19/10/15

Decisions and Decision Making
Some Suggested Readings

There are dozens, if not hundreds, of books on or about decision making. The following are some of the many that I have read over the years and that I have found particularly useful. They are in no particular order. I have appended a short comment on each. Most of are available in the library and many can be downloaded to a Kindle. I have marked those that are in the Library as follows:

* In Library stacks
** In Library open access
*** In Library - electronic resource

If you want to buy just one book, the one I would go for is:

Judgment in Managerial Decision Making (Max Bazerman)*

A slim, inexpensive volume that summarises the key ideas covered in the psychological aspects of decision making. Make sure you get one of the earlier paperback editions. There is a ridiculously expensive reissued version in hardback.

Other good and/or interesting texts include:

A Primer on Decision Making (James March)

A pretty serious study, this is an excellent book for somebody who wants to understand the subtleties of decision making in organisations. If you want an in depth view of the field, this is hard to beat, but it is not a light read. As it is an American publication it is not available in the Library though there is a modestly enough priced Kindle edition.

Making Hard Decisions (Robert Clemen)*

This covers many systematic decision making techniques. Designed as a student textbook than a management book, the chapters on probability for example are not going to be news to most students taking this module, but it is good on influence diagrams and decision trees. There seems to have been an edition in 2014, but it is 'not available' on Amazon at the moment.

Soft Systems Methodology: A 30-year retrospective (Peter Checkland and Jim Scholes)*

Soft systems methodology is not primarily about decision making, it is more about problem solving, but as the two often go hand in hand this is an interesting and influential book. Not everybody is convinced about SSM, but many people find it a valuable tool.

Decision Analysis for Management Judgment (Paul Goodwin and George Wright)**

This is a more mathematical/analytic text and is similar in approach to Clemen. It contains some good stuff on multi-criteria decision making and decision trees which you may be covering with Brian.

On the Psychology of Military Incompetence (Norman Dixon)*

This is both a great read and an excellent description of the problems of decision making in stressful situations. While it is mostly about British military disasters, the opening section on the problems of decision making in war is fascinating.

Judgment under Uncertainty: Heuristics and Biases (Daniel Kahneman, Paul Slovic and Amos Tversky (editors))***

A classic study in behavioural psychology, many of the biases and heuristics in human thinking and decision making were first identified by Kahneman and Tversky and, with other aspects of judgment, these are discussed in this book. This is a serious read, but a core text if you want to understand this subject in depth.

The Psychology of Judgment and Decision Making (Scott Plous)**

This book is serious fun and probably the best account for the lay reader (i.e. non psychologist) of this subject. It is not easy to find this side of the pond, but there is a copy in the library. Most of the questions in the quiz were drawn from this book.

How to be a Better Decision Maker (Alan Barker)*

Airport bookshop fare, this is fairly thin stuff, but there are some useful pointers in it. Interesting as an exemplar of a certain type of management guideline.

Strategic Decision Making (George Wright)*

Part of a Confederation of British Industry series for managers. It is well written and good on weighted ranking/tradeoff and scenario planning as well as examples of poor decision making as a result of cognitive bias. Wright is as in Goodwin and Wright above.

The (New) Rational Manager: A Systematic Approach to Problem Solving and Decision Making (Charles Kepner and Benjamin Tregoe)*

This has been around round for about 60 years at this stage, but still sound. It was used as the basis for the Kepner Tregoe courses in decision making. Seems to be out of print at the moment, but easy to find on Amazon and there is a copy in the stacks.

Ackoff's Fables: Irreverent Reflections on Business and Bureaucracy, (Russell Ackoff)*

This is classic and entertaining book. This is a series of management science/problem solving yarns - many of them highly entertaining and, like the thinking exercises in class, each one with a moral.

Thinking, Fast and Slow (Daniel Kahnemen)**

This book was launched with great publicity and has been influential in spreading the many of the ideas we cover in the module. Possibly the best book you can buy for a general overview of the psychology of judgement. For my money Plous is better, but this is easier to find.

The Challenger Launch Decision (Diane Vaughan)***

Vaughan's concept of the normalization of deviance is another widely discussed idea in decision making. She provides a compelling account of the events leading up to the Challenger disaster arguing the case that the fate of Challenger was determined long before that famous conference call. It is about a quarter longer than it needs to be to make its point, but still a great read.

Normal Accidents (Charles Perrow) **

As for the normalization of deviance, Perrow's theory of normal accidents is much debated, but certainly thought provoking. The account of Three Mile Island in the opening is chilling, but he covers a variety of other major complex accidents.

Dirty Business (Maurice Punch)**

This is really an academic book about corporate governance, but the core contains ten case studies of bad thinking and worse decision-making, all of which are well worth reading and some of which are really quite shocking. Toxic corporate decision-making did not start with Volkswagen. The Goodrich brake scandal (mentioned in the lectures) to the DC-10 crash in Paris and the appalling case of Thalidomide are even more incredible.

Administrative Behaviour: a study of decision-making processes in administrative organization (Herbert Simon)*

The definitive book on administrative decision making, this was first published in 1945. All middle ranking and senior civil servants are supposed to read this. Not as entertaining as some of the other titles here, but Simon is a good writer and easy to read.

Making Decisions (Robert Heller)*

A typical pocket-guide airport bookshop production, but well done and with good practical advice. A bit instant wisdomish, but what is here is sound.

The Art of Decision Making: Mirrors of Imagination, Masks of Fate (Helga Drummond)*

A poor book, but included here because of its catalogue of disastrous (UK) public sector decisions which serves up a goodly helping of schadenfreude if nothing else. Not much good on decision making notwithstanding the title. Drummond has written several other books on decision making.

The Sum of Our Discontent: Why Numbers Make Us Irrational (David Boyle)*

A subversive book - the perfect antidote to economists, accountants, time and motion experts and anybody who thinks that life can be reduced to numbers. It is highly readable. There is an earlier version entitled: The Tyranny of Numbers: Why counting can't make us happy.

Intuition: Its powers and perils (David Myers)*

An unusual perspective, it looks at the role of intuition in decision making. Myers, an academic, is level headed about this topic, giving a cooler perspective than some of the trendier books recently published.

The Paradox of Choice (Barry Schwartz)**

This is more of a self-help book about simplifying your own life, but it contains some useful insights. It is particularly good on the problem of regret and how and why this interferes with both our decision making and our happiness.

Business Blunders (John Harvey-Jones and Geoff Tiballs)*

Although it was published a while back and is now out of print, this is another collection of short descriptions of bad business decisions. (It includes the Hoover free flights debacle which was handed out in class). Second hand versions are available on Amazon.

There are many others and I have left out several good ones, but this lot should keep you going.

05/10/15

DECISIONS

Problem of attention - phone calls etc. - constant distraction
- doing several things at once

Problem of memory - Decision stretched out over time - forget what was already decided.
- example - doing the CS and B course - decision dragged out

Problem of competition - decision we don't understand full implications of.

Communication - different language etc

Purchasing new computer example
- Decision process can be messy
- Context/environment is messy and complicated

1. Buying a Laptop - Fit requirements
   - money - best value.
   - slow steady increases or improvements and continuous
2. College - likelihood of getting the point
3. Backpacking - not comparing like with like

Constraints - money
What do you value most - experience/work?

Understanding decision making important - i.e. consumers etc

RECOGNITION PRIMED DECISIONS
- When someone making a decision look around for previous decisions of a similar nature - memory.
- Which situation is closest
- looking for patterns that are familiar

- See 4 components thing.
- Experience important

- Pattern recognition - user example in opening - two general

Reasoning by Analogy
- not much example - incorporate picture
  - apply it to Stationary? → apply same Logic of fluid to Stationary

- Counter example - the mini brewery (craft beer)
  → do it for chocolate - analogy incorrect, didn't work

- We have outdated mental models - things change.
- Speed of innovation changing.
- Fashion / consumer taste
- Environment changes.
- Planning policy may not be best suited now.
  many consider but breed within context

DECISION MAKING HEURISTICS

Reality - no analysis
  - alot of options
Action - not aware of all possibilities.

Fast forwarding Scenarios - what might happen if—? or won't happen (IMAGE THEORY)
  How likely to happen?
  How desirable/undesirable?

How? - Model / Simulation
  - Forecast
  - Experts.

For managerial decision - things you can't directly compare.

Experts and forecasts are usually wrong.
Qualifying Criteria - criteria must be there or else it is scrapped.

Drawbacks of active - time, expensive

Conjunctive Choice/decision → or Option.
Laptop eg: choose on price alone don't compare other criteria.
Elimination - get rid of worst.

DECISION

05/10/15

07/10/15 DECISIONS

FUD - Fear, Uncertainty

Dominant criteria decision making - decide on one criteria alone
- like cheapest or "specialist" or most used

Non Compensatory theory driven
- Cognitively strenuous making decisions
- Relies on ideology as driving force of making decision - what does he believe?
- Examples: communism, religion economic board management board
- Typologies of attitude and beliefs - what people think like "drunk driving" etc
- Problem - dated mental models, may not work anymore
Example the guy losing battle to you after he died - people used his tactics or lost
- Civil war - rifle development after musket
- machine gun - must slaughter, people thought they could still must charge should change.

Model Based Decision
- Fall into 3 categories Iconic - look like real thing. - like a house or car model.
Analogue - thermometer - measures indirectly - electrical circuit simulating flow (electricity/gas)
- Can outsource problem to an algorithm

Bounded Rationality (First and Frugal)
- Don't have all the information, - Time is limited. - Resources limited - Mental capacity limited
- Go for an acceptable solution "satisfice" rather than optimize.
- People in power for a long time tend to lose the run of themselves 8-9 years - detached from reality

07/10/15 DECISIONS

FUD - Fear, Uncertainty

Dominant criteria decision making - decide on one criteria above
- time cheapest or "profit" or most used

Non Compensatory: Theory Driven
- Cognitively Screen on making decision
- Take an ideology as driving force of making decision - what does he back/say?
- Examples: communism, religion economic board management board
- Typologies of attitude and beliefs - what people think like "drunk Irish" etc
- Problem - dated mental Model, may not work anymore
  Example the guy losing battle 10 years after he died - people used his tactics and lost.
- Civil war - rifle development other market
- Machine gun - most slaughter, people thought they could still move change Model changed

Model Based Decision
- Fall into 3 categories Iconic - looks like real thing. - like a house or car model.
  Analogue - thermostat - measures indirectly - electrical circuit simulating flow (electric/gas)
- Can outsource problem to an algorithm

Bounded Rationality (Fast and Frugal)
- Don't have all the information. - Time is limited. - Resources limited - Mental capacity limited
- Go for an acceptable solution "satisfice" rather than optimize.
- People in power for along time tend to take the risk of recession 8-9 years - detached from reality

07/10/15

GROUP DECISIONS

Group views included! → conflict multiple criteria, multiple goals/stakeholders

Unanimity - everyone in group of same view

Consensus - arrived at, everyone agreed

Majority - voting 50%+1 etc

Plurality - Go with largest vote (larger single group, not necessarily majority)

Dictatorship

Factors in group: Size of people: people more forces etc

Role in group

Group dynamics - Friendship etc or split

Problem: group think, garbage can

Voting - Fast, democratic may feel disaffected if vote doesn't go their way → potentially execution issue

Delphi - go through series of (questions) to arrive at agreement

- Adv - everyone consulted Disadvantage - Time consuming, resources

Consensus: deliberate approach - long discussion - takes lots of time w/ agreement

more effective execution

Garbage can - time sorting and organised anarchy

decision taking okay time to make

- preferred value - lots of opinions.

- Technology may be value

- Participants change

- Problems, views, suggestion) are thrown into garbage can (discarded)

- Solution emerge: Primary, energy of participants

Group think: Found in orgs, potentially disbour

- Groups prone to be captured by group mentality - thinking like everyone in the group

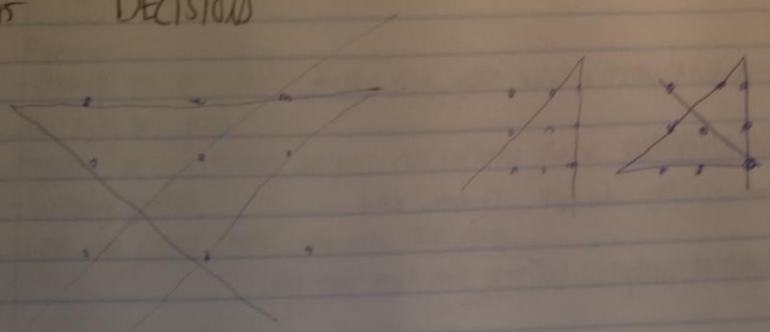
07/10/15. DECISIONS

1. An illusion of invulnerability - invincible - risk taking
2. Collective effort to discount warnings - shut down evidence
3. Unquestioned belief in the group inherent morality - erased "we know best"
4. Stereotyped view of adversaries "people out to get them"
5. Pressure on group members who dissent from the majority
6. Shared illusion of unanimity. - think everyone agrees
7. Self censorship of deviation from group decisions - filter what we say aloud
8. Self appointed 'mind guards'

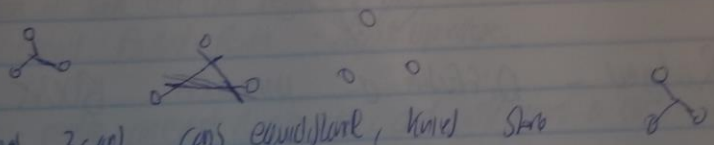
All groups vulnerable to it - politically vulnerable
Apparent conformity - pretending to agree.

Preventing Groupthink
- Awareness.
- Changing role
- External /outsiders. → experts, diversity
- Devil's advocate.

12/10/15 DECISIONS

1. 

We look at problems into constraints - try and get out of it

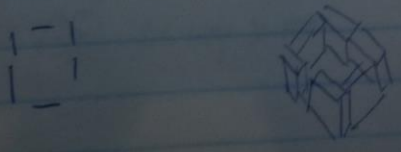
2 

4 lines, 3 cons, cons equidistant, lines straight

- Sometimes you have to discard information you have - i.e get rid of a con or get rid of a line

3 The numbers ⇒ to 2 not odd.
look at it by picture

4 The train and fly - problem - keeping to tool we know.
- think laterally

5 

7- Straight out up that Fig Ave

BRAINSTORMING

Book - Hey Whipple Squeeze this

-cognitive maps

Rodgers - Diffusion of Innovation BOOK

9/10/15 DECISIONS

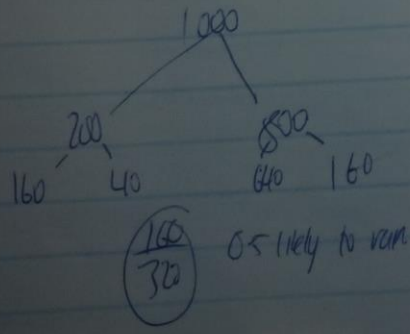
Framing
- Gamble on a loss rather than take a certainly loss → opposite for trying to gain
- important in questionnaire design - can influence further questions later on
- like leading questions
- comes from prospect theory. - value rather than utility
  - feel regret much more at at loss than be opposite (proactive at win)

- Endowment - things we have worth more than what we will have
- Gamble on a loss but take a gain
- Combination of sunk cost and regret
  when gamble failed - Back - double up or save.

Fail to realise an event is an outlier and will/regret to be mean

Availability - what easier to see gets more probabilities

AMV - adjusted market value - used to put high and think you get a bargain when you pay less



20/10/15 DECISIONS

- The monty hall problem 2/3 chance to switch to A from B when C is opened.

$$P(2\text{ boy} \mid 1\text{ boy}) = \frac{P(1\text{ boy} \mid 2\text{ boy})\ P(2\text{ boys})}{P(1\text{ boy})} = \frac{1}{3}$$

(1 : 0.25 ; 0.75)

5 000 000 × 0.1 = 500 000
1 000 000 × 0.84 = 840 000
0 × 0.01 = 0
B = 1340 000

St. Petersburg Paradox - Coin flipping game

Impulse or personality Type → 4 types
typelogic.com
humanmetrics.com/cgi-win/jtypes2.asp

13/10/12 DECISIONS

The Six Hats
6 different hats for different role
Tools to help up problems we looked at earlier

Psychology of Judgement
Don't think rationally, most of the time
- trying to find the best deal for me - utility maximisation
- "we can calculate alot of probably" - Subjective probability
- consistency of judgement? - large assumption
- we are unclear about ranking

economics
- economic theory assumptions - optimisation "perfect information" - always information missing.
- led by emotion, hunch, imagination & creativity ⇒ people hidden knowledge
- Everest Example : too many people 1996 tragedy

optimism - prone to being optimistic "It won't happen to me"
Over confidence - didn't take opinion seriously "disrespecting the mountain".
Sunk cost - chasing lost - high investment, got so far.
Recency - Anchoring recent experience overwhelm long term event
Pattern recognition - assuming everything is like it what it is "we can't get blizzards"

When we think we are in control we underestimate risk

Biases
Information - can be wrong info, selective information
Territorial games/turf wars. Filibuster - Stalling stonewall non-compliance - people actually don't agree
wall - prevent information

Cultural bias Adaptation - learning molded by org
effect of organizational culture

Squeaky wheel - always complaining
Motivational bias - parking example - mean they would have to pay

- 360 120
Anchoring : Number example 1x2x3... x8 etc
8x7x6... x1
: Too start someone at low or high point.

Cognitive Dissonance - Jewish tailor example paying prostitute 20..10..1 euro
to demonstrate ⇒ Do something, rationalise it irrespective whether it is
right or not
"If I bet on the horse the odds must get better" Irrational decisions

Self reinforcement - Search for reinforcing/confirming information
- people don't want to talk about failure - or will re construct story

Halo effects - good looking things are good - associate them with things
Primacy - how look how first impressions

19/10/11

Why Free Markets Make Fools of Us

Cass R. Sunstein

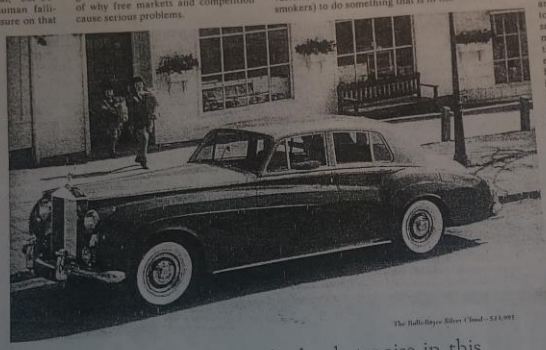
Phishing for Phools: The Economics of Manipulation and Deception
by George A. Akerlof and Robert J. Shiller
Princeton University Press, 272 pp., $24.95

Very few economists foresaw the great recession of 2008–2009. Why not? Economists have long assumed that human beings are "rational," but behavioral findings about human fallibility have put a lot of pressure on that assumption. People tend to be overconfident; they display unrealistic optimism; they often deal poorly with risks; they neglect the long term ("present bias"); and they dislike losses a lot more than they like equivalent gains ("loss aversion"). And until recent years, most economists have not had much to say about the problem of inequality, which seems to be getting worse.

There is a strong argument that within the economics profession, these problems are closely linked, and that they have had unfortunate effects on public policy. Most economists celebrate free markets, invoking the appealing idea of consumer sovereignty. If people are buying potato chips, candy, and beer, or making risky investments, that's their business; they know their own values and tastes. Outsiders, and especially those who work for the government, have no right to intervene. To be sure, things are different if someone is inflicting harms on third parties. If a company is emitting air pollution, the government can legitimately respond. But otherwise, many economists tend to believe that people should fend for themselves.

It is true that companies might try to take advantage of consumers and investors, perhaps with outright lies, perhaps with subtler forms of deception, perhaps by manipulating their emotions. But from the standpoint of standard economic thinking, that's nothing to panic about. The first line of defense is competition itself—and the market's invisible hand. Companies that lie, deceive, and manipulate people are not going to last long. The second line of defense is the law. If a company is really engaging in fraud or deception, government regulators might well get involved, and customers are likely to have a right to compensation. But for economists, competitive markets are generally trustworthy, and so the old Latin phrase retains its relevance: caveat emptor.

By emphasizing human fallibility, the group of scholars known as behavioral economists has raised a lot of doubts about this view. Their catalog of errors on the part of consumers and investors can be taken to identify a series of "behavioral market failures," each of them calling for some kind of government response (such as information campaigns to promote healthy eating or graphic warnings to discourage smoking). But George Akerlof and Robert Shiller want to go far beyond behavioral economics, at least in its current form. They offer a much more general, and quite damning, account of why free markets and competition cause serious problems.



The Rolls-Royce Silver Cloud—$13,995

"At 60 miles an hour the loudest noise in this new Rolls-Royce comes from the electric clock"

An advertisement for Rolls-Royce from the late 1950s

Both Akerlof and Shiller have won the Nobel Prize; they rank among the most important economists of the last half-century. They are also intellectual renegades. Akerlof has been interested in the persistence of caste systems, involuntary unemployment, rat races, the effects of personal identity, and what happens when sellers know things that buyers don't. He has long been a proponent of integrating psychology and economics. A specialist in the financial system, Shiller has explored the role of "irrational exuberance" in producing wildly inflated stock, bond, and real estate prices, which are bound to come down. He believes that investors make serious mistakes, and also that they run in herds, which can produce bubbles. Like Akerlof, he is keenly interested in seeing what psychology can add to economic theory.

Akerlof and Shiller believe that once we understand human psychology, we will be a lot less enthusiastic about free markets and a lot more worried about the harmful effects of competition. In their view, companies exploit human weaknesses not necessarily because they are malicious or venal, but because the market makes them do it. Those who fail to exploit people will lose out to those who do. In making that argument, Akerlof and Shiller object that the existing work of behavioral economists and psychologists offers a mere list of human errors, when what is required is a broader account of how and why markets produce systemic harm.

Akerlof and Shiller use the word "phish" to mean a form of angling, by which phishermen (such as banks, drug companies, real estate agents, and cigarette companies) get phools (such as investors, sick people, homeowners, and smokers) to do something that is in the phisherman's interest, but not in the phools'. There are two kinds of phools: informational and psychological. Informational phools are victimized by factual claims that are intentionally designed to deceive them ("it's an old house, sure, but it just needs a few easy repairs"). More interesting are psychological phools, led astray either by their emotions ("this investment could make me rich within three months!") or by cognitive biases ("real estate prices have gone up for the last twenty years, so they're bound to go up for the next twenty as well").

Akerlof and Shiller are aware that skeptics will find their depiction of human beings as "phools" to be inaccurate and impossibly condescending. Their response is that people are making a lot of bad decisions, producing outcomes that no one could possibly want. In their view, phishing for phools "is the leading cause of the financial crises that lead to the deepest recessions." A lot of people run serious health risks from overeating, tobacco, and alcohol, leading to hundreds of thousands of premature deaths annually in the United States alone. Akerlof and Shiller think that it is preposterous to believe that these deaths are a product of rational decisions. Many people face debilitating financial insecurity, largely as a result of their own mistaken decisions, spurred by phishermen. Bad government is itself a product of phishing and phoolishness, for "we are prone to vote for the person who makes us the most comfortable," even when that person's decisions are effectively bought by special interests.

In a reversal of Adam Smith, Akerlof and Shiller contend that the invisible hand of the market guarantees phishing. Consider Cinnabon, whose brilliant motto is "Life Needs Frosting," and which attracts customers with a seductive smell (and which has not made caloric information on its products at all easy to find). Or consider health clubs, a $22 billion industry with over 50 million customers, many of whom choose expensive monthly contracts, even though they would save a lot of money if they paid by the visit. In effect, they are paying not to go to the gym.

With reference to such examples, Akerlof and Shiller suggest that people can be imagined to have two kinds of tastes: those that would really make their lives better, and those that determine how they actually choose. In their view, the latter—influenced by a kind of "monkey-on-the-shoulder" who makes bad choices—often prevails. The problem is that as if by an invisible hand, companies "out of their own self-interest will satisfy those monkey-on-the-shoulder tastes."

To support this claim, Akerlof and Shiller point to an uncanny prediction by John Maynard Keynes in 1930. Keynes expected that by 2030, the standard of living would be eight times higher. We are on track to get in that vicinity. At the same time, Keynes made a profound mistake. He predicted that the workweek would plummet to fifteen hours and that people would struggle not with financial problems, but with a surfeit of leisure. That isn't going to happen. What Keynes missed is that free markets generate new desires. In Akerlof and Shiller's words, markets "do not just produce what we really want; they also produce what we want according to our monkey-on-the-shoulder tastes."

Phishermen know how to give rise to temptations, thus generating novel "needs." For any human weakness, the invisible hand will produce phishermen, who will exploit phools—which means that long working hours, and difficulties in making ends meet, will continue to be with us even if the standard of living goes up eight times again (and then again).

Akerlof and Shiller contend that an understanding of phishing and phool-

ishness helps to explain the financial crisis of 2008–2009. In their account, the origins of the crisis lay in "the subversion of the system for rating fixed-income securities" such as bonds. For a long time, the public consulted the ratings of securities by US credit agencies in order to assess their likelihood of default. Until the 1960s, those ratings could be trusted. One reason is that securities were simple to assess. Another is that credit agencies avoided any conflict of interest. But when these agencies took on the task of rating bafflingly complex securities, above all financial derivatives, investors were no longer in a position to know whether the agencies continued to be worthy of trust. Around the same time, serious conflicts of interest emerged, as credit agencies began to charge investment banks for their ratings. As the banks ended up paying the raters' bills, the ratings could no longer be trusted. But because ratings had been reliable in the past, investors thought they continued to be reliable.

Although investors were being phished, they "had no reason to be suspicious. They had been told of the wonders of free markets." But free markets were not so wondrous, because they put the producers of the new, complex, risky securities at a big advantage over the producers of the older, simpler, safer ones. After all, the new securities promised higher returns while disguising the risk of default:

> As long as a significant part of the bond-buying public was willing to swallow the myth whole, the investment bankers had an incentive to produce those rotten avocados, and to extract from the agencies the high ratings that would be the cover-up.

When the risk materialized, the whole system fell apart. (In the book, they do not emphasize the problem of subprime mortgages, which Shiller has explored elsewhere, and which also involved plenty of phishing.)

Akerlof and Shiller think that the idea of phishing also helps to explain modern advertising, especially when we focus on the crucial role of narrative in human thinking. Clever marketers offer simple, attractive stories about their products, and get those stories to stick in the human mind. Consider a famous advertisement for Rolls-Royce, displaying an elegant young mother in the driver's seat, turned slightly toward her elegant children, who are walking toward the car from outside the entrance to an elegant grocery store. The headline of the copy: "At 60 miles an hour the loudest noise in this new Rolls-Royce comes from the electric clock." Advertisements of this kind tell an appealing story about what life would be like with the product.

Akerlof and Shiller contend that presidents are sold in essentially the same way, as "modern statistical techniques now tell marketers and advertisers—both private and political—when and how to phish, just as modern techniques in geology tell the oil and gas companies where and how to drill." They single out the 2012 Obama campaign for its use of statistical testing "as a new art form." In their view, campaigns now know how to target "voters individual-by-individual," with the help of modern statistical techniques. We should expect more such targeting in 2016.

Akerlof and Shiller contend that the invisible hand guarantees "rip-offs," which are "fertile ground to find phishing for phools." At the closings of home sales, for example, people face a baffling array of transaction costs. Real estate brokers' fees usually run to 6 percent, and they are often higher. These and other costs are imposed after most buyers have made their decisions and are in no position to bargain. Akerlof and Shiller are also concerned that people spend a lot more money with credit cards than they do with cash. Sellers allow customers to use their cards for free, and do not charge them the fees on sales that they pay to the credit card companies. For many customers, the use of credit cards turns out to be a genuine problem, not least because they end up spending significant amounts on late fees and interest on unpaid balances. As it turns out, credit cards are "a major cause of personal bankruptcy," leading Akerlof and Shiller to conclude "if credit cards are not phishing for phools, the companies who purvey them should tell it to the judge."

Why do so many people smoke and drink? As early as the late 1940s, scientists were finding an association between smoking and lung cancer, to which the tobacco companies, acting as phishermen, responded with a specific strategy, which was to sow doubt. They "knew they could find other 'scientists' (especially among smokers) who would strongly voice the opinion that there was no 'proven' link between smoking and cancer." The result of their efforts was to insinuate an influential "new story into the relationship between smoking and health," one that emphasized a serious "scientific controversy." (Climate change, anyone?) That story eventually failed, but it took decades, and even now, almost 18 percent of adults are smokers.

Akerlof and Shiller believe that the harms of alcohol are greatly underappreciated. They think that those harms "could be comparable to the harms from cigarettes, affecting not just 3 or 4 percent of the population, as a chronic life-downer [i.e., cause of a shortened life], but, rather, affecting 15 to 30 percent; the higher number especially if we also include the alcoholics' most affected family members." Akerlof and Shiller assemble suggestive evidence that alcohol consumption does far more damage to health than we think. Their larger theme is that "alcohol studies remain largely underfunded," and without the necessary research, "we are especially prone to be phished for phools, since we cannot know whether we have the right story." In their view, significant federal tax increases on ethanol (the kind of alcohol in alcoholic drinks) could have major health benefits—but the industry has successfully worked to prevent any such increases.

Akerlof and Shiller make related arguments about the marketing of pharmaceuticals (with reference to the Vioxx scandal), the success of Facebook (which, they argue, is a mixed blessing for young people in particular), the sale of junk bonds, and the democratic process. With respect to

the latter, they are concerned about a clever electoral strategy commonly used to hook "gullible voters." With this strategy, politicians endorse policies that "appeal to the typical voter on issues that are salient to her, and where she will be informed," while also adopting a "stance that appeals to donors" on issues on which the typical voter is uninformed. Because of the largely unregulated system for corporate donations, lobbyists can enjoy spectacular returns, as when they give money with the hope of extracting votes, or favors, on high-stakes issues (such as regulation of savings and loan companies or highly technical tax questions) that are too complex to attract the attention of most voters.

From all of these examples, Akerlof and Shiller offer a general account, which is that phishing occurs because of the "manipulation of focus." Like magicians and pickpockets, phishermen are able to take advantage of "an errant focus by the phool." Indeed, the idea that free markets work, and that government is the problem, "is itself a phish for phools," a kind of story, one that does not capture reality. With respect to Social Security reform, securities regulation, and campaign finance reform, the United States has suffered from false and skewed claims that fail to account for the fact that free markets make people free not only to choose but also "free to phish, and free to be phished. Ignorance of those truths is a recipe for disaster."

Akerlof and Shiller contend that behavioral economists have failed to explore, or perhaps even to see, the ubiquity of phishing, and the extent to which free markets promote it. Instead of a catalog of human errors and behavioral biases, they seek a more general account, one that gives "a picture to the mental frames that inform people's decisions." That picture involves "the stories we are telling ourselves." Akerlof and Shiller believe that the idea of storytelling is "a new variable" for economics, one that explains why "people make decisions that can be quite far from maximizing their own welfare." Thus "phishing for phools is not some occasional nuisance. It is all over the place." Whenever "we have a weakness—if we have a way in which we are phishable—the phishermen will be there in waiting."

Akerlof and Shiller make a convincing argument that phishing occurs because of the operation of the invisible hand, not in spite of it. If a company can make money by deceiving or manipulating people, someone is going to create such a company, and it will prosper (unless the law regulates it). And if it prospers, companies that do not deceive or manipulate people may well be at a competitive disadvantage. Of course there are a lot of consumers out there, and some of them will avoid phishermen. In fact markets might well be segmented into sophisticates and phools, with the former avoiding, and the latter flocking to, complex (but risky) financial products, expensive closing fees, tobacco, and alcohol. Indeed it would be most accurate to point to a continuum of consumers and investors, with varying degrees of susceptibility to deception and manipulation. Akerlof and Shiller are certainly right to say that phishing can be profitable.

At the same time, there is a lot of vagueness in that idea. One way to clarify it would to isolate the behavioral biases that phishermen might exploit. Drawing on empirical findings, we could speak of optimistic phools, overconfident phools, loss-averse phools, inattentive phools, and present-biased phools, and ask how numerous they are, and examine whether and under what conditions companies are able to take advantage of them. But as we have seen, Akerlof and Shiller want to go beyond a catalog of behavioral biases in favor of "a very general way to describe the mental frames that underlie people's decisions," one that emphasizes the stories people tell themselves.

Such stories are undoubtedly important, but here is a possible objection. For social scientists, it is essential to

Drawing by Edward Lear

come up with testable hypotheses. For example, economists hypothesize that when the price of a particular good increases, people will buy less of it. Behavioral economists also claim to have tested, and demonstrated, the existence of biases. For example, they say they have found that consumers' decisions are more affected by a small tax (a loss) than a small subsidy (a gain), and that teachers perform better when employers threaten them with a lost bonus than when they promise them a bonus. No one should doubt that people are influenced by the stories that they tell themselves, as the authors claim. But is that a testable hypothesis? Does it lead to distinctive predictions, which can be shown to be right or wrong?

It is arresting to speak of "phishermen" and "phools," but Akerlof and Shiller would surely agree that when people make decisions that are questionable, or that go badly wrong, they might not be phools. Consumers might greatly enjoy wine, cheese, candy, and ice cream, and even if these choices turn out to be unhealthy, we need not speak of either phishing or phools. And Akerlof and Shiller would not disagree with the proposition that many people practice self-control when it comes to possible dangers, and when they do, their choices may be highly informed. Such people may be difficult to phool.

Separate treatment is required for cases of fraud and deception, as where sellers are untruthful about what they are selling, or fail to disclose relevant facts. If a company falsely tells people that a new drug will cure cancer, we have a case of fraud, and if it fails to inform people that a side effect of the drug is neurological damage, it is fair to speak of deception.

Akerlof and Shiller might have limited their analysis to the economics of fraud and deception, urging that the categories should be broadened to include (for example) complex financial products that carry serious risks that investors are unable to understand. How helpful is it to speak of phishing and phools? One answer is that Akerlof and Shiller want to go well beyond fraud and deception to capture all cases in which sellers successfully market goods to buyers who do not benefit from the transaction. They do not spend a lot of time unpacking the idea of "manipulation," but they appear to be speaking of people who can be phished because sellers are able to take advantage of their emotions or their cognitive biases, thus leading to transactions that are not in buyers' interests.

This is a promising idea, and to make progress on it, it is probably best to be quite specific. Emotions do not always lead consumers astray; people might know that they will love using a gorgeous new computer, eating a piece of chocolate cake (or two), and driving a fast new car. (Life does need frosting.) With respect to cognitive biases, the problem of high closing costs (which involves the difficulty of handling complexity) is different from that of tobacco consumption (which involves addiction and unrealistic optimism), and both of these are different from the problem of excessive use of credit cards (which involves bias toward the present and neglect of cumulative costs). Once we make such distinctions, we might end up speaking not of phishing in general, but of specific behavioral failures, and seeking remedies that are well suited to each.

In his great marginalia to Sir Joshua Reynolds's *Discourses*, William Blake wrote, "To Generalize is to be an Idiot. To Particularize is the Alone Distinction of Merit." Blake exaggerated, of course, and Akerlof and Shiller are the furthest thing from idiots; their extraordinary book tells us something true, and profoundly important, about the operations of the invisible hand. But the largest views can lose focus. If we seek to understand how the invisible hand goes wrong, and whether some kind of intervention is required, there is a lot to be said for specifying mechanisms and testing concrete hypotheses. If we do that, we might go far beyond a mere list, and we will find phishing of many different kinds. □

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Decisions and Decision Making
A Short Quiz

The following are some straightforward questions. There are no trick questions, but you have a short time to answer them. It is important that you answer them honestly, i.e. where relevant, try to answer what you would do if faced with these questions in real life, not what you think may be a 'right' answer.

1. The government wants to reduce problems of alcohol related violence by young people. Currently there are 3,000 incidents a year.

Discretely risk averse ⇒ certainty over gamble
Wants to gamble on lots rather than one

*A group of experts suggest that if policy **A** is followed, it will reduced the number of incidents by 1,000 p.a. If policy **B** is pursued then there is a 1/3 chance that there will be no incidents and 2/3 chance that this will have no impact at all.*

Which policy would you choose?

Now consider the following:

*Another group of experts says that if policy **C** is followed, there will be 2,000 incidents. However if policy **D** is followed, there is a 1/3 chance that there will be no incidents and a 2/3 chance that there will be 3,000 incidents.*

Given these options, which policy would you choose? B - go for all or nothing or D Sure thing

2. You are playing 'Who wants to be a millionaire? You have reached €64,000 and are going for €125,000. This means that you are guaranteed €32,000. You have a 50-50 choice on the next question and all your other lifelines are gone. You haven't a clue which answer is right. Would you take the €64,000 or gamble? (be honest) Gamble - stand to double your money but only 1/2 here

3. Imagine you are playing two games of Russian roulette with a six cylinder revolver. You have to put the gun to your temple a pull the trigger.

   - In game A you know that there are four bullets in the gun.
   - In game B you know that there is a single bullet in the gun.

   Would you pay more to remove one of the four bullets from gun A or the one bullet from gun B or pay the same in both cases? Pay more from gun B - no bullet left.

4. Mary is 31 years old, single, outspoken and very bright. She has an honours degree in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice and also participated in anti-nuclear demonstrations. Rank the following in order of probability:

B
F
C
D
a
e

Doctor F ⇒ most likely because of a

a. Mary is a primary school teacher;
b. Mary is active in the feminist movement;
c. Mary is a psychiatric social worker.
d. Mary is a bank teller;

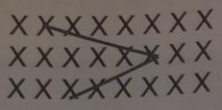
e. Mary is an insurance sales person;
f. Mary is a bank teller who is active in the feminist movement.

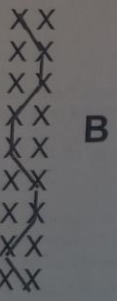
5. In the United States, which of the following are you more likely to die from:

a. Diabetes or homicide? Diabetes
b. A tornado or a lightening strike? tornado
c. Stomach cancer or car accident? cancer

6. Consider the following:

A



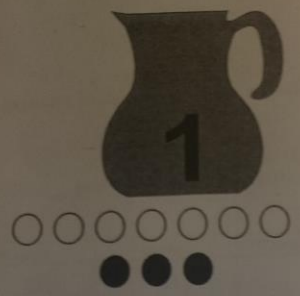


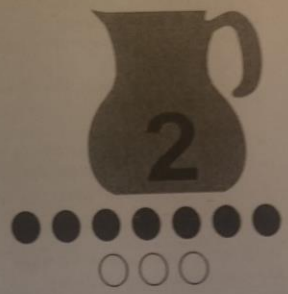
B

A path is a line starting on the first row and finishing on the last two connecting with one X in each row (as in the two examples).

Which figure, A or B, has the most possible paths? A Be sure.

7. You are taken into a room and shown two jars containing a very large number of black and white balls in the proportions shown.





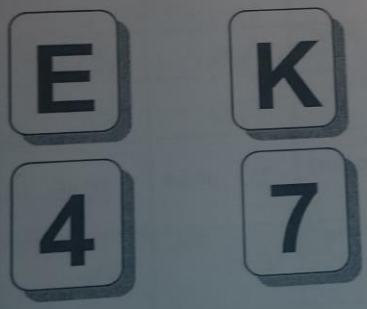
.985

You are then taken to another room. Somebody goes back into the first room and draws ttwelve balls from <u>one</u> of the jars. She comes back with the following 12 balls:

$(\frac{7}{10})^8 (\frac{3}{10})^4$

What is the probability that she drew them from jar 2? assuming replacement

8. Consider the following four cards:



You are told these all obey the following rule:

"If a card has a vowel on one side, it has an even number on the other"

Which cards <u>must</u> you turn over to validate this (i.e. you don't turn over cards that you do not need to). To 4 of E → the e and K

9. A certain town is served by two hospitals. In the larger hospital about 45 babies are born each day, and in the smaller hospital about 15 babies are born each day. Although the overall proportion of boys is about 50%, that actual proportion at either hospital may be greater or less than 50% on any given day. At the end of the year, which hospital is likely to have the greater number of days on which more than 60% of the babies born were boys?

Smaller hospital - law of large numbers by hospital will tend more towards the 50/50

here

a. The large hospital
b. The small hospital
c. Neither, it is equally probable

10. Complete the following quiz. In each case the answer is a number. Complete the three blank columns as follows:

- In the first put the answer or your best guess at the answer;
- In the second and third, put upper and low bounds of an interval that you
- are 90% confident cover the correct answer.

		Best Guess	Lower	Upper	
1	What is the distance in miles from Moscow to Santiago (in Chile)	6000	4000	10000	X
2	How many gold medals did Finland win in the summer Olympics from 1896 to 1992?	40	0	150	✓
3	What is the area of Greenland in square miles?	5000	3000	8000	X
4	In what year was the ballpoint pen invented?	1950	1935	1960	✓ 1951
5	In what year was the HJ Heinz company founded?	1857	1820	1900	✓
6	What was the population of Belize in 1990?	5000	0	100 000	X 187000 (CORRECT ANSWER)
7	What was the GNP of Denmark, in US$, in 1989?	5 billion	0.5 billion	7B	X
8	In what year was Louis Braille (of the blind reading system) born?	1720	1500	1980	✓
9	What is the average depth of the Pacific ocean to the nearest 1,000 foot?	20,000 feet	15,000	30,000	X 1400
10	What is the length in miles of the river Danube?	500m	300m	1000m	X 1770

Overconfident in ones own competence