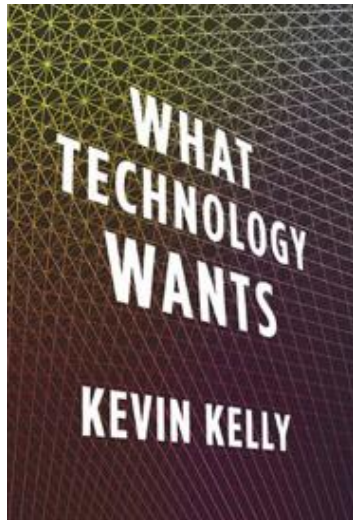


Tech Talks: Tech for Seniors

The Inevitable (2016)

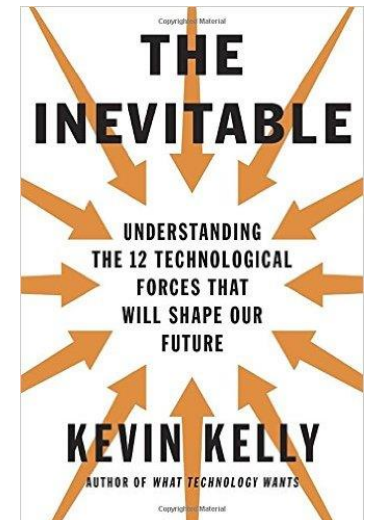
by Kevin Kelly



Center for Learning in Retirement - Fall 2017

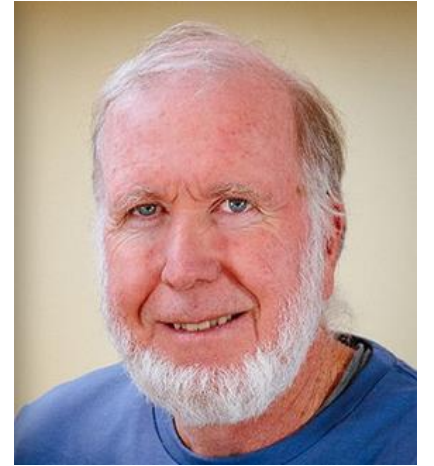
Glen Maxson

seniortechadvisor.com

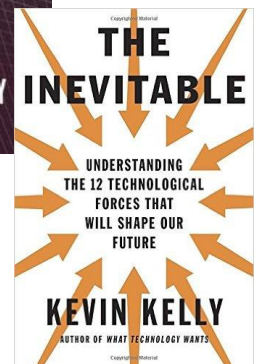


Introduction

[Kevin Kelly](#) (born August 14, 1952) is the founding executive editor of Wired magazine, and a former editor/publisher of the Whole Earth Review. He has also been a writer, photographer, conservationist, and student of Asian and digital culture.



- [Out of Control: The New Biology of Machines, Social Systems and the Economic World](#) '95
- [New Rules for the New Economy: 10 Radical Strategies for a Connected World](#) – Wired '97
- [What Technology Wants](#) '10
- [Cool Tools: A Catalog of Possibilities](#) '13
- [The Inevitable](#) '16
 - [The Next Fifty Years of Science](#) – Google Talks '06
 - TED Talks: [How technology evolves](#) '06, [The next 5,000 days of the web](#) '08, [Technology's epic story](#) '10, [How AI can bring on a second Industrial Revolution](#) '16
 - [Technium Unbound](#) - [Long Now Foundation](#) '14 (start at 10 min – 63 min)
 - [People Are Not Ready for the Future](#), [Observer](#) '16
 - [The Future of Tech](#) – [Commonwealth Club](#) '16 (start at 2 min – 34 min)
 - [12 Inevitable Tech Forces That Will Shape Our Future](#) - [SXSW Interactive](#) '16
 - [The Future According To 'Wired' Editor Kevin Kelly](#) - [Forbes](#) '17



Topic

- The Inevitable

- In the new regime, our creations make us better humans, but also one where we can't live without what we've made – this is a new phase state.
- The phase change has begun. We are marching inexorably toward firmly connecting all humans and all machines into a global matrix.
- In the next 30 years the holos* continue to lean... toward increased flowing, sharing, tracking, accessing, interacting, screening, remixing, filtering, cognifying, questioning, and becoming.
- We stand at this moment at the Beginning...

The Beginning, of course, is just beginning.

*[Holos](#) = the combination of internet and web with all those borged human intelligences + all our tech

Summary

- The Inevitable

- “Inevitable” is a strong word. In this context, it refers to a bias in the nature of technology that tilts it in certain directions and not others. Examples:
 - Internet – network of networks spanning the globe
 - Telephony – long distance, electronically transmitted voice messages
 - Automobile – 4-wheel vehicles traveling on roads at break-neck speeds
 - Instant messaging – but not teens tweeting every 5 minutes...
- Inevitability doesn’t govern specifics or particular instances.
- Inevitability is the result of momentum – of an ongoing technological shift.
- Change is inevitable. Emerging technologies follow these 12 trajectories:
Becoming, cognifying, flowing, screening, accessing, sharing, filtering, remixing, interacting, tracking, questioning, and then beginning.

Overview

Becoming p9

Cognifying

Flowing

Screening

Accessing

Sharing

Filtering

Remixing

Interacting

Tracking

Questioning

Beginning

Becoming

- Kevin Kelly, the eternal optimist:
 - In this era of becoming, everyone becomes a perpetual newbie.
 - While we may be anxious as newbies, the net gain is worth it.
 - Today, in 2016 is the best time to start up.
 - There has never been a better time in history to invent something.
 - There have never been more opportunities, lower barriers, higher benefit/risk ratios, better returns, greater upside than now.
 - This is the moment that folks will look back at and say “Oh, to have been alive and well back then!”
 - The protopian view: things are better today than they were yesterday. Protopia is a state of becoming, not a destination – it’s a process.
 - We are all becoming. It is the best time in human history to begin...

Cognifying

- Everything's getting smarter.
- The real promise of advances in computing power lies in the network effects that accrue when we connect people and devices.
- Larry Page (Google, 2002): Response to the question "Why...?"
"Oh, we're really building an AI*." Google continues to by AI companies.
WHY? Because Google is using search to improve it's AI. Every click, search, or query you or I make (3 billion/day) on Google page helps train their AI.
- The smarter the AI, the more people who use it – and so on...

*The term "artificial intelligence" (AI) is applied when a machine mimics "cognitive" functions that humans associate with other [human minds](#), such as "learning" and "problem solving". Russell & Norvig 2009, p. 2.

Flowing

- The fluidity induced by fast-changing technologies are additive.
- Old media forms endure; the new are layered on top of them.
- Fixity is not the only option; good things don't have to be static.
- Instability can be good; move from stocks to flows, from fixity to fluidity... is about harnessing a wide-open frontier where so many additional options based on mutability are possible.
- Eight generatives (better than free): immediacy, personalization, interpretation, authenticity, accessibility, embodiment, patronage, discoverability

Screening

- People of the Book – live by the book, by the authority derived from authors.
- People of the Screen – ignore classic knowledge of books, preferring the dynamic flux of pixels. Screen culture is fast, liquid, open-ended.
- In books we find a revealed truth. On the screen we assemble our own myths from pieces.
- When reading, your brain works differently than when screening.
 - Reading transports, focuses, immerses – the literature space.
 - Screens provide fragments, glimpses, threads – loosely joined pieces spin away.

Accessing

- Trends moving toward accessing, away from ownership
 - Dematerialization – ratio of mass needed to generate one unit of GDP has been falling for 150 years. 1977 -> \$1.64 GDP/kg, 2000 -> \$3.58 GDP/kg
 - Real-time On-Demand – our lives are accelerating, the only speed fast enough is instant (Uber, Amazon, Netflix, Google...).
 - Decentralization – cheap, ubiquitous communication, the web/internet as ‘public commons’, as society decentralizes access becomes more important.
 - Platform Synergy – ‘platform’ is a foundation that others build products and services on, they are factories for services, services favor access vs. ownership.
 - Clouds – millions of computers braided together to act as a single computer, clouds are reliable, fast, expandable, and low maintenance.

Sharing

- Sharing – personal photos posted (1.8b/day), plus status updates, locations, thoughts, videos, fan-create stories – sharing is ubiquitous.
- Cooperation – digital sharing is decoupled from government and operates at an international scale. The power of community sharing...
- Collaboration – tools of online collaboration support a communal style of production that keeps ownership in the hands of the producers/users.
- Collectivism – technological sharing can be seen as a new political operating system that elevates both the individual and group at once.
- The new OS is an emerging design space in which decentralized public coordination can solve problems and create things...

Filtering

- Each year we create:
 - 8m songs, 2m books, 16k films, 30b blog posts, 182b tweets, 400k products.
- Filters have been watching us for years. They anticipate what we'll ask.
- We listen to suggestions and recommendations generated by our behavior.
- The modern economy runs on distinction, the power of differences.
- Filters work better because we are distinct, more personalized.
- We can't stop making new things, so we make new ways to filter and personalize, to make us more like ourselves.

Remixing

- Millennials – buy music by the track, remixing is a way of life.
- Elders – remixing is like theft. Industrial era habits don't work anymore.
- The global economy is tipping from the material toward the intangible.
- It's moving from ownership to access.
- It's moving from value of copies toward value of networks.
- It's moving toward constant, relentless, increasing remixing.
- Example: this is exactly what I'm doing as I create this presentation!
 - Welcome to the new world...

Interacting

- [Minority Report](#) (2050)
- Computers have been on a steady march toward us
 - From air-conditioned basements
 - To nearby small rooms
 - To being perched on our desks
 - Then they hopped onto our laps
 - Then snuck into our pockets
 - And now they want to lay against our skin
- Cheap VR will be an ‘experience factory’ likely an experience we dip in and out of, but we have no limit to the kind of interacting we crave.



Tracking

- Like a walk after a fresh snowfall, we leave tracks wherever we go. But sometimes you don't want to leave tracks. You want privacy. At least that's what we used to want...
- If social media has taught us anything... it is that human impulse to share overwhelms the human impulse for privacy.
- So far... we've tilted... toward more sharing, more disclosure, more transparency. "Vanity trumps privacy."
- We manufacture 54 billion new sensors each year, and will capture another 300 zillionbytes of data in the next decade. Tracked, parsed and cognified by AIs... we will be astounded by this new level of tracking.

Questioning

- Before they questioned the ‘impossible’, Wikipedia, Linux and the Internet ‘couldn’t happen’.
- Society is moving away from the rigid order of hierarchy toward fluidity of decentralization.
- Now ‘impossibilities’ keep happening with greater frequency.
- We’re moving from nouns to verbs, tangible products to intangible becomings, fixed media to remixed media, stores to flows... from certainties of answers to uncertainties of questions.
- Facts continue to underpin the bulk of civilization, but the most precious aspects... of our lives and new technology will live in the frontiers, in the edges where uncertainty, chaos, fluidity, and questions dwell.

Beginning

- Here we are at the Beginning. When historians review the past, here at the beginning of the 3rd millennium will be seen as an amazing moment. This is the time when inhabitants of this planet first linked themselves together into one very large thing.
- 15 billion devices wired into one large circuit, 1 sextillion transistors make up the platform our lives will run on. International, always on, by 2025 100% of earth's inhabitants will have access.
- We are on the cusp of a discontinuity, a new normal. Centralized authority and uniformity diminish while new cultural forces (sharing, accessing, tracking) dominate our institutions and personal lives.
- This is the first step in the process of becoming. It is a Beginning...