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The Immortal Game

David Shenk

THE
IMMORTAL
GAME

.....

A HISTORY OF CHESS

*or How 32 Carved Pieces on a Board
Illuminated Our Understanding of War,
Art, Science, and the Human Brain*

DAVID SHENK



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FOR KURT

Caliph Ar-Radi was walking in the country, and stopped in a lovely garden, replete with lawns and flowers. His courtiers immediately began to dilate on the wonders of the garden, to extol its beauty, and to place it above all the wonders of the world.

“Stop,” cried the Caliph. “As-Suli’s skill at chess charms me more.”

—al-Masudi, tenth century

PROLOGUE

THINK OF A VIRUS so advanced, it infects not the blood but the thoughts of its human host. Liver and spleen are spared; instead, this bug infiltrates the frontal lobes of the brain, dominating such primary cognitive functions as problem solving, abstract reasoning, fine motor skills, and, most notably, agenda setting. It directs thoughts, actions, and even dreams. This virus comes to dominate not the body, but the mind.

When eleven-year-old Marcel Duchamp first played chess with his older brothers Gaston and Raymond in their home in the French village of Blainville-Crevon in 1898, the game seemed like a harmless distraction, an interesting way of passing the quiet nights in the Normandy countryside. A quick thinker brimming with charm and confidence, Marcel excelled at most things and was well liked wherever he went. Nurtured by his family's deep artistic roots and following in the path set by his older brothers, he emerged in his late teens as an ambitious cartoonist and painter in Paris.

In just a few years, Duchamp's intense and unusual work began to catch the public eye—mainly for its refusal to settle into a neat classification. He experimented with and quickly passed through the well-established painting styles of Postimpressionism, Fauvism, and Cubism. By his mid-twenties, in fact, he was moving past painting altogether, into an intellectual-aesthetic realm that would come to be known as conceptual art. With his landmark works *Nude Descending a Staircase*, *The Large Glass*, *Fountain* (a “ready-made” urinal), and *LHOOQ* (a postcard reproduction of the *Mona Lisa* doctored with a mustache and goatee), Duchamp gave a jump-start to the sedate art world and helped inspire the Dada, Surrealist, and Abstractionist movements. Further, his art and ideas anticipated the emergence of Pop Art, minimal art, performance art, process art, and, says biographer Calvin Tomkins, “virtually every postmodern tendency.” By age thirty, Duchamp had produced a body of work that would make him perhaps the most influential artist of the twentieth century.

And then chess took over.

“Chess holds its master in its own bonds,” Albert Einstein once said, “shackling the mind and brain so that the inner freedom of the very strongest must suffer.”

For more than a decade, the checker-square board game with four-inch medieval war figurines had been merely a happy diversion in Duchamp's life. In his teens and early twenties, he had played vigorously with family and friends. He also worked it into a few early paintings. But in his late twenties something happened between Duchamp and chess that transformed the relationship into an addiction, and eventually an obsession. Slowly, over a few years' time, chess moved to the very front of his brain, somehow forcing fundamentals like art, ideas, friendships, and romance to the rear. It was

as if these thirty-two inanimate pieces of wood emitted some sort of unseen magnetic or hypnotic power, bending Duchamp's formidable mind to its own will.

Strangest of all, perhaps, was the fact that this transition happened in the midst of career glory. Imagine John F. Kennedy chucking politics in June 1960 in favor of billiards. Popular and intriguing, Duchamp was the toast of art patrons in Paris, New York, and beyond. Now, at his peak, he was turning away from all this. Days that would ordinarily have been filled receiving admiring gallery owners and customers, and late nights that would have included dinner parties and more studio work, instead became packed with one chess game after another (after another, after another). Between games, Duchamp engaged in the silent, monastic study of chess problems—thousands of tricky endgame scenarios labored over by most serious players. In New York, Duchamp joined the Marshall Chess Club near Washington Square Park, playing until all hours of the night. During a two-year stint in Buenos Aires, he constantly sought opponents, studied chess books, and commissioned a set of custom rubber stamps in order to play through the mail with his New York patron and friend Walter Arensberg.

By his early thirties, the transition was complete. Apart from the design of some chess sets, Duchamp was producing virtually no art. He shocked friends by bluntly declaring that he was giving up his old career to become a full-time chess player. "I play day and night," he declared in 1919 (age thirty-two), "and nothing interests me more than to find the right move."

For hours at a stretch, taking just enough time for meals in between, Duchamp played alone in his apartment, with friends and strangers at cafés, and even in the midst of loud art-world parties. This new life involved not just a reordering of his work and social priorities, he explained to friends, but also his very consciousness. "Everything around me takes the shape of the Knight or the Queen," he said, "and the exterior world has no other interest for me other than its transformation to winning or losing positions."

In 1923 he moved to Brussels to further his studies of the game, and then returned to Paris. There he would work on chess problems all evening long, take a short break at midnight for scrambled eggs at the Café Dome, and then return to his room to work on chess again until about four A.M.

Even true love could not moderate his fixation. In 1927 Duchamp married Lydia Sarazin-Lavasson, a young heiress. On their honeymoon he spent the entire week studying chess problems. Infuriated, his bride plotted her revenge. When Duchamp finally drifted off to sleep late one night, Lydia glued all of the pieces to the board.

They were divorced three months later.

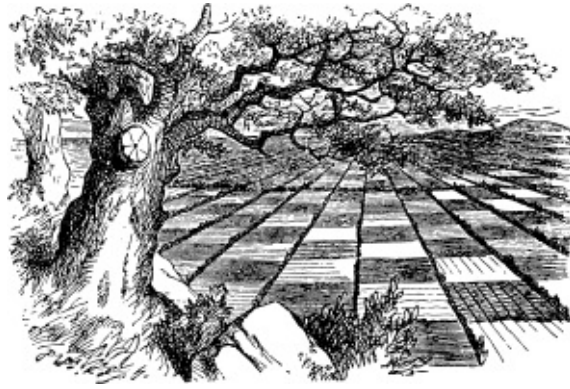


Illustration by John Tenniel, from Lewis Carroll's *Through the Looking Glass and What Alice Found There*

INTRODUCTION

LARGE ROCKS, SEVERED HEADS, and flaming pots of oil rained down on Baghdad, capital of the vast Islamic Empire, as its weary defenders scrambled to reinforce gates, ditches, and the massive stone walls surrounding the fortress city's many brick and teak palaces. Giant wooden *manjaniq* catapults bombarded distant structures while the smaller, more precise *arradah* catapult guns pelted individuals with grapefruit-sized rocks. Arrows flew thickly and elite horsemen assaulted footmen with swords and spears. "The horses...trample the livers of courageous young men," lamented the poet al-Khuraymi, "and their hooves split their skulls." Outside the circular city's main wall—100 feet high, 145 feet thick, and six miles in circumference—soldiers pressed forward with battering rams while other squads choked off supply lines of food and reinforcements. Amid sinking boats and burning rafts, bodies drifted down the Tigris River.

The impenetrable "City of Peace" was crumbling. In the fifty years since its creation in A.D. 762, young Baghdad had rivaled Constantinople and Rome in its prestige and influence. It was a wild, fertile axis of art, science, and religion, and a bustling commercial hub for trade routes reaching deep into Central Asia, Africa, and Europe. But by the late summer of A.D. 813, after nearly two years of civil war (between brothers, no less), the enlightened Islamic capital was a smoldering, starving, bloody heap.

In the face of disorder, any human being desperately needs order—some way to manage, if not the material world, at least one's *understanding* of the world. In that light, perhaps it's no real surprise that, as the stones and arrows and horses' hooves thundered down on Baghdad, the protected core of the city hosted a different sort of battle. Within the round city's imperial inner sanctum, secure behind three thick, circular walls and many layers of gate and guard, under the luminescent green dome of the Golden Gate Palace, Muhammad al-Amin, the sixth caliph of the Abbasid Empire, spiritual descendant of (and distant blood relation to) the Prophet Muhammad, sovereign of one of the largest dominions in the history of the world, was playing chess against his favorite eunuch Kauthar.

A trusted messenger burst into the royal apartment with urgently bad news. More inglorious defeats in and around the city were to be reported to the caliph. In fact, his own safety was now in jeopardy.

But al-Amin would not hear of it. He waved off his panicked emissary.

"O Commander of the faithful," implored the messenger, according to the medieval Islamic historian Jirjis al-Makin. "This is not the time to play. Pray arise and attend to matters of more serious moment."

It was no use. The caliph was absorbed in the board. A chess game in progress is—as every chess spouse quickly learns—a cosmos unto itself, fully insulated from an infant’s cry, an erotic invitation, or war. The board may have only thirty-two pieces and sixty-four squares, but within that confined space the game has near-infinite depth and possibility. An outsider looking on casually might find the intensity incomprehensible. But anyone who has played the game a few times understands how it can be engrossing in the extreme. Quite often, in the middle of an interesting game, it’s almost as if reality has been flipped inside out: the chess game in motion seems to be the only matter of substance, while any hint of the outside world feels like an annoying irrelevance.

The messier the external world, the more powerful this inverted dynamic can be. Perhaps that’s why Caliph al-Amin, who sensed that his hours were numbered, preferred to soak in the details of his chess battlefield rather than reports of the calamitous siege of his city. On the board he could see the whole action. On the board he could neatly make sense of significant past events and carefully plan his future. On the board he still might win.

“Patience my friend,” the caliph calmly replied to his messenger standing only a few feet away and yet a world apart. “I see that in a few moves I shall give Kauthar checkmate.”

Not long after this, al-Amin and his men were captured. The sixth Abbasid caliph, victor in his final chess game, was swiftly beheaded.

CHESS LIVED ON. The game had been a prominent court fixture of Caliph al-Amin’s predecessor, and would voraciously consume the attention of his successor—and the caliph after that, and the caliph after that. Several centuries before it infected feudal Christian Europe, chess was already an indelible part of the landscape adjoining the Tigris and Euphrates. This simple game, imbued with a universe of complexity and character, demanded from peasants, soldiers, philosophers, and sovereigns an endless amount of time and energy. In return it offered unique insights into the human endeavor.

And so, against all odds, it lasted. Games, as a general rule, do not last. They come and go. In the eighth century, the Irish loved a board game called *fidchell*. Long before that, in the third millennium B.C., the Egyptians played a backgammonlike race game called *senet*. The Romans were drawn to *duodecim scripta*, played with three knucklebone dice and stacks of discs. The Vikings were obsessed with a game called *hnefatafl* in the tenth century, in which a protagonist King attempted to escape through a ring of enemies to any edge of the board. The ancient Greeks had *petteia* and *kubeia*. The tens and hundreds of other once-popular games are all now long gone. They caught the public imagination of their time and place, and then for whatever reason lost steam. Generations died off, taking their habits with them; or conquering cultures imposed new ideas and pastimes; or people just got bored and wanted something new. Many of the games fell into such total oblivion that they couldn’t even make a coherent mark in the historical record. Try as they might, determined historians still cannot uncover the basic rules of play for a large graveyard of yesterday’s games.

Contrast this with chess, a game that could not be contained by religious edict, nor ocean, nor war, nor language barrier. Not even the merciless accumulation of time, which eventually washes over and

dissolves most everything, could so much as tug lightly at chess's ferocious momentum. "It has, for numberless ages," wrote Benjamin Franklin in 1786, "been the amusement of all the civilized nations of Asia, the Persians, the Indians, and the Chinese. Europe has had it above 1000 years; the Spaniards have spread it over their part of America, and it begins lately to make its appearance in these States."

The game would eventually pass into every city in the world and along more than 1,500 years of continuous history—a common thread of Pawn chains, Knight forks, and humiliating checkmates that would run through the lives of Karl Marx, Pope Leo XIII, Arnold Schwarzenegger, King Edward VII, George Bernard Shaw, Abraham Lincoln, Ivan the Terrible, Voltaire, King Montezuma, Rabbi Isaac Ezra, William the Conqueror, Jorge Luis Borges, Willie Nelson, Napoleon, Samuel Beckett, Woodrow Wilson, Allen, and Norman Schwarzkopf. From Baghdad's Golden Gate Palace to London's Windsor Castle to today's lakeside tables at Chicago's North Avenue Beach, chess would tie history together in a surprising and compelling way.

How could a game last so long, and appeal so broadly across vast spans of time, geography, language, and culture? Endurance is not, of course, a magnificent accomplishment in itself, but a compelling sign that something profound is going on, a catalytic connection between this "game" and the human brain. Another sign is that chess was not just played but also integrated into the creative and professional lives of artists, linguists, psychologists, economists, mathematicians, politicians, theologians, computer scientists, and generals. It became a popular and pliable metaphor for abstract ideas and complex systems, and an effective tool through which scientists could better understand the human mind.

The remarkable scope of this game began to infect my own brain after a visit from an old family ghost in the fall of 2002. My mother had sent on some faded newspaper clippings about her great-grandfather, my great-great-grandfather, a diminutive Polish Jew named Samuel Rosenthal who immigrated to France in 1864 and became one of its legendary chess masters. Family lore had it that Rosenthal had impressed and/or somehow secured the gratitude of one of the Napoleons, and had been awarded a magnificent, jewel-encrusted pocket watch. No one in the family seemed to have actually seen this watch, but they'd all heard about it. Four generations down the line, this story, retold to a boy from the Ohio suburbs, was just exotic enough, and just hazy enough, to set the mind racing. I had begged Mom for years to tell me more about the great S. Rosenthal and his lost watch.

As I combed through the records on my mother's mother's father's father's achievement, wondering what spectacular (if still hidden) intelligences had filtered down through the generations, I also became reacquainted with the game itself, which I had not played since high school (and then only a handful of times). Stumbling through a few dozen games with friends at home and with strangers over the Internet, I found that I was just as ambivalent about chess as I'd been twenty years earlier—charmed by its elegance and intrigued by its depth, but also put off by the high gates of entry to even moderately serious play. Graduating from patzer to mere competence would require unto hundreds of hours of not just playing but studying volumes of opening theory, endgame problems, and strategy. Years of obsessive attention to the game might—*might*—eventually gain me entry into reasonably serious tournaments, where I would no doubt be quickly dispatched by an acid-tongued self-assured ten-year-old. Chess is an ultimately indomitable peak that gets steeper and steeper with every step.

I was also repelled, frankly, by the forbidding atmosphere of unforgiving rules, insider jargon, and the general aggressiveness and unpleasantness that seemed to accompany even reasonably casual play. I recalled one of Bobby Fischer's declarations: "Chess is war over the board," he proclaimed. "The object is to crush the opponent's mind." Fischer was not alone in his lusty embrace of chess brutality. The game is often as much about demolishing your opponent's will and self-esteem as it is about implementing a superior strategy. No blood is drawn (ordinarily), but the injury can be real. The historical link between top chess play and mental instability stands as yet another intriguing feature about the game and its power. "Here is nothing less," writes recovering chess master Alfrey Kreymborg, "than a silent duel between two human engines using and abusing all the faculties of the mind.... It is warfare in the most mysterious jungles of the human character."

Still, much to my wife's dismay, I got hooked. It is an intoxicating game that, though often grueling, never grows tiresome. The exquisite interplay of the simple and the complex is hypnotic: the pieces and moves are elementary enough for any five-year-old to quickly soak up, but the board combinations are so vast that all the possible chess games could never be played—or even known—by a single person. Other parlor games sufficiently amuse, entertain, challenge, distract; chess *seizes*. It does not merely engage the mind; it takes hold of the mind in a way that suggests a primal, hardwired connection.

Even more powerfully, though, I became transported by chess's rich history. It seemed to have been present in every place and time, and to have been utilized in every sort of activity. Kings cajoled and threatened with it; philosophers told stories with it; poets analogized with it; moralists preached with it. Its origins are wrapped up in some of the earliest discussions of fate versus free will. It sparked and settled feuds, facilitated and sabotaged romances, and fertilized literature from Dante to Nabokov. A thirteenth-century book using chess as a guide to social morality may have been the second-most popular text in the Middle Ages, after the Bible. In the twentieth century, chess enabled computer scientists to create intelligent machines. Chess has also, in modern times, been used to study memory, language, math, and logic, and has recently emerged as a powerful learning tool in elementary and secondary schools.

The more I learned about chess's peculiarly strong cultural relevance in century after century, the more it seemed that chess's endurance was no historical accident. As with the Bible and Shakespeare, there was something particular about the game that made it continually accessible to generation after generation. It served a genuine function—perhaps not vital, but often far more than merely useful. I often found myself wondering how particular events or lives would have unfolded in chess's absence—a condition, I learned, that many chess haters had ardently sought. Perhaps the most vivid measure of chess's potency, in fact, is the determination of its orthodox enemies to stamp it out—as long ago as a ruling in 655 by Caliph Ali Ben Abu-Talib (the Prophet Muhammad's son-in-law), and as recent as decrees by Ayatollah Ruhollah Khomeini in 1981, the Taliban in 1996, and the Iraqi clergy in post-Saddam Iraq. In between, chess was tamped down:

in 780 by Abbasid Caliph al-Mahdi ibn al-Mansur

in 1005 by Egypt's al-Hakim Bi-Amr Allah

in 1061 by Cardinal Damiani of Ostia

in 1093 by the Eastern Orthodox Church

in 1128 by St. Bernard

in 1195 by Rabbi Maimonides

in 1197 by the Abbot of Persigny

in 1208 by the Bishop of Paris

in 1240 by religious leaders of Worcester, England

in 1254 by King Louis IX of France (St. Louis)

in 1291 by the Archbishop of Canterbury

in 1310 by the Council of Trier (Germany)

in 1322 by Rabbi Kalonymos Ben Kalonymos

in 1375 by France's Charles V

in 1380 by Oxford University's founder William of Wickham

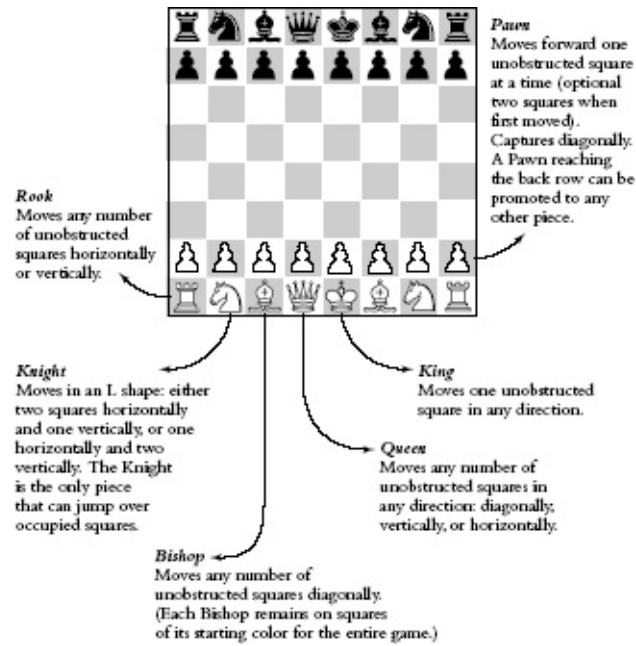
in 1549 by the Protopharaoh Sylvester of Russia and

in 1649 by Tsar Alexei

But like the Talmud, like the theory of natural selection, like any organized thought paradigm that humans have found irresistibly compelling, chess refused to go away. Why were sixty-four squares and a handful of generic war figurines so hard to erase from the human imagination? What was about chess that drew simultaneous devotion and disgust, and sparked so many powerful ideas and observations over many centuries?

This is what I set out to understand, through a close survey of chess's history and a fresh look at the game.

PIECES AND MOVES



For more details, see Appendix I: The Rules of Chess.

I.

OPENINGS

(Where We Come From)

I. "UNDERSTANDING IS THE
ESSENTIAL WEAPON"

Chess and Our Origins

When Sissa had invented chess and produced it to King Shihram, the latter was filled with amazement and joy. He ordered that it should be preserved in the temples, and held it the best thing that he knew as a training in the art of war, a glory to religion and the world, and the foundation of all justice.

—*ibn Khallikan, thirteenth century*

STORIES DO NOT EXIST to tell the facts, but to convey the truth. It is said that in ancient India, a queen had designated her only son as heir to the throne. When the son was assassinated, the queen's council searched for the proper way to convey the tragic news to her. They approached a philosopher with their predicament. He sat for three days in silent thought, and then said: "Summon a carpenter with wood of two colors, white and black."

The carpenter came. The philosopher instructed him to carve thirty-two small figurines from the wood. After this was done, the philosopher said to the carpenter, "Bring me tanned leather," and directed him to cut it into the shape of a square and to etch it with sixty-four smaller squares.

He then arranged the pieces on the board and studied them silently. Finally, he turned to his disciples and announced, "This is war without bloodshed." He explained the game's rules and the two began to play. Word quickly spread about the mysterious new invention, and the queen herself summoned the philosopher for a demonstration. She sat quietly, watching the philosopher and his student play the game. When it was over, one side having checkmated the other, the queen understood the intended message. She turned to the philosopher and said, "My son is dead."

"You have said it," he replied.

The queen turned to the doorkeeper and said, "Let the people enter to comfort me."

The annals of ancient poetry and weathered prose are filled with many such evocative chess stories stretched over 1,400 years. Over and over, chess was said to have been invented to explain the unexplainable, to make visible the purely abstract, to see simple truths in complex worlds. Pythagoras, the ancient mathematician heralded as the father of numbers, was supposed to have created the game to convey the abstract realities of mathematics. The Greek warrior Palamedes, commander of troops

the siege of Troy, purportedly invented chess as a demonstration of the art of battle positions. Moses, in his posture as Jewish sage, was said to have invented it as a part of an all-purpose education package, along with astronomy, astrology, and the alphabet.

Chess was also considered a window into other people's unique thoughts. There is the legend of the great medieval rebbe, also a cunning chess player, whose son had been taken away as a young boy and never found. Many decades later, the rebbe was granted an audience with the pope. The two spoke for a while, and then decided to play a game of chess. In their game the pope played a very unusual combination of moves that to any other opponent would have been astonishing and overpowering. But the strange combination was not new to the rebbe; he had invented it, in fact, and had shared it only with his young son. The pope, they both instantly realized, was the rebbe's long lost child.

And there are hundreds—maybe thousands—more. Hearing these stories, we care less about whether they are completely true and more about what they say. Myths, said Joseph Campbell, “represent that wisdom of the species by which man has weathered the millenniums.” Chess myths, in particular, tell us first that chess goes way, way back, and that it has always been regarded not just as a way to pass the time, but also as a powerful tool for explanation and understanding. While chess is ostensibly about war, it has for 1,400 years been deployed as a metaphor to explore everything from romantic love to economics. Historians routinely stumble across chess stories from nearly every culture and era—stories dealing with class consciousness, free will, political struggle, the frontiers of the mind, the mystery of the divine, the nature of competition, and, perhaps most fundamentally, the emergence of a world where brains often overcome brawn. One need not have any passion for the game itself to be utterly captivated by its centuries of compelling tales, and to appreciate its importance as a thought tool for an emerging civilization. Chess is a teaching and learning instrument older than chalkboards, printed books, the compass, and the telescope.

As a miniature reflection of society, it was also considered a moral guidepost. Yet another myth has chess invented to cure the cruelty of Evil-Merodach, a vile Babylonian king from the sixth century B.C. who murdered his father King Nebuchadnezzar and then disposed of his body by chopping it into three hundred pieces and feeding the pieces to three hundred vultures. Desperate to curb the brutality of his new leader, the wise man Xerxes created chess in order to instill virtues and transform him into a just and moral ruler: Here is how a king behaves toward his subjects, and here is how his grateful subjects defend their just king...

Separately, each chess myth conveys a thousand truths about a particular moment in time where society longed to understand something difficult about its own past—the source of some idea or tradition or tradition. Taken together, they document our quest to understand—and explain—abstraction and complexity in the world around us. The paradox of illuminating complexity is that it is inherently difficult to do so without erasing all of the nuance. As our developing civilization faced more intricate facts and ideas in the early Middle Ages, this was a fundamental challenge: to find a way to represent dense truths without washing out their essence. (This ancient challenge is, of course, also very contemporary, and, as we will see, makes chess fundamentally relevant in the Age of Information.)

WHEN AND HOW and why was chess invented? The very oldest chess myths point toward its actual origins. One story portrays two successive Indian kings, Hashran and Balhait. The first asked his sage to invent a game symbolizing man's dependence on destiny and fate; he invented *nard*, the dice-based predecessor to backgammon. The subsequent monarch needed a game which would embrace his belief in free will and intelligence. "At this time chess was invented," reads an ancient text, "which the King preferred to nard, because in this game skill always succeeds against ignorance. He made mathematical calculations on chess, and wrote a book on it.... He often played chess with the wisemen of his court, and it was he who represented the pieces by the figures of men and animals, and assigned them grades and ranks...."

"He also made of this game a kind of allegory of the heavenly bodies (the seven planets and the twelve zodiacal signs), and dedicated each piece to a star. The game of chess became a school of government and defense; it was consulted in time of war, when military tactics were about to be employed, to study the more or less rapid movements of troops."

King Balhait's wide-ranging list of the game's uses has a connecting thread: chess as a demonstration device, a touchstone for abstract ideas. The reference to "mathematical calculations" is particularly noteworthy, as math comes up over and over again in many of the oldest chess legends. One tale, known as "The Doubling of the Squares," tells of a king presented with an intriguing new sixty-four-square board game by his court philosopher. The king is so delighted by chess that he invites the inventor to name his own reward.

Oh, I don't want much, replies the philosopher, pointing to the chess-board. *Just give me one grain of wheat for the first square of the board, two grains for the second square, four grains for the third square, and so on, doubling the number of grains for each successive square, up to the sixty-fourth square.*

The king is shocked, and even insulted, by what seems like such a modest request. He doesn't realize that through the hidden power of geometric progression, his court philosopher has just requested 18,446,744,073,709,551,615 (eighteen *quintillion*) grains of wheat—more than exists on the entire planet. The king has not only just been given a fascinating new game; he's also been treated to a powerful numbers lesson.

This widely repeated story is obviously apocryphal, but the facts of geometric progression are real. Such mathematical concepts were crucial to the advancement of technology and civilization—but they were useless unless they could be understood. The advancement of big ideas required not just clever inventors, but also great teachers and vivid presentation vehicles.

That's apparently where chess came in: it used the highly accessible idea of war to convey far less concrete ideas. Chess was, in a sense, medieval presentation software—the PowerPoint of the Middle Ages. It was a customizable platform for poets, philosophers, and other intellectuals to explore and present a wide array of complex ideas in a visual and compelling way.

The game, in reality, was not invented all at once, in a fit of inspiration by a single king, general, philosopher, or court wizard. Rather, it was almost certainly (like the Bible and the Internet) the result of years of tinkering by a large, decentralized group, a slow achievement of collective intelligence.

After what might have been centuries of tinkering, *chatrang*, the first true version of what we now call chess, finally emerged in Persia sometime during the fifth or sixth century. It was a two-player wargame with thirty-two pieces on a sixty-four-square board: sixteen emerald men on one end and sixteen ruby-red men on the other. Each army was equipped with one King, one Minister (where the Queen now sits), two Elephants (where the Bishops now sit), two Horses, two *Ruhks* (Persian for “chariot”) and eight Foot Soldiers. The object was to capture, trap, or isolate the opponent’s King.^{*1}

Chatrang was a modified import from neighboring India, where an older, four-player version of the game was known as *chaturanga*—which itself may have been a much older import from neighboring China. The game probably evolved along the famous Silk Road trading routes, which for centuries carried materials, information, and ideas between Delhi, Tehran, Baghdad, Kabul, Kandahar, and China’s Xinjiang Province. On the Silk Road, merchants transported cinnamon, pepper, horse porcelain, gold, silver, silk, and other useful and exotic goods; they also inevitably blended customs picked up from various locales. It was the information highway of the age. No doubt many other games were invented and transported by the same roving merchants. But there was something different about *chaturanga* and *chatrang*. In a critical departure from previous board games from the region, these games contained no dice or other instruments of chance. Skill alone determined the outcome. “Understanding [is] the essential weapon” proclaims the ancient Persian poem *Chatrangnamak* (The book of *chatrang*), one of the oldest books mentioning the game. “Victory is obtained by the intellect.”

This was a war game, in other words, where ideas were more important and more powerful than luck or brute force. In a world that had been forever defined by chaos and violence, this seemed to be a significant turn.

It is clearly no coincidence that *chaturanga*’s emergence happened around the same time as India’s revolutionary new numeral system, rooted in the invention of the number zero. Zero as a concept had been used on and off for centuries, but it was the Indians who formally adopted zero both as a number (as in $5-5=0$ or $5\times 0=0$) and as a placeholder (as in “an army of 10,500 men”), and who explored it deeply enough to allow for the development of negative numbers and other important abstractions. India’s decimal arithmetic was the foundation of the modern numeral system, which served as a critical building block for the advancement of civilization.

The new numeral system was a great breakthrough. But who or what could effectively convey it, all of its nuance, to others? In the centuries to follow, chess carried the new math across the world. “Chess was the companion and catalyst for the cultural transfer of a new method of calculation,” writes Viennese historian Ernst Strouhal. The early Islamic chess master al-Adli mentioned using a chessboard as an abacus—that is, as a tool to perform calculations based on the new Indian numeral system. The Chinese and Europeans later used the chessboard in exactly the same way. In medieval England, accounts were settled on tables resembling chessboards, and the minister of finance was given the playful title “Chancellor of the Exchequer.” A twelfth-century text explains how the reference was doubly apt:

Just as, in a game of chess, there are certain grades of combatants and they proceed or stand still

by certain laws or limitations, some presiding and others advancing: so, in this, some preside, ~~some assist by reason of their office, and no one is free to exceed the fixed laws; as will be~~ manifest from what is to follow.

Moreover, as in chess the battle is fought between Kings, so in this it is chiefly between two that the conflict takes place and the war is waged,—the treasurer, namely, and the sheriff who sits there to render account...

Chess also turned up in a late-twelfth-century Cambridge manuscript as a game that “thrives in the practice of geometry,” and in Dante’s *Paradiso* (“And they so many were, their number makes / More millions than the doubling of the chess”). Chess, like any great teaching tool, didn’t *create* the sublime notions and complex systems, but helped make them *visible*. Math and other abstractions were just slippery notions floating in the air; chess, with its simple squares and finite borders, could represent them in a visual narrative played out on a tiny, accessible stage. Chess could bring difficult notions to life. Understanding, just as the ancient text said, was the essential weapon.

THE IMMORTAL GAME

Move 1

THERE WAS NO CHESS at all in my childhood home or school life. Growing up in the 1970s, we played cards, checkers, Monopoly, Atari—*games*. To the extent that I ever thought about chess, which was very little, it seemed like an absurd amount of effort—much more exertion than the pleasure it would give back. “I hate it and avoid it because it is not play enough,” Montaigne complained about chess in the sixteenth century. “It is too grave and serious a diversion; and I am ashamed to lay out as much thought and study upon that as would serve to much better uses.” Replace “ashamed” with “too lazy” and you have, in a nutshell, my attitude toward chess for my first seventeen years.

Later, in high school, I developed a taste for more complexity, risk, confrontation. I fancied myself a young intellectual—told friends that I was a nonconformist. Still, chess didn’t enter my orbit until a friend insisted that I learn it during our senior year. That I did, and proceeded to play a score of games with him over a few weeks’ time. It must have made a powerful impression. I never got very good, but I did briefly surrender my mind to chess consciousness. To this day (twenty years distant), I have a clear memory of sitting in the back of a tourist bus on a spring school trip to Washington, D.C., my mind vaguely wandering through a chess game I’d recently played, and then strangely—involuntarily—imagining myself as a chess Knight and examining my possible moves: from where I sat in the bus I could move up two rows and over one seat to the right or left, or up one row and over two seats...

It was a creepy feeling, this sensation that chess could redefine how I saw the outside world. I stopped playing chess shortly thereafter, at least partly due to this strange event. (Imagine my sense of déjà vu twenty years later when I read from Marcel Duchamp’s letter to a friend: “Everything around me takes the shape of the Knight or the Queen....”) Without any family encouragement or group of chess friends, I dropped the game, found other things to do with my time, and didn’t happen to run across it again until my mid-thirties.

Was I avoiding chess out of fear—or due to a lack of innate ability? Or was it simply that I had a full life and I never found myself in a chess-playing crowd? One thing seems certain: falling in love with chess is rarely a casual affair. Whether you’re five or thirty-five, the game tends to repel those who aren’t attracted to its particular brand of strenuous mental effort. Serious converts to the game usually have some powerful motivation—perhaps unknown to them—for investing in the game at a particular time in their lives.

In the late summer of 2002, something—I wasn’t quite sure what—brought me back to the game. Was it the need for an emotional escape pod from 9/11 and the expectation of another New York attack? Was it a primal desire to forge a connection with my semifamous ancestor? Or was it just a simple need to carve out some leisure time with friends? Kurt, an old college pal who had also never really played before, proclaimed in solidarity that he, too, would take up the game. One small problem

was that Kurt lived in Chicago and I lived in Brooklyn. We agreed to try a little experiment: every day at noon, we would convene online for a short, timed game.

We were both pretty lousy, of course, though Kurt seemed consistently one beat quicker than I was. Under time pressure, he could still make reasonably well-considered moves, while I frequently choked. It seemed obvious to me that Kurt's well-oiled, methodical mind would soon leap past my neural cobwebs and we would no longer be well matched. My only hope was to seek some expert help. At the Brooklyn Public Library, I dove into some beginner guides by Bruce Pandolfini and others. I read about openings, tactics, and strategy, and learned to avoid some of the very dumbest moves.

Many of the books and Web sites also featured guided tours through celebrated chess games from history. Like football teams studying films of old games, the astute player could potentially pick up a lot of strategic insight by following these legendary contests. "When one plays over a game by a first-class technician," declared chess author Anthony Saidy, "one receives a sense of rightness and the impression that the master has penetrated very deeply indeed into the workings of the chess pieces."

One contest in particular, from the mid-nineteenth century, immediately captured my imagination: the legendary Immortal Game, a game so surprising, so brilliant and full of life, that it drew the admiration of everyone from novices to the game's greatest champions. After 150 years, the game continued to fascinate and amaze the global chess community.

The Immortal Game grabbed me at first not for its blindingly brilliant moves—what did I know from great chess?—but for its human drama. This was supposed to be a forgettable practice game, a throwaway. No one, least of all the two players, had any idea that they were about to produce one of chess's all-time gems, a game some would consider the most remarkable ever played.



ADOLF ANDERSSSEN VS. LIONEL KIESERITZKY

JUNE 21, 1851

LONDON

1. e4^{*2}

(White King's Pawn to e4)

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