# Deep Thinking Summary

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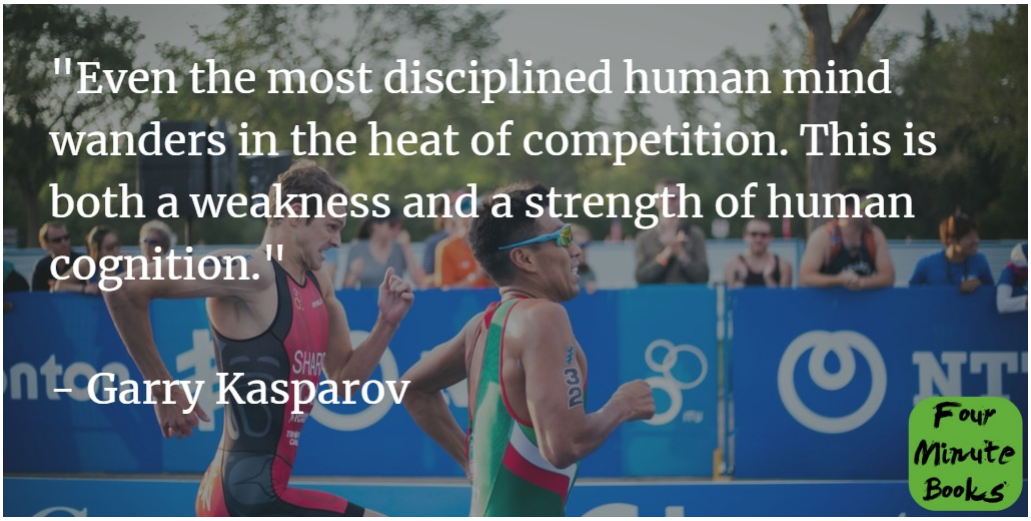
**1-Sentence-Summary:** *Deep Thinking is a recap of the past fifty years of the information revolution and an attempt to identify where AI technology may lead us.*

**Read in:** 4 minutes

**Favorite quote from the author:**




What do chess and AI have in common? What basic principles are behind the Google Assistant algorithm? Should we still try to outcompete computers in thinking, or merely accept our inferiority to the processing power of machines?

Gary Kasparov tries to answer these and many other important questions about the human mind, thinking, AI, and how they will all evolve and interact in the future. In *Deep Thinking: Where Machine Intelligence Ends and Human Creativity Begins*, he combines his decades-long experience of playing chess and becoming a Grandmaster with a birds-eye view of the development of artificial intelligence.

As a result, he comes up with recommendations for all of us on how to approach the machine-human relationship in the near future. And his prognoses don't sound all that pessimistic, either. There will still be room for people in the world when AI leads the way in processing information. That's because being human is about so much more than just making sense of vast amounts of data.

Here are 3 lessons from this book about the human mind, AI, and the intersection of the two :

1. Computers replacing human labor is not a reason to be worried.

2. The core difference between human and artificial intelligence is the experience of emotions.
3. The truly groundbreaking AI revolution is still ahead of us.

*Deep Thinking* offers you an insight into the mind of a great chess player and a bit of a philosopher, too! If you are curious what's in there, here we go!

## Lesson 1: We shouldn't be worried about computers "taking away" our jobs.

In the casual conversations about AI and the overall tech development, one point comes up quite often. What good does technological advancement bring us if computers "steal" human labor?

Kasparov points out that we forget that has had this conversation before. Since the dawn of the Industrial Revolution, the dispute about whether or not new technologies benefit society has been ongoing. Fear drives the discussion that once we have good enough machines, human contribution will no longer be needed.

**But history teaches us that we don't need to worry about technology overthrowing humans.**

In the 19th century, even after the invention of the steam engine and electricity, human input remained valuable. The same happened after the 1960s and 70s debates when further technological refinements like computers appeared to undermine the need for human labor. At the beginning of the 21st century, we are having the same conversation all over again, this time with the Internet and AI being the "villains."

But if we look back at the historical big picture, there is no doubt that technology made human lives better. It took a significant portion of the toil from human shoulders, while at the same time enabling the refinement of our culture and civilization. It also brought about ideas such as human rights and equity.

Kasparov says that today, we shouldn't fear the computers taking over our jobs. Instead, we should focus on how to adapt our society to the new reality.

## Lesson 2: **The element that separates human intelligence from artificial is emotion.**

For centuries, playing chess was a human-only activity. A complex game like this required a high level of intellect that no other animal possessed. But the skill needed to play chess is not just about processing information and having a good strategy.

**Intelligence is also about psychological and emotional endurance.** Or at least it used to before the computers joined the game.

The psychological aspect of chess explains why we commonly treat it as a sport. Even though it doesn't require much physical stamina, the emotional turmoil during a game often causes players to come out exhausted, as if they just finished a long run.

Kasparov analyzed numerous games of the world's leading chess players and found that they make surprisingly many tactical mistakes. That's not because they don't know how to play better. Those mistakes mostly happen due to the psychological disadvantage those players have in relation to their opponent.

When a human plays chess against another human, the game is not entirely about strategy. Some moves work merely because they make the opponent feel uncomfortable. But this kind of tactic could never help you win against a computer, simply because a computer doesn't have emotions.

This example from chess clearly shows where human and artificial intelligence diverge. For computers, it is just about strategic processing of information. For people, there is always a psychological factor at play.

## Lesson 3: **Artificial intelligence still hasn't reached its tipping point.**

According to Moore's law, the processing power of the best computers is doubling every year. Even without being in the tech industry, anyone can observe how fast AI and machine-learning technologies are developing and changing our lives.

**But Garry Kasparov argues that the major AI revolution is still ahead of us.**

Right now, we tend to think that artificial intelligence already outcompetes the human brain. But that's only the case when we measure intelligence by the amount of data it can process and analyze. Machines are indisputably better than people at this.

But what computers still can't do is come up with questions and formulate methods independently of their initial programming. When Google Assistant asks you a question, it only does so based on the initial data built-in by humans. It's not capable of creating an entirely new one based on the information acquired through a "relationship" with you.

Garry Kasparov claims that once this is possible, artificial intelligence will truly enter a new era.

## Deep Thinking Review

*Deep Thinking* is an ideal read for those who like to think about thinking. However, I see Kasparov's ideas more as starting points for discussion rather than definitive answers. If you are looking for a more research-based, but still digestible book on the future of the human relationship with technology, check out *Homo Deus*.

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## Who would I recommend the Deep Thinking summary to?

The 18-year-old preparing to study computer engineering in college, the 60-year-old chess enthusiast who wants to understand how exactly computers beat humans, and anyone excited about AI and the future of technology.