

## CHAPTER 12: DECISION TIME

*It's time to choose your team.*

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This book was inspired by the work of so many people that have expressed similar concerns, and I can only hope it will help shape a global debate on the purpose and ethics of technology—and the ethics of those who invent and provide it.

Humans and technology are increasingly overlapping, intersecting, or even converging—your choice of words depends very much on how you feel about that fact. In any case, as stated at the very beginning of this book, this much is certain: I believe humanity is likely to change more in the next 20 years than the previous 300 years.

The coming man-machine confluence will enable amazing wins for humanity and simultaneously threaten it. We must now become much better stewards of our inventions and their consequences if we are to flourish.

Yes, technological progress seems unstoppable because it's the nature of humans to conjure, test, and deploy our techne (our tools). Yet finally, we have reached the point where human-centric policies and standards, digital ethics, social contracts, and global agreements on humanizing these exponential technologies will be as important as nuclear nonproliferation treaties.

*“In the very near future, it will no longer be about whether technology can do something (the answer will almost always be yes) but whether it should do something—and why.”*

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The danger is that if we don't spend as much time and resources on the androrithms (those qualities that make us human) as we do on the algorithms, not only will technology end up running our lives, but we will also be forced, tricked, or otherwise cajoled into becoming technology ourselves. We shall have become “the tools of our tools.”

Note that by “technology running our lives,” I don't mean the robot overlords of Terminator Genisys. Rather, I am concerned that we may soon become completely useless without technology—slow, incomplete, dumb, deskilled, lazy, and obese.

Imagine what would happen if we continued to chip away at and ultimately erode quintessential human qualities such as privacy, mystery, anonymity, emotions, spontaneity, surprise, intuition, imagination, and spirituality—just so that we can keep up with the machines.

If we don't want to become technology ourselves; if we don't want to be increasingly assimilated into the powerful vortex created by the Megashifts; if we want to remain “naturally human” in spite of the powerful lures of those magical technologies; if we want to safeguard what truly makes us happy and not just what makes us function, we must take action while we still have the wiggle room. That time is now.

We must start asking why, followed by who, and when, not just if and how. We must ask questions about purpose, not just about profits. We must increasingly question industry leaders and especially technologists and the firms that employ them. We must compel them all to take a more holistic view, to consider the good as well as the not-so-good implications of what they are proposing. We must also ask them to acknowledge and address those unintended consequences, and to include the externalities of whatever they are creating in their business plans and revenue models.

We must hold the creators and financiers of tomorrow—and of course ourselves, as users and consumers—responsible at every turn. We need to start denying customership to those companies that don't care enough, and we must stop being the content for those platforms that are seeking to automate us. We must stop being silent contributors to machine thinking because everything else is less convenient. If we don't want to end up with what I call the Oppenheimer Regret—named after the famous physicist J. Robert Oppenheimer, whose inventions made the atomic bomb a reality, and who subsequently regretted his actions and their consequences—we must commit to being on “team human,” to put humanity first and above all.

Therefore, I propose that we try and define some basic ground rules for this coming machine age by determining which technologies, if applied, will most likely promote human flourishing and should therefore be pursued, and which technologies will not. We must also ask the “when, why, and who” questions more often, and we also need to think about who would actually control compliance with those rules.

This will be a huge task, to be sure, and certainly fraught with uncertainty about whether we can agree on even the most basic rules for humanity.

Nevertheless, if we want to master those imminent clashes between humans and machines described in this book, we will need a new kind of global stewardship backed up by ever more prescient foresights. We will need the ground rules to be decisive yet flexible enough not to inhibit progress. Daunting? Yes. Impossible? No. Alternatives? None.

## Nine Suggested Principles

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To help fuel the debate on the best way forward, I have framed nine principles. They capture the essence of the core arguments I've presented through the pages of this book, but they are still a work in progress and far from complete or conclusive.

**1. We need to become much better at understanding exponentiality and what it means for the future of humanity.** We must learn how to imagine and then live with exponential and combinatorial changes. In our immediate future, “wait and see” is just as bad as “just do it.” “Gradually, then suddenly” is indeed the new normal and we should not waste our runways into the future while we still have them in front of us. We also need to remind ourselves that our future is something we constantly define and shape, not something that just happens to us. To achieve this, we need to be curious and open, immerse ourselves in future scenarios, discover what it would be like to actually live in that future, connect to people that make the future happen, and increase our general awareness of the Zeitgeist that surrounds us. Assume less, discover more, and discard those toxic assumptions that worked so well in the past! Embrace the dramatic progress of science, but always see it in context of the overall human purpose. Technology can be heaven or hell, or both (#hellven), so we must be proactive and precautionary depending on how much is at stake, where and when.

**2. Our toughest challenges are often the most incredible opportunities (and vice versa).** Much of our future will hinge on that careful balance of magic and manic (but hopefully not toxic) use of technology. Because, as William Gibson suggests, technology is morally neutral until we apply it, achieving balance will be more about orchestrating the applications and embodiments of technology than about preventing or even regulating the inventions themselves. The future is not about yes or no, it’s about “it depends.” I am certain that if we can allow the “why?” and “for what purpose?” questions to be voiced more often, a balanced approach will emerge.

**3. We must become much better stewards of humanity.** Every single business leader, technology pioneer, and public official needs to accept and act upon his/her responsibility for shaping the future of humanity. Civic and political leaders must develop a deep understanding and personal foresight about technology in the context of humanity, and become stewards of our collective future. Across all sectors of all industries, we will need a new kind of hyper-collaboration, not hyper-competition, and we will need to think holistically across all those traditionally separate domains.

**4. Technology has no ethics, yet a society without ethics is doomed.** We are heading into a future where literally everything around us is impacted by a tsunami of technological advances, yet the way we frame the world, the way we evaluate what is right or wrong, the way we decide whether to engage and use a certain technology or not is still based on past experiences, on old frameworks, and worst of all, on linear thinking. Our ethics—and many of our laws and regulations as well—are still based on a world that advances linearly and on “what used to work” before we reached the pivot point on the exponential curve. Ever since the Internet became a significant commercial force, we seem to have focused in the main on exploiting its economic and commercial promises. We have spent way too little time considering its impact on our values and ethics—and this is finally becoming apparent as we enter the age of artificial intelligence (AI), robotics, and human genome editing. Recently, there has been growing discussion of the concept of building thinking machines that might be able to simulate human ethics. While this is an interesting twist, it strikes me as yet another step towards a wholly simulated machine age, and yet another reason why we need to establish a Global Digital Ethics Council. As we proceed towards the Singularity and the point at which computers reach or surpass the capability and capacity of the human brain, and are connected via a giant global network, we urgently need a clear ethical context that the majority of us can agree on. This is not an easy task, but one that is crucial to tackle, nevertheless.

**5. Beware: Exponential technologies often morph rapidly from magic to manic to toxic—achieving a balance is essential.** If you think that addiction to the Internet, to games, to smartphones, or the pleasure traps of social networks is already a big issue, the full story has yet to unfold! Just wait until we can completely immerse ourselves in technology, until technology actually goes inside of us with augmented and virtual reality, brain-computer interfaces, implants, and neural interfaces. The sky is literally the limit in terms of what exponential progress might make possible. Hence, we must now learn how to use technology holistically and with much greater respect for human ways and needs. We must also make those that invent, market, and provide these alluring new technological solutions responsible for the new ecosystems they empower, and look to them to offer effective ways to curb or limit unintended consequences. Technology providers must start including externalities in their business models, and need to help shape new social contracts that may address the toxic effects.

**6. We need to teach both STEM and CORE (compassion, originality, reciprocity, and empathy) skills.** Technology and humanity must both be on the curriculum; indeed science and philosophy belong in the same classroom. A balanced society will require expertise in both domains; otherwise, we will continue to tilt the playing field towards machine thinking. In addition, an increasing amount of scientific work will eventually be done by AI and smart machines; therefore, we must place the development of human-only skills and capabilities center-stage. Creativity, understanding, negotiation, questioning, emotions, intuition, and imagination will be more important than ever before—whatever cannot be digitized, automated, or virtualized will become extremely valuable.

**7. We need to retain a clear distinction between what is real and what is a copy or a simulation.** Total connectivity, thinking machines, the smart cloud, and cognitive computing are our inevitable future, yet we should not abandon the distinction between simulation (machines) and being (dasein), between computation and sentience, between machine-kind and mankind. Immersing ourselves in a world of amazing simulations could be very useful for learning, entertainment, or work, but should it become the way we live, in general? Could these technologies become a kind of universal drug that we will always crave to make our world more complete? Will we need limits and regulation on how much use we are allowed, and how deep we can go? If technology really isn't what we seek, but how we seek, we will need help to continue distinguishing between these tools and our true purpose? Building relationships with humans needs to remain more important than building relationships with machines. Embrace technology but don't become it.

**8. We need to start asking why and who, not just if or how.** Future strategic decisions about the development and deployment of technology should be more about sense-making, context, purpose, meaning, and relevance than simply focusing on feasibility, cost, scale, profits, and contributions to growth. The how question must be replaced by the why.

**9. We should not let Silicon Valley, technologists, the military, or investors become mission control for humanity—no matter what country they are in.** Those who fund, create, and sell exponential technologies are unlikely to be the ones who will want to curb their power or scale of potential applications. Those who build machines for war will not be those who will focus on human happiness. Those who invest in disruptive technologies to generate hundredfold returns will not be the ones who will invest in constructing the future of truly human societies for a collective benefit. Those that build the tools have their own agenda, and it's mostly about monetization and power—so where in the decision-making process is the representation of those that use the tools?

## Evaluating Exponential Technologies

### *Seven Essential Questions to Ask*

Given that much of this book is about how humanity could win in this impending battle with exponential technologies, here are seven questions I believe we must ask when evaluating the forces of radical change. I realize that in many cases the correct answer might be either “both” or “it depends.” However, I feel that just by stopping to ask these questions, we might understand the trade-offs more clearly.

### SEVEN ESSENTIAL QUESTIONS

**Q1:** Will this technology inadvertently or by design diminish humanity? Will it seek to replace important human interactions that should not be intermediated by technology? Will it automate something uniquely human that really should not be automated? Does this technology liberate us from unnecessary and nonessential burdens, or does it tempt us to skip what is essentially human? Is it a wormhole or a catalyst?

**Q2:** Will this technology further true human happiness? Will it lead to making us more content with what we have, allow us to achieve more eudaemonia, and make a more connected contribution? Will it go far beyond simply providing hedonic pleasures, or if it is mostly a hedonistic tool, will it seek to lead us to confuse it with a deeper happiness?

**Q3:** Does this technology have any unintended and potentially disastrous side effects? Does it take authority away from us, collectively, or does it empower us? Will it have significant impact on ecosystems that are crucial to many people, and if so, does it include addressing those externalities in its business model?

**Q4:** Will this technology give too much authority to itself or to other algorithms, bots, and machines? Will users be tempted to abdicate their own authority by using it? Will we be encouraged to outsource our thinking to it? Will this technology serve us, or will it turn out to be mostly self-serving, i.e. mostly taking rather than giving value?

**Q5:** Will this technology enable us to transcend it, i.e. go beyond itself, or will it make us dependent on it? Will this technology force humans into a subordinate role, either by design or by accident? Will the technology so exceed our capabilities that we are forced into unquestioningly following its guidance and decisions?

**Q6:** Will humans need to be materially changed or augmented to actually use this technology? Is this technology leading us to upgrade our bodies or senses, or is it working within the existing confines of who we are? Will it force us to upgrade and augment if we want access to jobs, education, and healthcare?

**Q7:** Will this technology be openly available, or will it be proprietary? Can we tinker with it, or will it be locked? Will it be available to everyone, or only the top 1%? Will it increase inequality, or serve to lessen it? How will we know the scale of wealth being amassed by the dominant providers if technology controls our access to the information?

## Are You on Team Human?

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## BEING ON TEAM HUMAN MANIFESTO

I first heard this powerful meme from Douglas Rushkoff, and immediately thought it would make an excellent motto on our journey towards the future.

- To put our collective human flourishing first and above all other concerns;
- To allow androrithms, those uniquely human things such as imagination, chance, mistakes, and inefficiencies, to continue to matter, even if they are undesired by or incompatible with technology;
- To fight the spread of machine thinking, i.e. not to change what we stand for and need as humans because it might make it easier for the technologies that surround us;
- Not to be tempted into preferring technological magic, i.e. great simulations of reality over reality itself, and not to get addicted to technology;
- Not to prefer relationships with screens and machines over those that we can have with fellow humans.

What will you do to further the conversation in your organization, community, family, and friendship circles? For my part, I will continue to investigate what being on Team Human means through my ongoing work as a keynote speaker, advisor, writer, and filmmaker. Please join the discussion on the book's website [www.techvshuman.com](http://www.techvshuman.com), and on the [www.onteamhuman.com](http://www.onteamhuman.com) microsite.