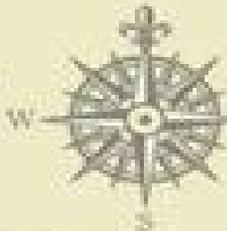




"The nearest thing to a unified field theory of history we are ever likely to get. I loved it." NIALL FERGUSON

WHY  THE
WEST
RULES~
FOR NOW



The Patterns of History and what they reveal about the Future



IAN MORRIS

‘The nearest thing to a unified field theory of history we are ever likely to get. With wit and wisdom, Ian Morris deploys the techniques and insights of the new ancient history to address the biggest of all historical questions: Why on earth did the West beat the Rest? I loved it.’ Niall Ferguson

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‘A formidable, richly engrossing effort to determine why Western institutions dominate the world ... Readers will enjoy [Morris’s] lively prose and impressive combination of scholarship ... with economics and science. A superior contribution to the grand-theory-of-human-history genre.’ *Kirkus Reviews* (starred review)

WHY THE WEST RULES—FOR NOW

WHY

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RULES—FOR NOW

The Patterns of History,

and What

They Reveal About

the Future

IAN MORRIS

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For Kathy

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WHY THE WEST RULES—FOR NOW

INTRODUCTION

ALBERT IN BEIJING

London, April 3, 1848. Queen Victoria's head hurt. She had been kneeling with her face pressed to the wooden pier for twenty minutes. She was angry, frightened, and tired from fighting back tears; and now it had started raining. The drizzle was soaking her dress, and she only hoped that no one would mistake her shivers for fear.

Her husband was right next to her. If she just stretched out her arm, she could rest a hand on his shoulder, or smooth his wet hair—anything to give him strength for what was coming. If only time would stand still—or speed up. If only she and Prince Albert were anywhere but here.

And so they waited—Victoria, Albert, the Duke of Wellington, and half the court—on their knees in the rain. Clearly there was a problem on the river. The Chinese armada's flagship was too big to put in at the East India Docks, so Governor Qiyong was making his grand entry to London from a smaller armored steamer named after himself, but even the *Qiyong* was uncomfortably large for the docks at Black-wall. Half a dozen tugs were towing her in, with great confusion all around. Qiyong was not amused.

Out of the corner of her eye Victoria could see the little Chinese band on the pier. Their silk robes and funny hats had looked splendid an hour ago, but were now thoroughly bedraggled in the English rain. Four times the band had struck up some Oriental cacophony, thinking that Qiyong's litter was about to be carried ashore, and four times had given up. The fifth time, though, they stuck to it. Victoria's stomach lurched. Qiyong must be ashore at last. It was really happening.

And then Qiyong's envoy was right in front of them, so close that Victoria

could see the stitching on his slippers. There were little dragons, puffing smoke and flames. It was much finer work than her own ladies-in-waiting seemed able to do.

The envoy droned on, reading the official proclamation from Beijing. Victoria had been told what it said: that the Grand Exemplar the Cultured Emperor Daoguang recognized the British queen's desire to pay her respects to the imperial suzerainty; that Victoria had begged for the opportunity to offer tribute and taxes, paying the utmost obeisance and asking for commands; and that the emperor agreed to treat her realm as one of his inferior domains, and to allow the British to follow the Chinese way.

But everyone in Britain knew what had really happened. At first the Chinese had been welcome. They had helped fund the war against Napoleon, who had closed the continent's ports to them. But since 1815 they had been selling their goods at lower and lower prices in Britain's ports, until they put Lancashire's cotton mills out of business. When the British protested and raised tariffs, the Chinese burned the proud Royal Navy, killed Admiral Nelson, and sacked every town along the south coast. For almost eight centuries England had defied all conquerors, but now Victoria's name would go down forever in the annals of shame. Her reign had been an orgy of murder, rapine, and kidnapping; defeat, dishonor, and death. And here was Qiying himself, the evil architect of Emperor Daoguang's will, come to ooze more cant and hypocrisy.

At the appropriate moment Victoria's translator, kneeling just behind her, gave a perfect courtier's cough that only the queen could hear. This was the signal: Qiying's minion had reached the part about investing her as a subject ruler. Victoria raised her forehead from the dock and sat up to receive the barbaric cap and robe that signified her nation's dishonor. She got her first good look at Qiying. She did not expect to see such an intelligent- and vigorous-looking middle-aged fellow. Could he really be the monster she had dreaded? And Qiying got his first look at Victoria. He had seen a portrait of her at her coronation, but she was even stouter and plainer than he had expected. And young—very, very young. She was soaked and appeared to have little splinters and bits of mud from the dock all over her face. She did not even know how to kowtow properly. What graceless people!

And now came the moment of blackest horror, the unthinkable. With deep bows, two mandarins stepped from behind Qiying and helped Albert to his feet. Victoria knew she should make no sound or gesture—and in very truth, she was frozen to the spot, and could not have protested had she tried.

They led Albert away. He moved slowly, with great dignity, then stopped and looked back at Victoria. The world was in that glance.

Victoria swooned. A Chinese attendant caught her before she fell to the dock; it would not do to have a queen, even a foreign devil queen, hurt herself at such a moment. Sleepwalking now, his expression frozen and his breath coming in gasps, Albert left his adopted country. Up the gangplank, into the luxurious locked cabin, and on to China, there to be invested as a vassal in the Forbidden City by the emperor himself.

By the time Victoria recovered, Albert was gone. Now, finally, great sobs racked her body. It could take Albert half a year to get to Beijing, and the same to get back; and he might wait further months or years among those barbarians until the emperor granted him an audience. What would she do? How could she protect her people, alone? How could she face this wicked Qiying, after what he had done to them?

Albert never came back. He reached Beijing, where he astonished the court with his fluent Chinese and his knowledge of the Confucian classics. But on his heels came news that landless farm workers had risen up and were smashing threshing machines all over southern England; and then that bloody street battles were raging in half the capitals of Europe. A few days later the emperor received a letter from Qiying suggesting that it might be best to keep a talented prince like Albert safely out of the country. All this violence was as much about the painful transition to modernity as about the Chinese Empire, but there was no point taking chances with such turbulent people.

So Albert stayed in the Forbidden City. He threw away his English suits and grew a Manchu pigtail, and with each passing year his knowledge of the Chinese classics deepened. He grew old, alone among the pagodas, and after thirteen years in the gilded cage, he finally just gave up living.

On the other side of the world Victoria shut herself away in under-heated private rooms at Buckingham Palace and ignored her colonial masters. Qiying simply ran Britain without her. Plenty of the so-called politicians would crawl on their bellies to do business with him. There was no state funeral when Victoria died in 1901; just shrugs and wry smiles at the passing of the last relic of the age before the Chinese Empire.

LOOTY IN BALMORAL

In reality, of course, things didn't happen this way. Or at least, only some of them did. There really was a Chinese ship called the *Qiyong*, and it really did sail into London's East India Docks in April 1848 ([Figure I.1](#)). But it was not an ironclad gunboat carrying a Chinese governor to London: the real *Qiyong* was just a gaily painted wooden junk. British businessmen in the Crown Colony of Hong Kong had bought the little boat a couple of years before and decided that it would be a jolly jape to send it back to the old country.

Queen Victoria, Prince Albert, and the Duke of Wellington really did come down to the river, but not to kowtow before their new master. Rather, they came as tourists to gawk at the first Chinese ship ever seen in Britain.

The ship really was named after the governor of Guangzhou. But *Qiyong* had not accepted British submission in 1842 after destroying the Royal Navy. In reality, he negotiated China's surrender that same year, after a small British squadron sank every war junk it could find, silenced the coastal batteries, and closed the Grand Canal linking Beijing to the rice-rich Yangzi Valley, threatening the capital with starvation.

And Emperor Daoguang really did rule China in 1848. But Daoguang did not tear Victoria and Albert apart: in fact the royal couple lived on in bliss, punctuated by Victoria's moods, until Albert died in 1861. The reality was that Victoria and Albert tore Daoguang apart.

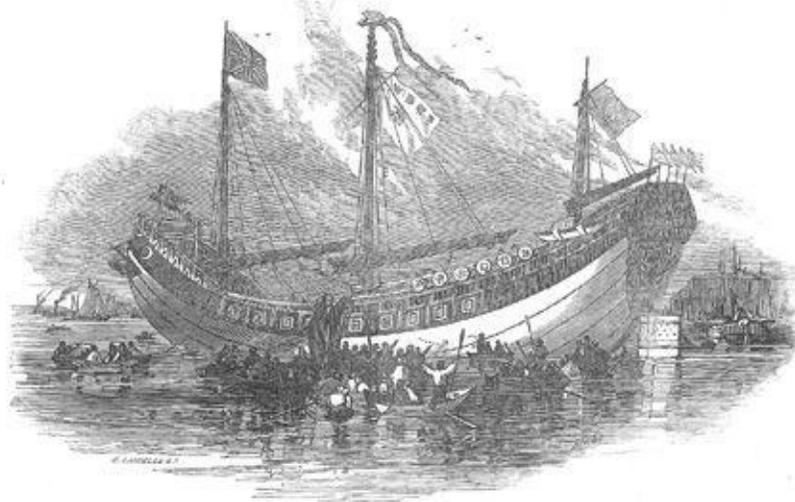


Figure I.1. The real *Qiyong*: boatloads of Londoners row out to see the ship in

1848, as recorded by an artist from the *Illustrated London News*.

History is often stranger than fiction. Victoria's countrymen broke Daoguang and shattered his empire for that most British of vices—a cup of tea (or, to be precise, several billion cups of tea). In the 1790s the British East India Company, which ran much of South Asia as a private fiefdom, was shipping 23 million pounds of Chinese tea leaves to London every year. The profits were enormous, but there was one problem: the Chinese government was not interested in importing British manufactured goods in return. All it wanted was silver, and the company was having trouble raising enough to keep the trade going. So there was much joy when the traders realized that whatever the Chinese government might want, the Chinese people wanted something else: opium. And the best opium grew in India, which the company controlled. At Guangzhou—the one Chinese port where foreigners could trade—merchants sold opium for silver, used the silver to buy tea, then sold the tea for even greater profits back in London.

As so often in business, though, solving one problem just created another. Indians ate opium and Britons dissolved it and drank it, consuming ten to twenty tons every year (some of it going to calm babies). Both techniques produced mildly narcotic effects, enough to inspire the odd poet and stimulate a few earls and dukes to new debaucheries, but nothing to worry about. The Chinese, on the other hand, smoked it. The difference was not unlike that between chewing coca leaves and lighting up a crack pipe. British drug dealers contrived to overlook this difference but Daoguang did not, and in 1839 declared war on drugs.

It was an odd war, which quickly degenerated into a personal face-off between Daoguang's drug czar, Commissioner Lin Zexu, and the British superintendent of trade at Guangzhou, Captain Charles Elliot. When Elliot realized he was losing, he persuaded the traders to surrender a staggering seventeen hundred tons of opium to Lin; and he got the traders to agree to this by guaranteeing that the British government would reimburse them for their losses. The merchants did not know if Elliot actually had the authority to promise this, but they grabbed the offer all the same. Lin got his opium; Elliot saved face and kept the tea trade moving; and the merchants got top price (plus interest and shipping) for their drugs. Everyone won.

Everyone, that is, except Lord Melbourne, Britain's prime minister. Melbourne, who was expected to find £2 million to compensate the drug dealers, did *not* win. It should have been madness for a mere naval captain to put a prime

minister on the spot like this, but Elliot knew he could rely on the business community to lobby Parliament to recover the money. And so it was that personal, political, and financial interests thickened around Melbourne until he had no choice but to pay up and then send an expedition to make the Chinese government reimburse Britain for the confiscated opium ([Figure I.2](#)).

This was not the British Empire's finest hour. Contemporary analogies are never precise, but it was rather as if in response to the U.S. Drug Enforcement Agency making a major bust, the Tijuana cartel prevailed on the Mexican government to shoot its way into San Diego, demanding that the White House reimburse the drug lords for the street value of the confiscated cocaine (plus interest and carriage charges) as well as paying the costs of the military expedition. Imagine, too, that while it was in the neighborhood, a Mexican fleet seized Catalina Island as a base for future operations and threatened to blockade Washington until Congress gave the Tijuana drug lords monopoly rights in Los Angeles, Chicago, and New York.

The difference, of course, is that Mexico is in no position to bombard San Diego, while in 1839 Britain could do whatever it wanted. British ships brushed aside China's defenses and Qiyong signed a humiliating treaty, opening China to trade and missionaries. Daoguang's wives were not carried off to London, the way Albert went to Beijing in the scene I imagined at the beginning of this introduction, but the "Opium War" broke Daoguang all the same. He had let down 300 million subjects and betrayed two thousand years of tradition. He was right to feel like a failure. China was coming apart. Addiction soared, the state lost control, and custom crumbled.



Figure I.2. Not their finest hour: British ships blowing Chinese war junks out of the Yangzi River in 1842. At the far right the *Nemesis*, the world's first all-iron warship, is living up to its name.

Into this uncertain world came a failed civil service candidate named Hong Xiuquan, who had grown up just outside Guangzhou. Four times Hong had trekked to the city to take the arduous civil service entrance exams; four times he had flunked. Finally, in 1843, he collapsed and had to be carried back to his village. In his fevered dreams, angels took him up to heaven. There he met a man who, he was told, was his elder brother, and standing shoulder-to-shoulder the two of them battled demons under their bearded father's gaze.

No one in the village could make sense of this dream, and Hong seemed to forget about it for several years, until one day he opened a little book he had been given in Guangzhou on one of his trips to the examination hall. It summarized the Christians' sacred texts—and, Hong realized, held the key to his dream. The brother in his dream was obviously Jesus, which made Hong God's Chinese son. He and Jesus had chased the demons out of heaven, but the dream seemed to mean that God wanted Hong to expel them from earth, too. Patching together a mix of evangelical Christianity and Confucianism, Hong proclaimed a Heavenly Kingdom of Great Peace. Angry peasants and bandits flocked to his banner. By 1850 his motley crew was defeating the disorganized imperial armies sent against him, and he followed God's will by introducing radical social reforms. He redistributed land, legislated equal rights for women, and even banned footbinding.

In the early 1860s, while Americans slaughtered each other with artillery and repeating rifles in the world's first modern war, the Chinese were doing the same with cutlasses and pikes in the world's last traditional war. For sheer horror, the traditional version far outdid the modern one. Twenty million died, mostly through starvation and disease, and Western diplomats and generals exploited the chaos to push farther into East Asia. In 1854, looking for coaling stations between California and China, the American Commodore Perry forced Japan's ports open. In 1858 Britain, France, and the United States won new concessions from China. Emperor Xianfeng, who understandably hated the foreign devils who had destroyed his father, Daoguang, and were now exploiting his war against Hong, tried to wriggle out of the new treaty, but when Xianfeng got difficult, the British and French governments made him an offer he couldn't refuse. They marched on Beijing and Xianfeng beat an undignified retreat to a

nearby vacation spot. The Europeans then burned his beautiful Summer Palace, letting him know they could do the same to the Forbidden City if they felt like it, and Xianfeng caved in. Shattered even more badly than his father had been, he refused to leave his hiding place or meet with officials ever again, and retreated into drugs and sex. He died a year later.

Prince Albert expired just a few months after Xianfeng. Despite spending years campaigning to persuade the British government that poor drains spread disease, Albert probably died from typhoid carried through Windsor Castle's wretched sewers. Sadder still, Victoria—as deeply enamored of modern plumbing as Albert—was in the bathroom when he passed away.

Robbed of the love of her life, Victoria sank deeper into moods and melancholy. But she was not completely alone. British officers presented her with one of the finest curiosities they had looted from the Summer Palace at Beijing: a Pekinese dog. She named him Looty.

LOCKING IN

Why did history follow the path that took Looty to Balmoral Castle, there to grow old with Victoria, rather than the one that took Albert to study Confucius in Beijing? Why did British boats shoot their way up the Yangzi in 1842, rather than Chinese ones up the Thames? To put it bluntly: Why does the West rule?

To say the West “rules” might sound a little strong; after all, however we define “the West” (a question I will return to in a few pages), Westerners have not exactly been running a world government since the 1840s, and regularly fail to get their own way. Many of us are old enough to remember America's ignominious scramble out of Saigon (now Ho Chi Minh City) in 1975 and the way Japanese factories drove Western rivals out of business in the 1980s. Even more of us now have the sense that everything we buy is made in China. Yet it is also obvious that in the last hundred years or so Westerners have shipped armies to Asia, not the other way around. East Asian governments have struggled with Western capitalist and Communist theories, but no Western governments have tried to rule on Confucian or Daoist lines. Easterners often communicate across linguistic barriers in English; Europeans rarely do so in Mandarin or Japanese. As a Malaysian lawyer bluntly told the British journalist Martin Jacques, “[I am](#)

wearing your clothes, I speak your language, I watch your films, and today is whatever date it is because you say so.”

The list could go on. Since Victoria’s men carried off Looty the West has maintained a global dominance without parallel in history.

My goal is to explain this.

At first glance, it might not look like I have set myself a very difficult task. Nearly everyone agrees that the West rules because the industrial revolution happened there, not in the East. In the eighteenth century British entrepreneurs unleashed the energies of steam and coal. Factories, railroads, and gunboats gave nineteenth-century Europeans and Americans the ability to project power globally; airplanes, computers, and nuclear weapons allowed their twentieth-century successors to cement this dominance.

This did not mean that everything had to turn out exactly as it did, of course. If Captain Elliot had not forced Lord Melbourne’s hand in 1839, the British might not have attacked China that year; if Commissioner Lin had paid more attention to coastal defenses, the British might not have succeeded so easily. But it does mean that irrespective of when matters came to a head and of who sat on the thrones, won the elections, or led the armies, the West was always going to win in the nineteenth century. The British poet and politician Hilaire Belloc summed it up nicely in 1898:

*Whatever happens we have got
The Maxim Gun, and they have not.*

End of story.

Except, of course, this is not the end of the story. It just prompts a new question: *Why* had the West got the Maxim gun when the rest had not? This is the first question I address, because the answer tells us why the West rules today; and, armed with the answer, we can pose a second question. One of the reasons people care about why the West rules is that they want to know whether, how long, and in what ways this will continue—that is, what will happen next.

This question grew increasingly pressing as the twentieth century wore on and Japan emerged as a major power; and in the early twenty-first it has become unavoidable. China’s economy doubles in size every half-dozen years and will probably be the world’s largest before 2030. As I write, in early 2010, most economists are looking to China, not the United States or Europe, to restart the

world's economic engine. China hosted spectacular Olympic Games in 2008 and two Chinese "taikonauts" have taken spacewalks. China and North Korea both have nuclear weapons, and Western strategists worry about how the United States will accommodate itself to China's rising power. How long the West will stay on top is a burning question.

Professional historians are famously bad prophets, to the point that most refuse to talk about the future at all. The more I have thought about why the West rules, though, the more I have realized that the part-time historian Winston Churchill understood things better than most professionals. "[The farther backward](#) you can look," Churchill insisted, "the farther forward you are likely to see." Following in this spirit (even if Churchill might not have liked my answers), I will suggest that knowing why the West rules gives us a pretty good sense of how things will turn out in the twenty-first century.

I am not, of course, the first person to speculate on why the West rules. The question is a good 250 years old. Before the eighteenth century the question rarely came up, because it frankly did not then make much sense. When European intellectuals first started thinking seriously about China, in the seventeenth century, most felt humbled by the East's antiquity and sophistication; and rightly so, said the few Easterners who paid the West any heed. Some Chinese officials admired Westerners' ingenious clocks, devilish cannons, and accurate calendars, but they saw little worth emulating in these otherwise unimpressive foreigners. If China's eighteenth-century emperors had known that French philosophers such as Voltaire were writing poems praising them, they would probably have thought that that was exactly what French philosophers ought to be doing.

Yet from almost the first moment factories filled England's skies with smoke, European intellectuals realized that they had a problem. As problems went, it was not a bad one: they appeared to be taking over the world, but did not know why.

Europe's revolutionaries, reactionaries, romantics, and realists went into a frenzy of speculation on why the West was taking over, producing a bewildering mass of hunches and theories. The best way to begin asking why the West rules may be by separating these into two broad schools of thought, which I will call the "long-term lock-in" and "short-term accident" theories. Needless to say, not every idea fits neatly into one camp or the other, but this division is still a useful way to focus things.

The unifying idea behind long-term lock-in theories is that from time immemorial some critical factor made East and West massively and unalterably different, and determined that the industrial revolution would happen in the West. Long-termers disagree—fiercely—on what that factor was and when it began to operate. Some emphasize material forces, such as climate, topography, or natural resources; others point to less tangible matters, such as culture, politics, or religion. Those who favor material forces tend to see “the long term” as being very long indeed. Some look back fifteen thousand years to the end of the Ice Age; a few go back even further. Those who emphasize culture usually see the long term as being a bit shorter, stretching back just one thousand years to the Middle Ages or two and a half thousand to the age of the Greek thinker Socrates and China’s great sage Confucius. But the one thing long-termers can agree on is that the Britons who shot their way into Shanghai in the 1840s and the Americans who forced Japan’s harbors open a decade later were merely the unconscious agents of a chain of events that had been set in motion millennia earlier. A long-termer would say that by beginning this book with a contrast between Albert-in-Beijing and Looty-in-Balmoral scenarios, I was just being silly. Queen Victoria was always going to win: the result was inevitable. It had been locked in for generations beyond count.

Between roughly 1750 and 1950 nearly all explanations for why the West ruled were variations on the long-term lock-in theme. The most popular version was that Europeans were simply culturally superior to everyone else. Since the dying days of the Roman Empire most Europeans had identified themselves first and foremost as Christians, tracing their roots back to the New Testament, but in trying to explain why the West was now coming to rule, some eighteenth-century intellectuals imagined an alternative line of descent for themselves. Two and a half thousand years ago, they argued, the ancient Greeks created a unique culture of reason, inventiveness, and freedom. This set Europe on a different (better) trajectory than the rest of the world. The East had its learning too, they conceded, but its traditions were too muddled, too conservative, and too hierarchical to compete with Western thought. Many Europeans concluded that they were conquering everyone else because culture made them do it.

By 1900 Eastern intellectuals, struggling to come to terms with the West’s economic and military superiority, often bought into this theory, though with a twist. Within twenty years of Commodore Perry’s arrival in Tokyo Bay a “Civilization and Enlightenment” movement was translating the classics of the French Enlightenment and British liberalism into Japanese and advocating catching up with the West through democracy, industrialism, and the

emancipation of women. Some even wanted to make English be the national language. The problem, intellectuals such as Fukuzawa Yukichi insisted in the 1870s, was long-term: China had been the source of much of Japan's culture, and China had gone terribly wrong in the distant past. As a result, Japan was only "semicivilized." But while the problem was long-term, Fukuzawa argued, it was not locked in. By rejecting China, Japan could become fully civilized.

Chinese intellectuals, by contrast, had no one to reject but themselves. In the 1860s a "Self-Strengthening" movement argued that Chinese traditions remained fundamentally sound; China just needed to build a few steamships and buy some foreign guns. This, it turned out, was mistaken. In 1895 a modernized Japanese army surprised a Chinese fortress with a daring march, seized its foreign-made guns, and turned them on China's steamships. The problem clearly went deeper than having the right weapons. By 1900 Chinese intellectuals were following the Japanese lead, translating Western books on evolution and economics. Like Fukuzawa, they concluded that Western rule was long-term but not locked in; by rejecting its own past China could catch up too.

But some Western long-termers thought there was simply nothing the East could do. Culture made the West best, they claimed, but was not the ultimate explanation for Western rule, because culture itself had material causes. Some believed that the East was too hot or too diseased for people to develop a culture as innovative as the West's; or perhaps there were just too many bodies in the East—consuming all the surplus, keeping living standards low, and preventing anything like the liberal, forward-looking Western society from emerging.

Long-term lock-in theories come in every political coloring, but Karl Marx's version has been the most important and influential. In the very days that British troops were liberating Looty, Marx—then writing a China column for the *New York Daily Tribune*—suggested that politics was the real factor that had locked in Western rule. For thousands of years, he claimed, Oriental states had been so centralized and so powerful that they had basically stopped the flow of history. Europe progressed from antiquity through feudalism to capitalism, and proletarian revolutions were about to usher in communism, but the East was sealed in the amber of despotism and could not share in the progressive Western trajectory. When history did not turn out exactly as Marx had predicted, later Communists (especially Lenin and his followers) improved on his theories by claiming that a revolutionary vanguard might shock the East out of its ancient slumber. But that would only happen, Leninists insisted, if they could shatter the old, fossilized society—at whatever cost. This long-term lock-in theory is not the

only reason why Mao Zedong, Pol Pot, and the Kims of North Korea unleashed such horrors on their people, but it bears a heavy burden of responsibility.

Right through the twentieth century a complicated dance went on in the West as historians uncovered facts that did not seem to fit the long-term lock-in stories, and long-termers adjusted their theories to accommodate them. For instance, no one now disputes that when Europe's great age of maritime discovery was just beginning, Chinese navigation was far more advanced and Chinese sailors already knew the coasts of India, Arabia, East Africa, and perhaps Australia.* When the eunuch admiral Zheng He sailed from Nanjing for Sri Lanka in 1405 he led nearly three hundred vessels. There were tankers carrying drinking water and huge "Treasure Ships" with advanced rudders, watertight compartments, and elaborate signaling devices. Among his 27,000 sailors were 180 doctors and pharmacists. By contrast, when Christopher Columbus sailed from Cadiz in 1492, he led just ninety men in three ships. His biggest hull displaced barely one-thirtieth as much water as Zheng's; at eighty-five feet long it was shorter than Zheng's mainmast, and barely twice as long as his rudder. Columbus had no freshwater tankers and no real doctors. Zheng had magnetic compasses and knew enough about the Indian Ocean to fill a twenty-one-foot-long sea chart; Columbus rarely knew where he was, let alone where he was going.

This might give pause to anyone assuming that Western dominance was locked in in the distant past, but several important books have argued that Zheng He does, after all, fit into long-term lock-in theories: we just need more sophisticated versions. For example, in his magnificent book *The Wealth and Poverty of Nations*, the economist David Landes renews the idea that disease and demography always gave Europe a decisive edge over China, but adds a new twist by suggesting that dense population favored centralized government in China and reduced rulers' incentives to exploit Zheng's voyages. Because they had no rivals, most Chinese emperors worried more about how trade might enrich undesirable groups like merchants than they did about getting more riches for themselves; and because the state was so powerful, they could stamp out this alarming practice. In the 1430s they banned oceanic voyages, and in the 1470s perhaps destroyed Zheng's records, ending the great age of Chinese exploration.

The biologist and geographer Jared Diamond makes a similar case in his classic *Guns, Germs, and Steel*. His main goal is to explain why it was societies within the band of latitude that runs from China to the Mediterranean Sea that developed the first civilizations, but he also suggests that Europe rather than

China came to dominate the modern world because Europe's peninsulas made it easy for small kingdoms to hold out against would-be conquerors, favoring political fragmentation, while China's rounder coastline favored centralized rulers over petty princes. The resulting political unity allowed fifteenth-century Chinese emperors to ban voyages like Zheng's.

In fragmented Europe, by contrast, monarch after monarch could reject Columbus's crazy proposal, but he could always find someone else to ask. We might speculate that if Zheng had had as many options as Columbus, Hernán Cortés might have met a Chinese governor in Mexico in 1519, not the doomed Montezuma. But according to long-term lock-in theories, vast impersonal forces such as disease, demography, and geography ruled that possibility out.

Lately, though, Zheng's voyages and plenty of other facts have started striking some people as just too awkward to fit into long-term models at all. Already in 1905 Japan showed that Eastern nations could give Europeans a run for their money on the battlefield, defeating the Russian Empire. In 1942 Japan almost swept the Western powers out of the Pacific altogether, then, bouncing back from a shattering defeat in 1945, changed direction to become an economic giant. Since 1978 China, as we all know, has moved along a similar path. In 2006 China beat out the United States as the world's biggest carbon emitter, and even in the darkest days of the 2008–2009 financial crisis, China's economy kept growing at rates that Western governments would envy in the best of years. Maybe we need to throw out the old question and ask a new one: not *why* the West rules, but *whether* the West rules. If the answer is no, then long-term lock-in theories that seek ancient explanations for a Western rule that does not actually exist seem rather pointless.

One result of these uncertainties has been that some Western historians have developed a whole new theory explaining why the West used to rule but is now ceasing to do so. I call this the short-term accident model. Short-term arguments tend to be more complicated than long-term ones, and there are fierce disagreements within this camp. But there is one thing short-termers do all agree on: pretty much everything long-termers say is wrong. The West has not been locked into global dominance since the distant past; only after 1800 CE, on the eve of the Opium War, did the West pull temporarily ahead of the East, and even that was largely accidental. The Albert-in-Beijing scenario is anything but silly. It could easily have happened.

LUCKING OUT

Orange County in California is better known for conservative politics, manicured palm trees, and long-time resident John Wayne (the local airport is named after him, despite his dislike of planes flying over the golf course) than for radical scholarship, but in the 1990s it became the epicenter of short-term accident theories of global history. Two historians (Bin Wong and Kenneth Pomeranz) and a sociologist (Wang Feng) at the University of California's Irvine campus* wrote landmark books arguing that whatever we look at—ecology or family structures, technology and industry or finance and institutions, standards of living or consumer tastes—the similarities between East and West vastly outweighed the differences as late as the nineteenth century.

If they are right, it suddenly becomes much harder to explain why Looty came to London rather than Albert heading east. Some short-termers, like the maverick economist Andre Gunder Frank (who wrote more than thirty books on everything from prehistory to Latin American finance), argue that the East was actually better placed to have an industrial revolution than the West until accidents intervened. Europe, Frank concluded, was simply “a [distant marginal peninsula](#)” in a “Sinocentric world order.” Desperate to get access to the markets of Asia, where the real wealth was, Europeans a thousand years ago tried to batter their way through the Middle East in the Crusades. When this did not work some, like Columbus, tried sailing west to reach Cathay.

That failed too, because America was in the way, but in Frank's opinion Columbus's blunder marked the beginning of the change in Europe's place in the world system. In the sixteenth century China's economy was booming but faced constant silver shortages. America was full of silver; so Europeans responded to China's needs by getting Native Americans to claw a good 150,000 tons of precious metal out of the mountains of Peru and Mexico. A third of it ended up in China. Silver, savagery, and slavery bought the West “a third-class seat on the Asian economic train,” as Frank put it, but still more needed to happen before the West could “displace Asians from the locomotive.”

Frank thought that the rise of the West ultimately owed less to European initiative than to a “decline of the East” after 1750. This began, he believed, when the silver supply started shrinking. This set off political crises in Asia but provided a bracing stimulus in Europe, where, as they ran out of silver to export, Europeans mechanized their industries to make goods other than silver competitive in Asian markets. Population growth after 1750 also had different

results at each end of Eurasia, Frank argued, polarizing wealth, feeding political crises, and discouraging innovation in China but providing cheaper labor for new factories in Britain. As the East fell apart the West had the industrial revolution that should, by rights, have happened in China; but because it happened in Britain, the West inherited the world.

Other short-termers, though, disagree. The sociologist Jack Goldstone (who taught for some years at the University of California's Davis campus and coined the term "California School" to describe the short-term theorists) has argued that East and West were roughly equally well (or poorly) placed until 1600, each ruled by great agrarian empires with sophisticated priesthoods guarding ancient traditions. Everywhere from England to China, plagues, wars, and the overthrow of dynasties brought these societies to the brink of collapse in the seventeenth century, but whereas most of the empires recovered and re-imposed strictly orthodox thought, northwest Europe's Protestants rejected Catholic traditions.

It was that act of defiance, Goldstone suggests, that sent the West down the path toward an industrial revolution. Freed from the fetters of archaic ideologies, European scientists laid bare the workings of nature so effectively that British entrepreneurs, sharing in this pragmatic can-do culture, learned to put coal and steam to work. By 1800 the West had pulled decisively ahead of the rest.

None of this was locked in, Goldstone argues, and in fact a few accidents could have changed the world completely. For instance, at the battle of the Boyne in 1690 a Catholic musket ball ripped through the shoulder of the coat worn by William of Orange, the Protestant pretender to England's throne. "[It's well](#) it came no nearer," William is supposed to have said; well indeed, says Goldstone, speculating that if the shot had hit a few inches lower England would have remained Catholic, France would have dominated Europe, and the industrial revolution might not have happened.

Kenneth Pomeranz at Irvine goes further still. As he sees it, the fact that there was an industrial revolution at all was a gigantic fluke. Around 1750, he argues, East and West were both heading for ecological catastrophe. Population had grown faster than technology and people had already done nearly everything possible in the way of extending and intensifying agriculture, moving goods around, and reorganizing themselves. They were about to hit the limits of what was possible with their technology, and there was every reason to expect global recession and declining population in the nineteenth and twentieth centuries.

Yet the last two hundred years have seen more economic growth than all

earlier history put together. The reason, Pomeranz explains in his important book *The Great Divergence*, is that western Europe, and above all Britain, just got lucky. Like Frank, Pomeranz sees the West's luck beginning with the accidental discovery of the Americas, creating a trading system that provided incentives to industrialize production; but unlike Frank, he suggests that as late as 1800 Europe's luck could still have failed. It would have taken a lot of space, Pomeranz points out, to grow enough trees to feed Britain's crude early steam engines with wood—more space, in fact, than crowded western Europe had. But a second stroke of luck intervened: Britain, alone in all the world, had conveniently located coalfields as well as rapidly mechanizing industries. By 1840 Britons were applying coal-powered machines to every walk of life, including iron warships that could shoot their way up the Yangzi River. Britain would have needed to burn another 15 million acres of woodland each year—acres that did not exist—to match the energy now coming from coal. The fossil-fuel revolution had begun, ecological catastrophe had been averted (or at least postponed into the twenty-first century), and the West suddenly, against all odds, ruled the globe. There had been no long-term lock in. It was all just a recent, freakish accident.

The variety of short-term explanations of the Western industrial revolution, stretching from Pomeranz's fluke that averted global disaster to Frank's temporary shift within an expanding world economy, is every bit as wide as the gulf between, say, Jared Diamond and Karl Marx on the long-term side. Yet for all the controversy within both schools, it is the battle lines *between* them that produce the most starkly opposed theories of how the world works. Some long-termers claim that the revisionists are merely peddling shoddy, politically correct pseudo-scholarship; some short-termers respond that long-termers are pro-Western apologists or even racists.

The fact that so many experts can reach such wildly different conclusions suggests that something is wrong in the way we have approached the problem. In this book I will argue that long-termers and short-termers alike have misunderstood the shape of history and have therefore reached only partial and contradictory results. What we need, I believe, is a different perspective.

THE SHAPE OF HISTORY

What I mean by this is that both long-termers and short-termers agree that

the West has dominated the globe for the last two hundred years, but disagree over what the world was like before this. Everything revolves around their differing assessments of premodern history. The only way we can resolve the dispute is by looking at these earlier periods to establish the overall “shape” of history. Only then, with the baseline established, can we argue productively about why things turned out as they did.

Yet this is the one thing that almost no one seems to want to do. Most experts who write on why the West rules have backgrounds in economics, sociology, politics, or modern history; basically, they are specialists in current or recent events. They tend to focus on the last few generations, looking back at most five hundred years and treating earlier history briefly, if at all—even though the main issue at dispute is whether the factors that gave the West dominance were already present in earlier times or appeared abruptly in the modern age.

A handful of thinkers approach the question very differently, focusing on distant prehistory then skipping ahead to the modern age, saying little about the thousands of years in between. The geographer and historian Alfred Crosby makes explicit what many of these scholars take for granted—that the prehistoric invention of agriculture was critically important, but “[between that era](#) and [the] time of development of the societies that sent Columbus and other voyagers across the oceans, roughly 4,000 years passed, during which little of importance happened, *relative to what had gone before.*”

This, I think, is mistaken. We will not find answers if we restrict our search to prehistory or modern times (nor, I hasten to add, would we find them if we limited ourselves to just the four or five millennia in between). The question requires us to look at the whole sweep of human history as a single story, establishing its overall shape, before discussing why it has that shape. This is what I try to do in this book, bringing a rather different set of skills to bear.

I was educated as an archaeologist and ancient historian, specializing in the classical Mediterranean of the first millennium BCE. When I started college at Birmingham University in England in 1978, most classical scholars I met seemed perfectly comfortable with the old long-term theory that the culture of the ancient Greeks, created two and a half thousand years ago, forged a distinctive Western way of life. Some of them (mostly older ones) would even say outright that this Greek tradition made the West better than the rest.

So far as I remember, none of this struck me as being a problem until I started

graduate research at Cambridge University in the early 1980s, working on the origins of Greek city-states. This took me among anthropological archaeologists working on similar processes in other parts of the world. They openly laughed at the quaint notion that Greek culture was unique and had started a distinctive democratic and rational Western tradition. As people often do, for several years I managed to carry two contradictory notions in my head: on the one hand, Greek society evolved along the same lines as other ancient societies; on the other, it initiated a distinctive Western trajectory.

The balancing act got more difficult when I took my first faculty position, at the University of Chicago, in 1987. There I taught in Chicago's renowned History of Western Civilization program, ranging from ancient Athens to (eventually) the fall of communism. To stay even one day ahead of my students I had to read medieval and modern European history much more seriously than before, and I could not help noticing that for long stretches of time the freedom, reason, and inventiveness that Greece supposedly bequeathed to the West were more honored in the breach than the observance. Trying to make sense of this, I found myself looking at broader and broader slices of the human past. I was surprised how strong the parallels were between the supposedly unique Western experience and the history of other parts of the world, above all the great civilizations of China, India, and Iran.

Professors enjoy nothing more than complaining about their administrative burdens, but when I moved to Stanford University in 1995 I quickly learned that serving on committees could be an excellent way to find out what was going on outside my own little field. Since then I have directed the university's Social Science History Institute and Archaeology Center, served as chair of the Classics department and senior associate dean of the School of Humanities and Sciences, and run a large archaeological excavation—which all meant plenty of paperwork and headaches, but which also let me meet specialists in every field, from genetics to literary criticism, that might be relevant to working out why the West rules.

I learned one big thing: to answer this question we need a broad approach, combining the historian's focus on context, the archaeologist's awareness of the deep past, and the social scientist's comparative methods. We could get this combination by assembling a multidisciplinary team of specialists, pooling deep expertise across a range of fields, and that is in fact just what I did when I started directing an archaeological excavation on Sicily. I knew nowhere near enough about botany to analyze the carbonized seeds we found, about zoology to

identify the animal bones, about chemistry to make sense of the residues in storage vessels, about geology to reconstruct the landscape's formation processes, or about a host of other indispensable specialties, so I found specialists who did. An excavation director is a kind of academic impresario, bringing together talented artists who put on the show.

That is a good way to produce an excavation report, where the goal is to pile up data for others to use, but books-by-committee tend to be less good at developing unified answers to big questions. As a result, in the book you are reading now I take an *inter-* rather than *multi* disciplinary approach. Instead of riding shotgun over a herd of specialists, I strike off on my own to draw together and interpret the findings of experts in numerous fields.

This courts all kinds of dangers (superficiality, disciplinary bias, and just general error). I will never have the same subtle grasp of Chinese culture as someone who has spent a lifetime reading medieval manuscripts, or be as up-to-date on human evolution as a geneticist (I am told that the journal *Science* updates its website on average every thirteen seconds; while typing this sentence I have probably fallen behind again). But on the other hand, those who stay within the boundaries of their own disciplines will never see the big picture. The interdisciplinary, single-author model probably is the worst way to write a book like this—except for all the other ways. To me it certainly seems the least bad way to proceed, but you will have to judge from the results whether I am right.

So what are the results? I argue in this book that asking why the West rules is really a question about what I will call social development. By this I basically mean societies' abilities to get things done—to shape their physical, economic, social, and intellectual environments to their own ends. Back in the nineteenth century and well into the twentieth, Western observers mostly took it for granted that social development was an unquestioned good. Development is progress (or evolution, or History), they implicitly and often explicitly said, and progress—whether toward God, affluence, or a people's paradise—is the point of life. These days that seems less obvious. Many people feel that the environmental degradation, wars, inequality, and disillusionment that social development brings in its train far outweigh any benefits it generates.

Yet whatever moral charge we put on social development, its reality is undeniable. Almost all societies today are more developed (in the sense I defined that word in the previous paragraph) than they were a hundred years ago, and some societies today are more developed than others. In 1842 the hard truth was that Britain was more developed than China—so developed, in fact, that its reach

had become global. There had been empires aplenty in the past, but their reach had always been regional. By 1842, however, British manufacturers could flood China with their products, British industrialists could build iron ships that outgunned any in the world, and British politicians could send an expedition halfway around the globe.

Asking why the West rules really means asking two questions. We need to know both why the West is more developed—that is, more able to get things done—than any other region of the world, and why Western development rose so high in the last two hundred years that for the first time in history a few countries could dominate the entire planet.

The only way to answer these questions, I believe, is by measuring social development to produce a graph that—literally—shows the shape of history. Once we do that, we will see that neither long-term lock-in nor short-term accident theories explain the shape of history very well at all. The answer to the first question—why Western social development is higher than that of any other part of the world—does not lie in any recent accident: the West has been the most developed region of the world for fourteen of the last fifteen millennia. But on the other hand, neither was the West’s lead locked in in the distant past. For more than a thousand years, from about 550 through 1775 CE, Eastern regions scored higher. Western rule was neither predetermined thousands of years ago nor a result of recent accidents.

Nor can either long-term or short-term theories by themselves answer the second question, of why Western social development has risen so high compared to all earlier societies. As we will see, it was only around 1800 CE that Western scores began surging upward at astonishing rates; but this upturn was itself only the latest example of a very long-term pattern of steadily accelerating social development. The long term and the short term work together.

This is why we cannot explain Western rule just by looking at [prehistory](#) or just by looking at the last few hundred years. To answer the question we have to make sense of the whole sweep of the past. Yet while charting the rise and fall of social development reveals the shape of history and shows us what needs to be explained, it doesn’t actually *do* the explaining. For that we need to burrow into the details.

SLOTH, FEAR, AND GREED

“HISTORY, *n.* An account, mostly false, of events, mostly unimportant, which are brought about by rulers, mostly knaves, and soldiers, mostly fools.” It is sometimes hard to disagree with Ambrose Bierce’s comic definition: history can seem to be just one damned thing after another, a chaotic jumble of geniuses and dolts, tyrants and romantics, poets and thieves, accomplishing the extraordinary or scraping the barrel of depravity.

Such people stud the pages that follow, which is as it should be. After all, it is flesh-and-blood individuals, not vast impersonal forces, who do all the living, dying, creating, and fighting in this world. Yet behind all the sound and fury, I will argue, the past nevertheless has strong patterns, and with the right tools historians can see what they are and even explain them.

I will use three of these tools.

The first is biology,* which tells us what humans truly are: clever chimps. We are part of the animal kingdom, which is itself part of the larger empire of life, stretching from the great apes all the way down to amoebas. This very obvious truth has three important consequences.

First, like all life-forms, we survive because we extract energy from our environment and turn that energy into more of ourselves.

Second, like all the more intelligent animals, we are curious creatures. We are constantly tinkering, wondering whether things are edible, whether we can have fun with them, whether we can improve them. We are just much better at tinkering than other animals, because we have big, fast brains with lots of folds to think things through, endlessly supple vocal cords to talk things through, and opposable thumbs to work things through.

That said, humans—like other animals—are obviously not all the same. Some extract more energy from the environment than others; some reproduce more than others; some are more curious, creative, clever, or practical than others. But the third consequence of our animalness is that large groups of humans, as opposed to individual humans, *are* all much the same. If you pluck two random people from a crowd, they may be as different as can be imagined, but if you round up two complete crowds they will tend to mirror each other rather closely. And if you compare groups millions strong, as I do in this book, they are likely to have very similar proportions of energetic, fertile, curious, creative, clever,

talkative, and practical people.

These three rather commonsensical observations explain much of the course of history. For millennia social development has generally been increasing, thanks to our tinkering, and has generally done so at an accelerating rate. Good ideas beget more good ideas, and having once had good ideas we tend not to forget them. But as we will see, biology does not explain the whole history of social development. Sometimes social development has stagnated for long periods without rising at all; sometimes it has even gone into reverse. Just knowing that we are clever chimps is not enough.

This is where the second tool, sociology, comes in.* Sociology tells us simultaneously what causes social change and what social change causes. It is one thing for clever chimps to sit around tinkering, but it is another altogether for their ideas to catch on and change society. That, it seems, requires some sort of catalyst. The great science-fiction writer Robert Heinlein once suggested that “[Progress is made](#) by lazy men looking for easier ways to do things.” We will see later in this book that this Heinlein Theorem is only partly true, because lazy women are just as important as lazy men, sloth is not the *only* mother of invention, and “progress” is often a rather upbeat word for what happens. But if we flesh it out a little, I think Heinlein’s insight becomes about as good a one-sentence summary of the causes of social change as we are likely to find. In fact, as the book goes on I will start passing off a less pithy version of it as my own Morris Theorem: “Change is caused by lazy, greedy, frightened people looking for easier, more profitable, and safer ways to do things. And they rarely know what they’re doing.” History teaches us that when the pressure is on, change takes off.

Greedy, lazy, frightened people seek their own preferred balance among being comfortable, working as little as possible, and being safe. But that is not the end of the story, because people’s success in reproducing themselves and capturing energy inevitably puts pressure on the resources (intellectual and social as well as material) available to them. Rising social development generates the very forces that undermine further social development. I call this the paradox of development. Success creates new problems; solving them creates still newer problems. Life, as they say, is a vale of tears.

The paradox of development is constantly at work, confronting people with hard choices. Often people fail to rise to its challenges, and social development stagnates or even declines. At other times, though, sloth, fear, and greed combine to push some people to take risks, innovating to change the rules of the

game. If at least a few of them succeed and if most people then adopt the successful innovations, a society might push through the resource bottleneck and social development will keep rising.

People confront, and solve, such problems every day, which is why social development has generally kept moving upward since the end of the last ice age. But as we will see, at certain points the paradox of development creates tough ceilings that will yield only to truly transformative changes. Social development sticks at these ceilings, setting off a desperate race. In case after case we will see that when societies fail to solve the problems that confront them, a terrible package of ills—famine, epidemic, uncontrolled migration, and state failure—begins to afflict them, turning stagnation into decline; and when famine, epidemic, migration, and state failure are joined by further forces of disruption, like climatic change (collectively, I call these the five horsemen of the apocalypse), decline can turn into disastrous, centuries-long collapses and dark ages.

Between them, biology and sociology explain most of the shape of history—why social development has generally risen, why it rises faster at some times and slower at others, and why it sometimes falls. But these biological and sociological laws are constants, applying everywhere, in all times and all places. They by definition tell us about humanity as a whole, not about why people in one place have fared so differently from those in another. To explain that, I will argue throughout this book, we need a third tool: geography.*

LOCATION, LOCATION, LOCATION

“[The Art of Biography](#) is different from Geography,” the humorist Edmund Bentley observed in 1905; “Biography is about chaps, but Geography is about maps.” For many years, chaps—in the British sense of upper-class men—dominated the stories historians told, to the point that history was barely distinguishable from biography. That changed in the twentieth century as historians made women, lower-class men, and children into honorary chaps too, adding their voices to the mix, but in this book I want to go further. Once we recognize that chaps (in large groups and in the newer, broader sense of the word) are all much the same, I will argue, all that is left is maps.

Many historians react to this claim like a bull to a red rag. It is one thing, several have said to me, to reject the old idea that a few great men determined that history would unfold differently in East and West; it is another altogether to say that culture, values, and beliefs were unimportant and to seek the reason why the West rules entirely in brute material forces. Yet that is more or less what I propose to do.

I will try to show that East and West have gone through the same stages of social development in the last fifteen thousand years, in the same order, because they have been peopled by the same kinds of human beings, who generate the same kinds of history. But I will also try to show that they have not done so at the same times or at the same speed. I will conclude that biology and sociology explain the global similarities while geography explains the regional differences. And in that sense, it is geography that explains why the West rules.

Put so bluntly, this probably sounds like as hard-line a long-term lock-in theory as could be imagined, and there have certainly been historians who have seen geography that way. The idea goes back at least as far as Herodotus, the fifth-century-BCE Greek often credited with being the father of history. “[Soft countries](#) breed soft men,” he insisted; and, like a string of determinists since him, he concluded that geography had destined his own homeland for greatness. Perhaps the most remarkable example is Ellsworth Huntington, a Yale University geographer who marshaled rafts of statistics in the 1910s to demonstrate that his hometown of New Haven, Connecticut, had an almost-ideal climate for stimulating people to greatness. (Only England was better.) By contrast, he concluded, the “[too uniformly stimulating](#)” climate of California—where I live—merely produced elevated rates of insanity. “The people of California,” Huntington assured readers, “may perhaps be likened to horses which are urged to the limit so that some of them become unduly tired and break down.”

It is easy to mock this kind of thing, but when I say that geography explains why the West rules I have something rather different in mind. Geographical differences do have long-term effects, but these are never locked in, and what counts as a geographical advantage at one stage of social development may be irrelevant or a positive disadvantage at another. We might say that while geography drives social development, social development determines what geography means. It is a two-way street.

To explain this a bit better—and to give a quick road map for the rest of the book—I would like to look back twenty thousand years, to the coldest point in

the last ice age. Geography then mattered very much: mile-thick glaciers covered much of the northern hemisphere, dry and barely habitable tundras fringed them, and only closer to the equator could small bands of humans make a living by gathering and hunting. Distinctions between the south (where people could live) and the north (where they could not) were extreme, but within the southern zone distinctions between East and West were relatively minor.

The end of the Ice Age changed the meaning of geography. The poles remained cold and the equator remained hot, of course, but in half a dozen places between these extremes—what, in [Chapter 2](#), I will call the original cores—warmer weather combined with local geography to favor the evolution of plants and/or animals that humans could domesticate (that is, genetically modify to make them more useful, eventually reaching the point that the genetically modified organisms could survive only in symbiosis with humans). Domesticated plants and animals meant more food, which meant more people, which meant more innovation; but domestication also meant more pressure on the very resources that drove the process. The paradox of development went straight to work.

These core regions had all been fairly typical of the relatively warm, habitable regions during the Ice Age, but they now grew increasingly distinct, both from the rest of the world and from one another. Geography had favored them all, but had favored some more than others. One core, the so-called Hilly Flanks in western Eurasia, had uniquely dense concentrations of domesticable plants and animals; and since groups of people are all much the same, it was here, where resources were richest and the process easiest, that moves toward domestication began. That was around 9500 BCE.

Following what I hope is common sense, throughout this book I use the expression “the West” to describe all the societies that have descended from this westernmost (and earliest) of the Eurasian cores. The West long ago expanded from the original core in southwest Asia* to encompass the Mediterranean Basin and Europe, and in the last few centuries the Americas and Australasia too. As I hope will become clear, defining “the West” like this (rather than picking on some supposedly uniquely “Western” values such as freedom, rationality, or tolerance, and then arguing about where these values came from and which parts of the world have them) has major consequences for understanding the world we live in. My goal is to explain why a particular set of societies that descend from the original Western core—above all, those of North America—now dominate the globe, rather than societies in another part of the West, societies descended

from one of the other cores, or, for that matter, no societies at all.

Following the same logic, I use “the East” to refer to all those societies that descend from the easternmost (and second-oldest) of the Eurasian cores. The East also long ago expanded from its original core between China’s Yellow and Yangzi rivers, where the domestication of plants began around 7500 BCE, and today stretches from Japan in the north into the countries of Indochina in the south.

The societies that descend from the other cores—a southeastern core in what is now New Guinea, a South Asian one in modern Pakistan and northern India, an African one in the eastern Sahara Desert, and two New World cores in Mexico and Peru—all have their own fascinating histories. I touch on these repeatedly in what follows, but I focus as relentlessly as I can on East-West comparisons. My reasoning is that since the end of the Ice Age, the world’s most developed societies have almost always been ones that descended from either the original Western or the original Eastern core. While Albert in Beijing is a plausible alternative to Looty in Balmoral, Albert in Cuzco, Delhi, or New Guinea is not. The most efficient way to explain why the West rules is therefore to zero in on East-West comparisons, and that is what I have done.

Writing the book this way has its costs. A more properly global account, looking at every region of the world, would be richer and more nuanced, and would give the cultures of South Asia, the Americas, and other regions full credit for all the contributions they have made to civilization. But such a global version would also have drawbacks, particularly in loss of focus, and it would need even more pages than the book I did write. Samuel Johnson, eighteenth-century England’s sharpest wit, once observed that while everyone admired *Paradise Lost*, “[None ever wished](#) it longer than it is.” What applies to Milton, I suspect, applies even more to anything I might come up with.

If geography really did provide a Herodotus-style long-term lock-in explanation of history, I could wrap this book up rather quickly after pointing out that domestication began in the Western core around 9500 BCE and in the Eastern core around 7500. Western social development would simply have stayed two thousand years ahead of Eastern and the West would have gone through an industrial revolution while the East was still figuring out writing. But that, obviously, did not happen. As we will see in the chapters that follow, geography did not lock in history, because geographical advantages are always ultimately self-defeating. They drive up social development, but in the process social development changes what geography means.

As social development rises, cores expand, sometimes through migration and sometimes through copying or independent innovation by neighbors. Techniques that worked well in an older core—whether those techniques were agriculture and village life, cities and states, great empires, or heavy industry—spread into new societies and new environments. Sometimes these techniques flourished in the new setting; sometimes they just muddled along; and sometimes they needed huge modifications to work at all.

Odd as it may seem, the biggest advances in social development often come in places where methods imported or copied from a more developed core do not work very well. Sometimes this is because the struggle to adapt old methods to new environments forces people to make breakthroughs; sometimes it is because geographical factors that do not matter much at one stage of social development matter much more at another.

Five thousand years ago, for instance, the fact that Portugal, Spain, France, and Britain stuck out from Europe into the Atlantic was a huge geographical disadvantage, meaning that these regions were a very long way from the real action in Mesopotamia* and Egypt. By five hundred years ago, however, social development had risen so much that geography changed its meanings. There were new kinds of ships that could cross what had always been impassable oceans, which abruptly made sticking out into the Atlantic a huge plus. It was Portuguese, Spanish, French, and English ships, rather than Egyptian or Iraqi ones, that started sailing to the Americas, China, and Japan. It was western Europeans who began tying the world together with maritime trade, and western European social development soared upward, overtaking the older core in the eastern Mediterranean.

I call this pattern the “[advantages of backwardness](#),”* and it is as old as social development itself. When agricultural villages began turning into cities (soon after 4000 BCE in the West and 2000 BCE in the East), for instance, access to the particular soils and climates that had favored the initial emergence of agriculture began to matter less than access to great rivers that could be tapped to irrigate fields or used as trade routes. And as states kept expanding, access to great rivers started mattering less than access to metals, or to longer trade routes, or to sources of manpower. As social development changes, the resources it demands change too, and regions that once counted for little may discover advantages in their backwardness.

It is always hard to say in advance how the advantages of backwardness will play out: not all backwardness is equal. Four hundred years ago, for instance, it

seemed to many Europeans that the booming plantations of the Caribbean had a brighter future than North America's farms. With hindsight we can see why Haiti turned into the poorest place in the western hemisphere and the United States into the richest, but predicting such outcomes is much harder.

One very clear consequence of the advantages of backwardness, though, was that the most developed region within each core moved around over time. In the West it shifted from the Hilly Flanks (in the age of early farmers) southward to the river valleys of Mesopotamia and Egypt as states emerged and then westward into the Mediterranean Basin as trade and empires became more important. In the East it migrated northward from the area between the Yellow and Yangzi rivers to the Yellow River basin itself, then westward to the Wei River and the region of Qin.

A second consequence was that the West's lead in social development fluctuated, partly because these vital resources—wild plants and animals, rivers, trade routes, manpower—were distributed in different ways across each core and partly because in both cores the processes of expansion and incorporation of new resources were violent and unstable, pushing the paradox of development into overdrive. The growth of Western states in the second millennium BCE, for example, made the Mediterranean Sea not only a highway for commerce but also a highway for forces of disruption. Around 1200 BCE Western states lost control, and migrations, state failures, famines, and epidemics set off a core-wide collapse. The East, which had no such inland sea, went through no comparable collapse, and by 1000 BCE the West's lead in social development had narrowed sharply.

Over the three thousand years that followed, the same pattern has played out again and again with constantly changing consequences. Geography determined where in the world social development would rise fastest, but rising social development changed what geography meant. At different points the great steppes linking eastern and western Eurasia, the rich rice lands of southern China, the Indian Ocean, and the Atlantic Ocean were all crucially important; and when the Atlantic rose to prominence in the seventeenth century CE, those people best placed to exploit it—at first chiefly the British, then their former colonists in America—created new kinds of empires and economies and unlocked the energy trapped in fossil fuels. And that, I will argue, is why the West rules.

THE PLAN

I have divided the chapters that follow into three sections. Part I ([Chapters 1–3](#)) confronts the most basic issues: What is the West? Where do we start our story? What do we mean by “rule”? How can we tell who is leading or ruling? In [Chapter 1](#), I set out the biological basis of the story in the evolution and dispersal of modern humans over the planet; in [Chapter 2](#), I trace the formation and growth of the original Eastern and Western cores after the Ice Age; and in [Chapter 3](#), I break the narrative to define social development and explain how I will use it to measure differences between East and West.*

In Part II ([Chapters 4–10](#)), I trace the stories of East and West in detail, asking constantly what explains their similarities and differences. In [Chapter 4](#), I look at the rise of the first states and the great disruptions that wracked the Western core in the centuries down to 1200 BCE. In [Chapter 5](#), I consider the first great Eastern and Western empires and how their social development rose toward the limits of what was possible in agricultural economies; then in [Chapter 6](#), I discuss the great collapse that swept Eurasia after about 150 CE. In [Chapter 7](#), we reach a turning point, with the Eastern core opening a new frontier and taking the lead in social development. By about 1100 CE the East was again pressing against the limits of what was possible in an agricultural world, but in [Chapter 8](#) we will see how this set off a second great collapse. In [Chapter 9](#), I describe the new frontiers that Eastern and Western empires created on the steppes and across the oceans as they recovered, and examine how the West closed the development gap on the East. Finally, in [Chapter 10](#), we will see how the industrial revolution converted the West’s lead into rule and the enormous consequences this had.

In Part III ([Chapters 11 and 12](#)) I turn to the most important question for any historian: So what? First, in [Chapter 11](#), I pull together my argument that behind all the details of what has happened in the last fifteen thousand years, two sets of laws—those of biology and sociology—determined the shape of history on a global scale, while a third set—those of geography—determined the differences between Eastern and Western development. It was the ongoing interplay between these laws, not long-term lock-ins or short-term accidents, that sent Looty to Balmoral rather than Albert to Beijing.

This is not how historians normally talk about the past. Most scholars seek explanations in culture, beliefs, values, institutions, or blind accident rather than the hard surfaces of material reality, and few would be caught dead speaking of laws. But after considering (and rejecting) some of these alternatives, I want to

go one step further, suggesting in [Chapter 12](#) that the laws of history in fact give us a pretty good sense of what is likely to happen next. History has not come to an end with Western rule. The paradox of development and the advantages of backwardness are still operating; the race between the innovations that drive social development upward and the disruptions that drag it down is still on. In fact, I will suggest, the race is hotter than ever. New kinds of development and disruption promise—or threaten—to transform not just geography but biology and sociology too. The great question for our times is not whether the West will continue to rule. It is whether humanity as a whole will break through to an entirely new kind of existence before disaster strikes us down—permanently.



PART I





BEFORE EAST AND WEST

WHAT IS THE WEST?

“[When a man](#) is tired of London,” said Samuel Johnson, “he is tired of life; for there is in London all that life can afford.” It was 1777, and every current of thought, every bright new invention, was energizing Dr. Johnson’s hometown. London had cathedrals and palaces, parks and rivers, mansions and slums. Above all, it had things to buy—things beyond the wildest imaginings of previous generations. Fine ladies and gentlemen could alight from carriages outside the new arcades of Oxford Street, there to seek out novelties like the umbrella, an invention of the 1760s that the British soon judged indispensable; or the handbag, or toothpaste, both of them products of the same decade. And it was not just the rich who indulged in this new culture of consumption. To the horror of conservatives, tradesmen were spending hours in coffee shops, the poor were calling tea a “[necessary](#),” and farmers’ wives were buying pianos.

The British were beginning to feel they were not like other people. In 1776 the Scottish sage Adam Smith had called them “a nation of shopkeepers” in his *Inquiry into the Nature and Causes of the Wealth of Nations*, but he had meant it as a compliment; Britons’ regard for their own well-being, Smith insisted, was making everyone richer. Just think, he said, of the contrast between Britain and China. China had been “[long one of](#) the richest, that is, one of the most fertile, best cultivated, most industrious, and most populous, countries of the world,” but had already “acquired that full complement of riches which the measure of its laws and institutions permits it to acquire.” The Chinese, in short, were stuck.

“The competition of the labourers and the interest of the masters,” Smith predicted, “would soon reduce them to the lowest rate which is consistent with common humanity,” with the consequence that “the poverty of the lower ranks of people in China far surpasses that of the most beggarly nations in Europe ... Any carrion, the carcase of a dead dog or cat, for example, though half putrid and stinking, is as welcome to them as the most wholesome food to the people of other countries.”

Johnson and Smith had a point. Although the industrial revolution had barely begun in the 1770s, average incomes were already higher and more evenly distributed in England than in China. Long-term lock-in theories of Western rule often start from this fact: the West’s lead, they argue, was a cause rather than a consequence of the industrial revolution, and we need to look back further in time—perhaps much further—to explain it.

Or do we? The historian Kenneth Pomeranz, whose book *The Great Divergence* I mentioned in the introduction, insists that Adam Smith and all the cheerleaders for the West who followed him were actually comparing the wrong things. China is as big and as varied, Pomeranz points out, as the whole continent of Europe. We should not be too surprised, then, that if we single out England, which was Europe’s most developed region in Smith’s day, and compare it with the average level of development in the whole of China, England scores higher. By the same token, if we turned things around and compared the Yangzi Delta (the most developed part of China in the 1770s) with the average level of development across the whole of Europe, the Yangzi Delta would score higher. Pomeranz argues that eighteenth-century England and the Yangzi Delta had more in common with each other (incipient industrialism, booming markets, complex divisions of labor) than England did with underdeveloped parts of Europe or the Yangzi Delta did with underdeveloped parts of China—all of which leads him to conclude that long-term theorists get things back-to-front because their thinking has been sloppy. If England and the Yangzi Delta were so similar in the eighteenth century, Pomeranz observes, the explanation for Western rule must lie *after* this date, not before it.

One implication is clear: if we want to know why the West rules, we first need to know what “the West” is. As soon as we ask that question, though, things get messy. Most of us have a gut feeling about what constitutes “the West.” Some people equate it with democracy and freedom; others with Christianity; others still with secular rationalism. In fact, the historian Norman Davies has found no fewer than twelve ways that academics define the West, united only by what he

calls their “[elastic geography](#).” Each definition gives the West a different shape, creating exactly the kind of confusion that Pomeranz complains about. The West, says Davies, “can be defined by its advocates in almost any way that they think fit,” meaning that when we get right down to it, “Western civilization is essentially an amalgam of intellectual constructs which were designed to further the interests of their authors.”

If Davies is right, asking why the West rules means nothing more than arbitrarily picking some value to define the West, claiming that a particular set of countries exemplifies this value, then comparing that set with an equally arbitrary set of “non-Western” countries to reach whatever self-serving conclusions we like. Anyone who disagrees with our conclusions can simply choose a different value to exemplify Westernness, a different set of countries exemplifying it, and a different comparison set, coming—naturally—to a different but equally self-serving conclusion.

This would be pointless, so I want to take a different approach. Instead of starting at the end of the process, making assumptions about what count as Western values and then looking back through time to find their roots, I will start at the beginning. I will move forward through time from the beginning until we reach a point at which we can see distinctive ways of life emerging in different parts of the world. I will then call the westernmost of these distinctive regions “the West” and the easternmost “the East,” treating West and East for what they are—geographical labels, not value judgments.

Saying we must start at the beginning is one thing; finding it is another altogether. As we will see, there are several points in the distant past at which scholars have been tempted to define East and West in terms of biology, rejecting the argument I made in the introduction that folks (in large groups) are all much the same and instead seeing the people in one part of the world as genetically superior to everyone else. There are also points when it would be all too easy to conclude that one region has, since time immemorial, been culturally superior to all others. We must look into these ideas carefully, because if we make a misstep here at the start we will also get everything about the shape of the past, and therefore about the shape of the future, too, wrong.

IN THE BEGINNING

Every culture has had its own story about how things started, but in the last few years astrophysicists have given us some new, scientific versions. Most experts now think time and space began over 13 billion years ago, although they do not agree on just how that happened. The dominant “inflationary” theory holds that the universe initially expanded faster than the speed of light from an infinitely dense and infinitely small point, while a rival “cyclical” theory argues that it blew up when a previous universe collapsed. Both schools agree that our universe is still expanding, but while inflationists say it will continue to grow, the stars will go out, and eventually infinite darkness and coldness will descend, cyclists claim it will shrink back on itself, explode again, and start another new universe.

It is hard to make much sense of these theories unless you have had years of advanced mathematical training, but fortunately our question does not require us to begin quite so early. There could be neither East nor West when there were no directions at all and when the laws of nature did not exist. Nor could East and West be useful concepts before our sun and planet took shape 4.5 billion years ago. Perhaps we can speak of East and West once the earth’s crust formed, or at least once the continents reached something like their current positions, by which point we are already into the last few million years. Really, though, all these discussions are beside the point: East and West cannot mean anything for the question in this book until we add another ingredient to the mix—humans.

Paleoanthropologists, who study early humans, like controversy even more than historians do. Their field is young and fast moving, and new discoveries constantly turn established truths on their heads. If you get two paleoanthropologists into a room they are likely to come out with three theories of human evolution, and by the time the door shuts behind them, all will be out of date.

The boundary between humans and prehumans is necessarily fuzzy. Some paleoanthropologists think that as soon as we see apes that could walk upright we should start speaking of humans. Judging from the fossilized remains of hip and toe bones, some East African apes began doing this 6 or 7 million years ago. Most experts, though, think this sets the bar too low, and standard biological classifications in fact define the genus *Homo* (“mankind” in Latin) by bundling together an increase in brain size from 400–500 cubic centimeters to roughly 630 (our own brains are typically about twice as big) with the first evidence for upright apes smashing stones together to create crude tools. Both processes

began among bipedal East African apes around 2.5 million years ago. Louis and Mary Leakey, the famous excavators of Olduvai Gorge in Tanzania ([Figure 1.1](#)), named these relatively big-brained, tool-using creatures *Homo habilis*, Latin for “Handy Man.” (Until recently, paleoanthropologists, like most people, thought nothing of applying the word “man” to individuals of both sexes; that has changed, but by convention scientists still use single-sex names like Handy Man.)

East and West meant little when *Homo habilis* walked the earth—first, because these creatures lived entirely within the forests of East Africa, and no regional variations had yet developed, and second, because the expression “walked the earth” is actually overly generous. Handy Men had toes and ankles like ours, and certainly did walk, but their long arms suggest that they also spent a lot of time in trees. These were fancy apes, but not much more. The marks their stone tools left on animal bones show that *Homo habilis* ate meat as well as plants, but it looks like they were still quite low on the food chain. Some paleoanthropologists defend a man-the-hunter theory, seeing *Homo habilis* as smart and brave enough to kill game armed with nothing more than sticks and broken stones, but others (rather more convincingly) see in *Homo habilis* man-the-scavenger, following the real killers (like lions) around, eating the bits they didn’t want. Microscopic studies show that marks from Handy Man’s tools did at least get onto animal bones before those from hyenas’ teeth.



Figure 1.1. Before “East” and “West” meant much: locations in the Old World mentioned in this chapter

For 25,000 generations Handy Men scampered and swung through the trees in this little corner of the world, chipping stone tools, grooming each other, and mating. Then, somewhere around 1.8 million years ago, they disappeared. So far as we can tell this happened rather suddenly, although one of the problems in studying human evolution is the difficulty of dating finds precisely. Much of the time we depend on the fact that the layers of rock containing the fossil bones or tools may also contain unstable radioactive isotopes whose rate of decay is known, so that measuring the ratios between the isotopes gives dates for the finds. These dates, however, can have margins of error tens of thousands of years wide, so when we say the world of *Homo habilis* ended suddenly, “suddenly” may mean a few lifetimes or a few thousand lifetimes.

When Charles Darwin was thinking about natural selection in the 1840s and 1850s he assumed that it worked through the slow accretion of tiny changes, but in the 1970s the biologist Stephen Jay Gould suggested instead that for long periods nothing much happens, then some event triggers a cascade of changes. Evolutionists nowadays divide over whether gradual change (evolution by creeps, as its critics call it) or Gould’s “[punctuated equilibrium](#)” (evolution by jerks) is better as a general model, but the latter certainly seems to make most sense of *Homo habilis*’s disappearance. About 1.8 million years ago East Africa’s climate was getting drier and open savannas were replacing the forests where *Homo habilis* lived; and at just that point, new kinds of ape-men* took Handy Man’s place.

I want to hold off putting a name on these new ape-men, and for now will just point out that they had bigger brains than *Homo habilis*, typically about 800 cc. They lacked the long, chimplike arms of *Homo habilis*, probably meaning that they spent nearly all their time on the ground. They were also taller. A million-and-a-half-year-old skeleton from Nariokotome in Kenya, known as the Turkana Boy, belongs to a five-foot-tall child who would have reached six feet had he survived to adulthood. As well as being longer, his bones were less robust than those of *Homo habilis*, suggesting that he and his contemporaries relied more on their wits and tools than on brute strength.

Most of us think that being smart is self-evidently good. Why, then, if *Homo habilis* had the potential to mutate in this direction, did they putter along for half a million years before “suddenly” morphing into taller, bigger-brained creatures? The most likely explanation lies in the fact that there is no such thing as a free lunch. A big brain is expensive to run. Our own brains typically make up 2

percent of our body weight but use up 20 percent of the energy we consume. Big brains create other problems too: it takes a big skull to hold a big brain—so big, in fact, that modern women have trouble pushing babies with such big heads down their birth canals. Women deal with this by in effect giving birth prematurely. If our babies stayed in the womb until they were almost self-sufficient (like other mammals), their heads would be too big for them to get out.

Yet risky childbirth, years of nurturing, and huge brains that burn up one fifth of our food intake are all fine with us—finer, anyway, than using the same amounts of energy to grow claws, more muscles, or big teeth. Intelligence is much more of a plus than any of these alternatives. It is less obvious, though, why a genetic mutation producing bigger brains gave ape-men enough advantages to make the extra energy costs worthwhile a couple of million years ago. If being smarter had not been beneficial enough to pay the costs of supporting these gray cells, brainy apes would have been less successful than their dumber relatives, and their smart genes would have quickly disappeared from the population.

Perhaps we should blame it on the weather. When the rains failed and the trees the ape-men lived in started dying, brainier and perhaps more sociable mutants might well have gained an edge over their more apelike relatives. Instead of retreating ahead of the grasslands, the clever apes found ways to survive on them, and in the twinkling of an eye (on the timescale of evolution) a handful of mutants spread their genes through the whole pool and completely replaced the slower-witted, undersized, forest-loving *Homo habilis*.

THE BEGINNINGS OF EAST AND WEST?

Whether because their home ranges got crowded, because bands squabbled, or just because they were curious, the new ape-men were the first such creatures to leave East Africa. Their bones have been found everywhere from the southern tip of the continent to the Pacific shores of Asia. We should not imagine great waves of migrants like something out of a cowboy movie, though; the ape-men were surely barely conscious of what they were doing, and crossing these vast distances required even vaster stretches of time. From Olduvai Gorge to Cape Town in South Africa is a long way—two thousand miles—but to cover this ground in a hundred thousand years (the length of time it apparently took) ape-men only needed, on average, to expand their foraging range by 35 yards each

year. Drifting northward at the same rate would take them to the threshold of Asia, and in 2002 excavators at Dmanisi in the Republic of Georgia found a 1.7-million-year-old skull that combines features of *Homo habilis* and the newer ape-men. Stone tools from China and fossil bones from Java (then still joined to the Asian mainland) may be almost as old, implying that after leaving Africa the ape-men picked up speed, averaging a cracking pace of 140 yards per year.*

We can only realistically expect to distinguish Eastern and Western ways of life after ape-men left East Africa, spreading through the warm, subtropical latitudes as far as China; and an East-West distinction may be just what we do find. By 1.6 million years ago, there are obvious Eastern and Western patterns in the archaeological record. The question, though, is whether these contrasts are important enough that we should imagine distinct ways of life lying behind them.

Archaeologists have known about these East-West differences since the 1940s, when the Harvard archaeologist Hallam Movius noticed that the bones of the new, brainy ape-men were often found in association with new kinds of flaked stone tools. Archaeologists called the most distinctive of these tools “Acheulean hand axes” (“ax” because they look like axheads, even though they were clearly used for cutting, poking, and pounding as well as chopping; “hand” because they were handheld, rather than being attached to sticks; and Acheulean after the small French town of St. Acheul, where they were first found in large numbers). Calling these tools works of art might be excessive, but their simple symmetry is often much more beautiful than Handy Men’s cruder flakes and chopping tools. Movius noticed that while Acheulean hand axes were common in Africa, Europe, and southwest Asia, none had been found in East or Southeast Asia. Instead, Eastern sites produced rougher tools much like the pre-Acheulean finds associated with *Homo habilis* in Africa.

If the so-called Movius Line ([Figure 1.2](#)) really does mark the beginning of separate Eastern and Western ways of life, it could also provide an astonishingly long-term lock-in theory—one holding that almost as soon as ape-men moved out of Africa, they divided between Western/technologically advanced/Acheulean hand ax cultures in Africa and southwest Asia and Eastern/technologically less advanced/flake-and-chopper cultures in East Asia. No wonder the West rules today, we might conclude: it has led the world technologically for a million and a half years.

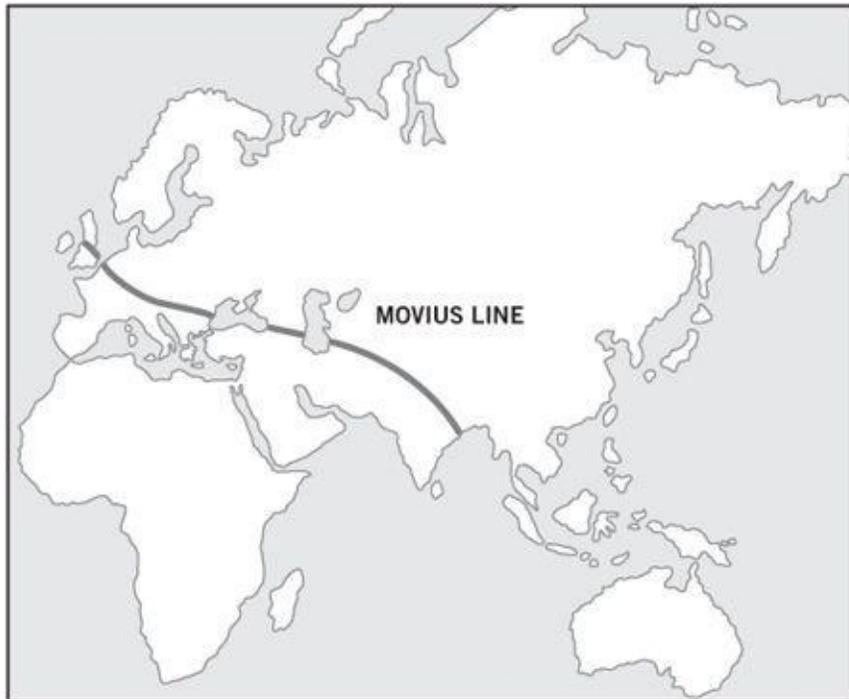


Figure 1.2. The beginnings of East and West? This map shows the Movius Line, which for about a million years separated Western hand-ax-using cultures from Eastern flake-and-chopper-using cultures.

Identifying the Movius Line, though, is easier than explaining it. The earliest Acheulean hand axes, found in Africa, are about 1.6 million years old, but there were already ape-men at Dmanisi in Georgia a hundred thousand years before that. The first ape-men clearly left Africa before the Acheulean hand ax became a normal part of their toolkit, carrying pre-Acheulean technologies across Asia while the Western/African region went on to develop Acheulean tools.

A quick glance at [Figure 1.2](#), though, shows that the Movius Line does not divide Africa from Asia; it actually runs through northern India. This is an important detail. The first migrants left Africa *before* Acheulean hand axes were invented, so there must have been subsequent waves of migration out of Africa, bringing hand axes to southwest Asia and India. So we need to ask a new question: Why did these later waves of ape-men not take Acheulean technology even farther east?

The most likely answer is that rather than marking the boundary between a technologically advanced West and a less-advanced East, the Movius Line

merely separates Western regions where access to the sort of stones needed for hand axes is easy from Eastern areas where such stones are rare and where good alternatives—such as bamboo, which is tough but does not survive for us to excavate—are easily available. According to this interpretation, as hand-ax users drifted across the Movius Line they gradually gave Acheulean tools up because they could not replace broken ones. They carried on producing choppers and flakes, for which any old pebble would do, but perhaps started using bamboo for tasks previously done with stone hand axes.

Some archaeologists think finds from the Bose Basin in south China support this thinking. About 800,000 years ago a huge meteor crashed here. It was a disaster on an epic scale, and intense fires burned millions of acres of forest. Before the impact, ape-men in the Bose Basin had used choppers, flakes, and (presumably) bamboo, like other East Asians; but when they returned after the fires they started making hand axes rather like the Acheulean ones—perhaps, the theory runs, because the fires had burned off all the bamboo, in the process exposing usable cobbles. After a few centuries, as the vegetation grew back, the locals gave up hand axes and went back to bamboo.

If this speculation is right, East Asian ape-men were perfectly capable of making hand axes when conditions favored these tools, but normally did not bother because alternatives were more easily available. Stone hand axes and bamboo tools were just two different tools for doing the same jobs, and ape-men all lived in much the same ways, whether they found themselves in Morocco or Malaya.

That makes reasonable sense, but, this being prehistoric archaeology, there are other ways of looking at the Movius Line too. So far I have avoided giving a name to the ape-men who used Acheulean hand axes, but at this point the name we give them starts to matter.

Since the 1960s most paleoanthropologists have called the new species that evolved in Africa about 1.8 million years ago *Homo erectus* (“Upright Man”) and have assumed that these creatures wandered through the subtropical latitudes to the shores of the Pacific Ocean. In the 1980s, however, some experts began focusing on subtle differences between *Homo erectus* skulls found in Africa and those found in East Asia. They suspected that they were in fact looking at two different species of ape-men. They coined a new name, *Homo ergaster* (“Working Man”), for those who evolved in Africa 1.8 million years ago and then spread all the way to China. Only when *Homo ergaster* reached East Asia, they suggested, did *Homo erectus* evolve from them. *Homo erectus* was

therefore a purely East Asian species, distinct from the *Homo ergaster* who filled Africa, southwest Asia, and India.

If this theory is correct, the Movius Line was not just a trivial difference in tool types: it was a genetic watershed that split early ape-men in two. In fact, it raises the possibility of what we might call the mother of all long-term lock-in theories: that East and West are different because Easterners and Westerners are—and have been for more than a million years—different kinds of human beings.

THE FIRST EASTERNERS: PEKING MAN

This technical debate over classifying prehistoric skeletons has potentially alarming implications. Racists are often eager to pounce on such details to justify prejudice, violence, and even genocide. You might feel that taking the time to talk about a theory of this kind merely dignifies bigotry; perhaps we should just ignore it. But that, I think, would be a mistake. Pronouncing racist theories contemptible is not enough. If we really want to reject them, and to conclude that people (in large groups) really are all much the same, it must be because racist theories are wrong, not just because most of us today do not like them.

Basically, we do not know whether there was just one kind of ape-man on earth around 1.5 million years ago—meaning that ape-men (in large groups) were all much the same from Africa to Indonesia—or whether there was one distinct species of *Homo ergaster* west of the Movius Line and another of *Homo erectus* east of it. Only further research will clear that question up. But we do know, without a shadow of doubt, that within the last million years distinct species of ape-men *did* evolve in East and West.

Geography probably had a lot to do with this. The ape-men that drifted out of Africa around 1.7 million years ago were well adapted to subtropical climes, but as they wandered northward, deeper into Europe and Asia, they had to face longer and harsher winters. Living in the open air, like their African ancestors, became increasingly impractical as they advanced toward a line roughly 40 degrees north of the equator (running from the top of Portugal to Beijing; see [Figure 1.1](#)). So far as we can tell, building huts and making clothes were beyond

their mental capacities, but they could figure out one response: take shelter in caves. Thus were born the cavemen we all heard about as children.

Cave-dwelling was a mixed blessing for the ape-men, who regularly had to share space with bears and lion-sized hyenas whose teeth could crunch up bones. It was a godsend for archaeologists, though, because caves preserve prehistoric deposits well, allowing us to trace how the evolution of ape-men began diverging in the Eastern and Western parts of the Old World as different adaptations to the colder climates took hold.

For understanding Eastern ape-men, the most important site is Zhoukoudian near Beijing, right on the 40-degree line, occupied on-and-off from about 670,000 through 410,000 years ago. The story of its excavation is an epic in its own right, and forms the backdrop to part of Amy Tan's excellent novel *The Bonesetter's Daughter*. While European, American, and Chinese archaeologists were digging here between 1921 and 1937, the hills around the site became the front line in a brutal civil war among Nationalists, Communists, and assorted homegrown warlords. The excavators often worked to the sound of gunfire and had to dodge bandits and checkpoints to take their finds back to Beijing. The project finally collapsed when Japan invaded China, Zhoukoudian became a Communist base, and Japanese troops tortured and murdered three members of the team.

Matters then went from bad to worse. In November 1941, when war between Japan and the United States looked certain, a decision was taken to ship the finds to New York for safekeeping. Technicians packed them into two large crates to await collection in a car from the American embassy in Beijing. No one knows for sure if the car ever came, or where, if it did come, it took the crates. One story has it that Japanese soldiers intercepted the U.S. Marines escorting the finds at the very moment bombs started falling on Pearl Harbor, arrested them, and abandoned the priceless finds. Life was cheap in those dark days, and no one paid much attention to a few boxes of rocks and bones.

But all was not lost. The Zhoukoudian team had published their finds meticulously and had sent plaster casts of the bones to New York—an early example of the importance of backing up data. These show that by 600,000 years ago Peking Man* (as the excavators dubbed the Zhoukoudian ape-men) had diverged from tall, lanky Africans like the Turkana Boy toward a stockier form, better suited to cold. Peking Men were typically around five feet three inches tall and less hairy than modern apes, though if you ran into one on Main Street it would certainly be disconcerting. They had short, wide faces, with low, flat

foreheads, a heavy single eyebrow, and a big jaw with almost no chin.

Conversation with Peking Man would be a challenge. So far as we can tell, the basal ganglia (the parts of the brain that allow modern humans to combine a small number of mouth movements into an infinite number of utterances) of *Homo erectus* were poorly developed. The well-preserved skeleton of the Turkana Boy also has a neural canal (holding the spinal cord) only three quarters as wide as a modern human's, suggesting that he could not control his breathing precisely enough to talk anything like we do.

That said, other finds suggest—indirectly—that ape-men in the Eastern Old World could communicate, after a fashion. In 1994 archaeologists on the little island of Flores near Java excavated what appeared to be 800,000-year-old stone tools. Eight hundred thousand years ago Flores was definitely an island, separated from the mainland by twelve miles of ocean; all of which seemed to mean that *Homo erectus* must have been able to communicate well enough to make boats, sail over the horizon, and colonize Flores. Other archaeologists, however, dismayed at the idea of boat-building *Homo erectus*, countered that perhaps these “tools” were not tools at all; maybe they were simply rocks bashed into misleading shapes by natural processes.

The argument could easily have deadlocked, as archaeological debates so often do, but in 2003 Flores yielded up even more astonishing discoveries. A deep sounding exposed eight skeletons, all dating around 16,000 BCE, all belonging to adults, and all under four feet tall. The first of Peter Jackson's films of *The Lord of the Rings* had just come out, and journalists immediately labeled these prehistoric little people “hobbits,” after J.R.R. Tolkien's furry-footed halflings. When animal populations are isolated on islands where there are no predators they quite often evolve into dwarf forms, and this is presumably how the “hobbits” came to be so small. To have shrunk to hobbit size by 16,000 BCE, though, ape-men must have colonized Flores many thousands of generations earlier—perhaps even as long as 800,000 years ago, as the stone tools found in 1994 suggest. The implication, once again, is that *Homo erectus* could communicate well enough to cross the sea.

The ape-men at Zhoukoudian, then, could probably make themselves understood much better than chimpanzees or gorillas, and the deposits from the cave suggest that they could also make fire at will. On at least one occasion Peking Men roasted a wild horse's head. Cuts on the skull show they were after its tongue and brain, both rich in fats. They may have been fond of one another's brains too: in the 1930s the excavators inferred cannibalism and even

headhunting from bone-breakage patterns. A 1980s study of the plaster casts showed that most of the marks on the skulls were actually caused by the teeth of prehistoric giant hyenas rather than other Peking Men, but one skull—an additional fragment of which was excavated in 1966—definitely shows stone tool marks.

If instead of bumping into a Peking Man on a modern Main Street you could take a time machine back to Zhoukoudian half a million years ago, you would have a disorienting and alarming experience. You would see the cavemen communicating, perhaps with grunts and gestures, but you would not be able to talk to them. Nor could you get through to them by drawing pictures; there is no good evidence that art made any more sense to *Homo erectus* than it does to chimpanzees. The Peking Men that evolved in the Eastern Old World were very different from us.

THE FIRST WESTERNERS: NEANDERTHALS

But were Peking Men also different from the ape-men that were evolving in the Western Old World? The oldest finds from Europe, made in 1994 in a chain of caves at Atapuerca in Spain, date back about 800,000 years (roughly to the time that *Homo erectus* may have taken to boats and colonized Flores). In some ways, the Atapuerca finds were rather like those from Zhoukoudian: many of the bones were crisscrossed with cut marks from stone tools exactly like those that butchery would produce.

The hints of cannibalism grabbed headlines, but paleoanthropologists were even more excited by the ways in which Atapuerca differed from Zhoukoudian. The Atapuerca skulls had bigger brain cavities than those of *Homo erectus* and rather modern-looking noses and cheekbones. The paleoanthropologists concluded that a new species was emerging, which they called *Homo antecessor* (“Ancestral Man”).

Homo antecessor helped make sense of a string of finds going back to 1907, when workmen had turned up a strange jawbone in a sandpit in Germany. This species, named Heidelberg Man after a nearby university town, looked much like *Homo erectus* but had heads more like ours, with high, rounded skulls and brains of about 1,000 cc—much bigger than the 800 cc average for *Homo*

erectus. It looks as if the pace of evolutionary change accelerated all across the Old World after 800,000 years ago as ape-men entering the cold north encountered wildly different climates where random genetic mutations could flourish.*

Here at last we have some incontrovertible facts. By 600,000 years ago, when Heidelberg Man came onto the scene and Peking Man ruled the roost at Zhoukoudian, there were definitely different species of *Homo* in the Eastern and Western parts of the Old World: in the East the small-brained *Homo erectus* and in the West the larger-brained *Homo antecessor* and Heidelberg Man.*

When it comes to brains, size is not everything. Anatole France won the Nobel Prize for literature in 1921 with a brain no bigger than Heidelberg Man's. Yet Heidelberg Man does seem to have been a lot smarter than earlier ape-men or contemporary Peking Man. Before Heidelberg Man showed up, stone tools had barely changed for a million years, but by 500,000 BCE Heidelberg Man was making thinner and therefore lighter versions, striking more delicate flakes using soft (probably wood) hammers as well as just banging rocks together. This suggests better hand-eye coordination. Heidelberg Men and Women also made more specialized tools and began preparing specially shaped stone cores from which they could strike further tools at will, which must mean that they were just a lot better than *Homo erectus* at thinking about what they wanted from the world and how to get it. The very fact that Heidelberg Man could survive at Heidelberg, well north of the 40-degree line, is itself evidence of a smarter ape-man.

Zhoukoudian's occupants changed little between 670,000 and 410,000 years ago, but Western ape-men continued evolving across this period. If you crawl several hundred yards into the dank Spanish caves at Atapuerca, mostly on your belly and sometimes using ropes, you come to a forty-foot drop into the aptly named Pit of Bones—the densest concentration of ape-man remains ever found. More than four thousand fragments have been recovered here since the 1990s, dated between 564,000 and 600,000 years ago. Most belong to teenagers or young adults. What they were doing so far beneath the earth remains a mystery, but like the older Atapuerca deposit, the Pit of Bones has remarkably diverse human remains. The Spanish excavators classify most of them as Heidelberg Man, but many foreign scholars think they look more like yet another species—the Neanderthals.

These most famous of cavemen were first recognized in 1856, when quarry workers in the Neander Valley (Tal or Thal in German) showed a local

schoolteacher a skullcap and fifteen bones they had found (excavations in the 1990s recovered a further sixty-two fragments from the workers' waste dump). The teacher showed them to an anatomist, who, with impressive understatement, pronounced them "pre-Germanic."

The Atapuerca finds suggest that Neanderthals emerged gradually across a quarter of a million years. Rather than climate change or expansion into new areas providing conditions for a few mutants to outbreed and replace Heidelberg Man, this may have been a case of genetic drift, with many different kinds of ape-men developing alongside one another. "Classic" Neanderthals appeared by 200,000 years ago and within another hundred thousand years spread over much of Europe and east into Siberia, though so far as we know they did not reach China or Indonesia.

Just how much did Neanderthals differ from Peking Men? They were typically about the same height as Eastern ape-men and were even more primitive-looking, with sloping foreheads and weak chins. They had big front teeth, often worn down from use as tools, set in forward-thrust faces with large noses, the latter perhaps an adaptation to the cold air of Ice Age Europe. Neanderthals were more heavily built than Peking Men, with broader hips and shoulders. They were as strong as wrestlers, had the endurance of marathon runners, and seem to have been ferocious fighters.

Despite having much heavier bones than most ape-men, Neanderthals got injured a lot; the closest modern parallel to their bone-breakage patterns, in fact, comes from professional rodeo riders. Since there were no bucking broncos to fall off a hundred thousand years ago (modern horses would not evolve until 4000 BCE), paleoanthropologists are confident that Neanderthals got hurt fighting—with one another and with wild animals. They were dedicated hunters; analysis of nitrogen isotopes from their bones shows that they were massively carnivorous, getting an amazing proportion of their protein from meat. Archaeologists had long suspected that Neanderthals got some of their meat by eating one another, just like Peking Man, and in the 1990s finds in France proved this beyond a doubt. The bones of half a dozen Neanderthals were found mixed with those of five red deer. The ape-men and deer had been treated exactly the same way: first they were cut into pieces with stone tools, then the flesh was sliced off their bones, and finally their skulls and long bones were smashed to get at their brains and marrow.

The details I have emphasized so far make Neanderthals sound not so different from Peking Men, but there is more to the story than this. For one

thing, Neanderthals had big brains—even bigger brains than ours, in fact, averaging around 1,520 cc to our 1,350 cc. They also had wider neural canals than the Turkana Boy, and these thick spinal cords gave them more manual dexterity. Their stone tools were better made and more varied than Peking Men's, with specialized scrapers, blades, and points. Traces of tar on a stone point found embedded in a wild ass's neck in Syria suggest that it had been a spearhead attached to a stick. Wear patterns on tools suggest that Neanderthals used them mostly for cutting wood, which rarely survives, but at the waterlogged German site of Schöningen four beautifully carved seven-foot-long spears turned up near heaps of wild horse bones. The spears were weighted for thrusting, not throwing; for all their smartness, Neanderthals may not have been coordinated enough to use missile weapons.

The need to get up close to scary animals may account for Neanderthals' rodeo-rider injuries, but some finds, especially from Shanidar Cave in Iraq, hint at entirely different qualities. One skeleton showed that a man had survived with a withered arm and deformed legs for years, despite losing his right forearm and left eye (in her bestselling novel *The Clan of the Cave Bear*, Jean Auel based her character Creb—the disabled spiritual leader of a Neanderthal band living in Crimea—on this skeleton). Another man at Shanidar had crippling arthritis in his right ankle, but also managed to get by, at least until a stab wound killed him. Having bigger brains doubtless helped the weak and injured to help themselves; Neanderthals could definitely make fire at will and could probably turn animal skins into clothes. All the same, it is hard to see how the Shanidar men could have coped without help from able-bodied friends or family. Even the most austere scientists agree that Neanderthals—by contrast with all earlier kinds of *Homo* and their contemporaries at Zhoukoudian—showed something we can only call “humanity.”

Some paleoanthropologists even think that Neanderthals' big brains and wide neural canals allowed them to talk more or less like us. Like modern humans they had hyoid bones, which anchor the tongue and let the larynx make the complex movements needed for speech. Other scholars disagree, though, noting that Neanderthal brains, while big, were longer and flatter than ours, and that the speech areas were probably less developed. They also point out that although the relevant areas survive on the bases of only three skulls, it looks as if Neanderthals' larynxes were very high in their necks, meaning that despite their hyoid bones they could vocalize only a narrow range of sounds. Maybe they could just grunt single syllables (what we might call the “me Tarzan, you Jane” model), or maybe they could express important concepts—“come here,” “let's

go hunting,” “let’s make stone tools/dinner/love”—by combining gestures and sounds (the *Clan of the Cave Bear* model, where Neanderthals have an elaborate sign language).

In 2001 it began to look like genetics might settle things. Scientists found that one British family that for three generations had shared a speech disorder called verbal dyspraxia also shared a mutation on a gene called FOXP2. This gene, it turned out, codes for a protein influencing how the brain processes speech and language. This does not mean that FOXP2 is “the language gene”: speech is a bewilderingly complex process involving countless genes working together in ways we cannot yet fathom. FOXP2 came to geneticists’ attention because sometimes it just needs one thing to go wrong for a whole system to crash. A mouse chews through a two-cent wire and my twenty-thousand-dollar car won’t start; FOXP2 malfunctions and the brain’s elaborate speech networks seize up. All the same, some archaeologists suggested, maybe random mutations producing FOXP2 and related genes gave modern humans linguistic skills that earlier species, including Neanderthals, lacked.

But then the plot thickened. As everyone now knows, deoxyribonucleic acid—DNA—is the basic building block of life, and in 2000 geneticists sequenced the modern human genome. What is less well known is that back in 1997, in a scene reminiscent of *Jurassic Park*, scientists in Leipzig, Germany, extracted ancient DNA from the arm of the original Neanderthal skeleton found in the Neander Valley in 1856. This was an extraordinary feat, since DNA begins breaking down immediately upon death, and only tiny fragments survive in such ancient material. The Leipzig team is not about to clone cavemen and open a Neanderthal Park, so far as I know,* but in 2007 the process of sequencing a draft of the Neanderthal genome (which was completed in 2009) produced a remarkable discovery—that Neanderthals also had the FOXP2 gene.

Maybe this means that Neanderthals were as chatty as us; or maybe that FOXP2 was not the key to speech. One day we will surely know, but for now all we can do is observe the consequences of Neanderthals’ interactions. They lived in bigger groups than earlier types of ape-men, hunted more effectively, occupied territories for longer periods, and cared about one another in ways earlier ape-men could not.

They also deliberately buried some of their dead, and perhaps even performed rituals over them—the earliest signs of that most human quality of all, a spiritual life, *if* we are interpreting the evidence correctly. At Shanidar, for instance, several bodies had definitely been buried, and the soil in one grave contained

high concentrations of pollen, which might mean that some Neanderthals laid a loved one's body on a bed of spring flowers. (Rather less romantically, some archaeologists point out that the grave was honeycombed with rat burrows, and that rats often carry flowers into their lairs.)

In a second case, at Monte Circeo near Rome, construction workers in 1939 exposed a cave that had been sealed by a rockfall fifty thousand years ago. They told archaeologists that a Neanderthal skull sat on the floor in the middle of a circle of rocks, but because the workers moved the skull before experts saw it, many archaeologists harbor doubts.

Finally, there is Teshik-Tash in Uzbekistan. Here Hallam Movius (he of Movius Line fame) found the skeleton of a boy encircled, he said, by five or six pairs of wild goat horns. However, the deposits at Teshik-Tash are full of goat horns, and Movius never published plans or photographs of the finds to convince skeptics that these particular ones were in a meaningful pattern.

We need clearer evidence to lay this question to rest. Personally, I suspect that there is no smoke without fire, and that Neanderthals did have some kind of spiritual life. Perhaps they even had medicine women and shamans like Iza and Creb in *The Clan of the Cave Bear*. Whether that is right or not, though, if the time machine I invoked earlier could transport you to Shanidar as well as to Zhoukoudian, you would see real behavioral differences between Eastern Peking Man and Western Neanderthals. You would also be hard-pressed to avoid concluding that the West was more developed than the East. This may already have been true 1.6 million years ago, when the Movius Line took shape, but it was definitely true a hundred thousand years ago. Again the specter of a racist long-term lock-in theory rears its head: Does the West rule today because modern Europeans are the heirs of genetically superior Neanderthal stock, while Asians descend from the more primitive *Homo erectus*?

BABY STEPS

No.

Historians like giving long, complicated answers to simple questions, but this time things really do seem to be straightforward. Europeans do not descend from superior Neanderthals, and Asians do not descend from inferior *Homo erectus*.

Starting around seventy thousand years ago, a new species of *Homo*—us—drifted out of Africa and completely replaced all other forms.* Our kind, *Homo sapiens* (“Wise Man”), did interbreed with Neanderthals in the process. Modern Eurasians share 1 to 4 percent of their genes with the Neanderthals, but everywhere from France to China it is the same 1 to 4 percent.† The spread of modern humans wiped the slate clean. Evolution of course continues, and local variations in skin color, face shape, height, lactose tolerance, and countless other things have appeared in the two thousand generations since we began spreading across the globe. But when we get right down to it, these are trivial. Wherever you go, whatever you do, people (in large groups) are all much the same.

The evolution of our species and its conquest of the planet established the biological unity of mankind and thereby the baseline for any explanation of why the West rules. Humanity’s biological unity rules out racebased theories. Yet despite the overwhelming importance of these processes, much about the origins of modern humans remains obscure. By the 1980s archaeologists knew that skeletons more or less like ours first appeared around 150,000 years ago on sites in eastern and southern Africa. The new species had flatter faces, more retracted under their foreheads, than earlier ape-men. They used their teeth less as tools, had longer and less muscular limbs, and had wider neural canals and larynxes positioned better for speaking. Their brain cavities were a little smaller than Neanderthals’ but their skullcaps were higher and more domed, leaving room for bigger speech and language centers and stacked layers of neurons that could perform massive numbers of calculations in parallel.

The skeletons suggested that the earliest *Homo sapiens* could walk the walk just like us, but—oddly—the archaeology suggested that for a hundred thousand years they stubbornly refused to talk the talk. *Homo sapiens* tools and behavior looked much like those of earlier ape-men, and—again like other ape-men, but utterly unlike us—early *Homo sapiens* seemed to have had just one way of doing things. Regardless of where archaeologists dug in Africa, they kept coming up with the same, not particularly exciting, kinds of finds. Unless, that is, they excavated *Homo sapiens* sites less than fifty thousand years old. On these younger sites *Homo sapiens* started doing all kinds of interesting things, and doing them in lots of different ways. For instance, archaeologists identify no fewer than six distinct styles of stone tools in use in Egypt’s Nile Valley between 50,000 and 25,000 BCE, whereas before then a single fashion prevailed from South Africa to the shores of the Mediterranean.

Humans had invented style. Chipping stone tools this way, rather than that

way, now marked a group off as different from their neighbors; chipping them a third way marked a new generation as different from their elders. Change remained glacial by the standards we are used to, when pulling out a four-year-old cell phone that can't make movies, locate me on a map, or check e-mail makes me look like a fossil, but it was meteoric compared to all that had gone before.

As any teenager coming home with hair dyed green or a new piercing will tell you, the best way to express yourself is to decorate yourself, but until fifty thousand years ago, it seemed that almost no one had felt this way. Then, apparently, almost everyone did. At site after site across Africa after 50,000 BCE archaeologists find ornaments of bone, animal tooth, and ivory; and these are just the activities that leave remains for us to excavate. Most likely all those other forms of personal adornment we know so well—hairstyles, makeup, tattoos, clothes—appeared around the same time. A rather unpleasant genetic study has suggested that human body lice, which drink our blood and live in our clothes, evolved around fifty thousand years ago as a little bonus for the first fashionistas.

“[What a piece](#) of work is a man!” gasps Hamlet when his friends Rosencrantz and Guildenstern come to spy on him. “How noble in reason! how infinite in faculty! in form and moving how express and admirable! in action how like an angel! in apprehension how like a god!” And in all these ways, how unlike an ape-man. By 50,000 BCE modern humans were thinking and acting on a whole different plane from their ancestors. Something extraordinary seemed to have happened—something so profound, so magical, that in the 1990s it moved normally sober scientists to flights of rhetoric. Some spoke of a Great Leap Forward;* others of the Dawn of Human Culture or even the Big Bang of Human Consciousness.

But for all their drama, these Great Leap Forward theories were always a little unsatisfactory. They required us to imagine not one but two transformations, the first (around 150,000 years ago) producing modern human bodies but not modern human behavior, and the second (around 50,000 years ago) producing modern human behavior but leaving our bodies unchanged. The most popular explanation was that the second transformation—the Great Leap—began with purely neurological changes that rewired the brain to make modern kinds of speech possible, which in turn drove a revolution in behavior; but just what this rewiring consisted of (and why there were no related changes to skulls) remained a mystery.