Why the 2020s are set to be the exponential decade

[Bryan Walsh](#)   3 hours ago - [Technology](#)

Three new books take stock of the rapid technological change so far in the 21st century and ask whether we can adapt to the even faster change to come.

Why it matters: The 2020s could be the roaring or the raging decade, depending on whether political and social institutions can keep pace with the explosive transformation wrought by the tech sector.

The big picture: In his new book "[The Exponential Age,](#)" venture capitalist and [newsletter writer](#) Azeem Azhar identifies what might be the fundamental conflict of the early 21st century: how businesses and technologies growing at an exponential rate are colliding with social and political institutions that are much slower to change.

- The source code of the exponential age is Moore's Law, the now-decades-old observation that the underlying cost of computation will roughly halve every couple of years.
- Ever faster, ever-cheaper computing power is what enabled us to go from the iPod to the iPhone in just six years, and which turbocharged the growth of now trillion-dollar companies like Facebook and Amazon that knew how to take advantage of Moore's Law.
- The exponential age is one where winners truly are in a position to take all, because companies that fail to adapt early to technological change risk ending up in the same graveyard as Blockbuster and Kodak.

By the numbers: Azhar notes that Amazon's annual R&D budget rose from

$1.4 billion in 2009 to a staggering $36 billion in 2019 — a figure that puts it not far behind the entire research and development budget for the U.K.

- That relentless drive to stay ahead of technological change has helped Amazon build an online retail empire that is eight times larger than its nearest competitor, while also building a side business in cloud computing, media and more that added another $172 billion in sales.

Yes, but: While the tech sector is set up to harness the sheer speed of the exponential age, most of human society — government, social institutions, conventional businesses — have struggled to adapt to that pace, creating what Azhar calls an "exponential gap."

- "The gap leads to extreme tension," he writes. "In the Exponential Age this divergence is ongoing — and it is everywhere."

Between the lines: That's the subject of a new book, "System Error," by three Stanford professors: philosopher Rob Reich, political scientist Jeremy Weinstein and computer scientist Mehran Sahami.

- The trio — who jointly teach a popular class at Stanford called "Ethics, Public Policy and Computer Science" — explore whether a new approach to politics and ethics can help close "that profound gap between those who understand technology and those who are responsible for government and society," says Weinstein.
- Such an approach might involve trying to rein in the speed of technological change through regulation and through making consumers more aware of the implications of the tech they use — or in the case of their Stanford students, the tech they create.
- Technology will inevitably present trade-offs, Weinstein says — think of the trade-off between user privacy and preventing child abuse presented by Apple's now delayed plan to scan photos on iPhones —

but "we need to weigh those trade-offs in a public and deliberative way."

What to watch: The success or failure of efforts to close the exponential gap will have an enormous influence on whether the next decade can harness the best of technological growth, or be consumed by it, writes former diplomat Alec Ross in his new book "[The Raging 2020s](#)."

- The original Roaring 1920s led, of course, to the mother of all financial crises, but it also laid the groundwork for a lasting worker safety net in the U.S.
- But it could have easily gone the other way, as it did with the rise of fascism in parts of Europe in the 1930s, and Ross worries if we can't broker a new social contract that works for the exponential age, "the next decade could rage like something out of 'Mad Max.'"

The bottom line: The question we'll need to face over the next decade, says Weinstein: "How do we set up a government that can respond to the pace of technological change?"