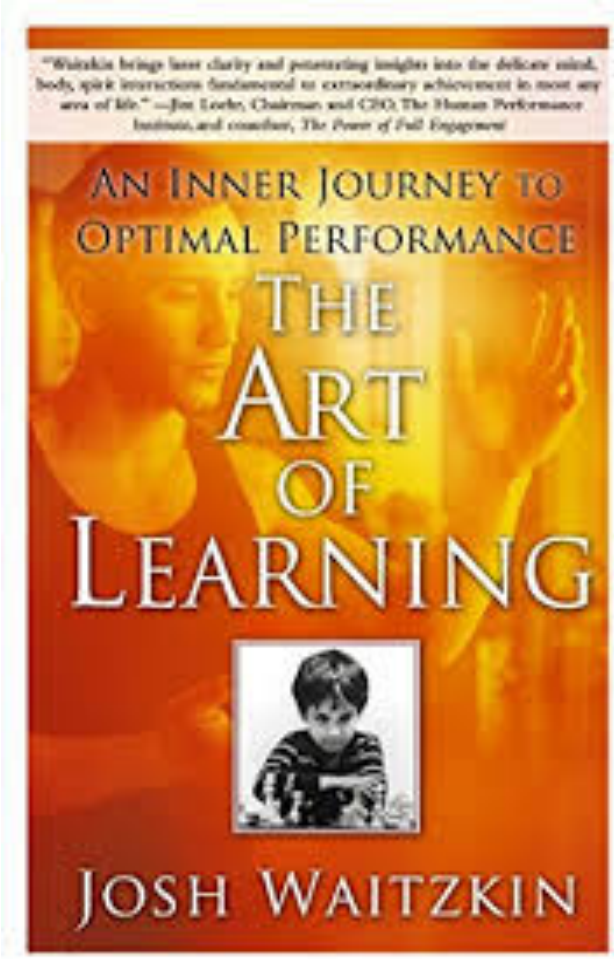
SELECTED NOTES FROM THE BOOK

THE ART OF LEARNING

by Josh Waitzkin



NOTES COMPILED BY JUSTIN JOHNSON

CHAPTER 1
INNOCENT MOVES

I was pulled into the battlefield, enraptured; something felt familiar about this game, it made sense.

I remember the strange sensation of discovering a lost memory. As we moved the pieces, I felt like I had done this before.

I'd plop down against some scary-looking dude, put my game face on, and go to war. I loved the thrill of battle, and some days I would play countless speed chess games, hour after hour staring through the jungle of pieces, figuring things out, throwing mental grenades back and forth in a sweat.

It was a bizarre school for a child, a rough crowd of alcoholics, homeless geniuses, wealthy gamblers hooked on the game, junkies, eccentric artists – all diamonds in the rough, brilliant, beat men, lives in shambles, aflame with a passion for chess.

It is difficult for me to explain the seriousness I had about chess as a young boy. I guess it was a calling, though I'm still not sure what that means.

Each loss was a lesson, each win a thrill.

I learned quickly that when I thought about the people watching, I played badly.

I insisted on some bad habits I had learned in the park – for example, bringing out my queen early. This is a typical beginner's error: the queen is the most powerful piece on the chessboard so people want to bring her into the action right away.

Now it was time to slow me down and properly arm my intuition, but Bruce had a fine line to tread. He had to teach me to be more disciplined without dampening my love for chess or suppressing my natural voice. Many teachers have no feel for this balance and try to force their students into cookie-cutter molds. I have run into quite a few egomaniacal instructors like this over the years and have come to believe that their method is profoundly destructive for students in the long run – in any case, it certainly would not have worked with me.

There's a fine line to toe in coaching. You have to teach them to be disciplined in their game without dampening their love of the game and without suppressing the way they play.

I was taught to express my opinion and to think about the ideas of others – not to follow authority blindly. Fortunately, Bruce's educational philosophy fit my character perfectly. He didn't present himself as omniscient, and he handled himself as more of a guide in my development than as an authority. If I disagreed with him, we would have a discussion, not a lecture.

Bruce slowed me down by asking questions. Whenever I made an important decision, good or bad, he would ask me to explain my thought process. Were there other ways to accomplish the same aim? Had I looked for my opponent's threats? Did I consider a different order of operations? Bruce didn't patronize me – some teachers rebel so far away from being authoritarian that they praise all their little player's decisions, good or bad. Their intention is to build confidence, but instead they discourage objectivity, encourage self-indulgence, and perhaps most destructively, they create a dishonest relationship between instructor and pupil that any bright child can sense.

When I made a bad move, Bruce asked me what my idea was and then helped me discover how I could have approached the decision-making process differently. Much of the time in our lessons was spent in silence, with us both thinking. Bruce did not want to feed me information, but to help my mind carve itself into maturity. Over time, in his coaxing, humorous, and understatedly firm manner, Bruce gave me a foundation of critical chess principles and a systematic understanding of analysis and calculation. While the new knowledge was valuable, the most important factor in these first months of study was that Bruce nurtured my love for chess, and he never let technical material smother my innate feeling for the game.

Despite significant outside pressure, my parents and Bruce decided to keep me out of tournaments until I had been playing chess for a year or so, because they wanted my relationship to the game to be about learning and passion first, and competition a distant second.

For me, competitive chess was not about perfection. It was more of a mental prizefight, with two opponents trading advantages, momentum going one way and then the other… Many very talented kids expected to win without much resistance. When the game was a struggle, they were emotionally unprepared.

I was unhindered by internal conflict – a state of being that I have come to see as fundamental to the learning process. Bruce and the park guys had taught me how to express myself through chess, and so my love for the game grew every day.

CHAPTER 2
LOSING TO WIN

Confidence is critical for a great competitor, but overconfidence is brittle. We are too smart for ourselves in such moments. We sense our mortality like a cancer beneath the bravado, and when things start to go out of control, there is little real resilience to fall back on.

One of the problems with being too high is that there is a long way to fall.

I have come to understand that these little breaks from the competitive intensity of my life have been and still are an integral part of my success.

I responded to heartbreak with hard work. I was self-motivated and moved by a powerful resolve.

I was still the highest-rated player for my age in the country, and when I went to tournaments there was immense pressure. If I won, it was no big deal, but if I lost it felt like the sky would fall.

CHAPTER 3
TWO APPROACHES TO LEARNING

Glory is a powerful incentive. Inevitably dreams are dashed, hearts are broken, most fall short of their expectations because there is little room at the top.

Two questions arise. First, what is the difference between that allows some to fit into that narrow window at the top? And second, what is the point? If ambition spells probable disappointment, why pursue excellence? In my opinion, the answer to both questions lies in a well-thought-out approach that inspires resilience, the ability to make connections between diverse pursuits, and day-to-day enjoyment of the process. The vast majority of motivated people, young and old, make terrible mistakes in their approach to learning. They fall frustrated by the wayside while those on the road to success keep steady on their paths.

Developmental psychologists have done extensive research on the effects of a student's approach on his or her ability to learn and ultimately master material. Dr. Carol Dweck, a leading researcher in the field of developmental psychology, makes the distinction between *entity* and *incremental* theories of intelligence. Children who are "entity theorists" – that is, kids who have been influenced by their parents and teachers to think in this manner – are prone to use language like "I am smart at this" and to attribute their success or failure to an ingrained and unalterable level at a certain discipline to be a fixed *entity*, a thing that cannot evolve. Incremental theorists, who

have picked up a different modality of learning – let's call them *learning theorists* – are more prone to describe their results with sentences like "I got it because I worked very hard at it" or "I should have tried harder." A child with a learning theory of intelligence tends to sense that with hard work, difficult material can be grasped – step by step, *incrementally*, the novice can become the master.

Dweck's research has shown that when challenged by difficult material, learning theorists are far more likely to rise to the level of the game, while entity theorists are more brittle and prone to quit. Children who associate success with hard work tend to have a "master-oriented response" to challenging situations, while children who see themselves as just plain "smart" or "dumb," or "good" or "bad" at something, have a "learned helplessness orientation."

In one wonderfully revealing study, a group of children was interviewed and then each child was noted as having either an entity or learning theory of intelligence. All the children were then given a series of easy math problems, which they all solved correctly. Then, all the children were given some very hard problems to solve – problems that were too difficult for them. It was clear that the learning theorists were excited by the challenge, while the entity theorists were dismayed. Comments would range from "Oh boy, now I'm really gonna have to try hard" to "I'm not smart enough for this." Everyone got these problems wrong – but evidently the experience of being challenged had very different effects. What is most interesting is the third stage of this experiment: all the children were once again given easy problems to solve. Nearly all of the learning theorists breezed right through the easy material, but the entity theorists had been so dispirited by the inability to solve the hard problems that many of them foundered through the easy stuff. Their self-confidence had been destroyed.

What is compelling about this is that the results have nothing to do with intelligence level. Very smart kids with entity theories tend to be far more brittle when challenged than kids with learning theories who would be considered not quite as sharp. In fact, some of the brightest kids prove to be the most vulnerable to becoming helpless, because they feel the need to live up to and maintain a perfectionist image that is easily and inevitably shattered. As an observer of countless talented young chess players, I can vouch for the accuracy of this point – some of the most gifted players are the worst under pressure, and have the hardest time rebounding from defeat.

How are these theories of intelligence programmed into our minds? Often subtle differences in parental or instructional style can make a huge difference. Entity theorists tend to have been told that they did well when they have succeeded, and that they weren't any good at something when they have failed. So a kid aces a math test, comes home, and hears "Wow, that's my boy! As smart as they come!" Then, next week

Johnny fails an English test and hears "What's wrong with you? Can't you read?" or "Your Mommy never liked reading either – obviously, it's not your thing." So the boy figures he's good at math and bad at English, and what's more, he links success and failure to ingrained ability. Learning theorists, on the other hand, are given feedback that is more process-oriented. After doing well on an English essay, a little girl might be congratulated by her teacher with "Wow, great job Julie! You're really becoming a wonderful writer! Keep up the good work!" And if she does badly on a math test, her teacher might write "Study a little harder for the next one and you'll do great! And feel free to ask me questions any time after class, that's what I'm here for!" So Julie learns to associate effort with success and feels that she can become good at anything with some hard work. She also feels as though she is on a journey of learning, and her teacher is a friendly assistant in her growth. Johnny thinks he's good at math and bad at English, and he focuses on quick results as opposed to long-term process – but what happens when he does badly on a hard math test down the line? Will he be prepared to learn the right lessons from life's inevitable challenges? Un fortunately, he may not.

It is clear that parents and teachers have an enormous responsibility in forming the theories of intelligence of their students and children – and it is never too late. It is critical to realize that we can always evolve in our approaches to learning. Studies have shown that in just minutes, kids can be conditioned into having a healthy learning theory for a given situation. In one study, children were given different instructions about what the aim of their task was. Some kids were told that solving certain problems would help them with their schoolwork in the future, and other kids were told that they would be judged based on their results. In other words, half the kids received "mastery-oriented" instructions, and half the kids received "helplessness-producing" instructions. Needless to say, the kids who were temporarily mastery-oriented did much better on the tests.

So how does all this affect us in our day-to-day lives? Fundamentally. The key to pursuing excellence is to embrace an organic, long-term learning process, and not to live in a shell of static, safe mediocrity. Usually, growth comes at the expense of previous comfort or safety. The hermit crab is a colorful example of a creature that lives by this aspect of the growth process (albeit without our psychological baggage). As the crab gets bigger, it needs to find a more spacious shell. So the slow, lumbering creature goes on a quest for a new home. If an appropriate new shell is not found quickly, a terribly delicate moment of truth arises. A soft creature that is used to the protection of built-in armor must now go out into the world, exposed to predators in all its mushy vulnerability. That learning phase in between shells is where our growth can spring from. Someone stuck with an entity theory of intelligence is like an anorexic hermit crab, starving itself so it doesn't grow to have to find a new shell.

In my experience, successful people shoot for the stars, put their hearts on the line in every battle, and ultimately discover that the lessons learned from the pursuit of excellence mean much more than the immediate trophies and glory. In the long run, painful losses may prove much more valuable than wins – those who are armed with a healthy attitude and are able to draw wisdom from every experience, "good" or "bad," are the ones who make it down the road. They are also the ones who are happier along the way. Of course the real challenge is to stay in range of this long-term perspective when you are under fire and hurting in the middle of the war. This, maybe our biggest hurdle, is at the core of the art of learning.

… he was a moderately talented boy who was the best in his school. He had learned some quick opening attacks and had a natural feel for basic chess tactics. Clearly he had started winning and had been praised effusively for his genius. As a result, the boy refused to play anyone outside of the circle of friends and competitors whom he knew to be inferior (his favorite opponent was his father, who was a weak player and no challenge at all). To his serious chess-playing children around the country, he had a long way to go. He was a big fish in a small pond and he liked it that way… His winning streak and the constant talk of it had him all locked up – he was terrified of shattering the façade of perfection. This child was paralyzed by an ever-deepening cycle of entity indoctrination.

Most kids like this are quire talented, so they excel at first because of good genes – but then they hit a roadblock. As chess struggles become more intense and opponents put up serious resistance, they start to lose interest in the game. They try to avoid challenges, but eventually the real world finds them. Their confidence is fragile. Losing is always a crisis instead of an opportunity for growth – if they were a winner because they won, this new losing must make them a loser.

You are not a winner just because you've won. And you're not a loser just because you've lost.

They wanted to win before the battle began, but I loved the struggle that was the heart of chess. In both the short term and the long term, these kids were crippled by the horizon imposed on them by their teachers.

If a young basketball player is taught that winning is the only thing that winners do, then he will crumble when he misses his first big shot. If a gymnast or ballet dancer is taught that her self-worth is entirely wrapped up in a perfectly skinny body that is always ready for performance, then how can she handle injuries or life after an inevitably short career? If a businessperson cultivates a perfectionist self-image, then how can she learn from her mistakes?

These moments in my life were wrecked with pain, but they were also defining gut-checks packed with potential. The setbacks taught me how to succeed.

CHAPTER 4
LOVING THE GAME

I would guide critical chess games into positions of tremendous complexity with the confidence that I would be able to sort through the mayhem more effectively than my opponents.

One of the most critical strengths of a superior competitor in any discipline – whether we are speaking about sports, business negotiations, or even presidential debates – is the ability to dictate the tone of the battle.

Just as muscles get stronger when they are pushed, good competitors tend to rise to the level of the opposition.

Chess was a constant challenge. My whole career, my father and I searched out opponents who were a little stronger than me, so even as I dominated the scholastic circuit, losing was part of my regular experience. I believe this was important for maintaining a healthy perspective on the game. While there was a lot of pressure on my shoulders, fear of failure didn't move me so much as an intense passion for the game. I think the arc of losing a heartbreaker before winning my first big title gave me license to compete on the edge.

This is not to say that losing didn't hurt. It did. There is something particularly painful about being beaten in a chess game. In the course of a battle, each player puts every ounce of his or her tactical, strategical, emotional, physical, and spiritual being into the struggle. The brain is pushed through terrible trials; we stretch every fiber of our mental capacity; the whole body aches from exhaustion after hours of rapt concentration. In the course of a dynamic fight, there will be shifts in momentum, near misses, narrow escapes, innovative creations, and precise refutations. When your position teeters on the brink of disaster, it feels like your life is on the line. When you win, you survive another day. When you lose, it is as if someone has torn out your heart and stepped on it. No exaggeration. Losing is brutal.

This bring up an incipient danger in what may appear to be an incremental approach. I have seen many people in diverse fields take some version of the process-first philosophy and transform it into an excuse for never putting themselves on the line or pretending not to care about results. They claim to be egoless, to care only about

learning, but really this is an excuse to avoid confronting themselves. This issue of process vs. goal is very delicate, and I want to carefully define how I feel the question should be navigated.

It would be easy to read about the studies on entity vs. incremental theories of intelligence and come to the conclusion that a child should never win or lose. I don't believe this is the case. If that child discovers any ambition to pursue excellence in a given field later in life, he or she may lack the toughness to handle inevitable obstacles. While a fixation on results is certainly unhealthy, short-term goals can be useful developmental tools if they are balanced within a nurturing long-term philosophy. Too much sheltering from results can be stunting. The road to success is not easy or else everyone would be the greatest at what they do – we need to by psychologically prepared to face the unavoidable challenges along our way, and when it comes down to it, the only way to learn how to swim is by getting in the water.

There is nothing like a worthy opponent to show us our weaknesses and push us to our limit.

Danny's mom can help him internalize a process-first approach by making her everyday feedback respond to effort over results. She should praise good concentration, a good day's work, a lesson learned. When he wins a tournament game, the spotlight should be on the road to that moment and beyond as opposed to the glory. On the other hand, it is okay for a child (or an adult for that matter) to enjoy a win. A parent shouldn't be an automaton, denying the obvious emotional moment to spout platitudes about the long-term learning process when her child is jumping up and down with excitement. When we have worked hard and succeed at something, we should be allowed to smell the roses. The key, in my opinion, is to recognize that the beauty of those roses lies in their transience. It is drifting away even as we inhale. We enjoy the win fully while taking a deep breath, then we exhale, note the lesson learned, and move on to the next adventure.

When Danny loses, the stakes will feel a bit higher. Now he comes out of the tournament room a little teary. He put his heart on the line and lost. How should his mom handle this moment? First of all, she shouldn't say that it doesn't matter, because Danny knows better than that and lying about the situation isolates Danny in his pain. If it didn't matter, then why should he try to win? Why should he study chess and waste their weekends at tournaments? It matters and Danny knows that. So empathy is a good place to start.

I think this mother should give her son a hug. If he is crying, let him cry on her shoulder. She should tell him how proud of him she is. She can tell Danny that it is okay

to be sad, that she understands and that she loves him. Disappointment is a part of the road to greatness. When a few moments pass, in a quiet voice, she can ask Danny if he knows what happened in the game. Hopefully the language between parent and child will already be established so Danny knows his mom is asking about psychology, not chess moves (almost all mistakes have both technical and mental components – the chess lessons should be left for after the tournament, when Danny and his teacher study the games). Did he lose his concentration? Did he fall into a downward spiral and make a bunch of mistakes in a row? Was he overconfident? Impatient? Did he get psyched out by a trash talker? Was he tired? Danny will have an idea about his psychological slip, and taking on that issue will be a short-term goal in the continuing process – introspective thinking of this nature can be a very healthy coping mechanism. Through these dialogues, Danny will learn that every loss is an opportunity for growth. He will become increasingly astute psychologically and sensitive to bad habits.

A heartfelt, empathetically present, incrementally inspiring mom or dad or coach can liberate an ambitious child to take the world by the horns. As adults, we have to take responsibility for ourselves and nurture a healthy, liberated mind-set. We need to put ourselves out there, give it our all, and reap the lesson, win or lose. The fact of the matter is that there will be nothing learned from any challenge in which we don't try our hardest. Growth comes at the point of resistance. We learn by pushing ourselves and finding what really lies at the outer reaches of our abilities.

Of course there were plateaus, periods when my results leveled off while I internalized the information necessary for my next growth spurt, but I didn't mind. I had a burning love for chess and so I pushed through the rocky periods with a can-do attitude.

There were a few powerful moments that reinforced my young notion that glory had nothing to do with happiness or long-term success.

CHAPTER 5
THE SOFT ZONE
"Lose Yourself"

… sometimes chess can feel like home, and sometimes it can be completely alienating, a foreign jungle that must be explored as if for the first time.

… if you are tense, with your fingers jammed in your ears and your whole body straining to fight off distraction, then you are in a *Hard Zone* that demands a cooperative world for you to function. Like a dry twig, you are brittle, ready to snap under pressure. The alternative is for you to be quietly, intensely focused, apparently

relaxed with a serene look on your face, but inside all mental juices are churning. You flow with whatever comes, integrating every ripple of life into your creative moment. This *Soft Zone* is resilient, like a flexible blade of grass that can move with and survive hurricane-force winds.

Another way of envisioning the importance of the Soft Zone is through an ancient Indian parable that has been quite instructive in my life for many years: A man wants to walk across the land, but the earth is covered with thorns. He has two options – one is to pave his road, to tame all of nature into compliance. The other is to make sandals. Making sandals is the internal solution. Like the Soft Zone, it does not base success on a submissive world or overpowering force, but on intelligent preparation and cultivated resilience.

In top-rank competition I couldn't count on the world being silent, so my only option was to become at peace with the noise.

… in the climactic moments of the struggle, when I had to buckle down and patiently work my way through the complications to find a precise solution, this boy would start to tapa chess piece on the side of the table, barely audible, but at a pace that entered and slightly quickened my mental process. This subtle tactic was highly effective and I later found out that it was an offspring of the Soviet study of hypnosis and mind control.

I have come to believe that the solution to this type of situation does not lie in denying our emotions, but in learning to use them to our advantage. Instead of stifling myself, I needed to channel my mood into heightened focus – and I can't honestly say that I figured out how to do this consistently until years into my martial arts career when dirty opponents tried to take out my knees, target the groin, or head-butt me in the nose in competition.

Mental resilience is arguably the most critical trait of a world-class performer, and it should be nurtured continuously.

When uncomfortable, my instinct is not to avoid the discomfort but to become at peace with it.

My instinct is always to seek out challenges as opposed to avoiding them.

CHAPTER 6
THE DOWNWARD SPIRAL

… the importance of regaining presence and clarity of mind after making a serious error. This is a hard lesson for all competitors and performers. The first mistake rarely proves disastrous, but the downward spiral of the second, third, and fourth error creates a devastating chain reaction. Any sports fan has seen professional football, basketball, and baseball games won and lost because of a shift in psychological advantage. People speak about momentum as if it were an entity of its own, an unpredictable player on the field, and from my own competitive experience, I can vouch for it seeming that way. The key is to bring that player onto your team by riding the psychological wave when it is behind you, and snapping back into a fresh presence when your clarity of mind begins to be swept away.

You are a highly skilled chess Master in the middle of a critical tournament game and you have a much better position. For the last three hours you have been pressuring your opponent, increasing the tension, pushing him closer to the edge, and searching for the decisive moment when your advantage will be converted into a win. Then you make subtle error that allows your opponent to equalize the position. There is nothing wrong with equality, but you have developed a powerful emotional attachment to being in control of the game. Your heart starts to pound because of the disconcerting chasm between what was and what is.

Chess players are constantly calculating variations and either accepting or dismissing them based on a comparison of how they evaluate the visualized position vs. the original position. So if you have an advantage, make an error, and then still cling to the notion that you have an advantage, then when you calculate a variation that looks equal, you will reject that line of thought because you incorrectly believe it is moving you in the wrong direction. What results is a downward spiral where the floundering player rejects variations he should accept, pushing, with hollow overconfidence, for more than there is. At a high level, pressing for wins in equal positions often results in losing.

As a competitor I've come to understand that the distance between winning and losing is minute, and, moreover, that there are ways to steal wins from the maw of defeat. All great performers have learned this lesson.

Musicians, actors, athletes, philosophers, scientists, writers understand that brilliant creations are often born of small errors. Problems set in if the performer has a brittle dependence on the safety of absolute perfection or duplication. Then an error triggers fear, detachment, uncertainty, or confusion that muddies the decision-making process.

I often told my wonderful young students to beware of the downward spiral. I taught them that being present at critical moments of competitions can turn losses into wins,

and I conveyed strategies for how to do this. Sometimes all the kids needed was to take two or three deep breaths or splash cold water on their faces to snap out of bad states of mind. Other times, more dramatic actions were called for – if I felt dull during a difficult struggle, I would occasionally leave the playing hall and sprint fifty yards outside. This may have seemed strange to spectators, but it served as a complete physiological flushing, and I returned, albeit a bit sweaty, in a brand-new state of mind.

… after making an error, it is so easy to cling to the emotional comfort zone of what was, but there is also that unsettling sense that things have changed for the worse. The clear thinker is suddenly at war with himself and flow is lost. I have always visualized two lines moving parallel to one another in. space. I showed my students these lines with my hands, moving through the air. When we are present to what is, we are right up front with the expansion of time, but when we make a mistake and get frozen in what was, a layer of detachment builds. Time goes on and we stop. Suddenly we are living, playing chess, crossing the street with our eyes closed in memory. And then comes the taxicab.

CHAPTER 7
CHANGING VOICE

From the outside I may have looked unbeatable, but inside I was a kid barely holding everything together.

My strengths as a young champion – consistency, competitive presence, focus, drive, passion, creativity – were elusive and moving out of reach. I still loved chess, but it no longer felt like an extension of my being.

I worked on the game tirelessly, but was now moved less by ambition than by a yearning for self-discovery.

Sometimes technical superiority proved decisive, but more often somebody cracked, as if a tiny weakness deep in the being suddenly erupted onto the board.

These moments, where the technical and psychological collide, are where I directed my study of the game.

CHAPTER 8
BREAKING STALLIONS

In most everyday life experiences, there seems to be a tangible connection between opposites. Consider how you may not realize how much someone’s companionship

means to you until they are gone – heartbreak can give the greatest insight into the value of love. Think about how good a healthy leg feels after an extended time on crutches – sickness is the most potent ambassador for healthy living. Who knows water like a man dying of thirst? The human mind defines things in relation to one another – without light the notion of darkness would be unintelligible.

There are two basic ways of taming a wild horse. One is to tie it up and freak it out. Shake paper bags, rattle cans, drive it crazy until it submits to any noise. Make it endure the humiliation of being controlled by a rope and pole. Once it is partially submissive, you tack the horse, get on top, spur it, show it who's boss – the horse fights, bucks, twists, turns, runs, but there is no escape. Finally the beast drops to its knees and submits to being domesticated. The horse goes through pain, rage, frustration, exhaustion, to near death… then it finally yields. This is the method some like to call *shock and awe*.

Then there is the way of the horse whisperers. My mother explains, "When the horse is very young, a foal, we gentle it. The horse is always handled. You pet it, feed it, groom it, stroke it, it gets used to you, likes you." So you guide the horse toward doing what you want to do because he wants to do it. You synchronize desires, speak the same language. You don't break the horse's spirit. My mom goes on: "If you walk straight toward a horse, it will look at you and probably run away. You don't have to oppose the horse in that way. Approach indirectly, without confrontation. Even an adult horse can be gentled. Handle him nicely, make your intention the horse's intention.

"Then, when riding, both you and the horse want to maintain the harmony you have established. If you want to move to the right, you move to the right and so the horse naturally moves right to balance your weight." Rider and animal feel like one. They have established a bond that neither wants to disrupt. And most critically, in this relationship between man and beast, the horse has not been whitewashed. When trained, he will bring his unique character to the table. The gorgeous, vibrant spirit is still flowing in an animal that used to run the plains.

It would be easy to say that one or two factors were decisive in pushing me away from chess. I could say that the film *Searching for Bobby Fisher* put too much pressure on my shoulders. I could say that a bad teacher distanced me from my natural love for the game. I could say that I discovered happiness elsewhere. But all this would be too simple.

Muscles and minds need to stretch to grow, but if stretched too thin, they will snap. A competitor needs to be process-oriented, always looking for stronger opponents to spur growth, but it is also important to keep on winning enough to maintain confidence. We.

Have to. Release our current ideas to soak in new material, but not so much that we lose touch with our unique natural talents. Vibrant, creative idealism needs to. Be tempered by a practical, technical awareness.

CHAPTER 9
BEGINNER'S MIND

… more than anything the Tao Te Ching provided a framework to help me sort out my complicated relationship to material ambition. It helped me figure out what was important apart from what we are told is important.

CHAPTER 10
INVESTMENT IN LOSS

I was able to stay relaxed when doing Tai Chi on my own, and now the challenge would be to maintain and ultimately deepen that relaxation under increasing pressure. Also, from what I had read, the essence of Tai Chi Chaun as a martial art is not to clash with the opponent but to blend with his energy, yield to it, and overcome with softness.

The martial philosophy behind Push Hands, in the language of the *Tai Chi Classics*, is "to defeat a thousand pounds with four ounces."

Investment in loss. Investment in loss is giving yourself to the learning process.

I have long believed that if a student of virtually any discipline could avoid ever repeating the same mistake twice – both technical and psychological – he or she would skyrocket to the top of their field.

Pressure messed up my head and I got stuck, like the guys doing Push Hands who don't learn from their mistakes and practice with a desperate need to win, to be right, to have everything under control. This ultimately cripples growth and makes Tai Chi look like an extension of rush hour in Times Square.

The key is relaxed hip joints and spring-like body mechanics, so you can easily receive force by coiling it down through your structure.

A large part of Tai Chi is releasing tension from your body through the practice of the meditative form.

In all disciplines, there are times when a performer is ready for action, and times when he or she is soft, in flux, broken-down or in a period of growth. Learners in this phase

are inevitably vulnerable. It is important to have perspective on this and allow yourself protected periods for cultivation. A gifted boxer with a fabulous right and no left will get beat up while he tries to learn the jab.

It is not so difficult to have a beginner's mind and be willing to invest in loss when you are truly a beginner, but it is much harder to maintain that humility and openness to learning when people are watching and expecting you to perform.

It is essential to have a liberating *incremental* approach that allows for times when you are not in a peak performance state. We must take responsibility for ourselves, and not expect the rest of the world to understand what it takes to become the best that we can become. Great ones are willing to get burned time and again as they sharpen their swords in the fire. Consider Michael Jordan. It is common knowledge that Jordan made more last-minute shots to win the game for his team than any other player in the history of the NBA. What is not so well known, is. That Jordan also missed more last-minute shots to lose the game for his team than any other player in the history of the game. What made him the greatest was not perfection, but a willingness to put himself on the line as a way of life. Did he suffer all those nights when he sent twenty thousand Bulls fans home heartbroken? Of course. But he was willing to look bad on the road to basketball immortality.

CHAPTER 11
MAKING SMALLER CIRCLES

… depth over breadth…

The learning principle is to plunge into the. Detailed mystery of the micro in order to understand what makes the macro tick.

It would be absurd to try to teach a new figure skater the principle of relaxation on the ice by launching straight into triple axels.

The next phase of my martial growth would involve turning he large into the small. My understanding of this process, in the spirit of my *numbers to leave numbers* method of chess study, is to touch the essence (for example, highly refined and deeply internalized body mechanics or *feeling*) of a technique, and then to incrementally condense the external manifestation of the technique while keeping true to. Its essence. Over time expansiveness decreases while potency increases. I call this method "Making Smaller Circles."

First, I practice the motion over and over in slow motion. We have to be able to do something slowly before we can have any hope of doing it correctly with speed.

Initially I'll have tension in my shoulder and back, but then I'll sooth it away, slowly repeating the movement until the correct body mechanics are in my skin. Over time, I'm not thinking about the path from foot to fist, I'm just. Feeling the ground connecting to my fingertips, as if my body is a conduit for the electrical impulse of. A punch. Then I start speeding things up, winding up and delivering, over and over. Eventually I start using a heavy bag, practicing these body mechanics with increasing power, building resistance in my body so I can deliver more and more force without hurting myself. My coiling gets stronger and sometimes I hit the bag with a surprising pop. A dangerous moment. When hitting something instead of moving through empty space, I might start to get excited and throw my shoulder into the punch. This is a classic error. It breaks my structure and destroys the connection from foot to fingertip – many boxers make this mistake and come away with shoulder injuries. I want to punch without punching. No intention.

The fact is that when there is intense competition, those who succeed have slightly more honed skills than the rest. It is rarely a mysterious technique that drives us to the top, but rather a profound mastery of what may well be a basic skill set. Depth beats breadth any day of the week, because it opens a channel for the intangible, unconscious, creative components of our hidden potential.

CHAPTER 12
USING ADVERSITY

There are three critical steps in a resilient performer's evolving relationship to chaotic situations. First, we have to learn to be at peace with imperfection. I mentioned the image of a blade of grass bending to hurricane-force winds in contrast to a brittle twig snapping under pressure. Next, in our performance training, we learn to use that imperfection. To our advantage – for example thinking to the beat of the music or using a shaking world as a catalyst for insight. The third step of this process, as it pertains to performance psychology, is to learn to create ripples in our consciousness, little jolts to spur us along, so we are constantly inspired whether or not external conditions are inspiring.

A deep mastery of performance psychology involves the internal creation of inspiring conditions.

It is very important for athletes to do this kind of visualization work, in a form appropriate to their discipline, but often when we are caught up in the intense routine

of training and competition, it feels like we have no time for the internal stuff. I know this quite well. Sometimes when I am in the heat of tournament preparation, months will pass with brutal sparring, constant pain, hitting the mats hundreds of times a night while drilling throws, and then I'll realize that I've moved a bit away from what really makes things tick. Then I'll spend a week doing soft, quiet work on timing, perception, reading and controlling my opponent's breath patterns and internal blinks, subtle touches that set up the dramatic throws that ultimately steal the spotlight. After these periods of reflection, I'll almost invariably have a leap in ability because my new physical skills are supercharged by becoming integrated into my mental framework.

The importance of undulating between external and internal (or concrete and abstract; technical and intuitive) training apples to all disciplines, and unfortunately the internal tends to be neglected.

There are clear distinctions between what it takes to be decent, what it takes to be good, what it takes to be great, and what it takes to be among the best. If your goal is to be mediocre, then you have a considerable margin for error. You can get depressed when fired and mope around waiting for someone to call with a new job offer. If you hurt your toe, you can take six weeks watching television and eating potato chips. In line with that mind-set, most people think of injuries as setbacks, something they have to recover from or deal with. From the outside, for fans or spectators, an injured athlete is in purgatory, hovering in an impotent state between competing and sitting on the bench. In my martial arts life, every time I tweak my body, well-intended people like my mother suggest I take a few weeks off training. What they don't realize is that if I were to stop training whenever something hurt, I would spend my whole year on the couch. Almost without exception, I am back on the mats the next day, figuring out how to use my new situation to heighten elements of my game. If I want to be the best, I have to take risks others would avoid, always optimizing the learning. Potential of the moment and turning adversity to my advantage. That said, there are times when. The body needs to heal, but those are ripe opportunities to deepen the mental, technical, internal side of my game.

CHAPTER 13
SLOWING DOWN TIME

Once we reach a certain level of expertise at a given discipline and our knowledge is expansive, the critical issue becomes: how is all this stuff navigated and put to use? I believe the answers to this question are the gateway to the most esoteric levels of elite performance.

… calm with a razor's edge…

In my opinion, intuition is our most valuable compass in this world.

… the road to mastery – you start with the fundamentals, get a solid foundation fueled by understanding the principles of your discipline, then you expand and refine your repertoire, guided by your individual predispositions, while keeping in touch, however abstractly, with what you feel to be the essential core of the art.

Let's say that I spend fifteen years studying chess. During these thousands of hours, my mind is effectively cutting paths through the dense jungle of chess. The jungle analogy is a good one. Imagine how time-consuming it would be to use a machete to cut your way through thick foliage. A few miles could take days. Once the path is cleared, however, you could move quickly through the clearing.

Most people would be surprised to discover that if you compare the thought process of a Grandmaster to that of an expert (a much weaker, but quite competent chess player), you will often find that the Grandmaster consciously looks at less, not more. That said, the chunks of information that have been put together in his mind allow him to see much more with much less conscious thought. So he is looking at very little and seeing quite a lot. This is the critical idea.

The key to this process is understanding that the conscious mind, for all its magnificence, can only take in and work with a limited amount of information in a unit of time – envision that capacity as one page on your computer screen. If it is presented with a large amount of information, then the font will have to be very small in order to fit it all on the page. You will not be able to see the details of the letters. But if that same tool (the conscious mind) is used for a much smaller amount of information in the same amount of time, then we can see every detail of each letter. Now time feels slowed down.

Another. Way of understanding this difference in perception is. With the analogy of a camera. With practice I am making networks of chunks and paving more and more neural pathways, which effectively takes huge piles of data and. Throws it over to. My high-speed processor – the unconscious. Now my conscious mind, focusing on less, *seems* to rev up its shutter speed from say, four frames per second to 300 or 400 frames per second. The key is to understand that my trained mind is not necessarily working much faster than an untrained mind – it is simply working more effectively, which means that my conscious mind has. Less to deal with. Experientially, because I am looking at less, there are, within the same unit of time, hundreds of frames in my mind, and maybe only a few for my opponent (whose conscious mind is bogged down with

much more data that has not yet been internalized as unconsciously accessible). I can now operate in all those frames that he doesn't even see.

This is why profoundly refined martial artists can sometimes appear mystical to less skilled practitioners – they have trained themselves to perceive and operate within segments of time that. Are too small to be perceived by untrained minds.

Now, returning to the scene that initially inspired this movement of thought in my life – does this type of trained enhanced perception I've been discussing come from the same place as those wild moments in life when time slows down in the middle of a car crash or, in my case, when my hand shattered in the ring? The answer is yes and no. The similarity is that a life-or-death scenario kicks the human mind into. A very narrow area of focus. Time feels slowed down because we instinctively zero in on a tiny amount of critical information that our processor can then break down as if it is a huge font. The trained version of this state of mind shares that tiny area of focus. The difference is that, in our disciplines of choice, we cultivate this experience by converting all the other surrounding information into unconsciously integrated data instead of ignoring it. There is a reason the human mind rarely goes into that wild place of heightened perception: if an untrained fighter were to focus all his energy on his opponent's breath pattern or blinking eye, he would get punched in the face or thrown on the ground. If whenever I crossed New York's 33rd Street and Sixth Avenue, I zoned in on some random car that wasn't about to hit me, and I saw it passing in slow motion, then there is a good chance that one of these days I'd get hit by another car. In most situations, we need to be aware of what is happening around us, and our processor is built to handle this responsibility. On the other hand, armed with an understanding of how intuition operates, we can train ourselves to have remarkably potent perceptual and physical abilities in our disciplines of focus. The key, of course, is practice.

CHAPTER 14
THE ILLUSION OF THE MYSTICAL

I don't have much of a natural poker face. I'm an outgoing guy and tend to wear my heart on my sleeve. Instead of trying to change my personality, I learned how to use it to my advantage. While some chess players spend a lot of energy maintaining a stony front, I let opponents read my facial expressions as I moved through thought process.

I began to draw the parallels between people's life tendencies and their chessic disposition.

If, over dinner, I Grandmaster tastes something bitter and faintly wrinkles his nose, there might be an inkling of a tell lurking. Impatience while standing in line at the buffet might betray a problem sitting with tension. It's amazing how much you can learn about someone when they get caught in the rain! Some will run with their hands over their heads, others will smile and take a deep. Breath while enjoying the wind. What does this say about one's relationship to discomfort? The reaction to surprise? The need for control?

In virtually every competitive physical discipline, if you are a master of reading and manipulating footwork, then you are a force to be reckoned with.

Most people blink without knowing it.

PART III
BRINGING IT ALL TOGETHER

CHAPTER 15
THE POWER OF PRESENCE

Learn how to maintain the tension and become at peace with the mounting pressure.

In every discipline, the ability to be clearheaded, present, cool under fire is much of what separates the best from the mediocre. In competition, the dynamic is often painfully transparent. If one player is serenely present while the other is being ripped apart by internal issues, the outcome is already clear.

In the absence of continual external reinforcement, we must be our own monitor, and quality of presence is often the best gauge. We cannot expect to touch excellence if "going through the motions" is the norm of our lives.

The secret is that everything is always on the line. The more present we are at practice, the more present we will be in competition, in the boardroom, at the exam, the operating table, the big stage. If we have any hope of attaining excellence, let alone showing what we've got under pressure, we have to be prepared by a lifestyle of reinforcement. Presence must be like breathing.

Presence must be like breathing.

CHAPTER 16
SEARCHING FOR THE ZONE

I knew how to block out my issues in a sprint, but in marathons I ran out of gas. Consistency became a critical problem. On days that I was inspired, I was unstoppable. But other days I would play bad chess. The time had come for me to learn the science of long-term, healthy, self-sustaining peak performance.

Jim Loehr – sports psychologist.

When things got rocky, my habit was to hit the gas and blow my opponent and myself out of the water with wildly energetic focus. This was clearly less than an ideal approach for the long term.

Dave sat back, scratched his head, and asked me whether or not I believed the quality of a chessic thought process was higher if it was preceded by a period of relaxation. This simple question led to a revolution in my approach to peak performance.

Stress and Recovery

… in virtually every discipline, one of the most telling features of a dominant performer is the routine use of recovery periods. Players who are able to relax in brief moments of inactivity are almost always the ones who end up coming through when the game is on the line. This is why the eminent tennis players of their day, such as Ivan Lendl and Pete Sampras, had those strangely predictable routines of serenely picking their rackets between points, whether they won or lost the last exchange, while their rivals fumed at a bad call or pumped a fist in excitement. Consider Tiger Woods, strolling to his next shot, with a relaxed focus in his eyes. Remember Michael Jordan sitting on the bench, a towel on his shoulders, letting it all go for a two-minute break before coming back in the game? Jordan was completely serene on the bench even though the Bulls desperately needed him on the court.

Jim Harbaugh… he noticed a clear improvement in his play if he sat on the bench, relaxed, and didn't even watch the other team's offensive series. The more he could let things go, the sharper he was in the next drive.

The notion that I didn't have to hold myself in a state of feverish concentration every second of a chess game was a huge liberation.

At LGE, they made a science of the gathering and release of intensity, and found that, regardless of the discipline, the better we are at recovering, the greater potential we have to endure and perform under stress. That realization is a good starting point. But how do we learn to let go? It is much easier to tell someone to relax than to actually do it on the free-throw line in overtime of the NBA playoffs or in the. Moments. Before

making a career-defining presentation. This is where the mind-body connection comes in.

The physical conditioners at LGE taught me to do cardiovascular interval training on a stationary. Bike that had a heart. Monitor. I would ride a bike keeping my RPMs over 100, at a resistance level that made my heart rate go to 170. Beats per minute after ten minutes of exertion. Then I would lower the resistance level of the bike and go easy for a minute – my heart rate would return to 144 or so. Then I would sprint again, at a very high level of resistance, and my heart rate would reach 170 again after a minute. Next I would go easy for another minute before sprinting again, and so on. My body and mind were undulating between hard work and release. The. Recovery time of my heart got progressively shorter as I continued to train this way. As I. got into better condition, it took more work to rise my heart rate, and less time to lower my heart rate during rest: soon my rest intervals were only forty-five seconds and my sprint times longer.

What is fascinating about this method of physical conditioning is. That after just a few weeks I noticed a tangible difference. In my ability to relax and recover between arduous thought processes in a chess game. At LGE they had discovered that there is a clear psychological connection when it comes to recovery – cardiovascular interval training can have a profound effect on your ability to quickly release tension. And recover from mental exhaustion. What is more, physical flushing and mental clarity are very much intertwined.

… if I was doing 3 sets of 15 repetitions of a bench press, I would leave exactly 45 seconds between sets. If I was doing 3 sets of 12 repetitions with heavier weights, I would need 50 seconds between sets, if my sets were 10 reps I would take 55 seconds, and if I was lifting heavy weights, at 3 sets of 8 reps, I would take one minute between sets. This is a good baseline for an average athlete to work with.

… the fighter who can recover in the thirty seconds between rounds and in the irregular intervals between matches will have a huge advantage over the guy who is still huffing and puffing, mentally or physically, from the last battle.

And once the act of recovery is in our blood, we'll be able to access it under the most strained of circumstances, becoming masters of creating tiny havens for renewal, even where observers could not conceive of such a break.

In your performance training, the first step to mastering the zone is to practice the ebb and flow of stress and recovery. This should involve interval training as I have described above, at whatever level of difficulty is appropriate for the age and physical conditioning of the individual. This training could, of course, take many forms: I have

already mentioned biking and resistance work, but let's say you enjoy swimming laps in a pool.

With practice, increase intensity and duration of your sprint time, and gradually condense rest periods – you are on your way! This same pattern can be used with jogging, weight lifting, martial arts training, or playing any sport that involves cardiovascular work.

Interval work is a critical building block to becoming a consistent long-term performer. If you spend a few months practicing stress and recovery in your everyday life, you'll lay the physiological foundation for becoming a resilient, dependable pressure player. The next step is to create your trigger for the zone.

CHAPTER 17
BUILDING YOUR TRIGGER

One of the biggest roadblocks to releasing the tension during breaks of intense competition or in any other kind of challenging environment is the fear of whether we will be able to get it back. If getting focused is hit or miss, how can we give up our focus once we've finally got it? Conditioning to this insecurity begins young. As children, we might be told to "concentrate" by parents and teachers, and then be reprimanded if we look off into the stars. So the child learns to associate not focusing with being "bad." The result is that we concentrate with everything we've got until we can't withstand the pressure and have a meltdown.

This tendency of competitors to exhaust themselves between rounds of tournaments is surprisingly widespread and very self-destructive.

Fueling up is much more important than last-minute cramming – and at a higher level, the ability to recover will be pivotal.

The more seasoned competitors relax, listen to headphones, and nap. They don't burn through their tanks before stepping on the mats.

We don't live within a Hollywood screenplay where the crescendo erupts just when we want it to, and more often than not the climactic moments in our lives will follow many unclimactic, normal, humdrum hours, days, weeks, or years. So how do we step up when our moment suddenly arises?

My answer is to redefine the question. Not only do we have to be good at waiting, we have to love it. Because waiting is not waiting, it is life. Too many of us live without

fully engaging our minds, waiting for that moment when our real lives begin. Years pass in boredom, but that is okay because when our true love comes around, or we discover our real calling, we will begin. Of course the sad truth is that if we are not present to the moment, our true love could come and go and we wouldn't even notice. And we will have become someone other than the *you* or *I* who would be able to embrace it. I believe an appreciation for simplicity, the everyday – the ability to dive deeply into the banal and discover life's hidden richness – is where success, let alone happiness, emerges.

Along these lines, when considering the issue of performance state, it is important to avoid focusing on those rare climactic moments of high-stakes competitive mayhem. If you get into a frenzy anticipating the moment that will decide your destiny, then when it arrives you will be overwrought with excitement and tension. To have success in crunch time, you need to integrate certain healthy patterns into your day-to-day life so that they are completely natural to you when the pressure is on. The real power of incremental growth comes to bear when we truly are like water, steadily carving stone. We just keep flowing when everything is on the line.

This is a problem I have seen in many inconsistent performers. They are frustrated and confused trying to find an inspiring catalyst for peak performance, as if the perfect motivational tool is. Hovering in the cosmos waiting for discovery. My method is to work backward and create the trigger. I asked Dennis when he felt closest to serene focus in his life. He thought for a moment and told me it was when he played catch with his twelve-year-old son, Jack. He fell into a blissful state when tossing a baseball with his boy, and nothing else in the world seemed to exist. They played catch virtually every day and Jack seemed to love it as much as his dad. Perfect.

I have observed that virtually all people have one or two activities that move them in this manner, but they usually dismiss them as "just taking a break." If only they knew how valuable their breaks could be! Let me emphasize that it doesn't matter what your serene activity is. Whether you feel most relaxed and focused while taking a bath, jogging, swimming, listening to classical music, or singing in the shower, any such activity can take the place of Dennis's catch with his son.

The next step was to create a four- or five-step routine,

When he noticed his mind wandering, he just released the thought like a cloud by gliding by and returned to his breath. For beginners, this meditation may seem frustrating because they notice their minds racing all over the place and feel that they are doing badly; but that is not the case. The return to breath is the key to this form of meditation. There is no doing badly or well, just being with your breath, releasing your

thoughts when you notice them, and coming back to breath. I highly recommend such techniques. Not only is the return to breath a glimmer of the zone – a moment of undistracted presence – but the ebb and flow of the experience is another form of stress and recovery training.

So we created the following routine:

1. Eat a light consistent snack for 10 minutes
2. 15 minutes of meditation
3. 10 minutes of stretching
4. 10 minutes of listening to Bob Dylan
5. Play ball

For about a month, Dennis went through his routine every day before playing catch with his son. Each step of the routine was natural for him, and playing ball was always a joy, so there was no strain to the experience.

The next step in the process is the critical one: after he had fully internalized his routine, I suggested that he do it the morning before going to an important meeting. So Dennis transplanted his routine from a prelude to playing catch with his son to a prelude to work. He did so and came back raving that he found himself in a totally serene state in what was normally a stressful environment. He had no trouble being fully present throughout the meeting.

The point to this system of creating your own trigger is that a physiological connection is formed between the routine and the activity it precedes. Dennis was always present when playing ball with his son, so all we had to do was set up a routine that became linked to that state of mind (clearly it would have been impractical for Dennis to tow Jack around everywhere he went). Once the routine is internalized, it can be used before any activity and a similar state of mind will emerge. Let me emphasize that your personal routine should be determined by your individual tastes.

The next step of the process is to gradually alter the routine so that it is similar enough so as to have the same physiological effect, but slightly different so as to make the "trigger" both lower-maintenance and more flexible. The key is to make the changes *incrementally*, slowly, so there is more similarity than difference from the last version of the routine.

CHAPTER 18
MAKING SANDALS

Feelings of anger and fear and elation emerge from deep inside of us and I think blocking them out is an artificial habit. In my experience, competitors who make this mistake tend to crumble when pushed far enough.

The fact of the matter is that while I love meditation and believe wholeheartedly in training oneself to operate calmly under pressure, there *is* a difference between the practice field and a hostile, freezing-cold stadium filled with screaming fans who want you to fail in the biggest moment of your life. The only way to succeed is to acknowledge reality and funnel it, take the nerves and use them. We must be prepared for imperfection. If we rely on having no nerves, on not being thrown off by a big miss, or on the exact replication of a certain mindset, then when the pressure is high enough, or when the pain is too piercing to ignore, our ideal state will shatter.

I had to learn how to sit with it, use it, channel it into a heightened state of intensity.

The greatest performers convert their passions into fuel with tremendous consistency.

CHAPTER 19
BRINGING IT ALL TOGETHER

In my experience the greatest of artists and competitors are masters of navigating their own psychologies, playing on their strengths, controlling the tone of battle so that it fits with their personalities. While in this book I have conveyed my vision of a life of learning, it is my hope that you will take these ideas and make them your own. Make them fit with your natural disposition. I. have found that in. the intricate endeavors of competition, learning, and performance, there is more than one solution to virtually every meaningful problem. We are unique individuals who should put our own flair into everything we do.

The real art in learning takes place as we move beyond proficiency, when our work becomes an expression of our essence.

Mediocrity can be self-nurturing, and frankly, many players delude themselves about their level of proficiency.

At the highest levels of any kind of competitive discipline, everyone is great. At this point the decisive factor is rarely who knows more, but who dictates the tone of the battle. For this reason, almost without exception, champions are specialists whose styles emerge from profound awareness of their unique strengths, and who are exceedingly skilled at guiding the battle in that direction.