

### **Praise for *The Truth Detective***

‘Through the lens of her personal experience as a poker player, Alex O’Brien reveals the tricks that can help each of us navigate a world beset with uncertainty and misinformation. I gleaned such useful advice from this heartfelt book – and came away also wanting to learn how to play poker!’

**Angela Saini, author of *The Patriarchs***

‘*The Truth Detective* is the kind of timely popular science that captures people’s attention and deserves to be widely read’

**Alom Shaha, author of the Mr Shaha science series and *Why Don’t Things Fall Up***

‘Steeped in stories and research which both inspire and educate, O’Brien has crafted a “poker book” that belongs on every bedside table, even if you have never played the game . . . from the first page to the last, it’s that good’

**Erin Lydon, president of Poker Power**

‘Engaging . . . Alex O’Brien holds all the aces here [with] first-hand experience at the table and a good grip on the latest science and psychology. Follow suit to boost your odds at winning in that great game we call life’

**Roger Highfield, Science Director of the Science Museum and author of *Virtual You***

‘A wise, mind-expanding guide for living in uncertain times. In *The Truth Detective*, Alex O’Brien draws on her experience at the poker table to provide a whole new lens on the world. A perspective-changing book that will help you make smarter, more informed choices when navigating life’s unknowns’

**Richard Fisher, author of *The Long View***

‘A fascinating book that uses poker to discuss philosophy, magic, strategy, cognitive science, game theory, deception, biases, risk management and much more. Who knew one book could teach you so much about poker and the best scientific research in so many fields?’

**Seth Stephens-Davidowitz, author of  
*Everybody Lies and Don’t Trust Your Gut***

‘*The Truth Detective* is both a riveting read and a call to action.

Alex O’ Brien intertwines lessons from the poker table with cutting-edge scientific research on human behaviour and the brain, showing us how to understand the world better, and to understand ourselves better. I found myself thinking about *The Truth Detective* long after I read it. Even if you’ve never played poker, you will be richly entertained and educated by this beautifully written gem of a book’

**Jennifer Shahade, two-time US Women’s Chess  
Champion and author of *Chess Queens***

‘Captivating, gripping and the best book I’ve read since *Thinking Fast and Slow*. O’Brien doesn’t pull any punches, and examining the bluffs we seek and the bullshit we find in life, [she] combines a number of studies, sources and complex thoughts into a case for critical thinking. This is a book that should be read and savoured in full; it pulls many of the great concerns of the day such as AI, climate change, fake news, pandemic issues, and the power of social media into a riveting page turner. As soon as I started reading, I literally couldn’t stop . . . do someone you love a favour and give them the gift of this book. It’s absolutely brilliant’

**Dara O’Kearney, ultra runner and author  
of *The Poker Solved Series***

“The challenge of knowing “what is the truth” goes far beyond the poker table [and] I can’t imagine a book more perfectly suited to its time than *The Truth Detective*. By using the rules of the game to explore truth and deception, O’Brien makes the topic accessible [and] truly entertaining.

The interviews and well-documented research woven throughout give scientific backbone to a much-needed look at a very important topic. This is an exhortation for us all to be more careful consumers of “truth”

**Kara Scott, broadcaster and World Series of Poker anchor**

The  
Truth  
Detective

# The Truth Detective

**A Poker Player's Guide  
to a Complex World**

**Alex O'Brien**



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To the oxygen in my life:  
Ava and Jeff

# Contents

<b>INTRODUCTION</b> The Cards We're Dealt and the Hand We Play	1
<b>PART ONE</b> Making Sense of a Complex World: Critical Thinking and Poker	11
<b>PART TWO</b> Learning How to Read Others: Communication, Interpretation and Impressions	73
<b>PART THREE</b> Being a Real-Life Truth Detective: Deception and Patterns	129
<b>PART FOUR</b> Learning to Live with Uncertainty: Risk, Game Theory and Imperfect Information	199
<i>A Tribute</i>	247
<i>References and Further Reading</i>	251
<i>Notes</i>	254

INTRODUCTION

The Cards We're Dealt  
and the Hand We Play



## **A Game of Imperfect Information**

People who don't know poker think it's all about bluffing. It isn't. It is a game that forces you to quantify that which is unknown, make on-the-spot risk assessments and come to the right decisions under pressure without the influence of any emotions.

I should know. I learnt this the hard way.

The crowd around the table was four deep and I was sweating beneath the proverbial spotlight. It had been two years since my last live poker tournament yet when I walked back into the poker room it felt like I had never been away. Passing some of the tables on my way to the cashier's desk, dealers looked up with 'welcome back' gestures – a smile, a nod. I waved back, my excitement rising further with the sound of riffing poker chips. I love playing poker. I am not a professional poker player, nor is it my goal to become one. Yet two years earlier, when I was seven months pregnant, I'd finished fourth out of eighty players at my local casino, winning £5,000. And here I was now, back at the tables at the PokerStars Festival tournament in London facing off against over 900 players for a first prize of nearly £90,000.

After eleven hours of play, there were just three hands left and, despite my long absence, I was finishing the day as one of the tournament leaders. At no point had I been at risk of being eliminated. Until William Kassouf sat down at my table.

Unlike me, Kassouf is a pro. His style of play is polarising. He

had come to notoriety a few months earlier during the final stages of WSOP (World Series of Poker) where he received a penalty for taunting a player and clashed with another in such a way that the moment captured on a TV broadcast went viral. The player Kassouf locked horns with was Canadian poker pro Griffin Bengier, who had been sitting in silence for over four minutes, waiting for him to act. At the poker table that is a long time, and an absolute eternity when you are on the receiving end of Kassouf's speech play: he had not stopped needling Bengier in his attempts to elicit a tell. When he eventually did get the tell, he totally missed it. How? Breaking his silence, Bengier went on the verbal offensive: 'You're just an abusive person, man, it's not funny.' In the subsequent back-and-forth between the two, Bengier repeatedly yelled back, 'Check your privilege!' Had Kassouf paid attention, he would have noticed that – with millions of dollars in play – for Bengier to have had the confidence to antagonise his opponent, he must have held the best starting hand in poker – Aces. What made this match-up even more spectacular was the fact that Kassouf was holding Kings, the second-best starting hand in poker. Both players went all in. The tiny 0.4% probability of Kings facing Aces seemed to hit Kassouf hard. Not only was he visibly shaken but he was now also openly calling for one of the two Kings remaining in the deck. None appeared on the board. The studio audience erupted in a deafening cheer as Kassouf got knocked out of the tournament and had to leave the table. Despite losing in front of TV cameras and a global audience, Kassouf didn't change his modus operandi one bit. He maintained an aggressive and bullying table manner. Whenever he was involved in a hand he would launch into an endless stream of verbal pokes and prods to put his opponents on edge and move them out of their comfort zone. And now that was exactly what he was doing to me.

We were the only two players in the hand and the barrage that came across the table was irritating me. 'What have you got? Tell

me. I'll tell you if it's any good,' he heckled, trying to elicit a reaction. I tried to tune him out and focus on replaying the actions that had led to this precise moment. He had said, 'All of it!' before smiling and shoving all his chips into the middle after the river card (the last card on the board) had landed.

For him to go all in, his hand had to be good. But how good? And, crucially, was mine better? He acted confident, for sure. But was it bluster?

As the players on the other tables finished, word spread that Kassouf was in a heads-up, all-in hand and a crowd formed around us. Among the spectators were several journalists eagerly jotting down every single exchange:

*'... Then she said, "Are you lying to me?" Again it was like a parent might grill a child with chocolate smeared around his chops.*

*"No!" Kassouf insisted, about as innocently as the Artful Dodger.'*

I couldn't tell if he was lying, but one thing I knew for sure: I didn't have the best possible hand. The best hand, called 'the nuts', would have been a flush, all cards of the same suit.

'Will,' I asked, 'do you have the flush?'

'Nope, I don't have the flush! I DO NOT have the flush!'

I have no idea why I asked him anything at all. It was an act of desperation. He wouldn't have told me if he did. Just as he'd been taunting me, I tried to taunt him. I hoped it might give me a clue. Anything. I didn't know what I was looking for. And I didn't know how to read any answer he might give.

So one more time I tried to remember. How quickly had he called my bet? Had he hesitated? Had he seemed eager? It was no use. I was at a loss. Engulfed by a massive cloud of uncertainty that had moved in over my head, I kept my gaze on the table, trying to blur out the peering eyes around me, desperately seeking a place where I could find the answer I needed. I couldn't catch hold of any clear thought in my head to save me. Instead, I was drowning in a sea of irrelevant questions. Why hadn't I played a few smaller,

warm-up tournaments first? Why did I choose my first tournament to be this one – the big one? I cursed my decision-making. Then I reprimanded myself for ignoring my own advice to avoid getting involved in a hand with Kassouf, who was still yapping at me from across the table. I disliked him immensely. Still staring at the board, I tried to refocus my mind on the play, but he did not give me a chance. ‘If you got it, you got it!’ he jibed. It was the same line he’d used on his opponent a few months earlier during the World Series of Poker clash, the clash that he had lost.

What exactly triggered my decision to call him I do not remember, but I will never forget the crushing feeling that hit me when I looked up at Kassouf, who was staring right back at me like a hyena ready to pounce. I knew right then I was about to lose, even before seeing his cards. I was still moving my stack into the middle when, grinning from ear to ear, he turned to the crowd and announced: ‘The coconuts!’ smacking down an Ace-High flush. The best possible hand. The absolute nuts.

I was angry and humiliated. What’s more, I had given away my tournament life and I had no one to blame but myself.

*‘Kassouf sat on his knees, his foot shaking in excitement over the edge of his chair. He was silent and offered neither a faux apology nor a rub-down. He smiled still, but reading it would have been poker anthropomorphism: it might have been guilt, sympathy or plain old wicked glee. There was no way really to tell. Kassouf simply stacked up close to 185,000 chips as O’Brien counted only about 20,000 in front of her. About three minutes earlier, it had been into six figures.’*

No one cheered, which was something of a comfort. But I knew what everyone was thinking, because I was thinking just the same: why did I call him? The headlines in the poker news the next day summed it up: *Kassouf got into O’Brien’s head.*

Looking back now, I know exactly the mistake I made. It began way before Kassouf even sat down at my table. A few months earlier I had watched him on TV during the WSOP. He had bluffed

a female poker pro and then zealously celebrated for the cameras, shouting: 'Nine high like a boss!' It was unsportsmanlike and disrespectful behaviour and the scene was burnt into my mind. Kassouf was not just the villain I disliked, but one I badly wanted to beat. When it came to the showdown between us, that moment from the WSOP was replaying in my mind. I couldn't stand the thought of being shown a bluff, of seeing him gloat with the satisfaction of having got away with it yet again. I became so desperate to beat him that my emotions dominated my mind, forcing out any logic or critical thinking. In poker, you cannot make a mistake like that. And when you are uncertain about a move, your best bet is to just fold your cards.

### **A Game of Strategy**

After that public humiliation, I couldn't sleep for days. I'd lie awake in bed, staring at the ceiling, endlessly going over the hand in my mind, reliving the moment again and again. What made this showdown particularly painful was that it had been down to an unforced error. It was on me, and I had to take responsibility for it. By the fourth sleepless night, it was time to stop the self-imposed torture. I couldn't change the past, but I sure as hell could make sure I was ready for the next time I found myself in a similar situation. In the morning, I got up and started studying the game.

You can learn the rules of poker in minutes, but it takes years to truly master it. The game is so complex that the world's best professionals allocate hours of daily study to it. Highly strategic, it requires a number of skills, all of which are used in combination to sleuth for information. Poker players start by asking a range of questions and then move on to interrogating every aspect of the game, meaning they go through a process of stress-testing their assumptions and the information they have at the time.

Using mathematics, statistics, game theory, emotional intelligence, strategy, deception, and verbal and non-verbal behaviour analysis, they detect clues leading to whatever their opponent is attempting to conceal and whatever needs piecing together. Studying and playing the game leads to the development of a strategically sophisticated mindset. What generally happens with beginner players is that they tend to focus on the cards they themselves hold; however, once they gain a better understanding and more experience of the game, their thinking shifts to what their opponent's cards could be.

Nobel Prize-winning mathematician John Nash once described human interaction as being like a poker game; both sides adapt their behaviour to get what they want out of the other person, even if they're not doing it consciously.

When I began my deep dive into poker study, I learnt more than just the equity of a particular hand or the expected value of a certain play. Studying it changed my thinking in ways that saw me approach everyday life as if it were a game of poker. I started assessing and evaluating not just people, but actions and information in my environment, just as I do at the tables. In the process it became clear to me not only that the game of poker was misunderstood, but also that its benefits were being vastly underrated. I realised that the various skillsets one needs to bring to the table are underpinned by proven scientific theories – these structured explanations about how our environment and the phenomena in it work are based on facts, repeated tests and verifications. The more I looked into it, the stronger the line connecting poker and science became. This book details how.

### **The Cards We're Dealt and the Hand We Play**

Our lives are affected by the decisions we've made, and sometimes by those other people have made. Individually and as a

collective. To make *good* decisions that lead to *good* outcomes we have to be able to understand and analyse information, including the actions of those around us. No matter how small or seemingly insignificant, every single one of our actions has at least one reaction. Nothing in life happens without this exchange, without give and take.

As a society we *have* to become better at holding not just those in power accountable, but each other too. Everyone *thinks*. We can't avoid it; it's as integral to our existence as breathing. But it seems that left to ourselves, much of our thinking is biased, distorted and uninformed. Yet our quality of life depends on the quality of our thoughts.

*The Truth Detective* is your roadmap to a more effective mindset. Thinking like a poker player helps us sniff out lurking threats, because none of us is safe from being manipulated to someone else's advantage. This book will transform your thinking and enhance your ability to detect the traps set to exploit us, by people who want to shift our opinions, manipulate our reality and control our thoughts.

Plenty of books teach you how to tell when you're being lied to, and plenty of books will tell you how to play poker. This book will do neither of those things. It's about those hundreds of moments every day when we're faced with an unclear choice or an uncomfortable conversation; the moments where we read or hear something that commands our attention but we don't know how much weight to grant it; and it's a book about how we can help ourselves to find the best way forward. It's about how to react to government policies, how to decode alleged scientific discoveries, how to decipher what our kids say or try to say on the way home from school, how to process this whole crazy post-truth world. Ultimately, I want to show you that we are more likely to avoid the treacherous jungles of the unknown and make good decisions when we use some of the skills that are so important

## THE TRUTH DETECTIVE

to the game of poker; when we consider that life isn't a bluff, but a game of imperfect information. This book will teach you how to take the skills needed at the tables and apply them in real life. It will show you how to think like a poker player and will tell you why it's important to do so. Learn, as I have, not to look for the lies. Look for what you can verify. Look for the truth. Use your mind and think critically.

PART ONE

Making Sense of a  
Complex World:  
Critical Thinking and Poker

## Learning about Learning Poker

All truths are easy to understand once they are discovered; the point is to discover them

Galileo Galilei

When we look to verify information, we can minimise the number of mistakes we make and are less likely to get burnt. In doing this, we become truth detectives. But beware: you are signing up for a never-ending quest that requires courage, effort and a healthy dash of humility.

Socrates held that we can only achieve true wisdom by recognising our own shortcomings and lack of knowledge. Looked at this way, the search for truth isn't a destination, it's a life-long process of constant discussion; considering and evaluating the views of others as well as ourselves – or at least that's what happens when it's going well. On the face of it this sounds pretty straightforward, but of course it is not: nothing that involves humans and their many complexities is straightforward. Truth is so coveted partly because most of us want it to confirm what we already think and what we *want* it to be. When we claim ownership of the truth without seeking evidence to verify it, we are failing to engage with each other on a meaningful, thoughtful basis.

There are variables and forces in life that we can do nothing

about, like weather or gravity. It is also true that how others react, what they think or what they say and how all this affects us and our environment is an aspect of life that adds both to its infinite beauty and to its occasional ugliness. But just like in poker, there are measures we can take to mitigate negative experiences and outcomes, and skills we can develop to avoid them.

One of the very first lessons I learnt from poker is how to deal with two important aspects of the game: ‘variance’ and ‘luck’. Poker players use these terms to explain outcomes.

When you sit down at the tables, you can expect to achieve a certain distribution of outcomes. Your win or loss is akin to a random draw from that distribution. ‘Variance’ is a statistical computation on the (theoretical) distribution of outcomes, while ‘luck’ is the draw from that distribution that is realised. This distribution can be influenced by a number of variables such as the structure of the game, your strategies and skill levels, and those of your opponents.

Therein lies the lesson. And it’s two-fold. First: to accept that you are simply not in control of all variables. Second: to understand that you can influence variance.

Life isn’t too dissimilar to a game of poker. We don’t control the cards we are dealt; how far we prosper or fail depends on our skill, education and knowledge.

Many would not consider poker skills applicable to life. That’s mostly down to the fact that poker has an image problem. It holds a dominant position in popular culture (particularly in movies) as a medium to evoke stress and high tension, mostly alongside all the shorthand connotations of gambling (illegal underground dens, smoke-filled back rooms). Rarely do you see it depicted as a strategic game. There are a handful of exceptions, generally provided by storytellers who are themselves avid poker players, like Brian Koppelman and David Levien, the writers of poker classic film *Rounders* and the hit TV series *Billions* respectively.

This popular depiction contributes to the generally held belief that poker is gambling. But it is information, not luck, that is the key to consistently winning in poker. Players will both seek to obtain it from others and actively work on ensuring that they don't leak it themselves. They will aim to conceal the strength of their hand while at the same time paying attention to every detail of the game.

The general perception non-poker players share is that poker is all about picking up on and then deciphering tells. That is *part* of the game, but here's the thing: the detection of verbal and physical cues is only a small part of a poker player's toolbox. The reality is that pieces of information are hidden everywhere, and the best poker players understand what they are and how to look for them.

The significance of the role that luck plays in the game is fiercely disputed. Let me tell you the story of Lawrence DiCristina's underground poker club, and we'll see just how split opinions are and how difficult it is to gain consensus one way or another.

At the time of his arrest in 2011, Lawrence DiCristina's twice-weekly poker nights at his electric-bike warehouse in Staten Island, New York, were making him thousands of dollars a week. The games were advertised by word of mouth or text message only, and seats at the two tables always had waiting lists. DiCristina pocketed a 5% 'rake', or cut, from each hand. But that's not what he got busted for.

The problem was that his operation involved the efforts of 'five or more persons' and had been in 'continuous operation for a period in excess of thirty days' – making it liable for prosecution under the Illegal Gambling Business Act. This law, enacted in 1970 to combat organised crime, covers a long list of gambling operations that includes slot machines, lotteries, bookmaking and poker. DiCristina fought back: his poker nights were not gambling, because gambling is a game of chance. Poker, he said, is a game of skill – a sport.

The courts kept changing their minds. When he appealed against his original conviction in 2012, a district court ruled that poker was indeed a game of skill in which ‘increased proficiency boosts a player’s chance of winning and affects the outcome of individual hands as well as a series of hands’. In 2013, a federal appeals court reversed that judgement.

To date the US Supreme Court has refused to hear any appeal against this ruling, leaving DiCristina’s conviction intact, and along with it the ruling that poker is gambling.

Jessica Welman, a long-time poker reporter who has worked for WSOP, *Card Player* magazine and WPT (World Poker Tour), has told me she believes the sentiment is that the game of skill argument had its moment. The Supreme Court only hears so many cases a year and many parties lobby hard for certain cases to be heard. No one is really lobbying for the ‘game of skill’ case to be taken up. Why? It seems to come down to money.

Welman tells me that in the greater scheme of things, poker is not a big revenue generator compared with other casino games. At the time of writing, websites in the US states of Nevada, New Jersey, Delaware, Michigan and Pennsylvania – where online poker is legal – each generate on average about \$2 million in revenue a month, a paltry sum compared with online casino, which can generate more than 70 times that in revenue a month. In 2023, the New Jersey Division of Gaming Enforcement reported a record \$152.9 million in online casino revenue for the month of January alone. Even sports betting, a low-margin industry by gambling standards, generates substantially more revenue than poker.

These are some reasons why poker is still fighting to be taken seriously, as a legitimately strategic game, by those who don’t play it. Perhaps another is that in poker you do not have a ranking system that can accurately identify the single best player in the world.

Why? Unlike in chess, where the best player wins virtually

every time, there is no such guarantee in poker. Here the only guarantee is that the best player will win more often than the worst player. In the World Chess Championship only the most skilled get to play for the title. There is no such exclusivity in poker. The most coveted title in poker is open to all – or at least all with a spare \$10,000. The Wimbledon of poker is the Main Event at the World Series of Poker in Las Vegas, and anyone who can table the buy-in of \$10,000 gets to play it. The requirements are pretty basic: if you've got the money and know the rules, you've got yourself a seat.

Pick any poker room at any one time you will find players with drastically varying skill levels. Recreational players (those who come to play for a bit of fun), semi-pros like me and professional players can all be sitting next to each other at a table. I figured out pretty soon who the pros in my local casino were and then I did what I do best: I asked questions. In the beginning I had mostly been playing on instinct, with some success, but falling short of the top spots. In tournament poker, 'making it into the money' means being in the top (usually) 10–15% of players who get their buy-in money back plus a little extra at the very minimum. Then, as more players get knocked out of the tournament, your prize money increases. In my first three tournaments I just about made it into the payouts, but then got knocked out. In poker you call that 'min-cashing'. As a competitive person (endurance sports are fun for me) not making it any further was seriously frustrating.

How could I get better? What was I not doing right? All the pros had the same answer: just study the game.

### **Studying Strategy**

In many ways poker is quite similar to chess. Both games require you to think about the information you have and then analyse it. Both require you to stay focused for long stretches of time and to

plan your actions ahead. In chess you have all the information in front of you, in poker you do not – a crucial difference that adds layers of complexity to the game. In poker you are forced to adjust your strategies more frequently in any one game as the dynamics at the table change throughout. These can be influenced by your opponents' play style and their respective chip stacks. Your strategy can and should change when you're up against one, two or more players, as well as in response to your own position and chip stack. Subsequently, the thought process in poker can increase in complexity, because whether you win or lose depends not just on skill, multiple opponents, field size and game structure, but also on variance and luck. Poker players study all of these elements, all of the time.

I increased my study time. Joined a study group, bought the latest poker books and, when the day job allowed, sat in on online coaching sessions. But the real breakthrough in my learning came in 2021 at a poker study bootcamp. (Yes, there is such a thing!) This was ten days of pure poker study with some of the world's best coaches, set in the glorious Austrian Alps. It was transformative.

From the moment we woke up often until way past midnight, we studied strategies, discussed hands and played online. Our daily study routines included hours at our workstation doing drills: playing against a computer program (a training program based on the outputs of a solver) a hundred hands at a time. Over and over until we hit at least 90–95% accuracy at completing each of the drills, and no longer made big mistakes. The purpose of these drills was to automate decision-making as much as possible. And they worked! It now took split seconds for me to know when to fold, bet, call or raise with a hand in certain spots – patterns were unfolding before my eyes. Like a fog lifting, suddenly things were so clear to me.

One of my favourite moments was during one lunch that had

turned into an impromptu lesson. Our head coach German pro Fedor Holz, one of the world's best players, listened to us discussing hands amongst ourselves and then challenged our thought processes and reasoning. He pushed us to think critically at all times and use logic to assess what properties of the hands are important, then use those to play against others who are not following the correct play (in poker we call this Game Theory Optimum, GTO for short). Assessing the hand in this way then allows us to deviate from the optimal play ourselves and helps us make educated guesses. It may not always be perfect, but so long as we guess better than our opponents, we're still making money. We're still winning.

I'm not sure if it was because I was sitting next to one of the best players in the world, being taught a game I love against a backdrop of majestic mountain ranges, but this moment in time felt surreal and triggered a memory. Leaning back in my chair, I tilted my head to catch the midday Alpine sun on my face and let my mind wander back to those early days when I first fell in love with this game.

Back then, YouTube was pretty much the only place you could find poker lessons by poker pros. In my coaching-related searches, one name kept popping up: Daniel Negreanu.

What singled him out, especially for a novice like me, weren't his coaching videos, but the clips others posted of him playing: Negreanu at the tables, usually locked in a hand with just one other player and a decision to be made. He'd often talk to himself, trying to think it all through and then, in video clip after video clip, he would call out the exact two cards his opponent was holding – right down to the suits, as if he had X-ray vision. It was an uncanny, stunning display of precision, and watching this as a rookie poker player blew my mind. I thought Negreanu had superpowers. I was convinced of it.

I smile to myself as I come back to our impromptu lunchtime

strategy lesson outside on the Alpine terrace. Today, of course, I know that while few players can claim this level of accuracy, all poker pros will deduce their opponent's holding to within a narrow range. 'Thinking in ranges' is a foundational block of poker study, and now here in the bootcamp I, too, was doing just that.

But studying the theoretical aspects isn't enough to win. You also need to understand player tendencies and behaviours and then be able to adjust your strategies accordingly. Poker is a dynamic game that forces you to interact with others, and whenever people interact (be it on or off the green baize) emotions are always in play. Poker makes you pay attention to emotions, both yours and others', and requires you to go one step further and take charge of your feelings.

The game drives you to think in probabilities and make on-the-spot risk assessments. When you play poker you repeatedly find yourself in a position where you don't have all the information; you have a bunch of uncertainties and no choice but to make decisions based on what you do know and plan ahead accordingly. Nothing else teaches you that, says US-based psychologist-turned-writer Maria Konnikova. She is a great example of someone with no prior knowledge of the game, who became a successful player after dedicating time and effort to study.

Konnikova's doctoral work at Columbia University, New York, had focused on the links between self-control and illusory control, and the impact of both of these on risky financial decision-making. She was fascinated by the concepts of chance, uncertainty and risk – and by how our brain reacts to them. She started playing poker as part of her research: she wanted to know what decision-making in a risky environment looks like when the pressure's on, and poker was the ideal arena. The now bestselling author hadn't planned on becoming a poker pro. Yet much to her surprise, she started not just winning, but winning big, picking up

a coveted championship trophy in the process. *The Biggest Bluff* – the title of the book she was researching at the time – ended up being a report on her fascinating transformation into a serious poker pro.

With her combined perspectives of psychologist and poker player, Konnikova argues that poker brings real educational benefits, and she goes as far as proposing that it should be taught in schools – as a way of teaching important and relevant life lessons such as resilience, discipline, statistical knowledge, understanding of risk, and emotional awareness and control.

And she isn't alone in her advocacy for teaching poker.

I'm on Skype talking to Avi Rubin, professor of computer science at Johns Hopkins University in Baltimore. He is reminiscing about playing poker with his children some 20 years ago. While other families would bring out Monopoly or Scrabble for game night, the Rubins and their three children (the youngest was just five years old at the time) would sit down with a deck of cards. It was the family's choice of games, which is why a little poker set would always make it onto the packing list for their week-long boat trips. Rubin's face brightens into a smile as he tells me about imparting an important life lesson to his eldest daughter.

During poker games, whenever she had a really good hand, she would remove her sunglasses from the top of her head and slowly slide them onto her nose. It was a behaviour she was modelling after watching poker players on TV do the same for seemingly important hands. But it's a core behavioural mistake – no matter how good or bad her hand, her father told her, she must always act the same. That is because good opponents will pick up on any change of behaviour and quickly begin to correlate it with the strength of your hand. In poker you want to keep your table composure pretty level, so Rubin asked her to try to control her behaviour, to keep her excitement or nervousness under wraps.

Off the table too there is value in keeping our composure, no matter how tense or exhilarating the situation.

Rubin owns a cybersecurity firm, and often finds himself having to negotiate with clients. It may be, he says, that somebody in a meeting says something so surprising that you're caught off guard. But you don't want to show that you weren't prepared. Acting normal, looking like you aren't fazed, is important. He credits poker for his ability to stay cool and tells me that at the tables he would practise maintaining an even keel and not changing his expression, no matter how the action unfolded.

He also draws parallels between the thought processes that he'd use when placing a bet on the poker table, and when negotiating a business deal. When he's trying to figure out what price to aim for, he applies exactly the same steps of reasoning as if he were betting in poker: 'If I go too high, I'm going to scare them off. And if I go too low, I'm leaving money on the table, [when] I could have actually done better.' Both in business negotiations and in poker, who goes first can determine an outcome. In negotiations Rubin will aim to obtain the first bid from the clients, the equivalent of 'having position' in poker and waiting for the other player to act. ('Having position' at the poker table means that you are in a hand with people to your right, so that every time a card comes, they make the decision first – placing a bet, for example – and then you respond to it.)

Microsoft co-founder Bill Gates, who ran a regular poker night in his dorm at Harvard, writes in his book *The Road Ahead* that poker strategy proved helpful when he got into business. It's a belief shared by Jennifer Just, co-owner of a multi-billion-dollar investment firm.

In 2019, Just started her very own poker school, Poker Power. She describes it as a launchpad for girls and women to succeed in school, business and life. 'The skills and strategies that we teach empower women to sit at every table, from the classroom to the

boardroom. I truly believe learning poker is a game-changer,' she says in her online biography.

In 2020, Just appointed Erin Lydon and put her at the helm of Poker Power. 'Poker Power was founded because we know there is a strong connection between success and the skills and strategies taught through poker – this isn't your ordinary card game. Poker makes you a better negotiator, better thinker, better at quick decision-making, better at taking calculated risks, better at assessing how power and influence shift,' Lydon tells me.

Through a global network of clubs, tournaments and corporate events, Poker Power utilises gameplay to build confidence, challenge the status quo, learn strategy and assess risk. The goal is to teach a million women to play poker. To help with this mission Lydon has enlisted the help of female pros including Konnikova and a large crew of poker teachers. And one of them is Tamara, Avi Rubin's youngest daughter.

The Rubins and their kids still get together to play poker, only now it's online. 'We don't play for money, we play for pride, but it's so much fun. We open up a Zoom, and with the kids abroad, it feels like they never left,' he tells me. With his kids no longer in need of lessons, Rubin looked for new pupils and found them right under his nose: his college students.

Rubin designed a course that covered poker basics, then went deep into strategy, included guest lectures by poker pros and closed off with a final practical lesson, a poker tournament at his house. Not knowing what the uptake would be, Rubin initially capped the available spots for the course at 100. The spaces filled within record time. In fact, such was the enthusiasm for it, Rubin's inaugural poker course at Johns Hopkins University in January 2020 had to be moved to a much larger auditorium than originally planned. Over 250 students turned up for the course.

Charles Nesson, a Harvard Law School professor, also advocates for poker in the classroom. He founded the Global Poker

Strategic Thinking Society to promote poker as a teaching tool. To him the parallels between the thinking that helps you win in poker and the thinking that allows you to succeed in law school were abundantly clear. Being able to see yourself from the perspective of others, all the while keeping your emotions in check, is a valuable skill in many domains including law and business.

Another Harvard alumnus, former President Barack Obama, is a poker player, too. In December 2009 the *National Journal*, a magazine focused on politics and policy, appeared with the cover line ‘Obama as Poker Player’. The article described how the then President of the United States approached issues with a ‘poker player’s sensibility’. It’s not an unusual interest for a president: Harry Truman had the presidential seal embossed on his chips and Richard Nixon was said to have funded his early political campaigns with poker winnings.

Despite such high-profile ambassadors, academic endorsements and organisations such as Poker Power, the game is still struggling to be seen as strategic, and continues to lack the status of a cerebral game, even though it has more to teach people than chess. Because poker isn’t fair – and neither is life.

### **The Bluffs We Seek and the Bullshit We Find**

Popular culture tells us that success at the table is all about sussing out the lie or detecting the bluff. No, it’s not. It’s the exact opposite. As in real life, poker just isn’t riddled with bluffs and lies. For deception to be effective, it must be rare – in poker and in life. In reality most people are honest most of the time. Think about it. For the most part the messages we receive, the interactions we have with others and the certainties we rely on in life are true – and that’s a good thing. Actually, it’s more than that: honesty is essential for a functional society.

Despite their rarity, we devote a disproportionate amount of

time and effort to seeking out lies and deceptions. Judging by the sheer volume of literature that is available on lie detection we seem to be consumed by the desire to become lie detectives. Such is the demand that it drives not just book sales but scientific research as well, producing an abundance of experiments and studies dealing with real-time verbal and non-verbal behaviour analysis. But you won't be able to become a human lie detector just by reading a few books and poring over some scientific papers. Sure, some individuals are unsettlingly good at reading people, and their expertise is regularly called upon by national security and law enforcement bodies, but these are people who have devoted their lives and careers to behaviour analysis. They are few and far between.

So why, then, even though most of us won't ever find ourselves in an interrogation room across from a suspect, are so many of us keen to become human lie detectors? The reason is simple and very human: lies hurt us. The pain they inflict fades slowly for some and not at all for others. Lies cause emotional scars that may never heal. It makes sense that we want to avoid being hurt like that. But this isn't as simple as seeing a boiling pot and knowing not to put your bare hands on it.

The reality is that spotting lies is difficult, and we are terrible at it. There are no real cues to deception, and the leading experts you will meet in this book will tell you this. So that's the bad news.

In 1986 a deeply troubled professor of philosophy sat at his desk in Princeton University, New Jersey, staring into the void. Harry Frankfurt saw a crisis looming. He'd long observed the growing lack of respect and concern for the truth. The culprit was a particularly dangerous foe that was creeping into the fabric of our culture. That foe? Bullshit. Something needed to be done. Frankfurt started writing an academic paper which he hoped would begin the development of a theoretical understanding of the phenomenon. The paper, titled 'On Bullshit', would become

a cult classic in academic circles and then take on a life of its own when it was picked up by a publisher in 2005. It was reproduced and published as a hardback book, selling more than 600,000 copies within its first year.

We commonly use ‘bullshit’ when we want to describe something as nonsense. But at its core, ‘nonsense’ is still vague as a definition. It ducks the question of what is actually meant by bullshit. The term is commonly used to describe both a lack of logic and an untruth. However, these are two distinct notions, which is why Frankfurt took a stab at a better definition in his essay.

He does so by comparing bullshit to what he believes to be its closest relative, the word ‘lie’. He finds a clear and important distinction between the two: ‘It is impossible for someone to lie unless he thinks he knows the truth. Producing bullshit requires no such conviction.’ In short, bullshitters do not describe reality; they make things up to suit their purposes.

In contrast, liars are fully aware of the truth and work actively to conceal it. Bullshitters aren’t necessarily liars. What they say may well be true. But they are by no means tied to the truth, either because they don’t know it or simply don’t care about it. What they say can either be true, false or utter nonsense – their aim is to manipulate, to impress and to elevate themselves in the eyes of others. That is why Frankfurt believes that bullshitters are a more insidious and dangerous threat to truth than liars.

In some ways, Frankfurt warned us about Donald Trump. By the end of Trump’s term as President of the United States, journalists would explicitly fact-check all his statements as part of their reporting. Trump may have been the bullshitter-in-chief, but he is by no means the only one who bullshits on a regular basis. Try looking closer to home.

## Young Bullshitters

Any parent will admit that their kid has tried to bullshit them at least once, and few would argue against the assertion that teenagers have a propensity to overclaim and display overconfidence. It's a phase they go through, part of their development, part of growing up. In 2019, researchers at University College London decided to study this. They provided strong evidence that teenage bullshitters portray themselves as highly skilled and resilient when it comes to problem-solving, and attempt to give answers that they feel are more socially acceptable.

The study involved over 40,000 fifteen-year-olds from nine English-speaking countries, including Australia, Canada, England and the USA, and focused on maths problems (to avoid any ambiguities, or aspects lost in cultural translation). The propensity to bullshit varied across the nine countries studied. Teens in the USA and Canada were significantly bigger bullshitters than those from Ireland and Scotland, who were the least likely to exaggerate their maths knowledge and skills.

Unlike previous research, this study was able to investigate and dig deeper into the differences between subgroups, as well as look into any possible confounding characteristics between bullshitters and non-bullshitters. The teenagers were presented with a range of maths concepts, three of which were made up – in reality they didn't exist. Yet some teenagers claimed they knew what they were, and within that group teenage boys came out resoundingly as bigger bullshitters than teenage girls. Those teenage boys and girls who weren't truthful also had a striking overconfidence in their own abilities.

The study revealed a further interesting data point: teenagers from privileged backgrounds were more likely to bullshit than their disadvantaged peers.

Experienced truth detectives will note a slight flaw in this study. It's missing something: any teenagers that aren't from

Western, Educated, Industrialised, Rich, Democratic (WEIRD) cultures. Which means that the data, while representative of WEIRD cultures, isn't representative of the rest of the world's teenagers. The influence of culture cannot be overstated: it can drastically affect thinking, resulting in wildly variable behavioural outcomes. Culture plays an important role in the formation of our individual beliefs, ideas and values. It influences both how we express ourselves and how we treat others. (Unless explicitly stated, the studies mentioned in this book will have based their experiments on samples from WEIRD cultures, since unfortunately the scientific discipline of psychology is dominated by Americans and Europeans.)

This is a deeply important aspect to keep in mind any time we review or are presented with data or findings from studies. First, we need to be clear on exactly what is being claimed (teenagers are bullshitters) and what sample size the claim is based on (there is a big difference between 400 and 40,000). Second, we need to look at what and who the information really represents, and be aware of its limitations (teenagers from WEIRD cultures only). When we do this, we are sharper in our understanding and are less likely to extrapolate and make things up. Because making things up is easy to do.

Just like teenagers, adults also make things up – not because they don't know, but because they think they *do*. Adults also regularly overestimate or underestimate their abilities and skills, whether intentionally or not. And no, it has nothing to do with whether people who are unskilled just don't know it: research shows that both experts and rookies who underestimate and overestimate their skills do so in equal numbers. In fact, through computer-generated data and results from 1,154 people undergoing a science literacy test, now retired researcher Ed Nuhfer showed only about 5% could be characterised as 'unskilled and unaware of it'.

Making things up becomes a real problem when people present nonsensical fabrications and made-up ideas as legitimate, valid and meaningful to the outside world. We call this pseudo-profound bullshit – and it is a legitimate scientific term.

### **On Pseudo-Profound Bullshit**

‘What’s the story and does it make sense?’ is a question I have learnt to ask, especially when I am faced with a tricky decision. In poker, it requires me to put together everything I know about the play and the player. I look for logic and credibility. If I can’t find coherence in the line of play, I know I am either walking into a trap or I am being bluffed. Either way, if the story doesn’t add up, I know I am being played. It’s not much different in real life. We believe fake stories not because we’re dumb, but because we’re lazy thinkers. Making sure what we’re being told is true – especially when a story sounds plausible and is told really well – takes effort.

It took no effort at all for Canadian researcher Gordon Pennycook to thank Donald Trump, Oprah, Deepak Chopra, the entire line-up of Fox News, and Rhonda Byrne, author of self-help book *The Secret*, during his acceptance speech of the Ig Nobel Prize for Peace at Harvard University’s Sanders Theatre in 2016. Although not entirely serious, he wasn’t joking either. His gesture was appropriate nonetheless: the annual Ig Nobel Prizes are awarded for achievements that first make you laugh, then make you think.

His speech summed up the study that had earned the award for Pennycook and his team. Titled ‘On the Reception and Detection of Pseudo-Profound Bullshit’, it was anything but ridiculous. The researchers were aiming to understand the underlying cognitive and social constructs that determine whether and when bullshit is detected, with the idea of creating a reliable measure for bullshit receptivity. They looked at statements using big words, ambiguity

and vagueness that on first reading may come across as profound and insightful, but upon closer inspection are meaningless.

One of the investigations asked participants to rate the profundity of various statements. It used an algorithm to generate sentences such as, ‘The future explains irrational facts’, ‘Consciousness is the growth of coherence, and of us’ or ‘Today, science tells us that the essence of nature is joy’. In short, the team wanted to see how likely people were to rate bullshit as profound. The researchers then analysed bullshit receptivity, as they called it. They found that those who were less analytical, more intuitive and had lower cognitive abilities were more likely to see bullshit as profound. They were also prone to believe conspiracy theories, hold paranormal or religious beliefs, and were more likely to endorse alternative medicine.

Those who were more sceptical and analytical were more resistant to bullshit. In summary, the study showed that analytical thinking allows us to be sensitive to pseudo-profound bullshit. Hardly a shock, you might think, but the truly shocking thing is that hitherto the subject had not been researched at all. ‘Accordingly,’ the researchers wrote at the end of their paper, ‘although this manuscript may not be truly profound, it is indeed meaningful.’

It’s a hard one for a science fan-girl like me to admit, but some scientists and academics succumb to pseudo-profound bullshit, too. You witness it in academic papers, where complexity of sentence structures and the multitude of obscure word choices are intentional and can gloss over a lack of substance. (I could also have written this last sentence as: ‘Scholarly writings display intricate content in which lexical composition combined with a magnitude of obscurantist terminology are purposeful and can hypothetically obfuscate with deliberation.’) It makes the ability to read between the lines really important. I frequently wondered why academic vernacular often seemed to require stilted

language, jargon and overly elaborate writing. Then I came across Daniel Oppenheimer's study.

In 2005, while at Princeton University, Oppenheimer found that a majority of undergraduates admitted to deliberately increasing the complexity of their vocabulary to give the impression of intelligence. Now a professor at Carnegie Mellon University, Oppenheimer suggested that a lack of jargon might be seen as a signal that the author is not an in-group member of the field. Other studies have shown that people are more likely to use big words when they are feeling most insecure. In both instances the predominant conclusion is that complex language is used to mask a lack of confidence.

But before we judge academics, it may be prudent to remember that we are just as guilty. We are all storytellers. With the words we choose, the actions we take and the posts we share we curate what we show and tell others. We manipulate reality as we amplify the good in our lives and omit and actively hide what we don't want others to see. It's a natural human behaviour that has been galvanised by social media. We have created a digital dystopia in which flawless personas and perfect lives are encouraged and celebrated by clicks and followings. These are the perfect conditions for bullshit to flourish in plain sight. The likelihood of people encountering more bullshit in their everyday lives is higher than ever before.

That is why Pennycook's paper called for the 'development of interventions and strategies that help individuals guard against bullshit'. It was a call for teaching critical thinking.

## **Learning to Think**

There used to be a time when the development of the ability to think and ask the right questions was taught in schools as part of the curricula all across the world. Critical thinking was hugely