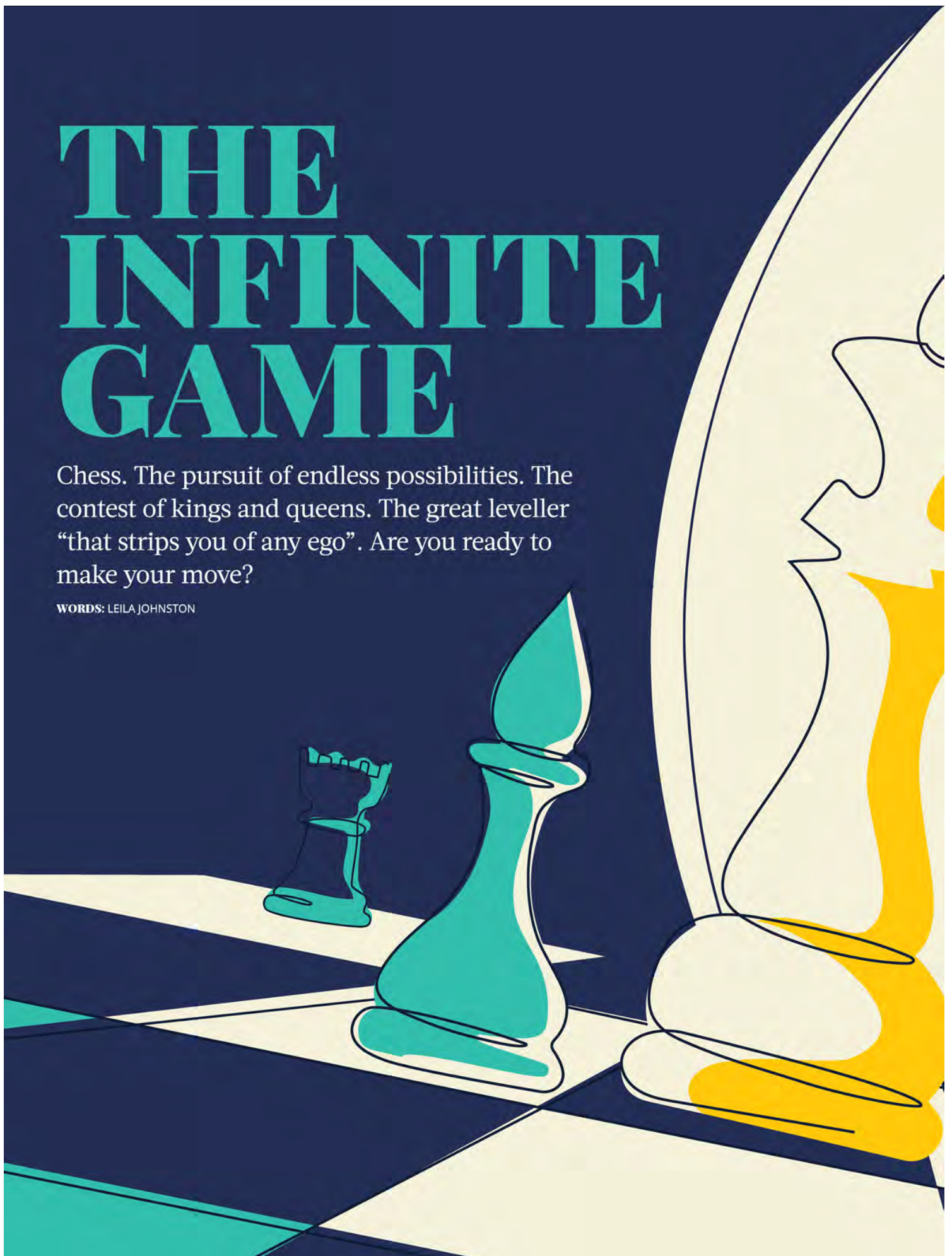


# THE INFINITE GAME

Chess. The pursuit of endless possibilities. The contest of kings and queens. The great leveller “that strips you of any ego”. Are you ready to make your move?

WORDS: LEILA JOHNSTON





Once you start thinking about chess, you see it everywhere. It's in everything from paintings to politics, songs to software, magazines, musicals and movies. And if you play enough, you might even find your sleep disrupted by pieces sliding around on the ceiling, like fictional prodigy Beth Harmon in *The Queen's Gambit*. People certainly do seem to be playing more – while the 2020 Netflix series found a whole new audience for chess, the online game amplified its appeal long before that.

Paving the way for the younger generation is 29-year-old New Yorker Levy Rozman, a chess educator known online as 'GothamChess'. Levy greets me with intense, intelligent energy from his hotel room in the north of Germany, where the world's top players have gathered for a freestyle chess tournament. This contest is for the best of the best, so, while he ranks in the top 3,000 globally, Levy won't be playing this week. Since the pandemic drove his work online, Levy has become one of the world's top chess influencers, and he's in Germany to cover the event for his army of almost 7.4 million social media followers. His videos are a lively blend of witty, informative and

confessional, but he remains, principally, a teacher.

"I believe chess should be a required course in schools from as early as four [years old] – at least for several weeks," he enthuses. "It helps with everything from handwriting, focus and discipline to critical thinking, managing the consequences of your actions, accepting responsibility and regulating emotions."

Perhaps surprisingly for the famously logical game, Levy believes that mastering your feelings is the secret to progressing. Starting young gives you a significant advantage in that respect.

"Younger chess players have nerves of steel – that stuff really helps," he says. "Adults have way more anxiety. But as a child you try more, you fail more, you try again. The brain is a cleaner slate, so it's easier for things to stick to it."

Levy stresses that starting at any age is beneficial and the more of his videos you watch, the more you notice an unexpected advantage for adult learners that has nothing to do with sharpening the mind. Underlying his robust, high-energy videos there's an almost Shakespearean subtext of human frailty: we feel every sting of his personal humiliations and failures.

"It teaches you to completely humble yourself and strips you of any ego," he explains. "It exposes all of your bad habits in day-to-day life, or the workplace – things like laziness, arrogance, over-confidence, anxiety, low self-esteem."

## MASTER MINDS

Provided you're ready to face these demons, Levy has good news for Mensans new to the game.

"A lot of it is pattern recognition, and logical and reciprocal thinking: 'if this, then that'. And repetition. People who have higher IQs and like logic puzzles will probably find chess easier because they won't make the same mistakes again and again. And that's the only way to get better at chess," he laughs, "to stop making mistakes."

Another New York-based educator, Bruce Pandolfini, has a strong claim to the title of world's most experienced chess teacher. He's also one of the most prolific authors, with more than 30





books to his name. Bruce has mingled with and trained many greats of the game, even dreaming up the iconic title for *The Queen's Gambit's* author, Walter Tevis, back when it was a novel in 1983 and, 36 years later, consulting on the Netflix adaptation. He coached the actors to move the pieces convincingly and devised around 350 games for the show. Now 77 years old, Bruce is highly engaging – a treasure trove of startling vignettes – and his whole being lights up when he talks about his game.

"Whatever age you are, approach chess like a child," he says, smiling under his thick moustache. "Adults study and read, but children treat it as play. And that's the best way. The main way to get better is to play intuitively and learn by mistakes."

Bruce's career began with him sitting in on a private tutoring session. He watched his friend, renowned coach and world-class player Shelby Lyman, sit down with a complete beginner – a

businessman. "I don't know how to move them," the student implored. Shelby's response was simple and, to Bruce, profound: "Move them how you think they should be moved."

Once again, then, the key to chess is mindset. While a sharp, logical mind does help prevent repeat mistakes, a willingness to be playful will help you to make those essential mistakes in the first place.

## KNIGHTS TO REMEMBER

Now, we all know you're very bright, but if you're reading this, you're probably too old to become a world-class player from a standing start – all the best players began at a very young age. Bruce tells me: "I started very late in life," before adding, after a perfectly timed beat: "I was 14."

He has taught hundreds of children over the years and shares an intriguing insight. "There are three fields in which prodigies are identified in greater

numbers: maths, music and chess. They seem very different, but certain things bring them together." In these specific fields, he tells me, the burgeoning native language facility seems to be hijacked by the language-like patterns of chess.

For a proper glimpse into the mind of a chess prodigy, we should find some to talk to. The famous Polgár sisters, Susan, Sofia and Judit, are the daughters of the late László Polgár, a Hungarian educational psychologist who hypothesised that geniuses are made, rather than born. His child-rearing methods appear to have been validated through the extraordinary chess careers of the three women. The youngest, Judit, is generally considered the strongest female player of all time (and one of the greatest of either sex), while Susan and Sofia have enjoyed astonishingly accomplished careers, blazing a trail for female players as they broke records and collected endless medals from a very early age.

## MY BRILLIANT BRAIN

For the first five years of her life, Susan was treated to the full beam of her parents' genius-nurturing techniques before the arrival of Sofia. It paid off: in 1984, aged just 15, Susan became the youngest ever female to earn the world number one ranking. In January 1991, she was the youngest woman in history to become a grandmaster, but that record was broken the same year – by her little sister Judit, just 15 years old at the time.

There's a National Geographic documentary from 2007, *My Brilliant Brain*, embedded in Susan's website. In one captivating scene, Susan has her brain scanned while images flash up on a screen in front of her: first of famous chess players, then of boards from games she's played in the past. Susan's brain lights up in exactly the same way for both types of image, suggesting she processes chess patterns almost as if they're familiar faces. As they say in the documentary: "Susan's brain has hijacked the fusiform face area and adapted it to chess." Perhaps former games, to chess prodigies, feel somewhat like old friends.

Susan calls in from an airy white room somewhere on the US east coast. She exudes calm confidence and, speaking to her, I'm reminded a little



Levy Rozman says chess teaches you to "humble yourself"





**Susan Polgár, who became the youngest ever grandmaster, processes chess patterns as though they're familiar faces**

of the 'white queen' moment at the end of *The Queen's Gambit*. It's hard to imagine anything ruffling her, but was she perturbed to discover her brain had been repurposing its face recognition software?

"Chess is largely pattern recognition, so that makes sense," she tells me. "People who don't play chess often imagine that it's all about memorisation and calculation, which obviously is a big part of it, but pattern recognition is equally important. I used to do big exhibition games – I even held the world record, playing 326 different players at the same time. But I don't need to remember it, I just recognise the positions. I immediately translate the position and think about what's the best move from here."

The chess brain is very efficient. There's no advantage in being showy or outrageously experimental – everything builds on everything else. Bruce formulates it in a similar way. "Chess relies heavily on spatial relations:

geometry, patterns, harmonies. If things are placed intelligently and logically, you can essentially tell where everything else is. It's implied by the logic of it. If you show a chess player a random position with no logic in it, they won't recall it significantly better than a non-player. They see things in gestalt chunks; one thing implies another."

#### **SOUL MATE**

So, a top player's processing power may be fast, but there is nothing inhuman about it. Chess patterns are not meaningless algorithms in the player's mind: they're experienced as familiar faces, cheering on flurries of logical sequences. Skill at chess isn't about becoming a human calculator but requires a unique integration of imagination and reason: a 3D *Game of Thrones* where stories and puzzles are nested, blended and overlapping.

This is the wonderful economy of chess and, in that sense, its art. Great

players raid their brain for analogies to adapt and repurpose as they play. And isn't it gloriously efficient that one move can be both defensive and devastating to the opponent at the same time? Each delicate placement is packed with power. Bruce tells me he wanted to be a poet when he was growing up, and that can't be a coincidence. But when I ask him if chess is a kind of art, he mentions something else. For all its reliance on sequences and memory, the game brings many moments of spontaneous surprise.

"Beauty can jump out of it," he says. "Oh that's the answer! That's how it hits you, as beauty. A certain radiance comes off it." He pauses, eyes shining. "Putting it into words is difficult."

Still, we must try. The expert on the chess vs art question is surely Sofia Polgár, painter and woman grandmaster (WGM), and the second born of the three prodigious sisters. From a room in Tel Aviv adorned with her own vibrant artworks, she echoes Bruce's words.

## **'APPROACH CHESS LIKE A CHILD...CHILDREN TREAT IT AS PLAY. AND THAT'S THE BEST WAY'**

**BRUCE PANDOLFINI**



"In chess, when we find something creative, interesting and beautiful, it comes as a surprise. It's a fresh angle, something that hasn't been figured out before. And in both creativity and chess, there's a lot of basic knowledge required. Creativity without knowledge is chance. So, in both, there's always lots of research and knowledge."

Sofia calls the creative part, common to both chess and art, "the twist". We can lay the groundwork for success in both, but at the heart of both art and chess, there's a sense of joyfully embracing the unknown. "Along the way, you find interesting things. It's the searching," she says. "On the one hand, you have infinite possibilities. On the other, there are lots of patterns that can be learned."

## CASTLES IN THE CLOUD

Part of the beauty of chess – and exacerbating the potential for surprise – is the fact that someone else is required. The other player is an adversary, but below the surface a different game is going on: a collaboration. Players create something new between them. It's a kind of symphony.

But if, in order to experience the full spectrum of these nuances, chess has to

happen between people, then where does technology fit in? The chess world has had its worries around this, but all the interviewees tell me the same thing: there isn't really a race between humans and computers. We're running quite different races and, when it comes to chess, often playing quite different games.

Bruce has literally written the book on the famous 1997 match where Garry Kasparov lost to IBM supercomputer Deep Blue. The significance of the loss was blown out of proportion, he tells me, based on a misunderstanding. "Kasparov tried to confuse the program, but it didn't work. He undid himself. But I don't think the public realised he was still the better player."

Similarly, Susan remembers the 'end of chess' conversations of the 1990s. "Just as a car can go faster than a human, we don't race with them; we use them. And that's exactly what's happened with chess; the players use the tools, we don't compete against them. We play with them, we use their analytical skills, we learn from them. Tech didn't kill chess, it elevated its exposure and accessibility."

Technology has changed the game, but it's changed the players, too. Bruce reflects that the 20 best players in the

world in the 1960s each had a distinctive individual style, but: "Nowadays, the top players all seem alike. They're drawing on suggestions by the software."

While the playing styles may be increasingly homogeneous, the chess fanbase is more diverse than ever before.

"We've always had this image of chess being played by old men in chess clubs," Bruce says. "It was great to see a woman triumph in *The Queen's Gambit*."

## EN PASSANT EXPECTATIONS

The Netflix series certainly inspired a new wave of women and girls to learn, but it remains a hotly debated feature of chess that, at the top levels, the sport is overwhelmingly dominated by men. Bruce shares an interesting observation about the children he has taught.

"I noticed there was never a difference between a talented boy and a talented girl until the age of six. Thereafter, it did seem that a talented boy would think: 'What can I attack now?' A talented girl would think: 'What can I defend?' It does seem that, metaphorically, we're doing something to young girls."

I relay Bruce's experience to Susan. "That's very interesting," she says, thoughtfully. "Society certainly expects

## 'IN CHESS, WHEN WE FIND SOMETHING CREATIVE, INTERESTING AND BEAUTIFUL, IT COMES AS A SURPRISE'

SOFIA POLGÁR



Woman  
grandmaster  
Sofia Polgár





**Bruce Pandolfini coaches Anya Taylor-Joy on the set of *The Queen's Gambit***

girls to be more conservative, more reserved. But when I look at female chess players, including some of the very best ones – like my sister Judit – often the reason they don't reach even further is that they're overly aggressive; they're playing an overly attacking style, rather than finding a better balance. Which is interesting because girls are raised to be more cautious."

Even if girls play in a similar style to boys, Susan explains that a female path to success in chess is littered with obstacles. Social expectations and pressures affect many young female players, "and the few who don't let it affect them manage to rise above them and become a chess grandmaster". But if it's bad now, it used to be much worse.

"They came up with various theories: that women's brains are smaller; women just can't shut up long enough. It was the norm. It has greatly improved, partly due to me paving the road."

She tells me that, even now, out of 1,800 grandmasters in chess, there are only about 40 women. "There is still a lot of misogyny. If it's a guy playing in a tournament, the discussion focuses on the moves. For women, at least half the conversation is about her sexuality. And that's regardless of the level."

Most female chess players have had these kinds of experiences, and a quick internet search surfaces many appalling stories, even dating from recent months. Several high-profile women have recently

stopped playing altogether, citing sexual harassment. This is the visible part of a subtle culture of disrespect and suspicion that affects girls from the moment they start playing. As Susan explains, it's utterly corrosive.

"It's tough. There are still men in chess clubs saying women aren't smart enough. They try to kill your self-confidence. They make passes at you as soon as you develop. And along the way, there are very few women who even stay at chess. And then it becomes a numbers game."

Thanks to the Polgár sisters and other female ambassadors of the game, things are improving. Susan has dedicated much of her career to boosting the number of women players and fostering a healthier, more welcoming culture.

"In 2002, I met the then-exec director of the US Chess Federation. We looked at the stats and realised that fewer than 1% of the membership of 100,000 were female. He asked me to help boost popularity among women. As part of this, I founded the Susan Polgar Foundation, with a mission to get more women into chess, and give more women and girls opportunities."

Susan's initiative has been successful, awarding over seven million dollars in prizes and bringing that 1% membership number up to 15%. "The numbers seem small, but considering 30, 40 years ago, there were none..."

For this queen, too, a gambit seems to be paying off.

## CHECK MATE

**Bruce Pandolfini's top tips for chess beginners**

### IT'S NOT ABOUT SEEING THE FUTURE

● People think that when you're looking at a chess position, it's a matter of seeing everything. You can't. A good chess player discards more than 99% of the possibilities, focusing instead on two or three. If you can see three half-moves ahead, you're a decent player.

### YOU NEED TO ATTACK

● You can win against good players who don't defend well. It's not necessarily a reflection on you and the strength of your attacks. But you can't win purely by defending. Ideally, you attack and answer your opponent's threats at the same time.

### IT'S NOT A RACE

● Playing well doesn't mean winning in the fewest number of moves. A good player will win in 20 or 25 moves. They will never take the chance of losing the game. You get an advantage, you keep it to the end.

## FURTHER READING

● *How to Win At Chess: The Ultimate Guide for Beginners and Beyond* by Levy Rozman.

● *Rebel Queen: The Cold War, Misogyny, and the Making of a Grandmaster* by Susan Polgár.

● *Bring up Genius* by László Polgár.

● *Kasparov and Deep Blue: The Historic Chess Match Between Man and Machine* by Bruce Pandolfini.

● *Chess Queens: The True Story of a Chess Champion and the Greatest Female Players of All Time* by Jennifer Shahade.

● The Susan Polgar Foundation and the National Geographic documentary is linked to Susan's personal site at [susanpolgar.com](http://susanpolgar.com)