation. The dynamics of how these beliefs interact with one another is not nearly so simple as I'm making it sound. In fact, it can be so complex that it could take years of sophisticated mental work to organize and sort out. What you need to know is that it's almost impossible to grow up in any social environment and not acquire some negatively charged beliefs that would argue against success or accumulating vast sums of money.

Most of these self-sabotaging beliefs have long been forgotten and operate at a subconscious level, but the fact that we may have forgotten them doesn't mean they've been de-activated. How do we acquire self-sabotaging beliefs? Unfortunately, it's extremely easy. Probably the most common way is when a child engages in some activity that a parent or teacher doesn't want him to do and the child accidentally injures himself. Many parents, to get their point across to the child, will respond to a situation like this by saying, "This (whatever pain you are experiencing) wouldn't have happened to you if you didn't deserve it," or "You disobeyed me and look what happened, God punished you." The problem with making or hearing statements like this is that there's a potential for the child to associate every future injury with these same statements and, subsequently, form a belief that he must be an unworthy person, undeserving of success, happiness, or love. Anything we feel guilty about can have an adverse effect on our sense of self-worth.

Usually guilt is associated with being a bad person, and most people believe that bad people should be punished, certainly not rewarded. Some religions teach children that having a lot of money isn't godly or spiritual. Some people believe that making money in certain ways is wrong, even though it may be perfectly legal and moral from society's perspective. Again, you may not have a specific recollection of learning something that would argue against the success you perceive as possible, but that doesn't mean that what you learned is no longer having an effect. The way these subconscious self-sabotaging beliefs manifest themselves in our trading is usually in the form of lapses in focus or concentration, resulting in any number of trading errors, like putting in a buy for a sell or vice versa, or allowing yourself to give in to distracting thoughts that compel you to leave the screen, only to find out when you return that you missed the big trade of the day.

I've worked with many traders who achieved various levels of consistent success, but found they just couldn't break through certain thresholds in acquiring equity. They discovered an invisible but very real barrier similar to the proverbial glass ceiling that many women executives experience in the corporate world. Every time these traders hit the barrier, they experienced a significant draw down, regardless of the market conditions. However, when asked about what happened, they typically blamed their sudden run of bad luck on just that—luck or the vagaries of the market. Interestingly, they typically created a steadily rising equity curve, sometimes over a period of several months, and the significant draw down always occurred at the same spot in their equity curve.

I describe this psychological phenomenon as being in a "negative zone." As magically as money can flow into a trader's accounts when he is "in the zone," it can just as easily flow out, if he is in a negative zone where unresolved self-valuation issues mysteriously act on his perception of information and behavior. I am not implying here that you have to de-activate every belief that would argue against your ever-expanding positive sense of self-valuation, because you don't. But you must be aware of the presence of such beliefs, and take specific steps in your trading regimen to compensate when they start expressing themselves.

# CHAPTER 11

## THINKING LIKE A TRADER

If you asked me to distill trading down to its simplest form, I would say that it is a pattern recognition numbers game. We use market analysis to identify the patterns, define the risk, and determine when to take profits. The trade either works or it doesn't. In any case, we go on to die next trade. It's that simple, but it's certainly not easy. In fact, trading is probably the hardest thing you'll ever attempt to be successful at. That's not because it requires intellect; quite the contrary! But because the more you think you know, the less successful you'll be.

Trading is hard because you have to operate in a state of not having to know, even though your analysis may turn out at times to be "perfectly" correct. To operate in a state of not having to know, you have to properly manage your expectations. To properly manage your expectations, you must realign your mental environment so that you believe without a shadow of a doubt in the five fundamental truths. In this chapter, I am going to give you a trading exercise that will integrate these truths about the market at a functional level in your mental environment. In the process, I'll take you through the three stages of development of a trader.

The first stage is the *mechanical* stage. In this stage, you:

1. Build the self-trust necessary to operate in an unlimited environment.
2. Learn to flawlessly execute a trading system.
3. Train your mind to think in probabilities (the five fundamental truths).
4. Create a strong, unshakeable belief in your consistency as a trader.

Once you have completed this first stage, you can then advance to the *subjective* stage of trading. In this stage, you use anything you have ever learned about the nature of market movement to do whatever it is you want to do. There's a lot of freedom in this stage, so you will have to learn how to monitor your susceptibility to make the kind of trading errors that are the result of any unresolved self-evaluation issues I referred to in the last chapter. The third stage is the *intuitive* stage. Trading intuitively is the most advanced stage of development. It is the trading equivalent of earning a black belt in the martial arts.

The difference is that you can't try to be intuitive, because intuition is spontaneous. It doesn't come from what we know at a rational level. The rational part of our mind seems to be inherently mistrustful of information received from a source that it doesn't understand. Sensing that something is about to happen is a form of knowing that is very different from anything we know rationally. I've worked with many traders who frequently had a very strong intuitive sense of what was going to happen next, only

to be confronted with the rational part of themselves that consistently, argued for another course of action. Of course, if they had followed their intuition, they would have experienced a very satisfying outcome. Instead, what they ended up with was usually very unsatisfactory, especially when compared with what they otherwise perceived as possible. The only way I know of that you can try to be intuitive is to work at setting up a state of mind most conducive to receiving and acting on your intuitive impulses.

## THE MECHANICAL STAGE

The mechanical stage of trading is specifically designed to build the kind of trading skills (trust, confidence, and thinking in probabilities) that will virtually compel you to create consistent results. I define consistent results as a steadily rising equity curve with only minor draw downs that are the natural consequence of edges that didn't work. Other than finding a pattern that puts the odds of a winning trade in your favor, achieving a steadily rising equity curve is a function of systematically eliminating any susceptibility you may have to making the kind of fear, euphoric or self-valuation based trading errors I have described throughout this book. Eliminating the errors and expanding your sense of self-valuation will require the acquisition of skills that are all psychological in nature.

The skills are psychological because each one, in its purest form, is simply a belief. Remember that the beliefs we operate out of will determine our state of mind and shape our experiences in ways that constantly reinforce what we already believe to be true. How truthful a belief is (relative to the environmental conditions) can be determined by how well it serves us; that is, the degree to which it helps us satisfy our objectives.

If producing consistent results is your primary objective as a trader, then creating a belief (a conscious, energized concept that resists change and demands expression) that "*I am a consistently successful trader*" will act as a primary source of energy that will manage your perceptions, interpretations, expectations, and actions in ways that satisfy the belief and, consequently, the objective. Creating a dominant belief that "I am a consistently successful trader" requires adherence to several principles of consistent success. Some of these principles will undoubtedly be in direct conflict with some of the beliefs you've already acquired about trading. If this is the case, then what you have is a classic example of beliefs that are in direct conflict with desire.

The energy dynamic here is no different from what it was for the boy who wanted to be like the other children who were not afraid to play with dogs. He desired to express himself in a way that he found, at least initially, virtually impossible. To satisfy his desire, he had to step into an active process of transformation. His technique was simple: He tried as hard as he could to stay focused on what he was trying to accomplish and, little by little, he de-activated the conflicting belief and strengthened the belief that was consistent with his desire.

At some point, if that is your desire, then you will have to step into the process of transforming yourself

into a consistent winner. When it comes to personal transformation, the most important ingredients are your willingness to change, the clarity of your intent, and the strength of your desire. Ultimately, for this process to work, you must choose consistency over every other reason or justification you have for trading. If all of these ingredients are sufficiently present, then regardless of the internal obstacles you find yourself up against, what you desire will eventually prevail.

### **Observe Yourself**

The first step in the process of creating consistency is to start noticing what you're thinking, saying, and doing. Why? Because everything we think, say, or do as a trader contributes to and, therefore, reinforces some belief in our mental system. Because the process of becoming consistent is psychological in nature, it shouldn't come as a surprise that you'll have to start paying attention to your various psychological processes. The idea is eventually to learn to become an objective observer of your own thoughts, words, and deeds. Your first line of defense against committing a trading error is to catch yourself thinking about it. Of course, the last line of defense is to catch yourself in the act. If you don't commit yourself to becoming an observer to these processes, your realizations will always come after the experience, usually when you are in a state of deep regret and frustration.

Observing yourself objectively implies doing it without judging about yourself. This might not be so easy for some of you to do considering the harsh, judgmental treatment you may have received from other people throughout your life. As a result, one quickly learns to associate any mistake with emotional pain. No one likes to be in a state of emotional pain, so we typically avoid acknowledging what we have learned to define as a mistake for as long as possible.

Not confronting mistakes in our everyday lives usually doesn't have the same disastrous consequences it can have if we avoid confronting our mistakes as traders. For example, when I am working with floor traders, the analogy I use to illustrate how precarious a situation they are in is to ask them to imagine themselves walking across a bridge over the Grand Canyon. The width of the bridge is directly related to the number of contracts they trade. So, for example, for a one-contract trader the bridge is very wide, say 20 feet. A bridge 20 feet wide allows you a great deal of tolerance for error, so you don't have to be inordinately careful or focused on each step you take. Still, if you do happen to stumble and trip over the edge, the drop to the canyon floor is one mile.

I don't know how many people would walk across a narrow bridge with no guardrails, where the ground is a mile down, but my guess is relatively few. Similarly, few people will take the kinds of risks associated with trading on the floor of the futures exchanges. Certainly a one-contract floor trader can do a great deal of damage to himself, not unlike falling off a mile-high bridge. But a one-contract trader also can give himself a wide tolerance for errors, miscalculations, or unusually violent market moves where he could find himself on the wrong side. On the other hand, one of the biggest floor traders I ever worked with trades for his own account with an average position of 500 Treasury bond futures at a

time. He often puts on a position of well over a thousand contracts.

A position of 1,000 T-bond contracts amounts to \$31,500 per tic (the smallest incremental price change that a bond contract can make). Of course, T-bond futures can be very volatile and can trade several tics in either direction in a matter of seconds. As the size of a traders position increases, the width of our bridge over the Grand Canyon narrows. In the case of the large bond trader, the bridge has narrowed to the size of a thin wire. Obviously, he has to be extremely well-balanced and very focused on each step that he takes. The slightest misstep or gust of wind could cause him to fall off the wire. Next stop, one mile down. Now, when he's in the trading pit, that tiny misstep or slight gust of wind is the equivalent to one distracting thought. That's all, just a thought or anything else where he allows himself to lose his focus for even a second or two. In that moment of distraction, he could miss his last favorable opportunity to liquidate his position.

The next price level with enough volume to take him out of his trade could be several tics away, either creating a huge loss or forcing him to give a substantial winning trade back to the market. If producing consistent results is a function of eliminating errors, then it is an understatement to say that you will encounter great difficulty in achieving your objective if you can't acknowledge a mistake. Obviously, this is something very few people can do, and it accounts for why there are so few consistent winners. In fact, the tendency not to acknowledge a mistake is so pervasive throughout mankind, it could lead one to assume that it's an inherent characteristic of human nature. I do not believe this is the case, nor do I believe we are born with the capacity to ridicule or think less of ourselves for making a mistake, miscalculation, or error. Making mistakes is a natural function of living and will continue to be until we reach a point at which:

1. all our beliefs are in absolute harmony with our desires, and
2. all our beliefs are structured in such a way that they are completely consistent with what works from the environment's perspective.

Obviously, if our beliefs are not consistent with what works from the environments perspective, the potential for making a mistake is high, if not inevitable. We won't be able to perceive the appropriate set of steps to our objective. Worse, we won't be able to perceive that what we want may not be available, or available in the quantity we desire or at the time when we want it.

On the other hand, mistakes that are the result of beliefs that are in conflict with our objectives aren't always apparent or obvious. We know they will act as opposing forces, expressing their versions of the truth on our consciousness, and they can do that in many ways.

The most difficult to detect is a distracting thought that causes a momentary lapse in focus or concentration. On the surface this may not sound significant. But, as in the analogy of the bridge over the canyon, when there's a lot at stake, even a slightly diminished capacity to stay focused can result in an error of disastrous proportions. This principle applies whether it's trading, sporting events, or computer programming. When our intent is clear and undiminished by any opposing energy, then our

capacity to stay focused is greater, and the more likely it is that we will accomplish our objective. Earlier I defined a winning attitude as a positive expectation of our efforts, with an acceptance that whatever results we do get are a perfect reflection of our level of development and what we need to learn to do better. What separates the "consistently great" athletes and performers from everyone else is their distinct lack of fear of making a mistake. The reason they aren't afraid is that they don't have a reason to think less of themselves when they do make a mistake, meaning they don't have a reservoir of negatively charged energy waiting to well up and pounce on their conscious thought process like a lion waiting for the right moment to pounce on its intended prey. What accounts for this uncommon capacity to quickly move beyond their errors without criticizing themselves?

One explanation may be that they grew up with extremely unusual parents, teachers, and coaches, who by their words and examples taught them to correct their miscalculations and errors with genuine love, affection, and acceptance. I say "extremely unusual" because many of us grew up with just the opposite experience. We were taught to correct our mistakes or miscalculations with anger, impatience, and a distinct lack of acceptance. Is it possible that, for the great athletes, their past positive experiences with respect to mistakes caused them to acquire a belief that mistakes simply point the way to where they need to focus their efforts to grow and improve themselves? With a belief like that, there's no source of negatively charged energy and consequently no source for self-denigrating thoughts.

However, the rest of us, who did grow up experiencing a plethora of negative reactions to our actions, would naturally acquire beliefs about mistakes: "Mistakes must be avoided at all costs," "There must be something wrong with me if I make a mistake," "I must be a screw-up," or "I must be a bad person if I make a mistake." Remember that every thought, word, and deed reinforces some belief we have about ourselves. If, by repeated negative self-criticism, we acquire a belief that we're "screw-ups," that belief will find a way to express itself in our thoughts, causing us to become distracted and to screw up; on our words, causing us to say things about ourselves or about others (if we notice the same characteristics in them) that reflect our belief; and on our actions, causing us to behave in ways that are overtly self-sabotaging. If you're going to become a consistent winner, mistakes can't exist in the kind of negatively charged context in which they are held by most people.

You have to be able to monitor yourself to some degree, and that will be difficult to do if you have the potential to experience emotional pain if and when you find yourself in the process of making an error. If this potential exists, you have two choices:

1. You can work on acquiring a new set of positively charged beliefs about what it means to make a mistake, along with de-activating any negatively charged beliefs that would argue otherwise or cause you to think less of yourself for making a mistake.
2. If you find this first choice undesirable, you can compensate for the potential to make errors by the way you set up your trading regime.

This means that if you're going to trade and not monitor yourself, but at the same time you desire consistent results, then trading exclusively from the mechanical stage will resolve the dilemma.

Otherwise, learning how to monitor yourself is a relatively simple process once you have rid yourself of negatively charged energy associated with mistakes. In fact, it's easy. All you have to do is decide why you want to monitor yourself, which means you first need to have a clear purpose in mind. When you're clear about your purpose, simply start directing your attention to what you think, say, or do.

If and when you notice that you're not focused on your objective or on the incremental steps to accomplish your objective, choose to redirect your thoughts, words, or actions in a way that is consistent with what you are trying to accomplish. Keep redirecting as often as necessary. The more willfully you engage in this process, especially if you can do it with some degree of conviction, the faster you will create a mental framework free to function in a way that is consistent with your objectives, without any resistance from conflicting beliefs.

## **THE ROLE OF SELF-DISCIPLINE**

I call the process I just described *self-discipline*. I define self-discipline as a mental technique to redirect (as best we can) our focus of attention to the object of our goal or desire, when that goal or desire conflicts with some other component (belief) of our mental environment. The first thing you should notice about this definition is that self-discipline is a technique to create a new mental framework. It is not a personality trait; people aren't born with self-discipline. In fact, when you consider how I define it, being born with discipline isn't even possible. However, as a technique to be used in the process of personal transformation, anybody can choose to use self-discipline. Here is an example from my life that illustrates the underlying dynamics of how this technique works. In 1978 I decided that I wanted to become a runner.

I don't exactly remember what my underlying motivation was, except that I had spent the previous eight years in a very inactive life style. I wasn't involved with any sports or hobbies, unless you call watching television a hobby. Previously in both high school and at least part of college I was very active in sports, especially ice hockey. However, coming out of college, my life was unfolding in the way that was very different from what I had expected. It was not to my liking, but at the time I felt powerless to do anything about it. This led to a period of inactivity, which is a nice way of saying that I was severely depressed. Again, I'm not sure what prompted me to suddenly want to become a runner (maybe I saw some TV program that sparked my interest).

I do, however, remember that the motivation was very strong. So, I went out and bought myself some running shoes, put them on, and went out to run. The first thing I discovered was that I couldn't do it. I didn't have the physical stamina to run more than fifty or sixty yards. This was very surprising. I didn't realize, nor would I have ever believed, that I was so out of shape that I couldn't run even a hundred yards. This realization was so disheartening that I didn't attempt to run again for two or three weeks.

The next time out, I still couldn't run more than fifty or sixty yards. I tried again the next day with, of course, the same result.

I became so discouraged about my deteriorated physical condition that I didn't run again for another four months. Now, it's the spring of 1979. I'm once again determined to become a runner, but, at the same time, very frustrated with my lack of progress. As I was contemplating my dilemma, it occurred to me that one of my problems was that I didn't have a goal to work towards. Saying that I wanted to be a runner was great, but what did that mean? I really didn't know; it was too vague and abstract. I had to have something more tangible to work towards.

So I decided that I wanted to be able to run five miles by the end of the summer. Five miles seemed insurmountable at the time, but thinking that I might be able to do it generated a lot of enthusiasm. This increased level of enthusiasm gave me enough impetus to run four times that week. At the end of this first week, I was really surprised to discover even a little bit of exercise improved my stamina and ability to run a little farther each time. This created even more enthusiasm, so I went out and bought a stop watch and blank book to be used as a running diary. I set up a two-mile course, and marked off each quarter mile. In the diary I entered the date, my distance, my time, and how I felt physically each time I ran. Now I thought I was well on my way to the five miles, until I literally ran into my next set of problems.

The biggest were the conflicting and distracting thoughts that flooded my consciousness every time I decided I wanted to go out and run. I was amazed at the number (and intensity) of the reasons I found for not doing it: "It's hot [or] cold outside," "It looks like it's going to rain," "I'm still a little tired from the last time I ran (even though it was three days ago)," "Nobody else I know is doing this," or the most prevalent, "I'll go as soon as this TV program is over" (of course I never went). I didn't know any other way to deal with this conflicting mental energy except to redirect my conscious attention on what I was trying to accomplish. I really wanted to get to five miles by the end of the summer. I found that *sometimes* my desire was stronger than the conflict. As a result, I managed to get my running shoes on, actually step outside, and start running. However, more times than not, my conflicting and distracting thoughts caused me to stay put. In fact, in the beginning stages, I estimate that two-thirds of the time I was unable to get past the conflicting energy.

The next problem I encountered was that when I started approaching the point where I was able to run one mile, I was so thrilled with myself that it occurred to me I was going to need an additional mechanism to get me to the five miles. I reasoned that once I got to the point where I could run two or maybe three miles, I would be so overwhelmingly pleased with myself that I wouldn't feel any need to fulfill my five-mile objective. So I made a rule for myself. You could call it the five-mile rule. "If I managed to get my running shoes on and get outside in spite of all the conflicting thoughts trying to talk me out of it, I committed myself to running at least one step farther than the last time I ran." It was certainly all right if I ran more than one step further, but it couldn't be less than one step, no matter what. As it turns out, I never broke this rule, and by the end of the summer, I made it to five miles.

But then, something really interesting and completely unanticipated happened before I got there. As I got closer to fulfilling my five-mile objective, little by little, the conflicting thoughts began to dissipate. Eventually they didn't exist at all. At that point, I found that if I wanted to run, I was completely free to do so without any mental resistance, conflict, or competing thoughts. Given what a struggle it had been, I was amazed (to say the least). The result: I went on to run on a very regular basis for the next 16 years. For those of you who may be interested, I don't run so much now because five years ago I decided to start playing ice hockey again.

Hockey is an extremely strenuous sport. Sometimes I play as many as four times a week. Considering my age (over 40) and the level of exertion the sport requires, it usually takes me a day or two to recover, which doesn't leave much room for running any more. Now, if you take these experiences and put them into the context of what we now understand about the nature of beliefs, there are a number of observations we can make:

1. Initially, my desire to be a runner had no foundation of support in my mental system. In other words, there was no other source of energy (an energized concept demanding expression) consistent with my desire.
2. I actually had to do something to create that support. To create a belief that "I am a runner" required that I create a series of experiences consistent with the new belief. Remember that everything we think, say, or do contributes energy to some belief in our mental system. Each time I experienced a conflicting thought and was able to successfully refocus on my objective, with enough conviction to get me into my running shoes and out the door, I added energy to the belief that "I am a runner." And, just as important, I inadvertently drew energy away from all of the beliefs that would argue otherwise. I say inadvertently because there are various techniques specifically designed to identify and de-activate conflicting beliefs, but at that time in my life, I didn't understand the underlying dynamics of the process of transformation I was going through. So, it wouldn't have occurred to me to avail myself of such techniques.
3. Now I can effortlessly (from a mental perspective) express myself as a runner, because "I am a runner." That energized concept is now a functioning part of my identity. When I first started out, I happened to have a number of conflicting beliefs about running. As a result, I needed the technique of self-discipline to become One. Now I don't need self-discipline because "bHn" a. rj^iicr" 'c "who I L - ~o am." When our beliefs are completely aligned with our goals or desires, there's no source of conflicting energy. If there's no source of conflicting energy, then there's no source of distracting thoughts, excuses, rationalizations, justifications, or mistakes (conscious or subconscious).
4. Beliefs can be changed, and if it's possible to change one belief, then it's possible to change any belief, if you understand that you really aren't changing them, but are only transferring energy from one concept to another. (The form of the belief targeted for change remains intact.) Therefore, two completely contradictory beliefs can exist in your mental system, side by side. But if you've drawn the

energy out of one belief and completely energized the other, no contradiction exists from a functional perspective; only the belief that the energy will have the capacity to act as a force on your state of mind, on your perception and interpretation of information, and your behavior. Now, the sole purpose of trading mechanically is to transform yourself into a consistently successful trader. If there's anything in your mental environment that's in conflict with the principles of creating the belief that "*I am a consistently successful trader*," then you will need to employ the technique of self-discipline to integrate these principles as a dominant, functioning part of your identity. Once the principles become "who you are," you will no longer need self-discipline, because the process of "being consistent" will become effortless. Remember that consistency is not the same as the ability to put on a winning trade, or even a string of winning trades for that matter, because putting on a winning trade requires absolutely no skill. All you have to do is guess correctly, which is no different than guessing the outcome of a coin toss, whereas consistency is a state of mind that, once achieved, won't allow you to "be" any other way. You won't have to try to be consistent because it will be a natural function of your identity. In fact, if you have to try, it's an indication that you haven't completely integrated the principles of consistent success as dominant, unconflicted beliefs. For example, predefining your risk is a step in the process of "being consistent." If it takes any special effort to predefine your risk, if you have to consciously remind yourself to do it, if you experience any conflicting thoughts (in essence, trying to talk you out of doing it), or if you find yourself in a trade where you haven't predefined your risk, then this principle is not a dominant, functioning part of your identity. It isn't "who you are." If it were, it wouldn't even occur to you not to predefine your risk. If and when all of the sources of conflict have been de-activated, there's no longer a potential for you to "be" any other way. What was once a struggle will become virtually effortless. At that point, it may seem to other people that you are so disciplined (because you can do something they find difficult, if not impossible), but the reality is that you aren't being disciplined at all; you are simply functioning from a different set of beliefs that compel you to behave in a way that is consistent with your desires, goals, or objectives.

## **CREATING A BELIEF IN CONSISTENCY**

Creating a belief that "*I am a consistent winner*" is the primary objective, but like my intention to become a runner, it's too broad and abstract to implement without breaking it down into a step-by-step process. So what I'm going to do is break this belief down into its smallest definable parts and then give you a plan to integrate each part as a dominant belief. The following sub-beliefs are the building blocks that provide the underlying structure for what it means "to be a consistent winner."

## I AM A CONSISTENT WINNER BECAUSE:

- 1. I objectively identify my edges.**
- 2. I predefine the risk of every trade.**
- 3. I completely accept risk or I am willing to let go of the trade.**
- 4. I act on my edges without reservation or hesitation.**
- 5. I pay myself as the market makes money available to me.**
- 6. I continually monitor my susceptibility for making errors.**
- 7. I understand the absolute necessity of these principles of consistent success and, therefore, I never violate them.**

These beliefs are the seven principles of consistency. To integrate these principles into your mental system at a functional level requires that you purposely create a series of experiences that are consistent with them. This is no different from the boy who wanted to play with dogs or my desire to be a runner. Before he could play with a dog, the boy first had to make several attempts just to get close to one. Eventually, as the balance of energy in his mental system shifted, he could play with dogs without any internal resistance. To become a runner, I had to create the experience of running in spite of everything inside me that argued otherwise. Eventually, as the energy shifted more and more in favor of this new definition of myself, running became a natural expression of my identity.

Obviously, what we're trying to accomplish here is far more complex than becoming a runner or petting a dog, but the underlying dynamics of the process are identical. We'll start with a specific objective. The first principle of consistency is the belief, "I objectively identify my edges." The key word here is *objectively*. Being objective means there's no potential to define, interpret, and therefore perceive any market information from either a painful or euphoric perspective.

The way to be objective is to operate out of beliefs that keep your expectations neutral and to always take the unknown forces into consideration. Remember, you have to specifically train your mind to be objective and to stay focused in the "now moment opportunity flow." Our minds are not naturally wired to think this way, so to be an objective observer you have to learn to think from the market's perspective. From the market's perspective, there are always unknown forces (traders) waiting to act on price movement. Therefore, from the market's perspective, "every moment is truly unique," even though the moment may look, sound, or feel exactly the same as some moment logged away in your memory bank.

The instant you either decide or assume you know what's going to happen next, you will automatically expect to be right. However, what you know, at least at the rational level of thinking, can only take into consideration your unique past, which may not have any relationship to what is actually happening from the markets perspective. At that point, any market information that is not consistent with your expectation has the potential to be defined and interpreted as painful. To avoid experiencing the pain,

your mind will automatically compensate, with both conscious and subconscious pain-avoidance mechanisms, for any differences between what you expect and what the market is offering. What you will experience is commonly referred to as an "illusion." In a state of illusion, you are neither objective nor connected to the "now moment opportunity flow."

Instead, you become susceptible to committing all the typical trading errors (hesitating, jumping the gun, not predefining your risk, defining your risk but refusing to take the loss and letting the trade turn into a bigger loser, getting out of a winning trade too soon, not taking any profits out of a winning trade, letting a winning trade turn into a loser, moving a stop closer to your entry point, getting stopped out and watching the market trade back in your favor, or trading too large a position in relationship to your equity). The five fundamental truths about the market will keep your expectations neutral, focus your mind in the "now moment opportunity flow" (by disassociating die present moment from your past), and, therefore, eliminate your potential to commit these errors. When you stop making trading errors, you'll begin trusting yourself. As your sense of self-trust increases, so will your sense of selfconfidence. The greater your confidence, the easier it will be to execute your trades (act on your edges without reservation or hesitation).

The five truths will also create a state of mind in which you will genuinely accept the risks of trading. When you genuinely accept the risks, you will be at peace with any outcome. When you're at peace with any outcome, you will experience a carefree, objective state of mind, where you make yourself available to perceive and act upon whatever the market is offering you (from its perspective) at any given "now moment." The first objective is to integrate as a dominant belief, "I objectively identify my edges." The challenge now is, how do you get there? How do you transform yourself into a person who can consistently think in the market's perspective? The process of transformation starts with your desire and your willingness to refocus on the object of your desire (self-discipline). Desire is a force. It does not have to coincide or agree with anything that you currently believe to be true about the nature of trading.

A clear desire aimed squarely at a specific objective is a very powerful tool. You can use the force of your desire to create an entirely new version or dimension to your identity; shift energy between two or more conflicting concepts; or change the context or polarity of your memories from negative to positive. I'm sure you are familiar with the saying, "Make up your mind." The implication of "making up our minds" is that we decide exactly what we desire with so much clarity (absolutely no lingering doubts) and with so much conviction that literally nothing stands in our way, either internally or externally. If there's enough force behind our resolve, it's possible to experience a major shift in our mental structure virtually instantaneously.

De-activating internal conflicts is not a function of time; it's a function-focused desire (although it can take a considerable amount of time to get to the point where we really make up our minds). Otherwise, in the absence of extreme clarity and conviction, the technique of self-discipline, over time, will do the job quite nicely (if, of course, you're willing to use it). To get there, you must "make up your mind,"

with as much conviction and clarity as possible, that more than anything else you desire consistency (the state of mind of trust, confidence, and objectivity) from your trading. This is necessary because if you're like most traders, you're going to be up against some very formidable conflicting forces. For example, if you've been trading to get high from the euphoria of catching a big move, to impress your family and friends, to be a hero, to fulfill an addiction to random rewards, to be right about your predictions, or for any other reason that has nothing to do with being consistent, then you'll find the force of these other motivations will not only act as an obstacle making the trading exercise I'm about to give you very difficult, but it could very well be strong enough even to keep you from doing the exercise at all. Remember the boy who had no desire to be like the other children and interact with dogs? In essence, he decided to live with the active contradiction between his minimally charged positive belief that not all dogs are dangerous and his core, negatively charged belief that all dogs are dangerous. He had the ability to perceive friendly dogs, but at the same time found it impossible to interact with them. Unless he desires to change it, the imbalance of energy between these two beliefs will stay exactly as it is for his entire life.

To even start this process, you have to want consistency so much that you would be willing to give up all the other reasons, motivations, or agendas you have for trading that aren't consistent with the process of integrating the beliefs that create consistency. A clear, intense desire is an absolute prerequisite if you're going to make this process work for you.

### **EXERCISE: LEARNING TO TRADE AND EDGE LIKE A CASINO'**

The object of this exercise is to convince yourself that trading is just a simple game of probabilities (numbers), not much different from pulling the handle of a slot machine. At the micro level, the outcomes to individual edges are independent occurrences and random in relationship to one another. At the macro level, the outcomes over a series of trades will produce consistent results. From a probabilities perspective, this means that instead of being the person playing the slot machine, as a trader, you can be the casino, if:

1. you have an edge that genuinely puts the odds of success in your favor;
2. you can think about trading in the appropriate manner (the five fundamental truths); and
3. you can do everything you need to do over a series of trades. Then, like the casinos, you will own the game and be a consistent winner.

## SETTING UP THE EXERCISE

### **Pick a market.**

Choose one actively traded stock or futures contract to trade. It doesn't matter what it is, as long as it's liquid and you can afford the margin requirements for trading at least three hundred shares or three futures contracts per trade.

**Choose a set of market variables that define an edge.** This can be any trading system you want. The trading system or methodology you choose can be mathematical, mechanical, or visual (based on patterns in price charts). It doesn't matter whether you personally design the system or purchase it from someone else, nor do you need to take a long time or be too picky trying to find or develop the best or right system. This exercise is not about system development and it is not a test of your analytical abilities. In fact, the variables you choose can even be considered mediocre by most traders' standards, because what you are going to learn from doing this exercise is not dependent upon whether you actually make money.

If you consider this exercise an educational expense, it will cut down on the amount of time and effort you might otherwise expend trying to find the most profitable edges. For those of you who might be wondering, I'm not going to make any specific recommendations about what system or variables you should use, because I assume that most of the people reading this book are already well schooled in technical analysis. If you need additional assistance, there are hundreds of books available on the topic, as well as system vendors who are more than willing to sell you their ideas. However, if you've made a genuine attempt to do this on your own but are still having problems picking a system, you can contact me at [markdouglas.com](http://markdouglas.com) or [tradinginthezone.com](http://tradinginthezone.com) and I will make some recommendations. Whatever system you choose to use has to fit within the following specifications.

**Trade Entry.** The variables you use to define your edge have to be absolutely precise. The system has to be designed so that it does not require you to make any subjective decisions or judgments about whether your edge is present. If the market is aligned in a way that conforms with the rigid variables of your system, then you have a trade; if not, then you don't have a trade. Period! No other extraneous or random factors can enter into the equation.

**Stop-Loss Exit.** The same conditions apply to getting out of a trade that's not working. Your methodology has to tell you *exactly* how much you need to risk to find out if the trade is going to work. There is always an optimum point at which the possibility of a trade not working is so diminished, especially in relationship to the profit potential, that you're better off taking your loss and getting your mind clear to act on the next edge. Let the market structure determine where this optimum point is, rather than using an arbitrary dollar amount that you are willing to risk on a trade. In any case, whatever system you choose, it has to be absolutely exact, requiring no subjective decision making.

Again, no extraneous or random variables can enter into the equation.

**Time Frame.** Your trading methodology can be in any time frame that suits you, but all your entry and exit signals have to be DUSCCi Hi cne same time frame. For example, if you use variables that identify a particular support and resistance pattern on a 30-minute bar chart, then your risk and profit objective calculations also have to be determined in a 30-minute time frame. However, trading in one time frame does not preclude you from using other time frames as filters. For example, you could have as a filter a rule that states you're only going to take trades that are in the direction of the major trend. There's an old trading axiom that "The trend is your friend." It means that you have a higher probability of success when you trade in the direction of the major trend, if there is one. In fact, the lowest-risk trade, with the highest probability of success, occurs when you are buying dips (support) in an up-trending market or selling rallies (resistance) in a down-trending market. To illustrate how this rule works, let's say that you've chosen a precise way of identifying support and resistance patterns in a 30- minute time frame as your edge. The rule is that you are only going to take trades in the direction of the major trend. A trending market is defined as a series of higher highs and higher lows for an up-trending market and a series of lower highs and lower lows for a downtrending market. The longer the time frame, the more significant the trend, so a trending market on a daily bar chart is more significant than a trending market on a 30-minute bar chart. Therefore, the trend on the daily bar chart would take precedence over the trend on the 30-minute bar chart and would be considered the major trend.

To determine the direction of the major trend, look at what is happening on a daily bar chart. If the trend is up on the daily, you are only going to look for a sell-off or retracement down to what your edge defines as support on the 30-minute chart. That's where you will become a buyer. On the other hand, if the trend is down on the daily, you are only going to look for a rally up to what your edge defines as a resistance level to be a seller on the 30-minute chart. Your objective is to determine, in a down-trending market, how far it can rally on an intraday basis and still not violate the symmetry of the longer trend. In an up-trending market, your objective is to determine how far it can sell off on an intraday basis without violating the symmetry of the longer trend. There's usually very little risk associated with these intraday support and resistance points, because you don't have to let the market go very far beyond them to tell you the trade isn't working.

**Taking Profits.** Believe it or not, of all the skills one needs to learn to be a consistently successful trader, learning to take profits is probably the most difficult to master. A multitude of personal, often very complicated psychological factors, as well as the effectiveness of one's market analysis, enter into the equation. Unfortunately, sorting out this complex matrix of issues goes way beyond the scope of this book. I point this out so that those of you who might be inclined to beat yourselves up for leaving money on the table can relax and give yourselves a break. Even after you've acquired all the other skills, it might take a very long time before you get this one down pat. Don't despair. There is a way to

set up a profit-taking regime that at least fulfills the objective of the fifth principle of consistency ("I pay myself as the market makes money available to me").

If you're going to establish a belief in yourself that you're a consistent winner, then you will have to create experiences that correspond with that belief. Because the object of the belief is winning consistently, how you take profits in a winning trade is of paramount importance. This is the only part of the exercise in which you will have some degree of discretion about what you do. The underlying premise is that, in a winning trade, you never know how far the market is going to go in your direction. Markets rarely go straight up or straight down. (Many of the NASDAQ Internet stocks in the fall of 1999 were an obvious exception to this statement.) Typically, markets go up and then retrace some portion of the upward move; or go down and then retrace some portion of the downward move. These proportional retracements can make it very difficult to stay in a winning trade. You would have to be an extremely sophisticated and objective analyst to make the distinction between a normal retracement, when the market still has the potential to move in the original direction of your trade, and a retracement that isn't normal, when the potential for any further movement in the original direction of your trade is greatly diminished, if not nonexistent.

If you never know how far the market is going to go in your direction, then when and how do you take profits? The question of when is a function of your ability to read the market and pick the most likely spots for it to stop. In the absence of an ability to do this objectively, the best course of action from a psychological perspective is to divide your position into thirds (or quarters), and scale out the position as the market moves in your favor. If you are trading futures contracts, this means your minimum position for a trade is at least three (or four) contracts. For stocks, the minimum position is any number of shares that is divisible by three (or four), so you don't end up with an odd-lot order. Here's the way I scale out of a winning position. When I first started trading, especially during the first three years (1979 through 1981), I would thoroughly and regularly analyze the results of my trading activities. One of the things I discovered was that I rarely got stopped out of a trade for a loss, without the market first going at least a little way in my direction. On average, only one out of every ten trades was an immediate loser that never went in my direction. Out of the other 25 to 30 percent of the trades that were ultimately losers, the market usually went in my direction by three or four tics before revising and stopping me out. I calculated that if I got into the habit of taking at least a third of my original position off every time the market gave me those three or four tics, at the end of the year the accumulated winnings would go a long way towards paying my expenses. I was right. To this day, I always, without reservation or hesitation, take off a portion of a winning position whenever the market gives me a little to take.

How much that might be depends on the market; it will be a different amount in each case. For example, in Treasury bond futures, I take a third of my position off when I get four tics. In the S&P futures, I take a third off for a profit of one and a half to two full points. In a bond trade, I usually don't risk more than six tics to find out if the trade is going to work. Using a three-contract trade as an

example, here's how it works: If I get into a position and the market immediately goes against me without giving me at least four tics first, I get stopped out of the trade for an 18-tic loss, but as I've indicated, this doesn't happen often. More likely, the trade goes in my favor by some small amount before becoming a loser. If it goes in my favor by at least four tics, I take those four tics on one contract. What I have done is reduce my total risk on the other two contracts by 10 tics. If the market then stops me out of the last two contracts, the net loss on the trade is only 8 tics. If I don't get stopped out on the last two contracts and the market moves in my direction, I take the next third of the position off at some predetermined profit objective.

This is based on some longer time frame support or resistance, or on the test of a previous significant high or low. When I take profits on the second third, I also move the stop-loss to my original entry point. Now I have a net profit on the trade regardless of what happens to the last third of the position. In other words, I now have a "risk-free opportunity." I can't emphasize enough nor can the publisher make the words on this page big enough to stress how important it is for you to experience the state of "risk-free opportunity." When you set up a situation in which there is "risk-free opportunity," there's no way to lose unless something extremely unusual happens, like a limit up or limit down move through your stop. If, under normal circumstances, there's no way to lose, you get to experience what it really feels like to be in a trade with a relaxed, carefree state of mind. To illustrate this point, imagine that you are in a winning trade; the market made a fairly significant move in your direction, but you didn't take any profits because you thought it was going even further.

However, instead of going further, the market trades all the way back to or very close to your original entry point. You panic and, as a result, liquidate the trade, because you don't want to let what was once a winning trade turn into a loser. But as soon as you're out, the market bounces right back into what would have been a winning trade. If you had locked in some profits by scaling out, putting yourself in a riskfree opportunity situation, it s very unlikely that you would have panicked or felt any stress or anxiety for that matter. I still have a third of my position left. What now? I look for the most likely place for the market to stop. This is usually a significant high or low in a longer time frame. I place my order to liquidate just below that spot in a long position or just above that spot in a short position. I place my orders just above or just below because I don't care about squeezing the last tic out of the trade. I have found over the years that trying to do that just isn't worth it. One other factor you need to take into consideration is your risk-to-reward ratio. The risk-to-reward ratio is the dollar value of how much risk you have to take relative to the profit potential. Ideally, your risk-to-reward ratio should be at least 3:1, which means you are only risking one dollar for every three dollars of profit potential. If your edge and the way you scale out of your trades give you a 3:1 risk-to-reward ratio, your winning trade percentage can be less than 50 percent and you will still make money consistently. A 3:1 risk-to-reward ratio is ideal. However, for the purposes of this exercise, it doesn't matter what it is, nor does it matter how effectively you scale out, as long as you do it. Do the best you can to pay yourself at reasonable profit levels when the market makes the money available. Every portion of a trade that you take off as a

winner will contribute to your belief that you are a consistent winner. All the numbers will eventually come into better alignment as your belief in your ability to be consistent becomes stronger.

**Trading in Sample Sizes.** The typical trader practically lives or dies (emotionally) on the results of the most recent trade. If it was a winner, he'll gladly go to the next trade; if it wasn't, he'll start questioning the viability of his edge. To find out what variables work, how well they work, and what doesn't work, we need a systematic approach, one that doesn't take any random variables into consideration. This means that we have to expand our definition of success or failure from the limited trade-by-trade perspective of the typical trader to a sample size of 20 trades or more. Any edge you decide on will be based on some limited number of market variables or relationships between those variables that measure the market's potential to move either up or down. From the market's perspective, each trader who has the potential to put on or take off a trade can act as a force on price movement and is, therefore, a market variable. No edge or technical system can take into consideration every trader and his reasons for putting on or taking off a trade. As a result, any set of market variables that defines an edge is like a snapshot of something very fluid, capturing only a limited portion of all the possibilities. When you apply any set of variables to the market, they may work very well over an extended period of time, but after a while you may find that their effectiveness diminishes. That's because the underlying dynamics of the interaction between all the participants (the market) is changing. New traders come into the market with their own unique ideas of what is high and what is low, and other traders leave.

Little by little, these changes affect the underlying dynamics of how the market moves. No snapshot (rigid set of variables) can take these subtle changes into consideration. You can compensate for these subtle changes in the underlying dynamics of market movement and still maintain a consistent approach by trading in sample sizes. Your sample size has to be large enough to give your variables a fair and adequate test, but at the same time small enough so that if their effectiveness diminishes, you can detect it before you lose an inordinate amount of money. I have found that a sample size of at least 20 trades fulfills both of these requirements.

**Testing.** Once you decide on a set of variables that conform to these specifications, you need to test them to see how well they work. If you have the appropriate software to do this, you are probably already familiar with the procedures. If you don't have testing software, you can either forward test your variables or hire a testing service to do it for you. If you need a recommendation for a testing service, contact me at [markdouglas.com](http://markdouglas.com) or [tradinginthezone.com](http://tradinginthezone.com) for a referral. In any case, keep in mind that the object of the exercise is to use trading as a vehicle to learn how to think objectively (in the market's perspective), as if you were a casino operator. Right now, the bottom-line performance of your system isn't very important, but it is important that you have a good idea of what you can expect in the way of a win-to-loss ratio (the number of winning trades relative to the number of losing trades).

for your sample size).

**Accepting the Risk.** A requirement of this exercise is that you know in advance exactly what your risk is on each trade in your 20- trade sample size. As you now know, knowing the risk and accepting the risk are two different things. I want you to be as comfortable as possible with the dollar value of the risk you are taking in this exercise. Because the exercise requires that you use a 20-trade sample size, the potential risk is that you will lose on all 20 trades. This is obviously the worst-case scenario. It is as likely an occurrence as that you will win on all 20 trades, which means it isn't very likely. Nevertheless, it is a possibility. Therefore, you should set up the exercise in such a way that you can accept the risk (in dollar value) of losing on all 20 trades.

For example, if you're trading S&P futures, your edge might require that you risk three full points per contract to find out if the trade is going to work. Since the exercise requires that you trade a minimum of three contracts per trade, the total dollar value of the risk per trade is \$2,250, if you use big contracts. The accumulated dollar value of risk if you lose on all 20 trades is \$45,000, You may not be comfortable risking \$45,000 on this exercise.

If you're not comfortable, you can reduce the dollar value of the risk by trading S&P mini contracts (E-Mini). They are one-fifth the value of the big contracts, so the total dollar value of the risk per trade goes down to \$450 and the accumulated risk for all 20 trades is \$9,000. You can do the same thing if you are trading stocks: Just keep on reducing the number of shares per trade until you get to a point where you are comfortable with the total accumulated risk for all 20 trades. What I don't want you to do is change your established risk parameters to satisfy your comfort levels.

If, based on your research, you have determined that a three-point risk in the S&Ps is the optimum distance you must let the market trade against your edge to tell you it isn't worth staying in the position, then leave it at three points. Change this variable only if it is warranted from a technical analysis perspective. If you've done everything possible to reduce your position size and find that you still aren't comfortable with the accumulated dollar value of losing on all 20 trades, then I suggest you do the exercise with a simulated brokerage service. With a simulated brokerage service, everything about the process of putting on and taking off trades, including fills and brokerage statements, is exactly the same as with an actual brokerage firm, except that the trades are not actually entered into the market. As a result, you don't actually have any money at risk. A simulated brokerage service is an excellent tool to practice with in real time, under real market conditions; it is also an excellent tool for forward testing a trading system. There may be others, but the only service of this nature that I know of is [Audittrack.com](http://Audittrack.com).

**Doing the Exercise.** When you have a set of variables that conforms to the specifications described, you know exactly what each trade is going to cost to find out if it's going to work, you have a plan for taking profits, and you know what you can expect as a win-loss ratio for your sample size, then you are

ready to begin the exercise. The rules are simple: Trade your system exactly as you have designed it. This means you have to commit yourself to trading at least the next 20 occurrences of your edge—not just the next trade or the next couple of trades, but all 20, no matter what. You cannot deviate, use or be influenced by any other extraneous factors, or change the variables that define your edge until you have completed a full sample size. By setting up the exercise with rigid variables that define your edge, relatively fixed odds, and a commitment to take every trade in your sample size, you have created a trading regime that duplicates how a casino operates.

Why do casinos make consistent money on an event that has a random outcome? Because they know that over a series of events, the odds are in their favor. They also know that to realize the benefits of the favorable odds, they have to participate in every event. They can't engage in a process of picking and choosing which hand of blackjack, spin of the roulette wheel, or roll of the dice they are going to participate in, by trying to predict in advance the outcome of each of these individual events. If you believe in the five fundamental truths and you believe that trading is just a probability game, not much different from pulling the handle of a slot machine, then you'll find that this exercise will be effortless—effortless because your desire to follow through with your commitment to take every trade in your sample size and your belief in the probabilistic nature of trading will be in complete harmony. As a result, there will be no fear, resistance, or distracting thoughts. What could stop you from doing exactly what you need to do, when you need to do it, without reservation or hesitation? Nothing!

On the other hand, if it hasn't already occurred to you, this exercise is going to create a head-on collision between your desire to think objectively in probabilities and all the forces inside you that are in conflict with this desire. The amount of difficulty you have in doing this exercise will be in direct proportion to the degree to which these conflicts exist. To one degree or another, you will experience the exact opposite of what I described in the previous paragraph. Don't be surprised if you find your first couple of attempts at doing this exercise virtually impossible. How should you handle these conflicts? Monitor yourself and use the technique of self-discipline to refocus on your objective. Write down the five fundamental truths and the seven principles of consistency, and keep them in front of you at all times when you are trading.

Repeat them to yourself frequently, with conviction. Every time you notice that you are thinking, saying, or doing something that is inconsistent with these truths or principles, acknowledge the conflict. Don't try to deny the existence of conflicting forces. They are simply parts of your psyche that are (understandably) arguing for their versions of the truth. When this happens, refocus on exactly what you are trying to accomplish. If your purpose is to think objectively, disrupt the association process (so you can stay in the "now moment opportunity flow"); step through your fears of being wrong, losing money, missing out, and leaving money on the table (so you can stop making errors and start trusting yourself), then you'll know exactly what you need to do. Follow the rules of your trading regime as best you can. Doing exactly what your rules call for while focused on the five fundamental truths will eventually resolve all your conflicts about the true nature of trading. Every time you actually do

something that confirms one of the five fundamental truths, you will be drawing energy out of the conflicting beliefs and adding energy to a belief in probabilities and in your ability to produce consistent results. Eventually, your new beliefs will become so powerful that it will take no conscious effort on your part to think and act in a way that is consistent with your objectives.

You will know for sure that thinking in probabilities is a functioning part of your identity when you will be able to go through one sample size of at least 20 or more trades without any difficulty, resistance, or conflicting thoughts distracting you from doing exactly what your mechanical system calls for. Then, and only then, will you be ready to move into the more advanced subjective or intuitive stages of trading.

### A FINAL NOTE

Try not to prejudge how long it will take before you can get through at least one sample size of trades, following your plan without deviation, distracting thoughts, or hesitation to act. It will take as long as it takes. If you wanted to be a professional golfer, it wouldn't be unusual to dedicate yourself to hitting 10,000 or more golf balls until the precise combination of movements in your swing were so ingrained in your muscle memory that you no longer had to think about it consciously. When you're out there hitting those golf balls, you aren't playing an actual game against someone or winning the big tournament. You do it because you believe that skill acquisition and practice will help you win. Learning to be a consistent winner as a trader isn't any different. I wish you great prosperity, and would say "good luck," but you really won't need luck if you work at acquiring the appropriate skills.

### ATTITUDE SURVEY

1. To make money as a trader you have to know what the market is going to do next.

**Agree Disagree**

2. Sometimes I find myself thinking that there must be a way to trade without having to take a loss.

**Agree Disagree**

3. Making money as a trader is primarily a function of analysis.

**Agree Disagree**

4. Losses are an unavoidable component of trading.

**Agree Disagree**

5. My risk is always defined before I enter a trade.

**Agree Disagree**

6. In my mind there is always a cost associated with finding out what the market may do next.

**Agree Disagree**

7. I wouldn't even bother putting on the next trade if I wasn't sure that it was going to be a winner.

**Agree Disagree**

8. The more a trader learns about the markets and how they behave, the easier it will be for him to execute his trades.

**Agree Disagree**

9. My methodology tells me exactly under what market conditions to either enter or exit a trade.

**Agree Disagree**

10. Even when I have a clear signal to reverse my position, I find it extremely difficult to do.

**Agree Disagree**

11. I have sustained periods of consistent success usually followed by some fairly drastic draw-downs in my equity.

**Agree Disagree**

12. When I first started trading I would describe my trading methodology as haphazard, meaning some success in between a lot of pain.

**Agree Disagree**

13. I often find myself feeling that the markets are against me personally.

**Agree Disagree**

14. As much as I might try to "let go," I find it very difficult to put past emotional wounds behind me.

**Agree Disagree**

15. I have a money management philosophy that is founded in the principle of always taking some money out of the market when the market makes it available.

**Agree Disagree**

16. A trader's job is to identify patterns in the markets' behavior that represent an opportunity and then to determine the risk of finding out if these patterns will play themselves out as they have in the past.

**Agree Disagree**

17. Sometimes I just can't help feeling that I am a victim of the market.

**Agree Disagree**

18. When I trade I usually try to stay focused in one time frame. Agree Disagree

19. Trading successfully requires a degree of mental flexibility far beyond the scope of most people.

**Agree Disagree**

20. There are times when I can definitely feel the flow of the market; however, I often have difficulty acting on these feelings.

**Agree Disagree**

21. There are many times when I am in a profitable trade and I know the move is basically over, but I still won't take my profits.

**Agree Disagree**

22. No matter how much money I make in a trade, I am rarely ever satisfied and feel that I could have made more.

**Agree Disagree**

23. When I put on a trade, I feel I have a positive attitude. I anticipate all of the money I could make from the trade in a positive way.

**Agree Disagree**

24. The most important component in a trader's ability to accumulate money over time is having a belief in his own consistency.

**Agree Disagree**

25. If you were granted a wish to be able to instantaneously acquire one trading skill, what skill would you choose?

26. I often spend sleepless nights worrying about the market.

**Agree Disagree**

27. Do you ever feel compelled to make a trade because you are afraid that you might miss out?

**Yes No**

28. Although it doesn't happen very often, I really like my trades to be perfect. When I make a perfect call it feels so good that it makes up for all of the times that I don't.

**Agree Disagree**

29. Do you ever find yourself planning trades you never execute, and executing trades you never planned?

**Yes No**

30. In a few sentences explain why most traders either don't make money or aren't able to keep what they make.