'Wonderfully applicable to everything in life, and funny as hell' Nassim Nicholas Taleb

'Profound ... invites us to explore the magic that happens when we trust a bit more in our creative eccentricity' Geoffrey Miller

ALCHEMY

The Magic of Original Thinking in a World of Mind-Numbing Conformity

RORY SUTHERLAND

TED Talk Sensation and Ogilvy Vice Chairman

'This is a breakthrough book: Mother Reality makes sense in her own way. She yields her secrets to practitioners, almost never to academics – something psychologists, economists and non-skin in the game people, no matter what they say, are functionally unable to grasp. And the book is funny as hell: I smiled and laughed at every paragraph. Furthermore, this is the first such treatise written by someone who had true contact with reality via something called a P/L. And this is wonderfully applicable to about everything in life, from how to announce airplane delays to how to handle unsold opera tickets. Buy two copies of this book in case one is stolen.'
Nassim Nicholas Taleb, scholar and former trader; author of the *Incerto*

'Reading *Alchemy* was, as its title promised, the process of turning paper and print into gold. Veins of wisdom regarding human functioning emerge regularly and brilliantly from the pages. Don't miss this book.'
Robert Cialdini, bestselling author of *Influence, Yes!, The Small BIG* and *Pre-suasion*

'Brilliant, Brilliant, Brilliant … wonderfully heretical, naughty and funny … Uncommon sense on stilts.'
Jules Goddard, Fellow of the Centre for Management Development at London Business School and co-author of *Uncommon Sense, Common Nonsense*

'Deeply original.'
Robert Trivers, evolutionary biologist and author of *Deceit and Self-Deception*

'Buy this book for the footnotes alone … As a committed devotee of rationalism, who thinks there is not enough of it in this world, I rationally ought to hate this book. Instead I loved it. It's full of great insights.'
Matt Ridley, author of *The Rational Optimist*

'Sutherland captivates in a narrative full of intellectual treats that explain much of the behaviours in the world around us. This illogically logical read is a must read for anyone who is in the people business!'
Dilip Soman, Canada Research Chair in Behavioural Science and Economics, University of Toronto

'Rory Sutherland is one of the all-time great raconteurs, polymaths, and ad men. But this book shows his hidden depths. Within this fun, quirky, hilarious page-turner, he develops a profound critique of technocratic hubris and fetishised economics. Sutherland helps us rediscover the profound wisdom behind everyday human reasoning, and invites us to explore the magic that happens when we trust a bit less in our focus groups and optimisation models, and trust a bit more in our creative eccentricity.'
Geoffrey Miller, evolutionary psychologist, author of *The Mating Mind, Spent,* and *What Women Want*

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1. The opposite of a good idea can also be a good idea.
2. Don't design for average.
3. It doesn't pay to be logical if everyone else is being logical.
4. The nature of our attention affects the nature of our experience.
5. A flower is simply a weed with an advertising budget.
6. The problem with logic is that it kills off magic.
7. A good guess which stands up to observation is still science. So is a lucky accident.
8. Test counterintuitive things only because no one else will.
9. Solving problems using rationality is like playing golf with only one club.
10. Dare to be trivial.
11. If there were a logical answer, we would have found it.

FOREWORD: CHALLENGING COCA-COLA

Imagine that you are sitting in the boardroom of a major global drinks company, charged with producing a new product that will rival the position of Coca-Cola as the world's second most popular cold non-alcoholic drink.*

What do you say? How would you respond? Well, the first thing *I* would say, unless I were in a particularly mischievous mood, is something like this: 'We need to produce a drink that tastes nicer than Coke, that costs less than Coke, and that comes in a really big bottle so people get great value for money.' What I'm fairly sure nobody would say is this: 'Hey, let's try marketing a really expensive drink, that comes in a tiny can … and that tastes kind of disgusting.' Yet that is exactly what one company did. And by doing so they launched a soft drinks brand that would indeed go on to be a worthy rival to Coca-Cola: that drink was Red Bull.

When I say that Red Bull 'tastes kind of disgusting', this is not a subjective opinion.† No, that was the opinion of a wide cross-section of the public. Before Red Bull launched outside of Thailand, where it had originated, it's widely rumoured that the licensee approached

* After water.

† I drink rather a lot of the stuff myself.

a research agency to see what the international consumer reaction would be to the drink's taste; the agency, a specialist in researching the flavouring of carbonated drinks, had never seen a worse reaction to *any* proposed new product.

Normally in consumer trials of new drinks, unenthusiastic respondents might phrase their dislike diffidently: 'It's not really my thing'; 'It's slightly cloying'; 'It's more a drink for kids' – that kind of thing. In the case of Red Bull, the criticism was almost angry: 'I wouldn't drink this piss if you paid me to,' was one refrain. And yet no one can deny that the drink has been wildly successful – after all, profits from the six billion cans sold annually are sufficient to fund a Formula 1 team on the side.

THE CASE FOR MAGIC

There is a simple premise to this book: that while the modern world often turns its back on this kind of illogic, it is at times uniquely powerful. Alongside the inarguably valuable products of science and logic, there are also hundreds of seemingly irrational solutions to human problems just waiting to be discovered, if only we dare to abandon standard-issue, naïve logic in the search for answers.

Unfortunately, because reductionist logic has proved so reliable in the physical sciences, we now believe it must be applicable everywhere – even in the much messier field of human affairs. The models that dominate all human decision-making today are duly heavy on simplistic logic, and light on magic – a spreadsheet leaves no room for miracles. But what if this approach is wrong? What if, in our quest to recreate the certainty of the laws of physics, we are now too eager to impose the same consistency and certainty in fields where it has no place?

Take work and holidays, for example. Some 68 per cent of Americans would *pay* to have two weeks more holiday than the meagre two weeks most enjoy at present – they would accept a 4 per cent pay cut in return for double the amount of vacation time.

But what if there were *no cost whatsoever* to increasing everyone's vacation allowance? What if we discovered that greater leisure time

would benefit the US economy, both in terms of money spent on leisure goods and also in greater productivity? Perhaps people with more vacation time might be prepared to work for longer in life, rather than retiring to a Florida golf course as soon as it became affordable? Or perhaps they might simply be better at their jobs if they were reasonably rested and inspired by travel and leisure? Besides, it is now plausible that, for many jobs, recent advances in technology mean there is little difference in the contribution you make to your workplace, whether you are in a cubicle in Boise, Idaho or on a beach in Barbados.

There is an abundance of supporting evidence for these magical outcomes: the French are astonishingly productive on the rare occasion they are not on holiday; the German economy is successful, despite six weeks of annual leave being commonplace. But there is no model of the world that allows for America to contemplate, let alone trial, this possibly magical solution. In the left-brain, logical model of the world, productivity is proportional to hours worked, and a doubling of holiday time must lead to a corresponding 4 per cent fall in salary.

The technocratic mind models the economy as though it were a machine: if the machine is left idle for a greater amount of time, then it must be less valuable. But the economy is not a machine – it is a highly complex system. Machines don't allow for magic, but complex systems do.

Engineering doesn't allow for magic. Psychology does.

In our addiction to naïve logic, we have created a magic-free world of neat economic models, business case studies and narrow technological ideas, which together give us a wonderfully reassuring sense of mastery over a complex world. Often these models are useful, but sometimes they are inaccurate or misleading. And occasionally they are highly dangerous.

We should never forget that our need for logic and certainty brings costs as well as benefits. The need to appear scientific in our methodology may prevent us from considering other, less logical and more magical solutions, which can be cheap, fast-acting

and effective. The mythical 'butterfly effect' does exist, but we don't spend enough time butterfly hunting. Here are some recent butterfly effect discoveries, from my own experience:

1. A website adds a single extra option to its checkout procedure – and increases sales by $300m per year.
2. An airline changes the way in which flights are presented – and sells £8m more of premium seating per year.
3. A software company makes a seemingly inconsequential change to call-centre procedure – and retains business worth several million pounds.
4. A publisher adds four trivial words to a call-centre script – and doubles the rate of conversion to sales.
5. A fast-food outlet increases sales of a product by putting the price … up.

All these disproportionate successes were, to an economist, entirely illogical. All of them worked. And all of them, apart from the first, were produced by a division of my advertising agency, Ogilvy, which I founded to look for counter-intuitive solutions to problems. We discovered that problems almost always have a plethora of seemingly irrational solutions waiting to be discovered, but that nobody is looking for them; everyone is too preoccupied with logic to look anywhere else. We also found, rather annoyingly, that the success of this approach did not always guarantee repeat business; it is difficult for a company, or indeed a government, to request a budget for the pursuit of such magical solutions, because a business case has to look logical.

It's true that logic is usually the best way to succeed in an argument, but if you want to succeed in life it is not necessarily all that useful; entrepreneurs are disproportionately valuable precisely because they are *not* confined to doing only those things that make sense to a committee. Interestingly, the likes of Steve Jobs, James Dyson, Elon Musk and Peter Thiel often seem certifiably bonkers; Henry Ford famously despised accountants – the Ford Motor Company was never audited while he had control of it.

When you demand logic, you pay a hidden price: you destroy magic. And the modern world, oversupplied as it is with economists, technocrats, managers, analysts, spreadsheet-tweakers and algorithm designers, is becoming a more and more difficult place to practise magic – or even to experiment with it. In what follows, I hope to remind everyone that magic should have a place in our lives – it is never too late to discover your inner alchemist.

INTRODUCTION: CRACKING THE (HUMAN) CODE

I am writing this book with two screens in front of me, one of which is displaying a series of recent results from a test that my colleagues have just performed to try to increase the effectiveness of charity fundraising.

Once a year, volunteers for our client charity drop printed envelopes through millions of doors, and return a few weeks later to collect people's donations. This year the envelopes contained a hurricane relief appeal, but some of these envelopes were randomly different from the rest: 100,000 of them announced that the envelopes had been delivered by volunteers; 100,000 encouraged people to complete a form which meant their donation would be boosted by a 25 per cent tax rebate; 100,000 were in better-quality envelopes; and 100,000 were in portrait format (so the flap of the envelope was along the short side rather than the long one).

If you were an economist you would look at the results of this experiment and immediately conclude that people are completely insane. Logically, the only one of these changes that should affect whether people give is the one that reminds you that, for every £1 you donate, the government will give a further 25p. The other three tests are seemingly irrelevant; the paper quality, the orientation of the envelope and the fact that it was hand-delivered by a volunteer add nothing to the rational reasons to donate.

However, the results tell a different story. The 'rational' envelope in fact *reduces* donations by over 30 per cent compared to the plain control, while the other three tests increase donations by over 10 per cent. The higher-quality paper also attracts a significantly higher number of more significant donations of £100 or more. I hope that, by the time you finish reading this book, you might better understand why these crazy-sounding results may make a strange kind of sense.

The human mind does not run on logic any more than a horse runs on petrol.

What are the possible explanations for these results? Well, perhaps it feels more natural to put notes or cheques in an envelope with the flap on a shorter edge. Putting a cheque for £100 into a thick envelope feels more agreeable than putting it into one made of cheap paper. And a volunteer's effort of hand-delivering the envelope may prompt the urge to reciprocate: we appreciate the effort they have made. Perhaps the mention of a 25 per cent 'bonus' on their donation reduces the amount that people feel they need to give? Stranger still, it also reduced the proportion of people who gave anything at all; I'll be honest with you – I have no idea why this should be.

Here's the thing. To a logical person, there would have been no point in testing three of these variables, but they are the three that actually work. This is an important metaphor for the contents of this book: if we allow the world to be run by logical people, we will only discover logical things. But in real life, most things aren't logical – they are psycho-logical.

There are often two reasons behind people's behaviour: the ostensibly logical reason, and the real reason. I have worked in advertising and marketing for the last 30 years. I tell people I do it to make money, to build brands and to solve business problems; none of these are things I dislike, but, truthfully, I do it because I am nosy.

Modern consumerism is the best-funded social science experiment in the world, the Galapagos Islands of human weirdness. More important still, an ad agency is one of the few remaining safe spaces for weird or eccentric people in the worlds of business and

government. In ad agencies, mercifully, maverick opinion is still broadly encouraged or at least tolerated. You can ask stupid questions or make silly suggestions – and still get promoted. This freedom is much more valuable than we realise, because to reach intelligent answers, you often need to ask really dumb questions.

In most corporate settings, if you suddenly asked 'Why do people clean their teeth?' you would be looked at as a lunatic, and quite possibly unsafe. There is after all an official, approved, logical reason why we clean our teeth: to preserve dental health and reduce cavities or decay. Move on. Nothing to see here. But, as I will explain later in this book, I don't think that's the real reason. For instance, if it is, why are 95 per cent of all toothpastes flavoured with mint?

Human behaviour is an enigma. Learn to crack the code.

My assertion is that large parts of human behaviour are like a cryptic crossword clue: there is always a plausible surface meaning, but there is also a deeper answer hidden beneath the surface.

5 *Across:* Does perhaps rush around (4)

To someone who is unfamiliar with cryptic crosswords it will seem almost insane that the correct answer to this clue is 'deer', because there is no hint of the animal in the surface meaning of the clue. A simple crossword would have a clue like 'Sylvan ruminants (4)'. But to a cryptic crossword aficionado, solving this clue is relatively simple – provided you accept that nothing is as it appears. The 'surface' of the clue has misled you to see 'does' and 'rush' as verbs, while both are actually nouns. 'Does' is here the plural of doe.* Rush is a reed. Reed 'around' – i.e. spelled backwards – is 'deer'.†

This insight is only possible once you know not to take the clue literally, and human behaviour is often cryptic in a similar sense;

* A deer, a female deer.

† The 'perhaps' is needed for purity, as not all deer are does – some are stags.

there is an ostensible, rational, self-declared reason why we do things, and there is also a cryptic or hidden purpose. Learning how to disentangle the literal from the lateral meaning is essential to solving cryptic crosswords, and it is also essential to understanding human behaviour.

To avoid stupid mistakes, learn to be slightly silly.

Most people spend their time at work trying to look intelligent, and for the last fifty years or more, people have tried to look intelligent by trying to look like scientists; if you ask someone to explain why something happened, they will generally give you a plausible-sounding answer that makes them seem intelligent, rational or scientific but that may or may not be the real answer. The problem here is that real life is not a conventional science – the tools which work so well when designing a Boeing 787, say, will not work so well when designing a customer experience or a tax programme. People are not nearly as pliable or predictable as carbon fibre or metal alloys, and we should not pretend that they are.

Adam Smith, the father of economics, identified this problem in the late eighteenth century,‡ but it is a lesson which many economists have been ignoring ever since. If you want to look like a scientist, it pays to cultivate an air of certainty, but the problem with attachment to certainty is that it causes people completely to misrepresent the nature of the problem being examined, as if it were a simple physics problem rather than a psychological one. There is hence an ever-present temptation to pretend things are more 'logical' than they really are.

‡ Indeed Ibn Khaldun, the father of sociology, perhaps saw it in the fourteenth century.

INTRODUCING PSYCHO-LOGIC

This book is intended as a provocation, and is only accidentally a work of philosophy. It is about how you and other humans make decisions, and why these decisions may differ from what might be considered 'rationality'. My word to describe the way we make decisions – to distinguish it from the artificial concepts of 'logic' and 'rationality' – is 'psycho-logic'. It often diverges dramatically from the kind of logic you'll have been taught in high school maths lessons or in Economics 101. Rather than being designed to be optimal, it has evolved to be useful.

Logic is what makes a successful engineer or mathematician, but psycho-logic is what has made us a successful breed of monkey, that has survived and flourished over time. This alternative logic emerges from a parallel operating system within the human mind, which often operates unconsciously, and is far more powerful and pervasive than you realise. Rather like gravity, it is a force that nobody noticed until someone put a name to it.

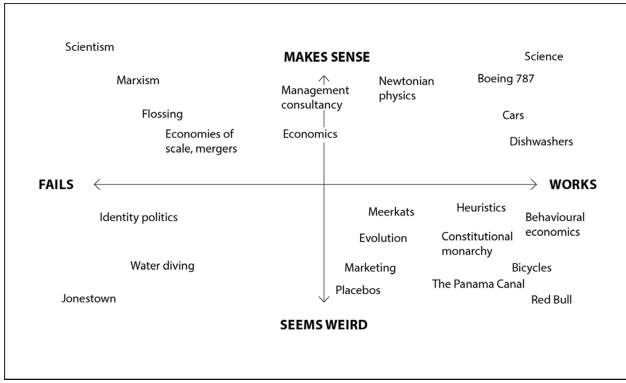
I have chosen psycho-logic as a neutral and non-judgemental term. I have done this for a reason. When we do put a name to non-rational behaviour, it is usually a word like 'emotion', which makes it sound like logic's evil twin. 'You're being emotional' is used as code for 'you're being an idiot'. If you went into most boardrooms and announced that you had rejected a merger on 'emotional

grounds', you would likely be shown the door. Yet we experience emotions for a reason – often a good reason for which we don't have the words.

Robert Zion, the social psychologist, once described cognitive psychology as 'social psychology with all the interesting variables set to zero'. The point he was making is that humans are a deeply social species (which may mean that research into human behaviour or choices in artificial experiments where there is no social context isn't really all that useful). In the real world, social context is absolutely critical. For instance, as the anthropologist Pierre Bourdieu observes, gift giving is viewed as a good thing in most human societies, but it only takes a very small change in context to make a gift an insult rather than a blessing; returning a present to the person who has given it to you, for example, is one of the rudest things you can do. Similarly, offering people money when they do something you like makes perfect sense according to economic theory and is called an incentive, but this does not mean you should try to pay your spouse for sex.*

The alchemy of this book's title is the science of knowing what economists are wrong about. The trick to being an alchemist lies not in understanding universal laws, but in spotting the many instances where those laws do not apply. It lies not in narrow logic, but in the equally important skill of knowing when and how to abandon it. This is why alchemy is more valuable today than ever.

* As an experiment, I tried this once – about three months later, I was offered some sex. So the economic approach, if it works at all, works rather slowly.



Not everything that makes sense works, and not everything that works makes sense. The top-right section of this graph is populated with the very real and significant advances made in pure science, where achievements can be made by improving on human perception and psychology. In the other quadrants, 'wonky' human perception and emotionality are integral to any workable solution.

The bicycle may seem a strange inclusion here: however, although humans can learn how to ride bicycles quite easily, physicists still cannot fully understand how bicycles work. Seriously. The bicycle evolved by trial and error more than by intentional design.

SOME THINGS ARE DISHWASHER-PROOF, OTHERS ARE REASON-PROOF

Here's a simple (if expensive) lifestyle hack. If you would like everything in your kitchen to be dishwasher-proof, simply *treat* everything in your kitchen as though it was; after a year or so, anything that isn't dishwasher-proof will have been either destroyed or rendered unusable. Bingo – everything you have left will now be dishwasher-proof! Think of it as a kind of kitchen-utensil Darwinism.

Similarly, if you expose every one of the world's problems to ostensibly logical solutions, those that can easily be solved by logic will rapidly disappear, and all that will be left are the ones that are logic-proof – those where, for whatever reason, the logical answer does not work. Most political, business, foreign policy and, I strongly suspect, marital problems seem to be of this type.

This isn't the Middle Ages, which had too many alchemists and not enough scientists. Now it's the other way around; people who are very good at deploying and displaying conventional, deductive logic are everywhere, and they're usually busily engaged in trying to apply some theory or model to something in order to optimise it. Much of the time, this is a good thing. I don't want a conceptual artist in charge of air-traffic control, for instance. However, we now unfortunately fetishise logic to such an extent that we are increasingly blind to its failings.

For instance, the victorious Brexit campaign in Britain and the election of Donald Trump in the United States have both been routinely blamed on the clueless and emotional behaviour of undereducated voters, but you could make equally strong cases that the Remain campaign in Britain and Hillary Clinton's failed bid for the American presidency failed because of the clueless, hyperrational behaviour of overeducated advisors, who threw away huge natural advantages. At one point we in Britain were even warned that 'a vote to leave the EU might result in rising labour costs' – by a highly astute businessman* who was so enraptured with models of economic efficiency that he was clearly unaware most voters would understand a 'rise in labour costs' as meaning a 'pay rise'.

Perhaps most startlingly of all, every single one of the Remain campaign's arguments resorted to economic logic, yet the EU is patently a political project, which served to make them seem greedy rather than principled, especially as the most vocal Remain supporters came from a class of people who had done very nicely out of globalisation. Notice that Winston Churchill did not urge us to fight the Second World War 'in order to regain access to key export markets'.

More data leads to better decisions. Except when it doesn't.

Across the Atlantic, meanwhile, the Clinton campaign was dominated by a strategist called Robby Mook, who had become so enamoured of data and mathematical modelling that he refused to use anything else. He derided Bill Clinton for suggesting he should connect the campaign with white working-class voters in the Midwest, mimicking a 'Grampa Simpson' voice to mock the former president† and dismissing another suggestion with the smug 'my data disagree with your anecdotes'.

* Stuart Rose, former executive chairman of Marks & Spencer.

† Whatever else you may think of Bill Clinton, his track record clearly indicates that he is an instinctive political genius.

Yet perhaps the anecdotal evidence was right, because the data was clearly wrong. Clinton did not visit Wisconsin once in the entire campaign, wrongly assuming that she would win there easily. Some in her team suggested that she should visit in the last days before the election, but the data told her to go to Arizona instead. Now I'm British, and have only been to Arizona four or five times, and Wisconsin twice. But even I would have said, 'that decision sounds weird to me'. After all, nothing I have ever seen in Wisconsin suggested that it was a state that would never vote for Donald Trump, and it has always had a strong streak of political eccentricity.

The need to rely on data can also blind you to important facts that lie outside your model. It was surely relevant that Trump was filling sports halls wherever he campaigned, while Clinton was drawing sparse crowds. It's important to remember that big data all comes from the same place – the past. A new campaigning style, a single rogue variable or a 'black swan' event can throw the most perfectly calibrated model into chaos. However, the losing sides in both these campaigns have never once considered that their reliance on logic might been the cause of their defeats, and the blame was pinned on anyone from 'Russians' to 'Facebook'. Maybe they were blameworthy in part, but no one has spent enough time asking whether an overreliance on mathematical models of decision-making might be to blame for the fact that in each case the clear favourite blew it.

In theory, you can't be too logical, but in practice, you can. Yet we never seem to believe that it is possible for logical solutions to fail. After all, if it makes sense, how can it possibly be wrong?

To solve logic-proof problems requires intelligent, logical people to admit the possibility that they might be wrong about something, but these people's minds are often most resistant to change – perhaps because their status is deeply entwined with their capacity for reason. Highly educated people don't merely *use* logic; it is part of their identity. When I told one economist that you can often increase the sales of a product by increasing its price, the reaction

was one not of curiosity but of anger. It was as though I had insulted his dog or his favourite football team.

Imagine if it were impossible to get a well-paid job, or to hold political office, unless you supported the New York Yankees or Chelsea Football Club. We would regard such partisanship as absurd, yet devoted fans of logic control the levers of power everywhere. The Nobel Prize-winning behavioural scientist Richard Thaler said, 'As a general rule the US Government is run by lawyers who occasionally take advice from economists. Others interested in helping the lawyers out need not apply.'

Today it sometimes seems impossible to get a job without first demonstrating that you are in thrall to logic. We flatter such people through our education system, we promote them to positions of power and are subjected every day to their opinions in the newspapers. Our business consultants, accountants, policy-makers and think-tank pundits are all selected and rewarded for their ability to display impressive flights of reason.

This book is not an attack on the many healthy uses of logic or reason, but it is an attack on a dangerous kind of logical overreach, which demands that every solution should have a convincing rationale before it can even be considered or attempted. If this book provides you with nothing else, I hope it gives you permission to suggest slightly silly things from time to time. To fail a little more often. To think *unlike* an economist. There are *many* problems which are logic-proof, and which will never be solved by the kind of people who aspire to go to the World Economic Forum at Davos.‡ Remember the story of those envelopes.

We could never have evolved to be rational – it makes you weak.

‡ A bizarre international junket where, for some reason, the world's most intelligent people collectively decide that it is a good idea to spend part of January halfway up a mountain.

Now, as reasonable people, you're going to hate me saying this, and I don't feel good saying it myself. But, for all the man's faults, I think Donald Trump can solve many problems that the more rational Hillary Clinton simply wouldn't have been able to address. I don't admire him, but he *is* a decision maker from a different mould. For example, both candidates wanted manufacturing jobs to return to the United States. Hillary's solution was logical – engagement in tripartite trade negotiations with Mexico and Canada. But Donald simply said, 'We're going to build a wall, and the Mexicans are going to pay.'

'Ah,' you say. 'But he's never going to build that wall.' And I agree with you – I think it highly unlikely that a wall will be built, and even less likely that the unlucky Mexicans will agree to pay for it. But here's the thing: he may not need to build the wall to achieve his trade ambitions – he just needs people to believe that he might. Similarly, he doesn't need to repeal the North American Free Trade Agreement – he just needs to raise it as a possibility. Irrational people are much more powerful than rational people, because their threats are so much more convincing.

For perhaps thirty years, the prevailing economic consensus meant that no American carmaker felt they owed any patriotic duty to workers in their home country; had you suggested such a thing in any of their board meetings, you would have been viewed as a dinosaur. So pervasive was the belief in untrammelled free trade – on both sides of the American political divide – that manufacturing was shifted overseas without any consideration about whether there might be a risk to losing the support of government or public opinion. All Trump needed to do was to signal that this assumption was no longer safe. No tariffs (or walls) are actually needed: the threat of them alone is enough.§

A rational leader suggests changing course to avoid a storm. An irrational one can change the weather.

§ Hillary could not convincingly have made such a threat, because everyone would have known it was hollow. Trump is crazy enough to go through with it.

Being slightly bonkers can be a good negotiating strategy: being rational means you are predictable, and being predictable makes you weak. Hillary thinks like an economist, while Donald is a game theorist, and is able to achieve with one tweet what would take Clinton four years of congressional infighting. That's alchemy; you may hate it, but it works.

Some scientists believe that driverless cars will not work unless they learn to be irrational. If such cars stop reliably whenever a pedestrian appears in front of them, pedestrian crossings will be unnecessary and jaywalkers will be able to march into the road, forcing the driverless car to stop suddenly, at great discomfort to its occupants. To prevent this, driverless cars may have to learn to be 'angry', and to occasionally maliciously fail to stop in time and strike the pedestrian on the shins.

If you are wholly predictable, people learn to hack you.

CRIME, FICTION AND POST-RATIONALISM: OR WHY REALITY ISN'T NEARLY AS LOGICAL AS WE THINK

Think of life as like a criminal investigation: a beautifully linear and logical narrative when viewed in retrospect, but a fiendishly random, messy and wasteful process when experienced in real time. Crime fiction would be unreadably boring if it accurately depicted events, because the vast majority of it would involve enquiries that led nowhere. And that's how it's supposed to be – the single worst thing that can happen in a criminal investigation is for everyone involved to become fixated on the same theory, because one false assumption shared by everyone can undermine the entire investigation. There's a name for this – it's called 'privileging the hypothesis'.

A recent example of this phenomenon emerged during the bizarre trial of Amanda Knox and Raffaele Sollecito for the murder of Meredith Kercher in Perugia, Italy. It became impossible for the investigator and his team to see beyond their initial suspicion that, after Kercher had been killed, the perpetrator had staged a break-in to 'make it look like a burglary gone wrong'. Since no burglar from outside would need to stage a break-in, their only conclusion was that the staging took place to divert attention from the other flatmates and to disguise the fact that it was an inside job. Unfortunately, the initial suspicion was incorrect.

I sympathise a little with their attachment to the theory. After all, the break-in did, at first glance, look as though it might have

been faked: there was some broken glass *outside* the window and an absence of footprints. But the theory of an inside job staged to look like a botched burglary was so doggedly held that all subsequent contradictory evidence was either suppressed or not shared with the press, and the result was a nonsense.

The break-in did look rather absurd at first glance – why would you break into a flat from a relatively exposed upstairs window? – until you realise that the purpose of breaking a window was not to gain access to the house, but to make a hell of a lot of noise while standing in a place from which an easy escape was possible. It thus helped the perpetrator ascertain with some confidence that there was no one around; if you smash a window and nobody intervenes, you can be fairly sure no one is going to notice you climbing through the same window five minutes later, but if a light goes on and a dog starts barking, you can simply leg it.

This example goes to the heart of how we see the world. Do we look at things from a single perspective, where you do one thing to achieve another, or do we accept that complex things are rather different? In a designed system, such as a machine, one thing does serve one narrow purpose, but in an evolved or complex system, or in human behaviour, things can have multiple uses depending on the context within which they are viewed.

The human mouth allows you to eat, but if your nose is blocked, it also allows you to breathe. In a similar way, it seems illogical to break into a building using the noisiest means possible, until you understand the context in which the offender is operating. It is not appropriate to bring the same habits of thought that we use to deal with things that have been consciously designed to understanding complex and evolved systems, with second-order considerations.

My problem with Marxism is that it makes too much sense.

THE DANGER OF TECHNOCRATIC ELITES

If you are a technocrat, you'll generally have achieved your status by explaining things in reverse; the plausible post-rationalisation is the stock-in-trade of the commentariat. Unfortunately, it is difficult for such people to avoid the trap of assuming that the same skills that can explain the past can be used to predict the future. Like a criminal investigation, what looks neat and logical when viewed with hindsight is usually much messier in real time. The same is true of scientific progress. It is easy to depict a discovery, once made, as resulting from a logical, and linear process, but that does not mean that science should progress according to neat, linear and sequential rules.

There are two separate forms of scientific enquiry – the discovery of what works and the explanation and understanding of *why* it works. These are two entirely different things, and can happen in either order. Scientific progress is not a one-way street. Aspirin, for instance, was known to work as an analgesic for decades before anyone knew *how* it worked. It was a discovery made by experience and only much later was it explained. If science did not allow for

* Bakelite, penicillin, the microwave, X-rays, radar, radio were all discovered 'backwards'.

such lucky accidents,* its record would be much poorer – imagine if we forbade the use of penicillin, because its discovery was not predicted in advance? Yet policy and business decisions are overwhelmingly based on a 'reason first, discovery later' methodology, which seems wasteful in the extreme. Remember the bicycle.

Evolution, too, is a haphazard process that discovers what can survive in a world where some things are predictable but others aren't. It works because each gene reaps the rewards and costs from its lucky or unlucky mistakes, but it doesn't care a damn about reasons. It isn't necessary for anything to make sense: if it works it survives and proliferates; if it doesn't, it diminishes and dies. It doesn't need to know *why* it works – it just needs to work.

Perhaps a plausible 'why' should not be a pre-requisite in deciding a 'what', and the things we try should not be confined to those things whose future success we can most easily explain in retrospect. The record of science in some ways casts doubt on a scientific approach to problem solving.

ON NONSENSE AND NON-SENSE

I'll admit it: I have only become qualified to write this book by accident. I am a classicist, not an anthropologist, but have, almost by chance, spent 30 years in the advertising industry – mostly in what is known as 'direct response', the form of advertising where people are urged to respond directly to your advertisement. It consists of well-funded behavioural experiments on a grand scale, and what this teaches us is that the models of human behaviour devised and promoted by economists and other conventionally rational people are wholly inadequate at predicting human behaviour.

What are the great achievements of economics? Ricardo's Theory of Comparative Advantage, perhaps? Or *The General Theory of Employment, Interest and Money* by John Maynard Keynes? And what is the single most important finding of the advertising industry? Perhaps it is that 'advertisements featuring cute animals tend to be more successful than ads that don't'.

I'm not joking. I recently had a meeting with a client where I learned that a customer prize draw to win 'free energy for a year – worth over £1,000' received 67,000 entries. The subsequent draw, where you could win a cute penguin nightlight (with a value of £15) received over 360,000 entries. One customer even turned down an offer of a £200 refund on their bill, saying, 'No, I'd rather have a penguin.' Even though I know this is true, so great is my desire to

appear rational that I would find it very hard to stand in front of a board of directors and recommend that their advertising should feature rabbits, or perhaps a family of lemurs, because it sounds like nonsense. It isn't, though. It's a different kind of thing, which I call 'non-sense'.

Behavioural economics is an odd term. As Warren Buffett's business partner Charlie Munger once said, 'If economics isn't behavioural, I don't know what the hell is.' It's true: in a more sensible world, economics would be a subdiscipline of psychology.* Adam Smith was as much a behavioural economist as an economist – *The Wealth of Nations* (1776) doesn't contain a single equation. But, strange though it may seem, the study of economics has long been detached from how people behave in the real world, preferring to concern itself with a parallel universe in which people behave as economists *think they should*. It is to correct this circular logic that behavioural economics – made famous by experts such as Daniel Kahneman, Amos Tversky, Dan Ariely and Richard Thaler – has come to prominence. In many areas of policy and business there is much more value to be found in understanding how people behave in reality than how they should behave in theory.†

Behavioural economics might well be described as the study of the nonsensical and the non-sensical aspects of human behaviour. Sometimes our behaviour is nonsensical because we evolved for conditions different to those we now find ourselves in.‡ However, much 'irrational' human behaviour is not really nonsensical at all; it is non-sensical. For instance, viewed through the lens of

* The dissident Austrian School of economists wisely believed this.

† I know. Who would have thought it?

‡ For example, we probably love sugar too much: in the ancestral environment there was no refined sugar, and the only food with a comparable glycemic load was honey.

evolutionary psychology, the effectiveness of cute animals in advertising should not shock us. Advertising exists to be noticed, and we have evolved, surely, to pay attention to living things. An evolutionary psychologist might also suggest that a penguin nightlight – a gift for one's child – might be more emotionally rewarding than a cash reward, which is a gain for oneself.§

Sometimes human behaviour that seems nonsensical is really non-sensical – it only appears nonsensical because we are judging people's motivations, aims and intentions the wrong way. And sometimes behaviour is non-sensical because evolution is just smarter than we are. Evolution is like a brilliant uneducated craftsman: what it lacks in intellect it makes up for in experience.

For instance, for a long time the human appendix was thought to be nonsense, a vestigial remnant of some part of the digestive tract, which had served a useful purpose in our distant ancestors. It is certainly true that you can remove people's appendices and they seem to suffer no immediate ill effects. However, in 2007, William Parker, Randy Bollinger and their colleagues at Duke University in North Carolina hypothesised that the appendix actually serves as a haven for bacteria in the digestive system that are valuable both in aiding digestion and in providing immunity from disease. So, just as miners in the California Gold Rush would guard a live sourdough yeast 'starter' in a pouch around their necks, the body has its own pouch to preserve something valuable. Research later showed that individuals whose appendix had been removed were four times more likely to suffer from *clostridium difficile colitis*, an infection of the colon.

Given that cholera was a huge cause of death only a few generations ago, and given that it is thought by some to be making a

§ My friend, the evolutionary biologist Nichola Raihani, recently had her child's bicycle helmet stolen. She was immediately struck by the strength of her outrage, which was far more extreme than if her own bicycle helmet had been stolen.

comeback, perhaps the appendix should no longer be treated as disposable – it seems that, rather like the Spanish royal family, most of the time it's pointless or annoying, but sometimes it's invaluable.¶

Be careful before calling something nonsense.

The lesson we should learn from the appendix is that something can be valuable without necessarily being valuable all the time. Evolution does not take such a short-term, instrumentalist view. In looking for the *everyday* function of the human appendix, we were looking for the wrong thing. Whether something makes sense in theory matters less than whether it works in practice.

Like quite a few fellow Anglicans (but unlike my wife who is a priest and hospital chaplain) I am not quite sure of the existence of God, but I would be reluctant to disparage religion as nonsense, as some people do.

In a 1996 survey on the place of religion in public life in America, the Heritage Institute found that:

1. Churchgoers are more likely to be married, less likely to be divorced or single and more likely to manifest high levels of satisfaction in their marriage.
2. Church attendance is the most important predictor of marital stability and happiness.
3. The regular practice of religion helps poor people move out of poverty. Regular church attendance, for example, is

¶ Spain's peaceful and robust transition to democracy after Franco might have been impossible without the decisive role played by an arbitrary and symbolic head of state.

particularly instrumental in helping young people escape the poverty of inner-city life.

4. Regular religious practice generally inoculates individuals against a host of social problems, including suicide, drug abuse, out-of-wedlock births, crime and divorce.
5. The regular practice of religion also encourages such beneficial effects on mental health as less depression, higher self-esteem and greater family and marital happiness.
6. In repairing damage caused by alcoholism, drug addiction and marital breakdown, religious belief and practice are a major source of strength and recovery.**
7. Regular practice of religion is good for personal physical health: it increases longevity, improves one's chances of recovery from illness and lessens the incidence of many killer diseases.

Religion feels incompatible with modern life because it seems to involve delusional beliefs, but if the above results came from a trial of a new drug, we would want to add it to tap water. Just because we don't know why it works, we should not be blind to the fact that it does.††

Business, creativity and the arts are full of successful non-sense. In fact the single greatest strength of free markets is their ability to generate innovative things whose popularity makes no sense. Non-sense includes things that are useful or effective, even though (or perhaps because) they defy conventional logic.

Almost all good advertising contains some element of non-sense. At first glance this might make it look silly – it can certainly make selling it to a sceptical group of clients painfully embarrassing.

** Alcoholics Anonymous is, remember, modelled on explicitly religious principles.

†† Take that, Dawkins!

Imagine you are the board of an airline and have just spent three hours debating whether to buy 13 Airbus A350s or 11 Boeing 787s, each of which costs around $150 million. At the end of the meeting, you are presented with an idea for an advertising campaign that does not show an aircraft at all, but instead proposes to focus on the cucumber sandwiches and scones that might be served on board. This is non-sense – however, around 90 per cent of people have no idea what sort of aircraft they are travelling on or how a jet engine works but will infer a great deal about the safety and quality of the experience offered by an airline from the care and attention it pays to on-board snacks.‡‡

Presenting such things in a business setting packed with MBA graduates is slightly embarrassing; you start to envy people in IT or tax-planning, who can go into a meeting with rational proposals on a chart or spreadsheet. However, this fixation with sense-making can prove expensive. Imagine you are a company whose product is not selling well. Which of the following proposals would be easier to make in a board meeting called to resolve the problem? a) 'We should reduce the price' or b) 'We should feature more ducks in our advertising'. The first, of course – and yet the second could, in fact, be much more profitable.

This is a book written in defence of things that don't quite make sense, but it is also a book that – conversely – attacks our fetishisation of things that *do*. Once you accept that there may be a value or

‡‡ The gin brand Hendrick's engaged in a very clever bit of non-sense, when they suggested that their product be served not with lemon but with cucumber, which gained immediate salience. Being British, I failed to notice the genius of this move, which was that it also positioned the drink as sophisticatedly British in the United States; Americans find cucumber sandwiches a British peculiarity. To a Brit, of course, a cucumber is not seen as being particularly British – it is just something we make sandwiches with.

purpose to things that are hard to justify, you will naturally come to another conclusion: that it is perfectly possible to be both rational and wrong.

Logical ideas often fail because logic demands universally applicable laws but humans, unlike atoms, are not consistent enough in their behaviour for such laws to hold very broadly. For example, to the despair of utilitarians, we are not remotely consistent in whom we choose to help or cooperate with. Imagine that you get into financial trouble and ask a rich friend for a loan of £5,000, who patiently explains that you are a much less needy and deserving case for support than a village in Africa to which he plans to donate the same amount. Your friend is behaving perfectly rationally. Unfortunately he is no longer your friend.

It is impossible for human relations to work unless we accept that our obligations to some people will always exceed our obligations to others. Universal ideas like utilitarianism are logical, but seem not to function with the way we have evolved. Perhaps it is no coincidence that Jeremy Bentham, the father of utilitarianism, was one of the strangest and most anti-social people who ever lived.§§

The drive to be rational has led people to seek political and economic laws that are akin to the laws of physics – universally true and applicable. The caste of rational decision makers requires generalisable laws to allow them confidently to pronounce on matters without needing to consider the specifics of the

§§ It has often been proposed that he was autistic. I am reluctant to use this diagnosis too widely, but it is perhaps true that he was overburdened with the use of reason. He once declined the chance to meet his young nieces, saying, 'If I don't like them, I will not enjoy the experience, and if I do like them then I will be sad to see them leave.' Perfectly reasonable, I suppose, but weird as hell! Kant was also a weirdo.

situation.¶¶ And in reality 'context' is often the most important thing in determining how people think, behave and act: this simple fact dooms many universal models from the start.*** Because in order to form universal laws, naïve rationalists have to pretend that context doesn't matter.

¶¶ Notice that ordinary people are never allowed to pronounce on complex problems. When do you ever hear an immigration officer interviewed about immigration, or a street cop interviewed about crime? These people patently know far more about these issues than economists or sociologists, and yet we instead seek wisdom from people with models and theories rather than actual experience.

*** For instance, will wealthy Germans help poorer Germans? Yup. Will they help Syrians? Yes, albeit reluctantly. Poor Greeks, however? No chance.