

# How Humankind Conquered the World

Long ago, there were more than half a dozen species of human. Only Homo sapiens survived and thrived, transforming the face of the planet along the way.



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62 COMMENTS

*By Charles C. Mann*

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**Humans beings** developed language, anthropologists tell us, tens of thousands of years ago. Presumably the first spoken utterance was something practical, like “Lions are attacking!” or “Your hair is on fire!” But not long after came, “Who are we and how did we get here?” Homo sapiens, that congeries of narcissists, has been contemplating its journey ever since.

SAPIENS: A BRIEF HISTORY OF HUMANKIND

By Yuval Noah Harari

*HarperCollins, 443 pages, \$29.99*

Religion provided early versions of the human story: Zoroastrian sacred texts, the Book of Genesis, the Popul Vuh. These are immensely satisfying on an emotional level; they sweep past trifling details to reveal all-encompassing themes. Secular histories couldn't provide equally grand visions until the 19th century, when chroniclers began drawing on scientific knowledge. A landmark was Alexander von Humboldt's five-volume “Cosmos” (1845-62), which described the human story as enfolded within universal physical processes. Despite its length and inaccessibility, “Cosmos” was wildly popular and inspirational—Whitman supposedly kept a copy on his desk while he wrote “Leaves of Grass.” H.G. Wells's “Outline of History” (1918) predicted the collapse of European empires, and the 12 volumes of Arnold Toynbee's “Study of History” (1934-61) followed von Humboldt in size, popularity and unreadability. Most recently, David Christian's “Maps of Time” (2004), an amazing work that begins with the Big Bang, inspired Bill Gates's crusade to

revamp the U.S. history curriculum.

Yuval Noah Harari's "Sapiens," the most recent crack at what Mr. Christian calls Big History, has already been translated into more than 20 languages and been presented, via online courses, to thousands of mind-blown students. (It was originally written in Hebrew; Mr. Harari, who teaches at the Hebrew University of Jerusalem, did the very idiomatic translation.) Children often still learn history as a tedious parade of names and dates. "Sapiens" is the antimatter version of this kind of history, all sparkling conceptual schemas and ironic apothegms, with hardly a Henry or Louis or Philip in view.

The book's title is Mr. Harari's reminder that, long ago, the world held half a dozen species of human, of which only *Homo sapiens*—thee and me—today survives. The trajectory of our species, Mr. Harari says, can be traced as a succession of three revolutions: the cognitive revolution (when we got smart), the agricultural revolution (when we got nature to do what we wanted), and the scientific revolution (when we got dangerously powerful). Humanity, Mr. Harari predicts, will see one more epochal event. We will vanish within a few centuries, either because we've gained such godlike powers as to become unrecognizable or because we've destroyed ourselves through environmental mismanagement.

*Homo sapiens* came into existence more than 200,000 years ago. The term "cognitive revolution" reflects the belief, held by many anthropologists, that for most of that time the species was just a group of insignificant foraging bands wandering about east Africa. Then, Mr. Harari says, "beginning about 70,000 years ago, *Homo sapiens* started doing very special things." In this "Great Leap Forward," as Jared Diamond has

called it, our ancestors suddenly overcame their inertia and moved out of Africa, meanwhile inventing boats, battle axes and beautiful art. What happened? Mr. Harari suggests that a yet-undiscovered “Tree of Knowledge mutation” altered the “inner wiring” of our brains, allowing us “to communicate using an altogether new type of language,” one that allowed humans to cooperate in groups. Mutation in place, humankind exploded across the planet.

Sounds plausible, unless you know something about the subject. In 2000, Sally McBrearty of the University of Connecticut and Alison Brooks of George Washington University attacked the idea of a sudden cognitive revolution. In a now-classic paper, the authors contended that evidence for increased human capacities had been found in sites tens of thousands of years earlier, but wrongly dismissed. Rather than occurring all at once, as one would expect in a “revolution,” the new behaviors turned up in places “separated by sometimes great geographical and temporal distances.” The McBrearty-Brooks article helped give rise to a scholarly dispute that continues to this day. If language developed millennia before our species left Africa, something else must have unleashed humankind. One theory involves Toba, a super-volcano in Sumatra that erupted about 70,000 years ago, plunging Earth into a years-long winter that may have cleared the way for humankind’s expansion. But the evidence for this is just as shaky as the evidence for a cognitive revolution.

Nobody can be an expert about everything, and it’s not exactly surprising that Mr. Harari’s sweeping summations are studded with errors—there are always fleas on the lion, as a teacher of mine once told me. The question is whether there is a lion under the fleas. “Sapiens” is learned, thought-

provoking and crisply written. It has plenty of confidence and swagger. But some of its fleas are awfully big. Consider its take on the agricultural revolution, about which much more is known. First in the Fertile Crescent, then in a half-dozen other places, people discovered that they could convert natural ecosystems, with their jumble of often useless species, into farms: disciplined biological systems whose fruits can be captured by humankind. Agriculture transformed humanity's relationship to nature, giving us dominion. Thanks to agriculture, ecologists say, we now suck up half or more of the primary productivity of the planet.

Bad idea, Mr. Harari says. Agriculture increased the amount of available food, yet the result of prosperity was not happiness but "population explosions and pampered elites." Farmers worked harder than foragers and had a worse diet and poorer health. The surplus went to the privileged few, who used it to oppress. "The Agricultural Revolution," Mr. Harari says, "was history's biggest fraud."

Really? Always and everywhere? Were the Iroquois, who farmed, so much worse off than the foraging Abitibis and Témiscamingues to their north? Discussing the long dispute among anthropologists about whether the earliest hunter-gatherers lived in "peaceful paradises" or were "exceptionally cruel and violent," Mr. Harari maintains that the question can't be answered, because the meager data from archaeology and anthropology aren't enough to pierce "the curtain of silence" that enshrouds our remotest ancestors. Surely the same logic applies to comparing their well-being to that of the earliest farmers.

Mr. Harari is quite correct, though, about the import of surpluses. Because farmers can reap much more food from an acre of land than foragers, agriculture made possible

societies of thousands or millions, as permanent settlements grew. Unfortunately, nothing in farming tells a species that evolved in small, constantly moving, interrelated bands how to live in big, fixed, impersonal cities and states. Charging in to the rescue, Mr. Harari says, was our capacity for language, which allowed us to invent “common myths” or “fictions.” The three most important were money, religion and empire—all of which united people across continents.

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“Fictions” is an unfortunate word; ideas and institutions, which is what Mr. Harari seems to mean, have a complex ontological status. Still, the author’s portrayal of how these unifiers worked across space and time is fascinating. By the 15th century, they helped turn Homo sapiens into, in effect, a single, planet-wide superorganism, needing only Columbus and his successors to integrate the eastern and western

hemispheres.

Columbus's contact with the New World, according to "Sapiens," was a turning point, "the foundational event of the Scientific Revolution." The unveiling of continents unknown to the ancients "not only taught Europeans to favor present observations over past traditions, but the desire to conquer America also obliged Europeans to search for new knowledge at breakneck speed." Europe's explorer-conquerors, Mr. Harari says, were something new. "The Romans, Mongols, and Aztecs voraciously conquered new lands in search of power and wealth—not of knowledge. In contrast, European imperialists set out to distant shores in the hope of obtaining new knowledge along with new territories."

Mr. Harari's claim that Columbus ignited the scientific revolution is surprising. Most contemporary historians believe that the rise of modern science was so gradual that the term "revolution" is problematic. The first nine words of "The Scientific Revolution" (1996), by Steven Shapin, the distinguished Harvard historian of science, are: "There was no such thing as the Scientific Revolution." Mr. Shapin and other researchers don't deny the power of modern science. But it did not originate in a rejection of "past traditions," argues the University of Queensland historian Peter Harrison, author of "The Bible, Protestantism, and the Rise of Natural Science" (1998).

Instead, the grand vision of using the scientific method to gain mastery over the physical world arose from the long-standing Christian vision—dating back at least to St. Augustine in the fourth century—of nature as the second book through which God made himself known to humanity (the first was the Bible). Galileo justified science as an attempt to know the mind of God through his handiwork. By looking "thro' Nature, up to



Nature's God," Alexander Pope wrote in 1734, humanity can understand that the "Chain which links th' immense design, / Joins heav'n and earth, and mortal and divine."

Mr. Harari provides no source for his assertions about Columbus's influence on science. Equally odd are his claims that Europeans were "exceptional [for] their unparalleled and insatiable ambition to explore and conquer. . . . The Chinese never attempted to conquer Indonesia or Africa. Most Chinese rulers left even nearby Japan to its own devices." True, but most English kings didn't attack France, and in fact the Yuan dynasty invaded Indonesia in 1293, and the Ming dynasty established colonies and puppet states there in the 14th and 15th centuries. Between 1405 and 1433, the Chinese admiral Zheng He set off on seven great voyages—at least three as far as Africa—staffed with savants who described the lands and societies they encountered.

Finally, contra Mr. Harari, the supposed lack of interest by "Romans, Mongols, and Aztecs" in new knowledge would have surprised Pliny the Elder, who wrote his encyclopedic "Naturalis Historiae" in imperial Rome, just as much as it would have surprised the Mongols, who promoted the study of medicine and astronomy and created thousands of schools in conquered lands. Aztec science remains little known because Europeans burned almost all pre-conquest indigenous literature. So much for "obtaining new knowledge"!

Where are all these revolutions taking us? "The leading project of the Scientific Revolution is to give humankind eternal life," Mr. Harari says. I suspect that this attribution of motive would have startled Newton and Einstein; Francis Crick, the co-discoverer of DNA, described himself in his autobiography as wanting to find out what life *is*—quite a

different subject. But it is nonetheless true that the collective achievements of science and medicine have greatly increased the human lifespan. People are eating as never before, being cured of disease as never before, and dying from war less than ever before.

Intriguingly, Mr. Harari is ambivalent about this species-wide increase in well-being. “Unfortunately,” he says, “the Sapiens regime on earth has so far produced little that we can be proud of.” Personally, I’d say that Beethoven’s symphonies, the Kokedera moss garden in Kyoto, the Great Mosque of Djenné, classical Greek drama and the theory of quantum electrodynamics ain’t beanbag. But Mr. Harari is arguing on another, more ineffable level: Better living, he says, has not made us more content. Citing recent research in psychology, he avers that happiness “depends on the correlation between objective conditions and subjective expectations.”

Because we moderns expect more, we aren’t satisfied by material conditions and objects that would have overjoyed our grandparents. “Our intolerance of inconvenience and discomfort” is now so ingrained, he thinks, that “we may well suffer from pain more than our ancestors ever did.” Worse still, modernity has brought about the collapse of the family — “the most momentous social revolution that ever befell humankind” — and terminated the consolations of religion. If people in medieval times “believed the promise of everlasting bliss in the afterlife,” Mr. Harari suggests, “they may well have viewed their lives as far more meaningful and worthwhile than modern secular people, who in the long term can expect nothing but complete and meaningless oblivion.”

What one makes of this argument will depend on personal experience. The 19th century is replete with tales of men and women left prostrate by untimely death. Both Darwin and his

great antagonist Bishop Wilberforce were devastated by the loss of children to disease. Meanwhile, here in the 21st century, contemporary technology prevented my child's death (from a bone infection), as it has millions of other children. If the cost of my daughter's survival is some bouts of anomie, I'll cheerfully pay up.

Regardless of the drawbacks, the human project will march on. Having remade the Earth, Mr. Harari says, we will remake ourselves. Within decades we will see a radical amplification of human abilities, whether by direct mental connection to the Internet, the adoption of cyborg technology, the manipulation of the human genome, or all three. Eventually we will change so much that Homo sapiens will effectively cease to exist. Our descendants may become incomprehensible to us. The only thing stopping this picture, in Mr. Harari's view, is the possibility of environmental catastrophe, which also may wipe out our species.

There's a whiff of dorm-room bull sessions about the author's stimulating but often unsourced assertions. Or perhaps I should use a more contemporary simile: "Sapiens" reminded me occasionally of a discussions on Reddit, where users sound off about supposed iron laws of history. This book is what these Reddit threads would be like if they were written not by adolescent autodidacts but by learned academics with impish senses of humor. As I write, my daughter is glumly making flashcards full of names and dates for an AP Euro exam. I bet she wishes she had a textbook like "Sapiens." Me? I'm not so sure. I like the book's verve and pop but wish it didn't have all those fleas.

—Mr. Mann is the author, most recently, of "1493: Uncovering the New World Columbus Created."