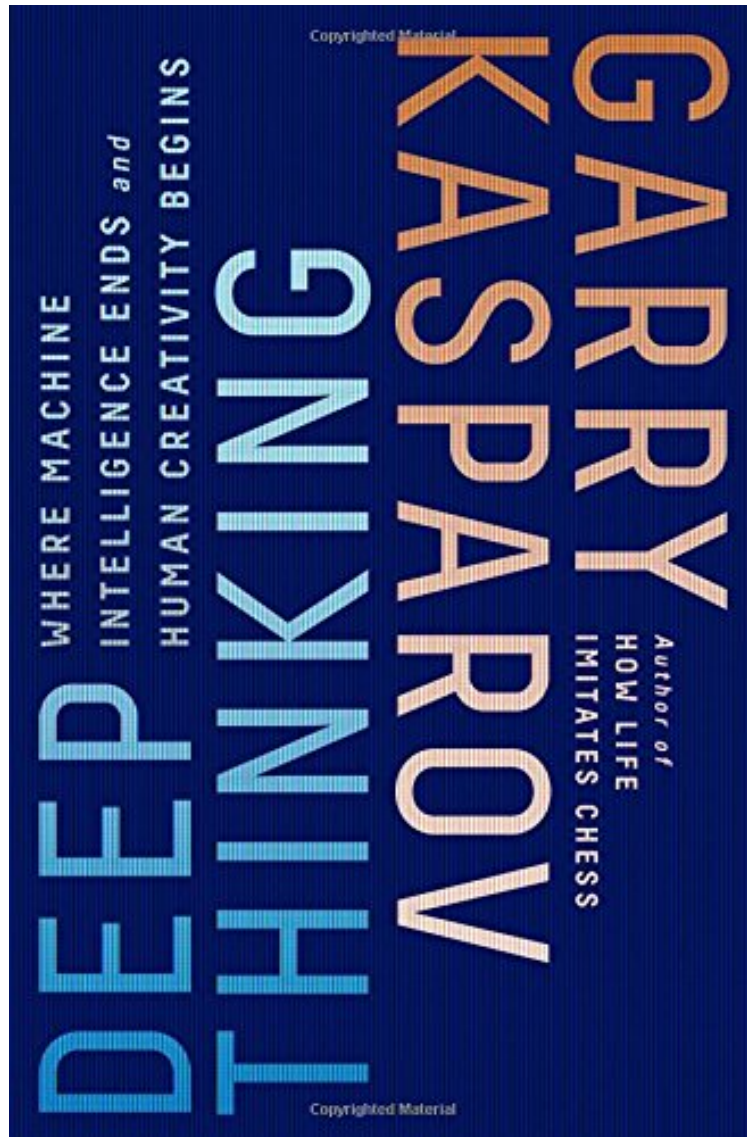


# Deep Thinking: Where Machine Intelligence Ends and Human Creativity Begins

Garry Kasparov

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**Garry Kasparov : Deep Thinking: Where Machine Intelligence Ends and Human Creativity Begins** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Deep Thinking: Where Machine Intelligence Ends and Human Creativity Begins:

32 of 33 people found the following review helpful. Very well written and very interesting By Dennis Littrell Most of this book is about chess and chess engines and Kasparov's experiences with them, especially in his two matches with

IBMs Deep Blue. But there is much more. The central theme of the book can be seen in this quote from page 259: technology can make us more human by freeing us to be more creative. Like Kasparov (peak rating of 2851 in 1999) I (peak rating of 2080 in 1974) have been absolutely fascinated with chess playing programs going back to the eighties when the best engine played at about the USCF 1200 level. I bought one of the first Chessmaster programs and subsequently several others as well. I also bought the Fritz engines when they came out and others including I believe the first Zarkov program. What Kasparov shows is that it is a combination of brute force from the chess engines and the creative and process-finding ability of the human that makes for the strongest player. In human tournaments of course you can't get help from your cell phone (and hopefully not from a device in your back molar!), but in preparation for a tournament and especially for a match a strong chess engine can be invaluable. Kasparov makes it clear that the proliferation of younger and younger and stronger and stronger grandmasters came about because of the maturing strength of the chess engines which allowed players to study at a level and with an intensity previously impossible. Kasparov goes on to generalize this idea for other forms of human endeavor. Artificial Intelligence is in the final analysis a tool to augment human creativity and foster human achievement. (This is not to say it won't be used in detrimental ways.) Fifty-five years ago my friend Bill Maillard, who is a mathematician and a master chess player, put it this way: machine intelligence will eventually exceed human intelligence but it will be the humans that make the decisions. For Kasparov (quoting John McCarthy who coined the term artificial intelligence in 1956) chess became the Drosophila of AI, the fruit fly that allows scientific experiments. Put ironically in another way, Kasparov (with tongue in cheek) titled an earlier book of his *How Life Imitates Chess*. What is most interesting about Garry Kasparov is just how intelligent, learned and articulate he is compared to the vast number of chess players. Anybody who has put in the time and energy it takes to become a grandmaster really doesn't have time to be well read usually. One only has to recall the very limited abilities of Bobby Fischer away from the chess board. Speaking of whom, Kasparov has this little story about Fischer on page 92: When an eager fan pressed him after a difficult win with Nice game, Bobby! Fischer retorted, How would you know. Another interesting thing about Kasparov is how he can be both modest and very confident at the same time. Part of what makes this book so interesting is the way Kasparov reveals himself. He faults himself for the infamous resignation in game two of the second Deep Blue match and even reveals that he didn't realize the position was drawn until the next day when told so by his seconds. He explains why he lost the match while making plausible excuses based on what he thought was unfair advantages on the other side. This part of the book, which focuses intently on those matches, reveals a very human and likable person, perhaps akin to a character in a popular novel, a person with great strengths and some weaknesses. For example, on page 105 Kasparov writes, I can say without any false modesty that I was the best-prepared player in the history of chess. For many readers the most interesting parts of the book will deal with Kasparov's understanding of AI (and IA, intelligence amplification) and how the technology has developed and where K thinks it's going. He is less afraid of the surveillance than many people and for the most part sees that the increased knowledge we have of others and ourselves through technology will do more good than harm. He notes that Our lives are being converted into data but The greatest security problem we have will always be human nature. (p. 118) He adds on the next page, Privacy is dying, so transparency must increase. His knowledge is impressive, and he and his collaborator Mig Greengard write so clearly and engagingly that the book is a pleasure to read. I should add that the book is beautifully designed and meticulously edited. I didn't notice a single typo and nary a muddled sentence. One other thing: even very experienced chess players will probably learn something about the game of chess they didn't know or something about the history of chess they missed. I know I did. Some quotables: Romanticizing the loss of jobs to technology is little better than complaining that antibiotics put too many grave diggers out of work. (p. 42) This is a statement that bears some scrutiny, and indeed might be the subject of a future Kasparov book. In 1989 Kasparov played the Deep Thought chess engine. After Kasparov won the tabloid New York Post wrote, Red Chess King Quick Fries Deep Thoughts Chips. (p. 111) Mistakes almost never walk alone. (p. 239) Intelligence is whatever machines haven't done yet (quoting Larry Tesler). (p. 251) There's a business saying that if you're the smartest person in the room, you're in the wrong room. (p. 252) --Dennis Littrell, author of *The World Is Not as We Think It Is* 0 of 0 people found the following review helpful. Thought Provoking By Paul J. Lynch GM Kasparov cuts a nice middle course between those that would see us doomed to suicide by robot and those who would see techno-paradise ahead. It is a realistic view. His reflections on his own battles and how he came to these conclusions provide a good backdrop to his hopes and concerns. Chess fans will naturally find these chapters especially thrilling. In addition to his own thoughts, he lays out a to do list of next reads in the topic of AI. 0 of 0 people found the following review helpful. Fantastic By Paulo Reimann Loved the book from start to end. From the history part of chess to the humane approach to our future.

Garry Kasparov's 1997 chess match against the IBM supercomputer Deep Blue was a watershed moment in the history of technology. It was the dawn of a new era in artificial intelligence: a machine capable of beating the reigning human champion at this most cerebral game.

takes on the key economic issue of our time: how we can thrive as humans in a world of thinking machines. This important and optimistic book explains what we as humans are uniquely qualified to do. Instead of wringing our hands about robots, we should all read this book and embrace the future." p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Calibri} span.s1 {font-kerning: none} Walter Isaacson, bestselling author of The Innovators p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Calibri} span.s1 {font-kerning: none} "Garry Kasparov's perspectives on artificial intelligence are borne of personal experience - and despite that, are optimistic, wise and compelling. It's one thing for the giants of Silicon Valley to tell us our future is bright; it is another thing to hear it from the man who squared off with the world's most powerful computer, with the whole world watching, and his very identity at stake." p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Calibri} span.s1 {font-kerning: none} Charles Duhigg, bestselling author of Smarter Faster Better p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Calibri} span.s1 {font-kerning: none} p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Calibri} span.s1 {font-kerning: none} span.s2 {font: 9.0px Calibri; font-kerning: none} "From the man at the epi-center of one the ten defining moments of the 20th century, a fascinating and insightful overview of how computers came to surpass humans at chess, and what it means for mankind. Deeply research and clearly exposted, it is also a revealing portrait of what it is like to a real-life John Henry pitted against the steam hammer."Ken Rogoff, bestselling author of This Time is Different"A highly human exploration of artificial intelligence, its exciting possibilities and inherent limits." Max Levchin, cofounder of PayPal, CEO of Affirm, and Silicon Valley angel investor"Intelligent, absorbing...Thoughtful reading for anyone interested in human and machine cognition and a must for chess fans."Kirkus s, starred review"As Kasparov recounts in arresting detail what it felt like to compete cognitively with a machine, he extrapolates his experience into an optimistic perspective on how computerized intelligence can enhance rather than overwhelm human brainpower, and instead of only eliminating jobs and opportunities, can actually generate them."Booklist"Kasparov includes enough detail to satisfy chess enthusiasts, while providing a thrilling narrative for the casual reader. Deep Thinking delivers a rare balance of analysis and narrative, weaving commentary about technological progress with an inside look at one of the most important chess matches ever played."Demis Hassabis, Nature"The raw emotion of [the loss to Deep Blue] bursts out of the pages of Kasparov's gripping story, which he fully recounts for the first time in Deep Thinking... What is striking, and reassuring, is that far from raging against the machine, Kasparov marvels at the capabilities of computers and is excited by the possibilities for future collaboration...reads at times like a fast-paced psychological thriller."John Thornhill, Financial Times"Deep Thinking is like Kasparov himself: fascinating, razor-sharp, and provocative. In it he finally tells us, twenty years later, what he's learned from participating in the most famous human vs. machine competition since John Henry. The answer is a huge amount, which is also what you'll learn from reading Deep Thinking."Andrew McAfee, principal research scientist at MIT and coauthor of The Second Machine Age"Garry Kasparov has been a true pioneer in both the theory and practice of human-machine intelligence. Deep Thinking encompasses his wisdom in these areas in a highly entertaining and informative manner. I couldn't put it down, and don't think you will be able to either."Tyler Cowen, author of The Great Stagnation"Few people have a more interesting or illuminating perspective than Garry Kasparov. Deep Thinking is a provocative and fascinating read that will challenge the conventional wisdom about our future."Bill McDermott, CEO of SAPAbout the AuthorGarry Kasparov is a business speaker, global human rights activist, author, and former world chess champion. His keynote lectures and seminars on strategic thinking, achieving peak performance, and tech innovation have been acclaimed in dozens of countries. A frequent contributor to the Wall Street Journal, he is the author of two books, How Life Imitates Chess and Winter is Coming, each of which has been translated into more than a dozen languages. He is a Senior Visiting Fellow at the Oxford Martin School, working in cooperation with the Future of Humanity Institute. He lives in New York.