

# Clive Thompson on the Cyborg Advantage

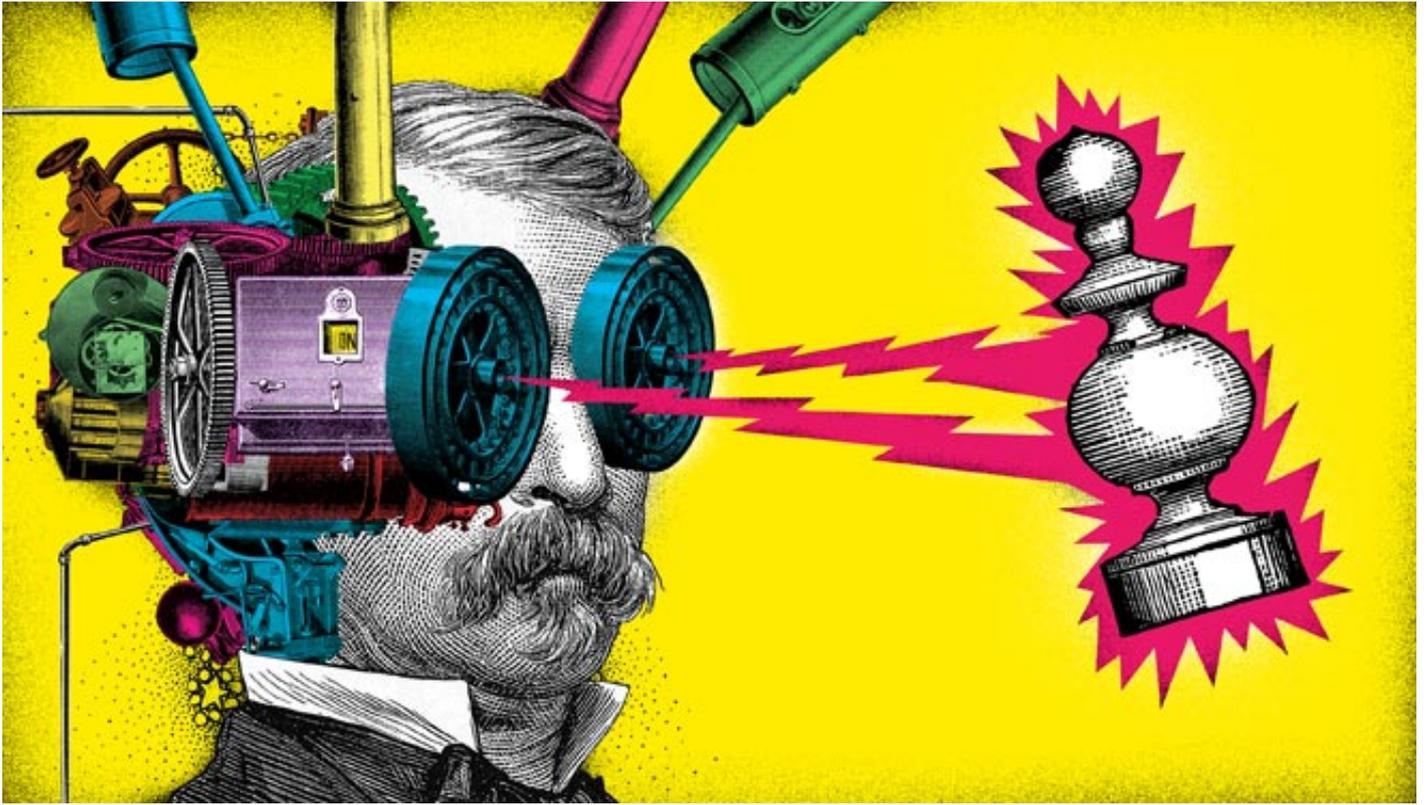


Illustration: Gregg Kulick

**Which are smarter**, humans or machines? Back in 1997, IBM's Deep Blue supercomputer **struck a blow** for bots when it beat Garry Kasparov at chess.

Deep Blue won because computers can perform endless lightning-fast calculations; humans can't. It basically prevailed through brute force, examining millions of possible moves to find the best ones.

That's not how humans play chess. Grandmasters rely on strategy and intuition honed by years of experience and study to produce an "aha" moment. Human smarts and silicon smarts work in very different ways — which gave Kasparov an intriguing idea. Instead of competing, what if humans and computers worked as a team?

To find out, he created what he called **advanced chess**, in which players are assisted by off-the-shelf software. Each competitor enters the position of their pieces into a computer and uses the moves that the program recommends to inform their decisionmaking.

At a "freestyle" online tournament in 2005, where any kind of entrant was allowed, such human-machine pairings were absolutely awesome. In fact, the overall winner

wasn't one of the grandmasters or supercomputers; it was a pair of twentysomething amateurs using run-of-the-mill PCs and inexpensive apps.

What gave them the upper hand? They were especially skilled at leveraging the computer's assistance. They knew better how to enter moves, when to consult the software, and when to ignore its advice. As Kasparov later put it, a weak human with a machine can be better than a strong human with a machine if the weak human has a better process.

The most brilliant entities on the planet, in other words (at least when it comes to chess), are neither high-end machines nor high-end humans. They're average-brained people who are really good at blending their smarts with machine smarts.

The thing is, this sounds a lot like our lives. We now engage in cyborgian activity all day long. We use Google to find information, rely on Facebook or Twitter to tell us about people we're interested in, and harness recommendation tools to suggest news stories and cultural events.

These days, though, there's a big debate between folks who love our modern, digitally enhanced lifestyle and those who are unsettled by it. The chess example shows us why there's such a gap. People who are thrilled by personal technology are the ones who have optimized their process — they know how and when to rely on machine intelligence. They've tweaked their Facebook settings, micro-configured their RSS feeds, trained up the AI recommendations they get from Apple's Genius or TiVo.

And crucially, they also know when to step away from the screen and ignore the clamor of online distractions. The upshot is that they feel smarter, more focused, and more capable. In contrast, those who feel intimidated by online life haven't hit that sweet spot. They feel the Internet is making them harried and — as Nicholas Carr suggested in *The Atlantic* — “stupid.”

It's not like the machine age is going away. We're sure to depend increasingly on digital assistance for thinking and socializing, and each new technology will extend our reach while threatening to swallow even more of our attention.

As we face that trade-off, figuring out how to integrate machine intelligence into our personal lives becomes the key challenge. When should you rely on online tools to fill you in on the news or your friends' lives? When should you forage on your own?

There's no one answer — and there never will be, because everyone is different. It's a personal quest. But there's also no avoiding the question, because it's clear that serious cognitive advantages accrue to those who are best at thinking alongside machines.

Ultimately, the real question is, what sort of cyborg do you want to be?

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