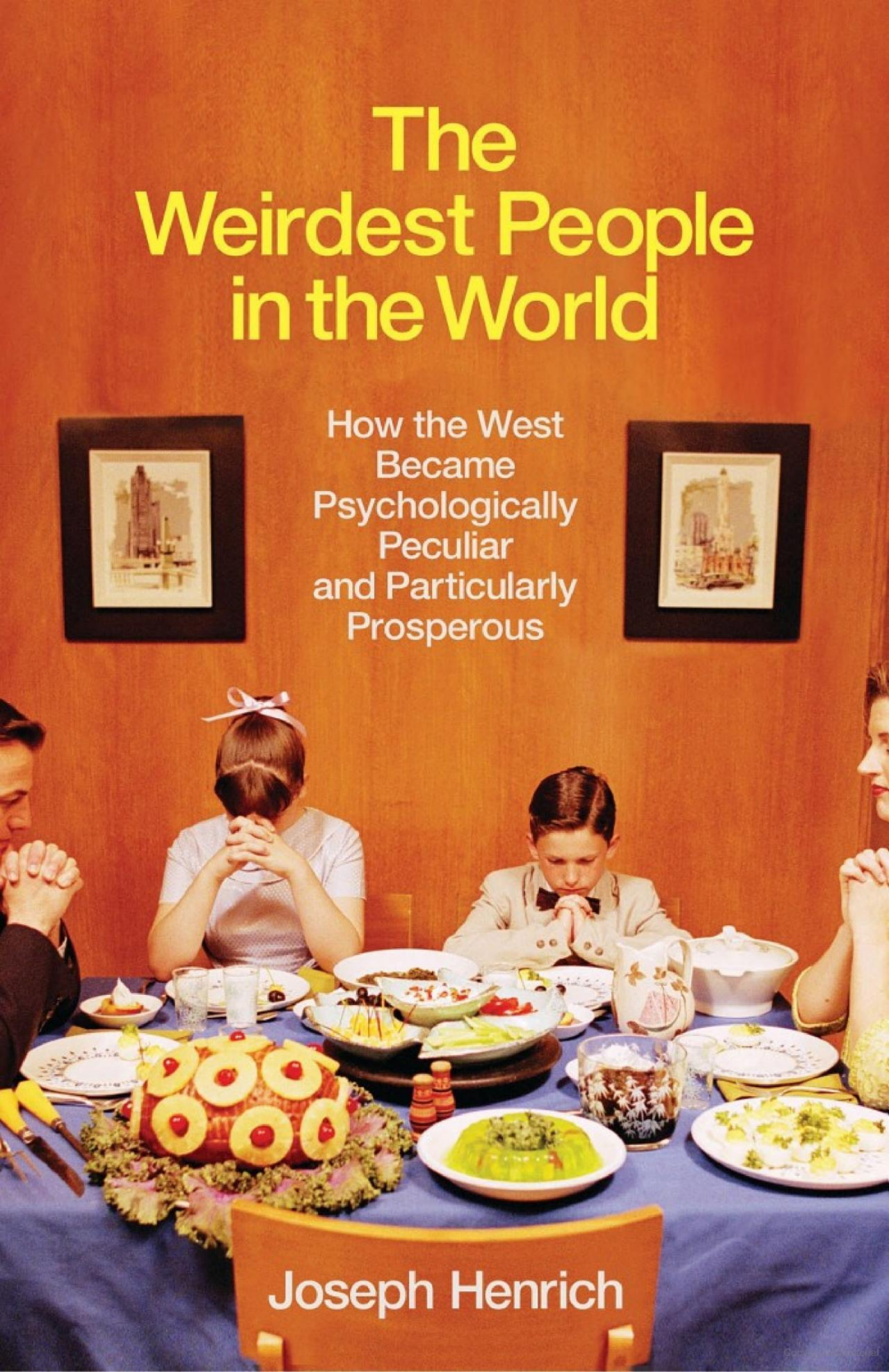
The Weirdest People in the World

How the West Became Psychologically Peculiar and Particularly Prosperous



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About the Author

Joseph Henrich is a professor and chair of the Department of Human Evolutionary Biology at Harvard University. Formerly, he held the Canada Research Chair in Culture, Cognition and Co-evolution in the departments of Psychology and Economics at the University of British Columbia. An award-winning anthropologist, he is the author of The Secret of Our Success and co-author of Why Humans Cooperate. He lives with his family in Massachusetts.

ALSO BY JOSEPH HENRICH

The Secret of Our Success: How Culture Is Driving Human Evolution, Domesticating Our Species, and Making Us Smarter

Why Humans Cooperate: A Cultural and Evolutionary Explanation (with Natalie Henrich)

To Natalie
20 years, 6 cities, and 3 children

Preface

In 2006, I unwittingly set off down the path leading to this book when I moved from the Department of Anthropology at Emory University to the University of British Columbia (UBC) in Vancouver, where I became a professor in the Departments of both Psychology and Economics. This was indeed an unlikely port of call, since I'd never taken a course in either field. Soon after arriving at UBC, two seemingly independent developments laid the foundation for this book. First, the Head of the Department of Economics, Anji Redish, suggested that I might teach a course called "The Wealth and Poverty of Nations" to fulfill my teaching obligation in the department. She'd noticed that when I was a graduate student at UCLA, I had taught a seminar based on Jared Diamond's book *Guns, Germs, and Steel*. This teaching opportunity led me deep into the literature in economics on why countries differ in prosperity, and why the Industrial Revolution occurred in Europe but not elsewhere. Topically, this research naturally fit my long-running anthropological interest in the evolution of human societies, although anthropologists usually didn't try to explain things that occurred after the rise of ancient states. Economists, by contrast (at that time), rarely looked back more than about 500 years from the present. Each time I taught the course, I modified the readings, which provided me with a chance to explore and critique the field. While this was fun, I didn't realize just how important this knowledge would be to my ongoing efforts to understand human psychological variation.

The second important development arose as I got to know two UBC social psychologists, Ara Norenzayan and Steve Heine. Ara, an Armenian who had emigrated from war-torn Lebanon to Fresno, California, when he was 18 years old, had spent the early part of his scientific career studying cultural differences in perception, thinking styles, and reasoning. Steve, whose research was (I suspect) often inspired by interactions with his Japanese wife, had been comparing how Canadians and Japanese think about themselves in relation to others and how that affects their motivations, decision-making, and sense of self. Independently, all three of us had noticed—within our separate domains of expertise—that Western populations were often unusual when compared to two or more other populations. Over Chinese takeout, in a basement food court where the famed psychologists Daniel Kahneman and Amos Tversky had purportedly hatched their plans to examine rational decision-making, we decided to compile all the cross-cultural studies that we could locate on important aspects of human psychology. After carefully reviewing all the research that we could locate, we arrived at three striking conclusions:

1. *Massively biased samples*: Most of what was known experimentally about *human* psychology and behavior was based on studies with undergraduates from Western societies. At the time, 96 percent of experimental participants were

drawn from northern Europe, North America, or Australia, and about 70 percent of these were American undergraduates.
2. *Psychological diversity*: Psychological differences between populations appeared in many important domains, indicating much greater variation than one might expect from reading the textbooks or major journals in either psychology or behavioral economics.
3. *Psychological peculiarity*: When cross-cultural data were available from multiple populations, Western samples typically anchored the extreme end of the distribution. They were psychologically weird.

Taken together, these three findings meant that almost everything we—scientists—knew about human psychology derived from populations that seemed to be rather unusual along many important psychological and behavioral dimensions. Crucially, there was no obvious way to tell whether a psychological pattern found in Western undergraduates would hold cross-culturally, since existing research going back over a half century had revealed differences across populations in people's susceptibility to visual illusions, spatial reasoning, memory, attention, patience, risk-taking, fairness, induction, executive function, and pattern recognition.

Four years after our lunch in the basement, Ara, Steve, and I finally published "The weirdest people in the world?" in the journal *Behavioral and Brain Sciences* (2010), along with a commentary in *Nature* magazine. In these publications, we dubbed the populations so commonly used in psychological and behavioral experiments as "W.E.I.R.D." because they came from societies that are Western, Educated, Industrialized, Rich, and Democratic. Of course, we suspected there was likely important psychological variation among Western populations and within Western countries, but even this variation wasn't showing up very often in published studies or textbooks.

Although our publication in *Behavioral and Brain Sciences* did succeed in highlighting the narrowness of sampling within the psychological and behavioral sciences, I've always found it unsatisfying, because it doesn't explain anything. How can we account for all this psychological variation? And why are WEIRD people so unusual? In fact, without guiding theories or explanations, we couldn't even be sure that WEIRD people were indeed unusual. We wondered if WEIRD researchers—who entirely dominate the relevant scientific disciplines—might have unknowingly gravitated toward those aspects of psychology or behavior on which they themselves—their populations—were likely to stand out. Steve wondered aloud at lunch about what Japanese psychology might look like if Japanese researchers had developed their own version of this discipline, without first importing Western concepts, interests, and emphases.

In the aftermath of our paper, my mental gears began to turn on the question of how to explain the broad patterns of psychological variation that Ara, Steve, and I had discerned. The current effort documents my progress to date. However, in constructing this book, I ended up first producing another book, called *The Secret of Our Success* (2016). Originally, the ideas that I developed there were supposed to form Part I of this book. But, once I opened that intellectual dam, a full book-length treatment flooded out, and nothing could stop it. Then, with *The Secret of Our Success* tempered and ready, I could confidently synthesize the elements necessary for this book. Thanks to my publisher, Farrar, Straus and Giroux, for understanding that sometimes you need to forge the proper tools before tackling a big job.

This project required me to draw on and integrate research from across the social and biological sciences, and for that I had to rely on a vast network of friends, colleagues, and fellow scientists who pitched in with their knowledge, wisdom, and insights over a decade. I could never thank everyone who helped me, in countless conversations and emails.

As a wayward cultural anthropologist who washed up on the academic shores of psychology and economics at the University of British Columbia, I'd like to thank the truly amazing group of scholars and friends there who took me in. The contributions of Steve and Ara were, of course, foundational. I also learned a tremendous amount from Ted Slingerland, Patrick Francois, Siwan Anderson, Mauricio Drelichman, Ashok Kotwal, Kiley Hamlin, Mark Schaller, Mukesh Eswaran, Jessica Tracy, Darrin Lehman, Nancy Gallini, Andy Baron, Sue Birch, and Janet Werker. Special thanks to Siwan and Patrick for providing comments on my draft chapters.

Just as I was officially embarking on the intellectual journey to this book, I was invited to become a fellow in the Canadian Institute for Advanced Research (CIFAR) in the Institutions, Organizations, and Growth (IOG) group. This serendipitous lightning bolt brought me into continuous contact with leading economists and political scientists who were working on questions of direct relevance. My thanks to CIFAR and the entire IOG, since I learned from everyone. Early on, my conversations with the economic historians Avner Greif and Joel Mokyr contributed to forming the backbone of this book. Special thanks to Joel, who provided chapter-by-chapter feedback and always responded to my naïve questions about economic history. I also learned much from interacting with Guido Tabellini, Matt Jackson, Torsten Persson, Roland Bénabou, Tim Besley, Jim Fearon, Sara Lowes, Suresh Naidu, Thomas Fujiwara, Raul Sanchez de la Sierra, and Natalie Bau. Of course, my ongoing debates with Daron Acemoglu and James Robinson were essential, as they forced me to sharpen my arguments and spot gaps in my evidence. When James and I co-taught a course at Harvard, he made sure the students carefully inspected each of my arguments.

In 2013–14, I was fortunate to spend a year at New York University's Stern School of Business as part of the Business and Society Program. My time at Stern was incredibly productive, and I benefited greatly from weekly conversations and an opportunity to co-teach with the psychologist Jon Haidt. During this time, I also enjoyed helpful advice from the economists Paul Romer and Bob Frank.

After I arrived at Harvard, sections of this book underwent dramatic improvements with input from a group of young economists. In 2016, I first told Benjamin Enke about my book over several pints during our weekly pub gatherings. He got excited about the ideas and, over the next year, put together an impressive paper that I draw heavily on in Chapter 6. At roughly the same time, I'd invited Jonathan Schulz to give a talk in my lab, since I'd heard from one of my postdocs that he was working on something about "cousin marriage and democracy" at Yale. For most people, especially most economists, "cousin marriage and democracy" would probably sound a bit wacky. But to me, it was obvious that he and I had probably ended up on converging scientific tracks. After his talk, I immediately invited him to become a postdoc in my lab and join a collaboration that I'd begun with another economist, Jonathan Beauchamp, who was leaving his post at the International Monetary Fund to return to academic life. To our trio we soon added the Iranian-born economist Duman Bahrami-Rad. The intellectual fruit of our teamwork is now published in *Science* magazine and forms the core of Chapters 6 and

7. Thanks to all these guys for reading drafts of this book and providing helpful comments.

During this same period, I also benefited immensely from weekly interactions with the economists Nathan Nunn and Leander Heldring. In courses that we co-instructed, Leander and Nathan provided feedback on my ideas, lecture by lecture, as I presented them.

Members of my laboratory group have had to endure my obsession with the topics covered in this book. For their comments and insights over the years, thanks to Michael Muthukrishna, Rahul Bhui, Aiyana Willard, Rita McNamara, Cristina Moya, Jennifer Jacquet, Maciek Chudek, Helen Davis, Anke Becker, Tommy Flint, Martin Lang, Ben Purzycki, Max Winkler, Manvir Singh, Moshe Hoffman, Andres Gomez, Kevin Hong, and Graham Noblit. Special thanks to Cammie Curtin and Tiffany Hwang, who, during the time each spent as my lab manager, contributed to this book in myriad ways.

Along the way, I benefited from conversations in interactions with many researchers and authors, including Dan Smail, Rob Boyd, Kim Hill, Sarah Mathew, Sascha Becker, Jared Rubin, Hans-Joachim Voth, Kathleen Vohs, Ernst Fehr, Matt Syed, Mark Koyama, Noel Johnson, Scott Atran, Peter Turchin, Eric Kimbrough, Sasha Vostroknutov, Alberto Alesina, Steve Stich, Tyler Cowen, Fiery Cushman, Josh Greene, Alan Fiske, Ricardo Hausmann, Clark Barrett, Paola Giuliano, Alessandra Cassar, Devesh Rustagi, Thomas Talhelm, Ed Glaeser, Felipe Valencia Caicedo, Dan Hruschka, Robert Barro, Rachel McCleary, Sendhil Mullainathan, Lera Boroditsky, Michal Bauer, Julie Chytilová, Mike Gurven, and Carole Hooven, among many others. Several people supplied me with data, and I've tried to specifically thank them for that in the endnotes. During two visits to the University of Pennsylvania, I was particularly inspired by in-depth discussions with one of my fellow travelers, Coren Apicella, whose work with Hadza hunter-gatherers is featured in Chapter 11.

I would also like to extend my thanks to my editor at FSG, Eric Chinski, for his helpful comments on the penultimate draft of my manuscript, and to my literary agent, Brockman Inc., for their early and consistent encouragement of this project.

Finally, my greatest gratitude goes to my family, Natalie, Zoey, Jessica, and Josh, who have for a decade lovingly supported my efforts on this demanding project.

Joe Henrich
Cambridge, Massachusetts
August 1, 2019

Prelude: Your Brain Has Been Modified

Your brain has been altered, neurologically rewired as it acquired a skill that your society greatly values. Until recently, this skill was of little or no use and most people in most societies never acquired it. In developing this ability, you have:[1]

1. Specialized an area of your brain's left ventral occipito-temporal region, which lies between your language, object, and face processing centers.
2. Thickened your corpus callosum, which is the information highway that connects the left and right hemispheres of your brain.
3. Altered the part of your prefrontal cortex that is involved in language production (Broca's area) as well as other brain areas engaged in a variety of neurological tasks, including both speech processing and thinking about others' minds.
4. Improved your verbal memory and broadened your brain's activation when processing speech.
5. Shifted your facial recognition processing to the right hemisphere. Normal humans (not you) process faces almost equally on the left and right sides of their brains, but those with your peculiar skill are biased toward the right hemisphere.[2]
6. Diminished your ability to identify faces, probably because while jury-rigging your left ventral occipito-temporal region, you impinged on an area that usually specializes in facial recognition.
7. Reduced your default tendency toward holistic visual processing in favor of more analytical processing. You now rely more on breaking scenes and objects down into their component parts and less on broad configurations and gestalt patterns.

What is this mental ability? What capacity could have renovated your brain, endowing you with new, specialized skills as well as inducing specific cognitive deficits?

The exotic mental ability is reading. You are likely highly literate.

Acquiring this mental ability involves wiring in specialized neurological circuitry in various parts of the brain. For processing letters and words, a *Letterbox* develops in the left ventral occipito-temporal region, which connects with nearby regions for object recognition, language, and speech. Brain injuries that damage the *Letterbox* cause illiteracy, though victims retain the ability to recognize numerals and make mathematical calculations, indicating that this region develops specifically for reading.[3]

The *Letterbox*'s circuitry is tuned to specific writing systems. For example, while Hebrew characters activate the *Letterbox* in Hebrew readers, English readers deal with these characters as they would any other visual object—and not like they do Roman letters. The *Letterbox* also encodes deeper, nonvisual patterns. For example, it

registers the similarity between "READ" and "read" even though the two words look quite different.[4]

Let me show you something: there will be some large symbols at the top of the next page. Don't read them, but instead only study their shapes. I'll tell you when you should read them.

White Horse
白　馬

If you are literate in English, I bet you couldn't help but read "White Horse" above. Your brain's reading circuitry is superfast, automatic, and, as we just demonstrated, out of your conscious control. You can't help reading what you see. By contrast, unless you are also literate in Chinese, you probably had no trouble simply admiring the interesting markings that form the Chinese characters above, which also mean "White Horse" (*bai ma*). In highly literate populations, psychologists like to flash words at experimental participants so quickly that they don't consciously realize that they have just seen a word. Yet we know that they not only saw the flashed word but also read it, because its meaning subtly influences their brain activation and behavior. Such subliminal priming demonstrates both our inability to switch off our reading circuitry and the fact that we don't even know it when we are in fact reading and processing what we read. Although this cognitive ability is culturally constructed, it's also automatic, unconscious, and irrepressible. This makes it like many other aspects of culture.[5]

Learning to read forms specialized brain networks that influence our psychology across several different domains, including memory, visual processing, and facial recognition. Literacy changes people's biology and psychology without altering the underlying genetic code. A society in which 95 percent of adults are highly literate would have, on average, thicker corpus callosa and worse facial recognition than a society in which only 5 percent of people are highly literate. These biological differences between populations will emerge even if the two groups were genetically indistinguishable. Literacy thus provides an example of how culture can change people biologically independent of any genetic differences. Culture can and does alter our brains, hormones, and anatomy, along with our perceptions, motivations, personalities, emotions, and many other aspects of our minds.[6]

The neurological and psychological modifications associated with literacy should be thought of as part of a cultural package that includes practices, beliefs, values, and institutions—like the value of "formal education" or institutions such as "schools"—as well as technologies like alphabets, syllabaries, and printing presses. Across societies, a combination of practices, norms, and technologies has jury-rigged aspects of our genetically evolved neurological systems to create new mental abilities. To understand the psychological and neurological diversity we find around the world, in domains ranging from verbal memory to corpus callosum thickness, we need to explore the origins and development of the relevant values, beliefs, institutions, and practices.

The case of literacy illustrates why so many psychologists and neuro-scientists have broadly misread their experimental results and repeatedly made incorrect inferences about *human* brains and psychology. By studying the students attending their home universities, neuroscientists found a robust right-hemisphere bias in facial processing. Following good scientific practice, different researchers replicated these results using different populations of Western university students. Based on

these successful replications, it was inferred that this hemispheric bias in facial processing was a basic feature of human neurocognitive functioning—not a cultural by-product of deep literacy. Had they done what psychologists usually do to look for cultural differences—run experiments on East Asian students attending American universities—they would have further verified their prior results and confirmed a right-hemisphere bias. This is because all university students must be highly literate. Of course, there's no shortage of illiterate people in the world today, with estimates placing the number somewhere north of 770 million, which is more than twice the population of the United States. They just don't make it into university labs very often.

Here's the thing: highly literate societies are relatively new, and quite distinct from most societies that have ever existed. This means that modern populations are neurologically and psychologically different from those found in societies throughout history and back into our evolutionary past. If you unwittingly study these peculiar modern populations without realizing the powerful impact that technologies, beliefs, and social norms related to literacy have on our brains and mental processes, you can get the wrong answers. This can happen even when you study seemingly basic features of psychology and neuroscience, like memory, visual processing, and facial recognition.

If we want to explain these aspects of brains and psychology as they appear in modern societies, we need to understand the origins and spread of high rates of literacy—when and why did most people start reading? Where and why did the beliefs, values, practices, technologies, and institutions emerge to create and support this new ability? This turns a question about neuroscience, and global psychological diversity, into one about cultural evolution and history.

What God Wants

Literacy does not come to pervade a society simply because a writing system emerges, though having such a system certainly helps. Writing systems have existed for millennia in powerful and successful societies, dating back some 5,000 years; yet until relatively recently, never more than about 10 percent of any society's populations could read, and usually the rates were much lower.

Suddenly, in the 16th century, literacy began spreading epidemically across western Europe. By around 1750, having surged past more cosmopolitan places in Italy and France, the Netherlands, Britain, Sweden, and Germany developed the most literate societies in the world. Half or more of the populations in these countries could read, and publishers were rapidly cranking out books and pamphlets. In examining the spread of literacy between 1550 and 1900 in Figure P.1, remember that underneath this diffusion are psychological and neurological changes in people's brains: verbal memories are expanding, face processing is shifting right, and corpus callosa are thickening—in the aggregate—over centuries.[7]

It's not immediately obvious why this takeoff should have occurred at this point in history and in these places. The explosion of innovation and economic growth known as the Industrial Revolution wouldn't hit England, and later the rest of Europe, until the late 18th century (at the earliest), so the initial spread of literacy isn't a response to the incentives and opportunities created by industrialization. Similarly, it wasn't until the late 17th century, with the Glorious Revolution in Britain, that constitutional forms of government began to emerge at the national level, so

literacy isn't purely a consequence of political representation or pluralism in state politics. In fact, in many places in Europe and America, high levels of literacy emerged and persisted long before the advent of mandatory state-funded schools. Of course, this doesn't mean that literacy wasn't eventually spurred along by wealth, democracy, and state funding. These developments, however, are too late to have sparked popular literacy. So, what did?

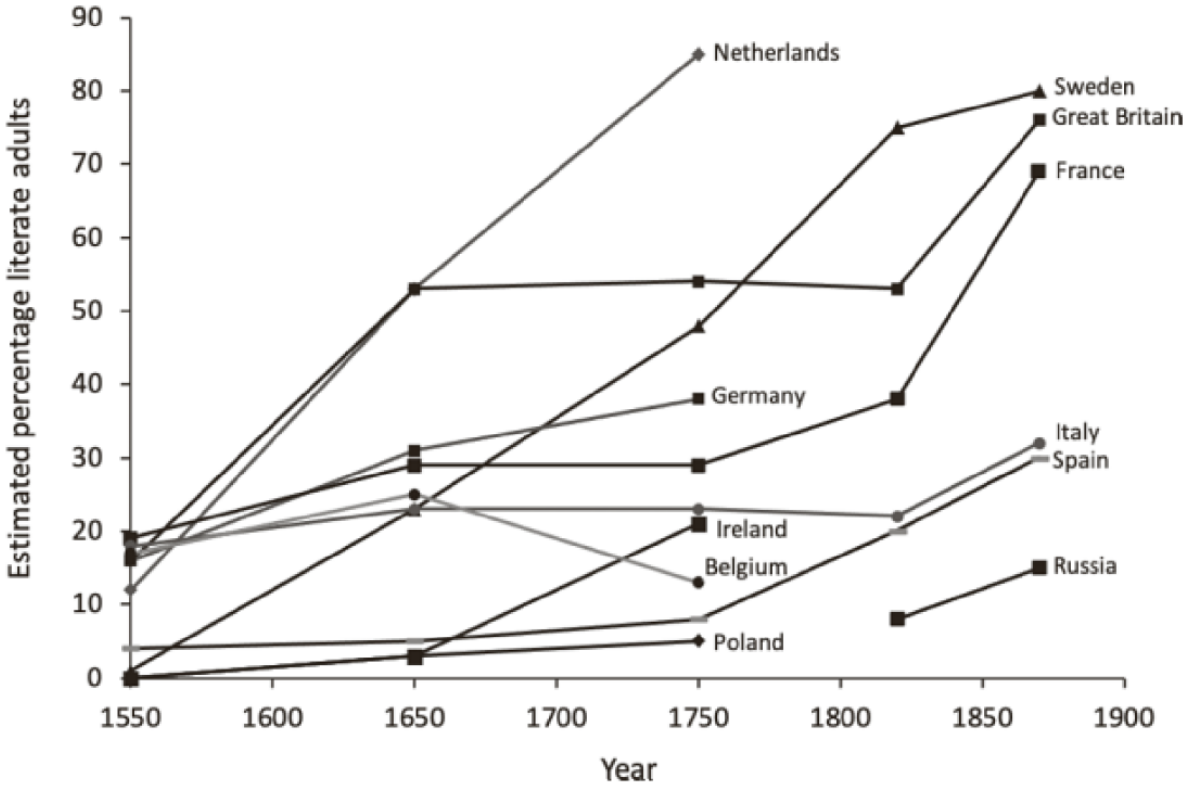

FIGURE P.1. **Literacy rates for various European countries from 1550 to 1900. These estimates are based on book publishing data calibrated using more direct measures of literacy.**[8]

It began late in 1517, just after Halloween, in the small German charter town of Wittenberg. A monk and professor named Martin Luther had produced his famous Ninety-Five Theses, which called for a scholarly debate on the Catholic Church's practice of selling indulgences. Catholics at the time could purchase a certificate, an "indulgence," to reduce the time that their dead relatives had to spend in purgatory for their sins, or to lessen the severity of their own Penance.[9] Luther's Ninety-Five Theses marked the eruption of the Protestant Reformation. Elevated by his excommunication and bravery in the face of criminal charges, Luther's subsequent writings on theology, social policy, and living a Christian life reverberated outward from his safe haven in Wittenberg in an expanding wave that influenced many populations, first in Europe and then around the world. Beyond the German lands, Protestantism would soon develop strong roots in the Netherlands and Britain, and later spread with the flows of British colonists into North America, New Zealand, and Australia. Today, variants of Protestantism continue to proliferate in South America, China, Oceania, and Africa.[10]

Embedded deep in Protestantism is the notion that individuals should develop a personal relationship with God and Jesus. To accomplish this, both men and women needed to read and interpret the sacred scriptures—the Bible—for themselves, and not rely primarily on the authority of supposed experts, priests, or institutional

authorities like the Church. This principle, known as *sola scriptura*, meant that everyone needed to learn to read. And since everyone cannot become a fluent Latin scholar, the Bible had to be translated into the local languages.[11]

Luther not only created a German translation of the Bible, which rapidly came into broad use, but he began to preach about the importance of literacy and schooling. The task ahead for him was big, since estimates suggest that only about 1 percent of the German-speaking population was then literate. Beginning in his own principality, Saxony, Luther pushed rulers to take responsibility for literacy and schooling. In 1524, he penned a pamphlet called "To the Councilmen of All Cities in Germany That They Establish and Maintain Christian Schools." In this and other writings, he urged both parents and leaders to create schools to teach children to read the scriptures. As various dukes and princes in the Holy Roman Empire began to adopt Protestantism, they often used Saxony as their model. Consequently, literacy and schools often diffused in concert with Protestantism. Literacy also began spreading in other places, like Britain and the Netherlands, though it was in Germany that formal schooling first became a sacred responsibility of secular rulers and governments.[12]

The historical connection between Protestantism and literacy is well documented. Illustrating this, Figure P.1 shows that literacy rates grew the fastest in countries where Protestantism was most deeply established. Even as late as 1900, the higher the percentage of Protestants in a country, the higher the rate of literacy. In Britain, Sweden, and the Netherlands, adult literacy rates were nearly 100 percent. Meanwhile, in Catholic countries like Spain and Italy, the rates had only risen to about 50 percent. Overall, if we know the percentage of Protestants in a country, we can account for about half of the cross-national variation in literacy at the dawn of the 20th century.[13]

The problem with these correlations and many similar analyses that link Protestantism to either literacy or formal schooling is that we can't tell if Protestantism caused greater literacy and education or whether literacy and education caused people to adopt Protestantism. Or maybe both Protestantism and literacy tended to emerge in the wake of economic growth, representative governments, and technological developments like the printing press. Fortunately, history has provided a kind of natural experiment in Prussia, which has been explored by the economists Sascha Becker and Ludger Woessmann.

Prussia provides an excellent case study for a couple of reasons. First, it developed incipient notions of religious freedom early on. By 1740, Prussia's King Frederick (the Great) declared that every individual should find salvation in his own way—effectively declaring religious freedom. This meant that Prussians could pick their religion unconstrained by the top-down dictates of political leaders. Second, Prussia had relatively uniform laws and similar governing institutions across regions. This mitigates concerns that any relationship observed between literacy and Protestantism might be due to some unseen linkage between religion and government.

Analyses of the 1871 Prussian census show that counties with more Protestants had higher rates of literacy and more schools, with shorter travel times to local schools. This pattern prevails, and the evidence is often stronger, when the effects of urbanization and demographics are held constant. The connection between Protestantism and schools is even evident in 1816, prior to German industrialization. Thus, the relationship between religion and schooling/literacy isn't due to industrialization and the associated economic growth.[14]

Still, the relationship between Protestantism and literacy/schooling is just an association.[15] Many of us learned that causal links can never be inferred from mere correlations, and that only experiments can identify causation. This isn't entirely true anymore, however, because researchers have devised clever ways to extract quasi-experimental data from the real world. In Prussia, Protestantism spread from Wittenberg like the ripples created by tossing a stone in a pond (to use Luther's own metaphor). Because of this, the further a Prussian county was from Wittenberg in 1871, the smaller the percentage of Protestants. For every 100 km (62 mi) traveled from Wittenberg, the percentage of Protestants dropped by 10 percent (Figure P.2). The relationship holds even when we statistically remove the influence of all kinds of economic, demographic, and geographic factors. Thus we can take proximity to ground zero of the Reformation—Wittenberg—as a cause of Protestantism in Prussia. Obviously, lots of other factors matter, including urbanization, but being near Wittenberg—the new center of action after 1517—had its own independent effect on Protestantism within the Prussian context.

The radial patterning of Protestantism allows us to use a county's proximity to Wittenberg to isolate—in a statistical sense—that part of the variation in Protestantism that we know is due to a county's proximity to Wittenberg and not to greater literacy or other factors. In a sense, we can think of this as an experiment in which different counties were experimentally assigned different dosages of Protestantism to test for its effects. Distance from Wittenberg allows us to figure out how big that experimental dosage was. Then, we can see if this "assigned" dosage of Protestantism is still associated with greater literacy and more schools. If it is, we can infer from this natural experiment that Protestantism did indeed *cause* greater literacy.[16]

The results of this statistical razzle-dazzle are striking. Not only do Prussian counties closer to Wittenberg have higher shares of Protestants, but those additional Protestants are associated with greater literacy and more schools. This indicates that the wave of Protestantism created by the Reformation raised literacy and schooling rates in its wake. Despite Prussia's having a high average literacy rate in 1871, counties made up entirely of Protestants had literacy rates nearly 20 percentile points higher than those that were all Catholic.[18]

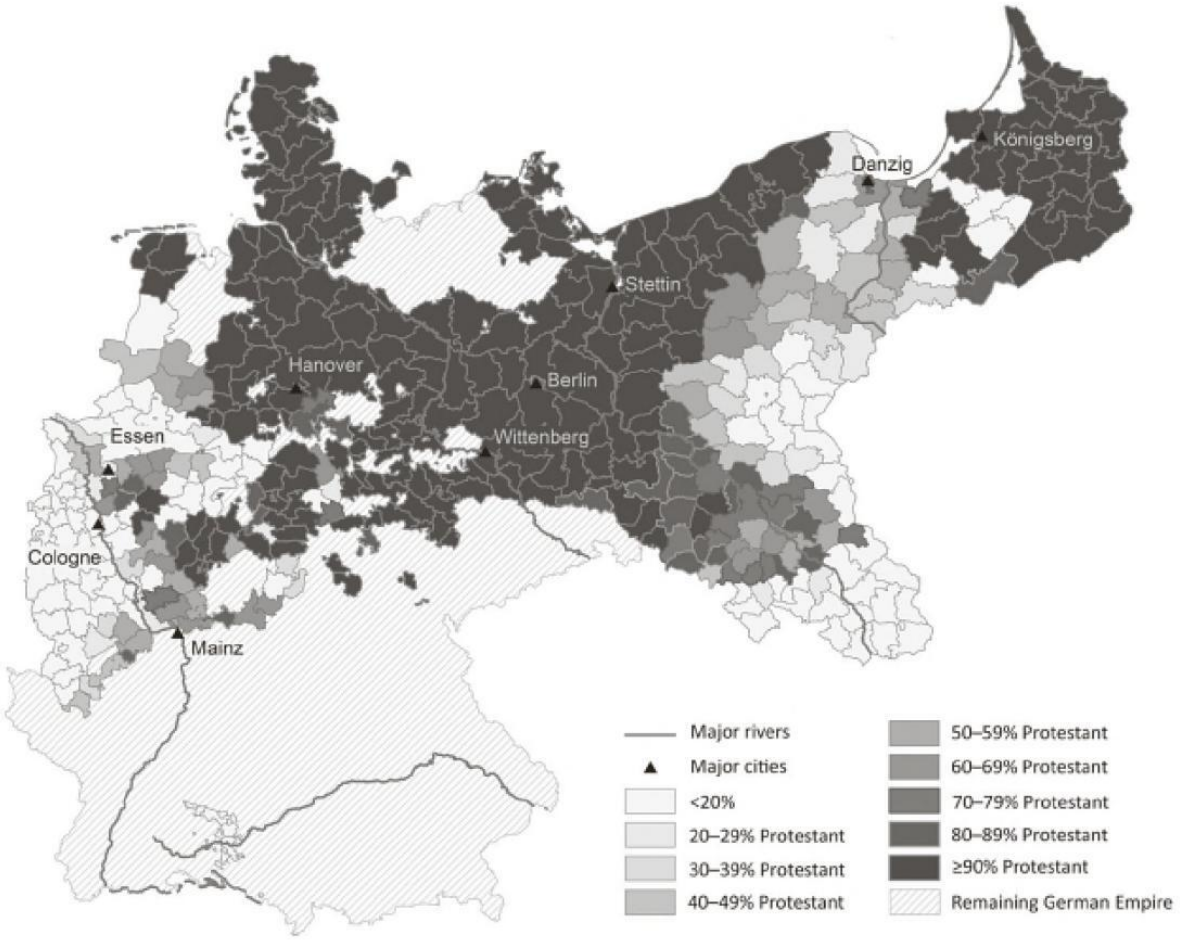

FIGURE P.2. **The percentage of Protestants in Prussian counties in 1871.**[17] **The map highlights some German cities, including the epicenter of the Reformation, Wittenberg, and Mainz, the charter town where Johannes Gutenberg produced his eponymous printing press.**

These same patterns can be spotted elsewhere in 19th-century Europe—and today—in missionized regions around the globe. In 19th-century Switzerland, other aftershocks of the Reformation have been detected in a battery of cognitive tests given to Swiss army recruits. Young men from all-Protestant districts were not only 11 percentile points more likely to be "high performers" on reading tests compared to those from all-Catholic districts, but this advantage bled over into their scores in math, history, and writing. These relationships hold even when a district's population density, fertility, and economic complexity are kept constant. As in Prussia, the closer a community was to one of the two epicenters of the Swiss Reformation—Zurich or Geneva—the more Protestants it had in the 19th century. Notably, proximity to other Swiss cities, such as Bern and Basel, doesn't reveal this relationship. As is the case in Prussia, this setup allows us to finger Protestantism as driving the spread of greater literacy as well as the smaller improvements in writing and math abilities.[19]

While religious convictions appear central to the early spread of literacy and schooling, material self-interest and economic opportunities do not. Luther and other Reformation leaders were not especially interested in literacy and schooling for their own sake, or for the eventual economic and political benefits these would foster centuries later. *Sola scriptura* was primarily justified because it paved the road to eternal salvation. What could be more important? Similarly, the farming families who dominated the population were not investing in this skill to improve their

economic prospects or job opportunities. Instead, Protestants believed that people had to become literate so that they could read the Bible for themselves, improve their moral character, and build a stronger relationship with God. Centuries later, as the Industrial Revolution rumbled into Germany and surrounding regions, the reservoir of literate farmers and local schools created by Protestantism furnished an educated and ready workforce that propelled rapid economic development and helped fuel the second Industrial Revolution.[20]

The Protestant commitment to broad literacy and education can still be observed today in the differential impacts of Protestant vs. Catholic missions around the globe. In Africa, regions that contained more Christian missions in 1900 had higher literacy rates a century later. However, early Protestant missions beat out their Catholic competitors. Comparing them head-to-head, regions with early Protestant missions are associated with literacy rates that are about 16 percentile points higher on average than those associated with Catholic missions. Similarly, individuals in communities associated with historical Protestant missions have about 1.6 years more formal schooling than those around Catholic missions. These differences are big, since Africans in the late 20th century had only about three years of schooling on average, and only about half of adults were literate. These effects are independent of a wide range of geographic, economic, and political factors, as well as the countries' current spending on education, which itself explains little of the variation in schooling or literacy.[21]

Competition among religious missions makes a big difference. Both Catholic and Protestant missionaries were more effective at instilling literacy when they were directly competing for the same souls. In fact, in the absence of competition from the literacy-obsessed Protestants, it's not entirely clear that Catholic missionaries had much effect on literacy at all. Furthermore, detailed analyses of the African data reveal that Protestant missions not only built formal schools but also inculcated cultural values about the importance of education. This is consistent with 16th- and 17th-century Europe, where the Catholic interest in literacy and schooling was fueled in part by the Protestants' intense focus on it.[22]

Besides shaping the Catholic Church through competition, Luther's Protestantism also inadvertently laid the foundation for universal, state-funded schooling by promoting the idea that it was the government's responsibility to educate the populace. From the beginning, Luther's writings not only emphasized the need for parents to ensure their children's literacy but also placed the obligation for creating schools on local princes and dukes. This religiously inspired drive for public schools helped make Prussia a model for state-funded education that was later copied by countries like Britain and the United States.

Notably, *sola scriptura* specifically drove the spread of female literacy, first in Europe and later across the globe. In 16th-century Brandenburg, for example, while the number of boys' schools almost doubled, from 55 to 100, the number of girls' schools increased over 10 times, from 4 to 45. Later, in 1816, the higher the percentage of Protestants in a county or town, the larger the percentage of girls who were enrolled in schools relative to boys. In fact, when a county's distance to Wittenberg is used to extract only that quasi-experimental fraction of the variation in religious affiliation (Catholic or Protestant) that was caused by the early ripples of the Reformation, the relationship still holds—indicating that Protestantism likely caused a rise in female literacy. Outside of Europe, the impact of Protestantism on educating girls continues to play out as Christianity spreads globally. In both Africa and India, for example, early Protestant missions had notably larger effects on the

literacy and schooling of girls compared to their Catholic competitors. The impact of Protestantism on women's literacy is particularly important, because the babies of literate mothers tend to be fewer, healthier, smarter, and richer as adults than those of illiterate mothers.[23]

When the Reformation reached Scotland in 1560, it was founded on the central principle of a free public education for the poor. The world's first local school tax was established there in 1633 and strengthened in 1646. This early experiment in universal education soon produced a stunning array of intellectual luminaries, from David Hume to Adam Smith, and probably midwifed the Scottish Enlightenment. The intellectual dominance of this tiny region in the 18th century inspired Voltaire to write, "We look to Scotland for all our ideas of civilization."[24]

Let's follow the causal chain I've been linking together: the spread of a religious belief that every individual should read the Bible for themselves led to the diffusion of widespread literacy among both men and women, first in Europe and later across the globe. Broad-based literacy changed people's brains and altered their cognitive abilities in domains related to memory, visual processing, facial recognition, numerical exactness, and problem-solving. It probably also indirectly altered family sizes, child health, and cognitive development, as mothers became increasingly literate and formally educated. These psychological and social changes may have fostered speedier innovation, new institutions, and—in the long run—greater economic prosperity.[25]

Of course, just as the great German sociologist Max Weber theorized, there's much more to the story of Protestantism than literacy. As we'll see in Chapter 12, Protestantism also likely influenced people's self-discipline, patience, sociality, and suicidal inclinations.[26]

The Histories of Religions, Biologies, and Psychologies

This book is not primarily about Protestantism or literacy, though I will endeavor to explain why European populations at the close of the Middle Ages were so susceptible to the unusually individualistic character of Protestant beliefs. The very notion that every individual should read and interpret ancient sacred texts for himself or—worse—herself, instead of simply deferring to the great sages, would have seemed somewhere between outrageous and dangerous in most premodern societies.[27] Protestantism, which was actively opposed by many religious and secular elites, would have gone nowhere in most places and during most epochs. To explain the unusual nature of Western Christianity, as well as our families, marriages, laws, and governments, we'll be going much deeper into the past to explore how a peculiar set of religious prohibitions and prescriptions reorganized European kinship in ways that altered people's social lives and psychology, ultimately propelling the societies of Christendom down a historical pathway not available elsewhere. You'll see that Protestantism and its important influences are much closer to the end of the story than to the beginning.

Nevertheless, the case of literacy and Protestantism illustrates, in microcosm, four key ideas that will run through the rest of this book. Let's go through them:

1. Religious convictions can powerfully shape decision-making, psychology, and society. Reading the sacred scripture was primarily about connecting with the

divine, but the unintended side effects were big, and resulted in the survival and spread of some religious groups over others.

2. Beliefs, practices, technologies, and social norms—culture—can shape our brains, biology, and psychology, including our motivations, mental abilities, and decision-making biases. You can't separate "culture" from "psychology" or "psychology" from "biology," because culture physically rewires our brains and thereby shapes how we think.[28]
3. Psychological changes induced by culture can shape all manner of subsequent events by influencing what people pay attention to, how they make decisions, which institutions they prefer, and how much they innovate. In this case, by driving up literacy, culture induced more analytic thinking and longer memories while spurring formal schooling, book production, and knowledge dissemination. Thus, *sola scriptura* likely energized innovation and laid the groundwork for standardizing laws, broadening the voting franchise, and establishing constitutional governments.[29]
4. Literacy provides our first example of how Westerners became psychologically unusual. Of course, with the diffusion of Christianity and European institutions (like primary schools) around the world, many populations have recently become highly literate.[30] However, if you'd surveyed the world in 1900, people from western Europe would have looked rather peculiar, with their thicker corpus callosa and poorer facial recognition.[31]

As you'll see, literacy is no special case. Rather, it's the tip of a large psychological and neurological iceberg that many researchers have missed. In the next chapter, I'll begin by probing the depths and shape of this iceberg. Then, after laying a foundation for thinking about human nature, cultural change, and societal evolution, we'll examine how and why a broad array of psychological differences emerged in western Europe, and what their implications are for understanding modern economic prosperity, innovation, law, democracy, and science.

Part I

THE EVOLUTION OF SOCIETIES AND PSYCHOLOGIES

1

WEIRD Psychology

> The Western conception of the person as a bounded, unique, more or less integrated motivational and cognitive universe; a dynamic center of awareness, emotion, judgment, and action organized into a distinctive whole and set contrastively both against other such wholes and against a social and natural background is, however incorrigible it may seem to us, a rather peculiar idea within the context of the world's cultures.
>
> —anthropologist Clifford Geertz (1974, p. 31)

Who are you?

Perhaps you are WEIRD, raised in a society that is Western, Educated, Industrialized, Rich, and Democratic. If so, you're likely rather psychologically peculiar. Unlike much of the world today, and most people who have ever lived, we WEIRD people are highly individualistic, self-obsessed, control-oriented, nonconformist, and analytical. We focus on ourselves—our attributes, accomplishments, and aspirations—over our relationships and social roles. We aim to be "ourselves" across contexts and see inconsistencies in others as hypocrisy rather than flexibility. Like everyone else, we are inclined to go along with our peers and authority figures; but, we are less willing to conform to others when this conflicts with our own beliefs, observations, and preferences. We see ourselves as unique beings, not as nodes in a social network that stretches out through space and back in time. When acting, we prefer a sense of control and the feeling of making our own choices.

When reasoning, WEIRD people tend to look for universal categories and rules with which to organize the world, and mentally project straight lines to understand patterns and anticipate trends. We simplify complex phenomena by breaking them down into discrete constituents and assigning properties or abstract categories to these components—whether by imagining types of particles, pathogens, or personalities. We often miss the relationships between the parts or the similarities between phenomena that don't fit nicely into our categories. That is, we know a lot about individual trees but often miss the forest.

WEIRD people are also particularly patient and often hardworking. Through potent self-regulation, we can defer gratification—in financial rewards, pleasure, and security—well into the future in exchange for discomfort and uncertainty in the present. In fact, WEIRD people sometimes take pleasure in hard work and find the experience purifying.

Paradoxically, and despite our strong individualism and self-obsession, WEIRD people tend to stick to impartial rules or principles and can be quite trusting, honest, fair, and cooperative toward strangers or anonymous others. In fact, relative

to most populations, we WEIRD people show relatively less favoritism toward our friends, families, co-ethnics, and local communities than other populations do. We think nepotism is wrong, and fetishize abstract principles over context, practicality, relationships, and expediency.

Emotionally, WEIRD people are often racked by guilt as they fail to live up to their culturally inspired, but largely self-imposed, standards and aspirations. In most non-WEIRD societies, shame—not guilt—dominates people's lives. People experience shame when they, their relatives, or even their friends fail to live up to the standards imposed on them by their communities. Non-WEIRD populations might, for example, "lose face" in front of the judging eyes of others when their daughter elopes with someone outside their social network. Meanwhile, WEIRD people might feel guilty for taking a nap instead of hitting the gym even though this isn't an obligation and no one will know. Guilt depends on one's own standards and self-evaluation, while shame depends on societal standards and public judgment.

These are just a few examples, the tip of that psychological iceberg I mentioned, which includes aspects of perception, memory, attention, reasoning, motivation, decision-making, and moral judgment. But, the questions I hope to answer in this book are: How did WEIRD populations become so psychologically peculiar? Why are they different?

Tracking this puzzle back into Late Antiquity, we'll see that one sect of Christianity drove the spread of a particular package of social norms and beliefs that dramatically altered marriage, families, inheritance, and ownership in parts of Europe over centuries. This grassroots transformation of family life initiated a set of psychological changes that spurred new forms of urbanization and fueled impersonal commerce while driving the proliferation of voluntary organizations, from merchant guilds and charter towns to universities and transregional monastic orders, that were governed by new and increasingly individualistic norms and laws. You'll see how, in the process of explaining WEIRD psychology, we'll also illuminate the exotic nature of WEIRD religion, marriage, and family. If you didn't know that our religions, marriages, and families were so strange, buckle up.

Understanding how and why some European populations became psychologically peculiar by the Late Middle Ages illuminates another great puzzle: the "rise of the West." Why did western European societies conquer so much of the world after about 1500? Why did economic growth, powered by new technologies and the Industrial Revolution, erupt from this same region in the late 18th century, creating the waves of globalization that are still crashing over the world today?

If a team of alien anthropologists had surveyed humanity from orbit in 1000 CE, or even 1200 CE, they would never have guessed that European populations would dominate the globe during the second half of the millennium. Instead, they probably would have bet on China or the Islamic world.[1]

What these aliens would have missed from their orbital perch was the quiet fermentation of a new psychology during the Middle Ages in some European communities. This evolving proto-WEIRD psychology gradually laid the groundwork for the rise of impersonal markets, urbanization, constitutional governments, democratic politics, individualistic religions, scientific societies, and relentless innovation. In short, these psychological shifts fertilized the soil for the seeds of the modern world. Thus, to understand the roots of contemporary societies we need to explore how our psychology culturally adapts and coevolves with our most basic social institution—the family.

Let's begin by taking a closer look at the iceberg.

Really, Who Are You?

Try completing this sentence in 10 different ways:

I am _____.

...

If you are WEIRD, you probably answered with words like "curious" or "passionate" and phrases like "a scientist," "a surgeon," or "a kayaker." You were probably less inclined to respond with things like "Josh's dad" or "Maya's mom," even though those are equally true and potentially more central to your life. This focus on personal attributes, achievements, and membership in abstract or idealized social groups over personal relationships, inherited social roles, and face-to-face communities is a robust feature of WEIRD psychology, but one that makes us rather peculiar from a global perspective.

Figure 1.1 shows how people in Africa and the South Pacific respond to the "Who am I?" (Figure 1.1A) and the "I am_____" tasks (Figure 1.1B), respectively. The data available for Figure 1.1A permitted me to calculate both the percentage of responses that were specifically individualistic, referring to personal attributes, aspirations, and achievements, and those that were about social roles and relationships. At one end of the spectrum, American undergraduates focus almost exclusively on their individual attributes, aspirations, and achievements. At the other end are the Maasai and Samburu. In rural Kenya, these two tribal groups organize themselves in patrilineal clans and maintain a traditional cattle-herding lifestyle. Their responses referenced their roles and relationships at least 80 percent of the time while only occasionally highlighting their personal attributes or achievements (10 percent or less of the time). In the middle of this distribution are two populations from Nairobi, the bustling capital of Kenya. Nairobi laborers, including participants from several different tribal groups, responded mostly by referencing their roles and relationships, though they did this less than the Maasai or Samburu. Meanwhile, the fully urbanized undergraduates at the University of Nairobi (a European-style institution) look much more like their American counterparts, with most of their responses referencing their personal attributes or individual achievements.[3]

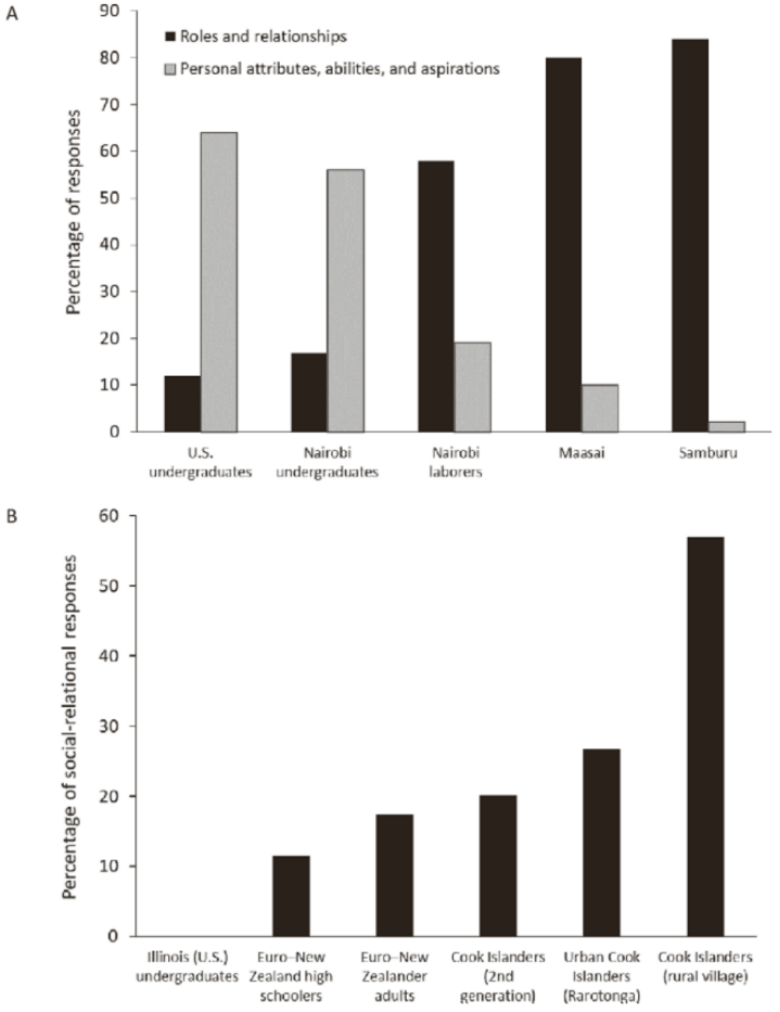

FIGURE 1.1. Personal identity across diverse populations. (A) Using the "Who am I?" task, the upper figure shows the tendencies for people in different populations to focus on their roles and relationships vs. their personal attributes and achievements. The bars show the average percentages of responses for each person in each place. (B) Using the "I am _____" sentence completion task, the lower panel illustrates the average percentage of people's answers that were social-relational in nature.[2]

On the other side of the globe, Figure 1.1B tells a similar story. The close political and social ties between New Zealand and the Cook Islands allow us to compare populations of Cook Islanders who have experienced differing degrees of contact with WEIRD New Zealanders. Unlike in Kenya, the data here only permitted me to separate out the social roles and relationship responses from everything else. Starting in a rural village on one of the outer islands, where people still live in traditional hereditary lineages, the average percentage of social-relational responses was nearly 60 percent. Moving to Rarotonga, the national capital and a popular tourist destination, the frequency of social-relational responses drops to 27 percent. In New Zealand, among the children of immigrants, the frequency of such responses falls further, to 20 percent. This stands close to the average for European-descent New Zealanders, who come in at 17 percent. New Zealand high school students are lower yet, at 12 percent. By comparison, American undergraduates are typically at or below this percentage, with some studies showing zero social-relational responses.

Complementing this work, many similar psychological studies allow us to compare Americans, Canadians, Brits, Australians, and Swedes to various Asian populations, including Japanese, Malaysians, Chinese, and Koreans. The upshot is that WEIRD people usually lie at the extreme end of the distribution, focusing intensely on their personal attributes, achievements, aspirations, and personalities over their roles, responsibilities, and relationships. American undergraduates, in particular, seem unusually self-absorbed, even among other WEIRD populations.[4]

Focusing on one's attributes and achievements over one's roles and relationships is a key element in a psychological package that I'll clump together as the *individualism complex* or just *individualism*. Individualism is best thought of as a psychological cluster that allows people to better navigate WEIRD social worlds by calibrating their perceptions, attention, judgments, and emotions. I expect most populations to reveal psychological packages that similarly "fit" with their societies' institutions, technologies, environments, and languages, though as you'll see the WEIRD package is particularly peculiar.

MAPPING THE INDIVIDUALISM COMPLEX

To understand individualism, let's start at the other end of the spectrum.[5] Throughout most of human history, people grew up enmeshed in dense family networks that knitted together distant cousins and in-laws. In these regulated-relational worlds, people's survival, identity, security, marriages, and success depended on the health and prosperity of kin-based networks, which often formed discrete institutions known as clans, lineages, houses, or tribes. This is the world of the Maasai, Samburu, and Cook Islanders. Within these enduring networks, everyone is endowed with an extensive array of inherited obligations, responsibilities, and privileges in relation to others in a dense social web. For example, a man could be *obligated* to avenge the murder of one type of second cousin (through his paternal great-grandfather), *privileged* to marry his mother's brother's daughters but tabooed from marrying strangers, and *responsible* for performing expensive rituals to honor his ancestors, who will shower bad luck on his entire lineage if he's negligent. Behavior is highly constrained by context and the types of relationships involved. The social norms that govern these relationships, which collectively form what I'll call *kin-based institutions*, constrain people from shopping widely for new friends, business partners, or spouses. Instead, they channel people's investments into a distinct and largely inherited in-group. Many kin-based institutions not only influence inheritance and the residence of newly married couples, they also create communal ownership of property (e.g., land is owned by the clan) and shared liability for criminal acts among members (e.g., fathers can be imprisoned for their sons' crimes).

This social interdependence breeds emotional interdependence, leading people to strongly identify with their in-groups and to make sharp ingroup vs. out-group distinctions based on social interconnections. In fact, in this world, though you may not know some of your distant cousins or fellow tribal members who are three or four relationship links removed, they will remain in-group members as long as they are connected to you through family ties. By contrast, otherwise familiar faces may remain, effectively, strangers if you cannot link to them through your dense, durable social ties.[6]

Success and respect in this world hinge on adroitly navigating these kin-based institutions. This often means (1) conforming to fellow in-group members, (2)

deferring to authorities like elders or sages, (3) policing the behavior of those close to you (but not strangers), (4) sharply distinguishing your in-group from everyone else, and (5) promoting your network's collective success whenever possible. Further, because of the numerous obligations, responsibilities, and constraints imposed by custom, people's motivations tend not to be "approach-oriented," aimed at starting new relationships or meeting strangers. Instead, people become "avoidance-oriented" to minimize their chances of appearing deviant, fomenting disharmony, or bringing shame on themselves or others.[7]

That's one extreme; now, contrast that with the other—individualistic—end of the spectrum. Imagine the psychology needed to navigate a world with few inherited ties in which success and respect depend on (1) honing one's own special attributes; (2) attracting friends, mates, and business partners with these attributes; and then (3) sustaining relationships with them that will endure for as long as the relationship remains mutually beneficial. In this world, everyone is shopping for better relationships, which may or may not endure. People have few permanent ties and many ephemeral friends, colleagues, and acquaintances. In adapting psychologically to this world, people come to see themselves and others as independent agents defined by a unique or special set of talents (e.g., writer), interests (e.g., quilting), aspirations (e.g., making law partner), virtues (e.g., fairness), and principles (e.g., "no one is above the law"). These can be enhanced or accentuated if a person joins a like-minded group. One's reputation with others, and with themselves (self-esteem), is shaped primarily by their own individual attributes and accomplishments, not by nourishing an enduring web of inherited ties that are governed by a complex set of relationship-specific social norms.[8]

FIGURE 1.2. **Global map of individualism based on Hofstede's omnibus scale covering 93 countries. Darker shading indicates greater individualism. Hatched areas indicate a lack of data.**[9]

For our first peek at global psychological variation, let's squash the individualism complex down into a single dimension. Figure 1.2 maps a well-known omnibus measure of individualism developed by the Dutch psychologist Geert Hofstede based initially on surveys with IBM employees from around the world. The scale asks about people's orientation toward themselves, their families, personal achievements, and individual goals. For example, one question asks, "How important is it to you to fully use your skills and abilities on the job?" and another, "How important is it to you to

have challenging work to do—work from which you can get a personal sense of accomplishment?" More individualistically oriented people want to fully harness their skills and then draw a sense of accomplishment from their work. This scale's strength is not that it zeroes in on one thin slice of psychology but rather that it aggregates several elements in the individualism package. At the high end of the scale, you won't be shocked to find Americans (score 91), Australians (90), and Brits (89)—no doubt these are some of the WEIRDest people in the world. Beneath these chart-toppers, the most individualistic societies in the world are almost all in Europe, particularly in the north and west, or in British-descent societies like Canada (score 80) and New Zealand (79). Notably, Figure 1.2 also reveals our ignorance, as swaths of Africa and Central Asia remain largely terra incognita, psychologically speaking.[10]

This omnibus measure of individualism converges strikingly with evidence from other large global surveys. People from more individualistic countries, for example, possess weaker family ties and show less nepotism, meaning that company bosses, managers, and politicians are less likely to hire or promote relatives. Further, more individualistic countries are less inclined to distinguish in-groups from out-groups, more willing to help immigrants, and less firmly wedded to tradition and custom.

More individualistic countries are also richer, more innovative, and more economically productive. They possess more effective governments, which more capably furnish public services and infrastructure, like roads, schools, electricity, and water.[11]

Now, it's commonly assumed that the strong positive relationships between psychological individualism and measures like national wealth and effective governments reflect a one-way causal process in which economic prosperity or liberal political institutions cause greater individualism. I certainly think that causality does indeed flow in this direction for some aspects of psychology, and probably dominates the economic and urbanization processes in much of the world today. We've seen how, for example, moving to urban areas likely affected the self-concepts of Cook Islanders and Nairobi laborers (Figure 1.1).[12]

However, could the causality *also* run the other way? If some other factor created more individualistic psychologies first, prior to economic growth and effective governments, could such a psychological shift stimulate urbanization, commercial markets, prosperity, innovation, and the creation of new forms of governance? To summarize, my answers are yes and yes. To see how this could happen, let's first look at the broader psychological package that has become historically intertwined with the individualism complex. Once you see the key psychological components, it should be clearer how these changes could have had such big effects on Europe's economic, religious, and political history.

Before continuing our global tour of psychological variation, let me highlight four important points to keep in mind:[13]

1. We should celebrate human diversity, including psychological diversity. By highlighting the peculiarities of WEIRD people, I'm not denigrating these populations or any others. My aim is to explore the origins of psychological diversity and the roots of the modern world.
2. Do not set up a WEIRD vs. non-WEIRD dichotomy in your mind! As we'll see in many maps and charts, global psychological variation is both continuous and multidimensional.

3. Psychological variation emerges at all levels, not merely among nations. I'm sometimes stuck comparing country averages, because that's the available data. Nevertheless, throughout the book, we'll often examine psychological differences within countries—between regions, provinces, and villages, and even among second-generation immigrants with diverse backgrounds. Even though WEIRD populations typically cluster at one end of global distributions, we'll explore and explain the interesting and important variation within Europe, "the West," and the industrialized world.
4. None of the population-level differences we observe should be thought of as fixed, essential, or immutable features of nations, tribes, or ethnic groups. To the contrary, this book is about how and why our psychology has changed over history and will continue to evolve.

CULTIVATING THE WEIRD SELF

Adapting to an individualistic social world means honing personal attributes that persist across diverse contexts and relationships. By contrast, prospering in a regulated-relational world means navigating very different kinds of relationships that demand quite different approaches and behaviors. Psychological evidence from diverse societies, including populations in the United States, Australia, Mexico, Malaysia, Korea, and Japan, reveals these patterns. Compared to much of the world, WEIRD people report behaving in more consistent ways—in terms of traits like "honesty" or "coldness"—across different types of relationships, such as with younger peers, friends, parents, professors, and strangers. By contrast, Koreans and Japanese report consistency only *within* relational contexts—that is, in how they behave separately toward their mothers, friends, or professors across time. *Across* relational contexts, they vary widely and comfortably: one might be reserved and self-deprecating with professors while being joking and playful with friends. The result is that while Americans sometimes see behavioral flexibility as "two-faced" or "hypocritical," many other populations see personal adjustments to differing relationships as reflecting wisdom, maturity, and social adeptness.[14]

Across societies, these differing expectations and normative standards incentivize and mold distinct psychological responses. For example, in a study comparing Koreans and Americans, both parents and friends were asked to make judgments about the characteristics of the study participants. Among Americans, participants who had reported greater behavioral consistency across contexts were rated as both more "socially skilled" and more "likable" by parents and friends than those who reported less consistency. That is, among WEIRD people, you are *supposed* to be consistent across relationships, and you will do better socially if you are. Meanwhile, in Korea, there was no relationship between the consistency measure across relationships and either social skills or likability—so, being consistent doesn't buy you anything socially. Back in the United States, the degree of agreement between parents and friends on the characteristics of the target participants was twice that found in Korea. This means that "the person" "seen" by American friends looked more similar to that seen by American parents than in Korea, where friends and parents experience the same individuals as more different. Finally, the correlation between personal consistency across relationships and measures of both life satisfaction and positive emotions was much stronger among Americans than among Koreans. Overall, being consistent across relationships—"being yourself"—pays off more in America, both socially and emotionally.[15]

Such evidence suggests that the immense importance assigned by the discipline of psychology to notions of self-esteem and positive self-views is probably a WEIRD phenomenon. In contrast, in the few non-WEIRD societies where it has been studied, having high self-esteem and a positive view of oneself are *not* strongly linked to either life satisfaction or subjective well-being. In many societies, it's *other-esteem* ("face") that matters, not self-esteem rooted in the successful cultivation of a set of unique personal attributes that capture one's "true self."[16]

In WEIRD societies, the pressure to cultivate traits that are consistent across contexts and relationships leads to *dispositionalism*—a tendency to see people's behavior as anchored in personal traits that influence their actions across many contexts. For example, the fact that "he's lazy" (a disposition) explains why he's not getting his work done. Alternatively, maybe he's sick or injured? Dispositionalism emerges psychologically in two important ways. First, it makes us uncomfortable with our own inconsistencies. If you've had a course in Social Psychology, you might recognize this as *Cognitive Dissonance*. The available evidence suggests that WEIRD people suffer more severely from *Cognitive Dissonance* and do a range of mental gymnastics to relieve their discomfort. Second, dispositional thinking also influences how we judge others. Psychologists label this phenomenon the *Fundamental Attribution Error*, though it's clearly not that fundamental; it's WEIRD. In general, WEIRD people are particularly biased to attribute actions or behavioral patterns to what's "inside" others, relying on inferences about dispositional traits (e.g., he's "lazy" or "untrustworthy"), personalities (she's "introverted" or "conscientious"), and underlying beliefs or intentions ("what did he know and when did he know it?"). Other populations focus more on actions and outcomes over what's "inside."[17]

GUILT-RIDDEN BUT SHAMELESS

Based on data from 2,921 university students in 37 countries, people from more individualistic societies report more guilt-like and fewer shame-like emotional experiences. In fact, students from countries like the United States, Australia, and the Netherlands hardly ever experience shame. Yet they had more guilt-like experiences than people in other societies; these experiences were more moralized and had a greater impact on both their self-esteem and personal relationships. Overall, the emotional lives of WEIRD people are particularly guilt-ridden.[18]

To understand this, we first need to consider shame and guilt more deeply. Shame is rooted in a genetically evolved psychological package that is associated with *social devaluation in the eyes of others*. Individuals experience shame when they violate social norms (e.g., committing adultery), fail to reach local performance standards (e.g., flunking a psychology course), or when they find themselves at the low end of the dominance hierarchy. Shame has a distinct universal display that involves downcast gaze, slumped shoulders, and a general inclination to "look small" (crouching). This display signals to the community that these poor performers recognize their violation or deficiency and are asking for leniency. Emotionally, those experiencing shame want to shrink away and disappear from public view. The ashamed avoid contact with others and may leave their communities for a time. The public nature of the failure is crucial: if there's no public knowledge, there's no shame, although people may experience fear that their secret will get out. Finally, shame can be experienced vicariously. In regulated-relational societies, a crime or illicit affair by one person can bring shame to his or her parents, siblings, and beyond, extending

out to cousins and other distant relations. The reverberation of shame through kin networks makes sense because they are also judged and potentially punished for their relative's actions.[19]

Guilt is different; it's an internal guidance system and at least partially a product of culture, though it probably integrates some innate psychological components like regret. The feeling of guilt emerges when one measures their own actions and feelings against a purely personal standard. I can feel guilty for eating a giant pizza alone in my house or for not having given my change to the homeless guy that I encountered early Sunday morning on an empty Manhattan street. I feel this because I've fallen below my own personal standard, not because I've violated a widely shared norm or damaged my reputation *with others*.

Of course, in many cases we might experience both shame and guilt because we publicly violated a social norm—e.g., smacking a misbehaving son. Here, the shame comes from believing that others will now think less of us (I am the kind of person who hits children) and the guilt from our own internalized standards (e.g., don't hit children, even in anger). Unlike shame, guilt has no universal displays, can last weeks or even years, and seems to require self-reflection. In contrast to the spontaneous social "withdrawal" and "avoidance" of shame, guilt often motivates "approach" and a desire to mitigate whatever is causing the guilt. Guilty feelings from letting a friend or spouse down, for example, can motivate efforts to apologize and repair the relationship.[20]

It's easy to see why shame dominates many regulated-relational societies. First, there are many more closely monitored social norms that vary across contexts and relationships, and consequently more chances to screw up and commit shame-inducing errors, which are more likely to be spotted by members of people's dense social networks. Second, relative to individualistic societies, people in regulated-relational societies are expected to fulfill multiple roles over their lives and develop a wide set of skills to at least some minimum threshold. This creates more opportunities to fall below local standards in the eyes of others. Third, social interdependence means that people can experience shame even if they themselves never do anything shameful. Of course, guilt probably also exists in many societies dominated by shame; it's just less prominent and less important for making these societies function.[21]

By contrast, guilt rises to prominence in individualistic societies. As individuals cultivate their own unique attributes and talents, guilt is part of the affective machinery that motivates them to stick to their personal standards. Vegetarians, for example, might feel guilty for eating bacon even when they are traveling in distant cities, surrounded by nonvegetarians. No one is judging them for enjoying the bacon, but they still feel bad about it. The idea here is that, in individualistic societies, those who don't feel much guilt will struggle to cultivate dispositional attributes, live up to their personal standards, and maintain high-quality personal relationships. Relative to guilt, shame is muted, because the social norms governing diverse relationships and contexts in individualistic societies are fewer, and often not closely monitored in these diffuse populations.[22]

LOOK AT ME!

Psychologists have been fascinated for over half a century by people's willingness to conform to peers and obey authority figures.[23] In Solomon Asch's famous experiment, each participant entered the laboratory along with several other

people, who appeared to be fellow participants. These "fellow participants," however, were actually confederates who were working for the researchers. In each round, a target line segment was shown to the group alongside a set of three other segments, labeled 1, 2, and 3 (see the inset in Figure 1.3). Answering aloud, each person had to judge which of the three line segments matched the length of the target segment. On certain preset rounds, the confederates all gave the same *incorrect* response before the real participant answered. The judgment itself was easy: participants got the correct answer 98 percent of the time when they were alone. So, the question was: How inclined were people to override their own perceptual judgments to give an answer that matched that of others?

The answer depends on where you grew up. WEIRD people do conform to others, and this is what surprised Solomon. Only about one-quarter of his participants were never influenced by their peers. WEIRD people, however, conform less than all the other populations that have been studied. The bars in Figure 1.3 illustrate the size of the conformity effect across samples of undergraduates from 10 different countries. The power of conformity goes up by a factor of three as we move from WEIRD societies, at one end, to Zimbabwe, at the other end.[25]

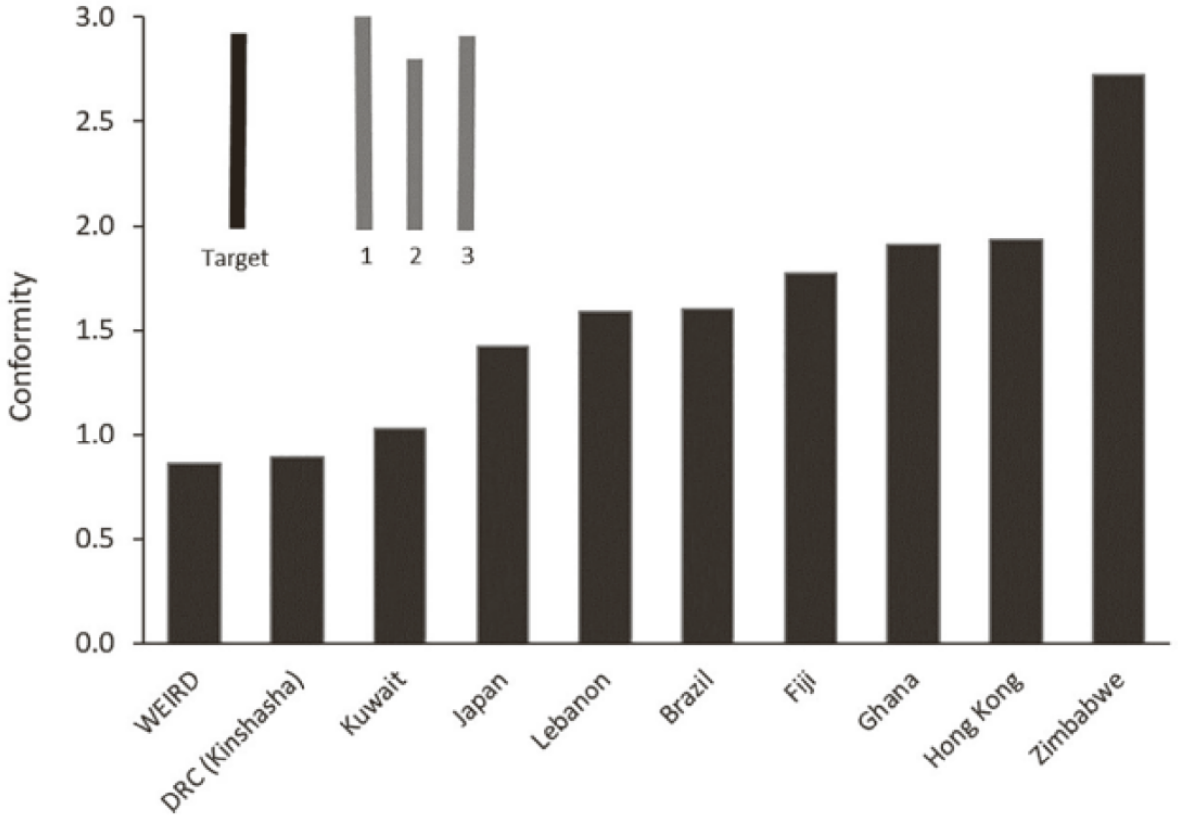

FIGURE 1.3. **Strength of the conformity effect in the Asch Conformity Experiment across 10 diverse populations. The bars for WEIRD societies, Japan, and Brazil represent averages from multiple studies.**[24]

Further analyses of these experiments reveal two interesting patterns. First, less individualistic societies are more inclined to conform to the group (correlating the data in Figures 1.2 and 1.3). Second, over the half century since Solomon's initial efforts, conformity motivations among Americans have declined. That is, Americans are even less conforming now than in the early 1950s. Neither of these facts is particularly shocking, but it's nice to know that the psychological evidence backs up our intuitions.[26]

The willingness of WEIRD people to ignore others' opinions, preferences, views, and requests extends well beyond peers to include elders, grandfathers, and traditional authorities. Complementing these controlled studies of conformity, I'll discuss global survey data in later chapters showing that, relative to other populations, WEIRD people don't value conformity or see "obedience" as a virtue that needs to be instilled in children. They also don't venerate either traditions or ancient sages as much as most other societies have, and elders simply don't carry the same weight that they do in many other places.[27]

Suppose something happened historically that made people less conforming, less obedient, and less willing to defer to elders, traditional authorities, and ancient sages. Could such changes influence the cultural evolution of organizations, institutions, and innovation?

Marshmallows Come to Those Who Wait

Here's a series of choices. Do you prefer (A) $100 today or (B) $154 in one year? If you picked the $100 now, I'm going to sweeten the deal for next year and ask you whether you want (A) $100 today or (B) $185 in one year. But, if you initially said that you wanted to wait the year for the $154, I'll make the delayed payment less appealing by asking you to pick between (A) $100 today or (B) $125 next year. If you now switch from the delayed payment (B) to $100 now (A), I will sweeten the delayed payment to $130. By titrating through these kinds of binary choices, researchers can triangulate in on a measure of people's patience, or what is variously called "temporal discounting" or "delay discounting." Impatient people "discount" the future more, meaning they weight immediate payoffs over delayed payoffs. More patient people, by contrast, are willing to wait longer to earn more money.

Patience varies dramatically across nations, among regions within nations, and between individuals. Using the titration method just described, along with a survey question, the economists Thomas Dohmen, Benjamin Enke, and their collaborators measured patience among 80,000 people in 76 countries. Figure 1.4 maps this variation at the country level, using darker shades to indicate countries in which people are—on average—more patient. While those in lightly shaded countries tend to go for the quick $100 today (calibrated to the local currency and purchasing power), those in the darkly shaded countries tend to wait the year for the bigger payoff. For example, people from the most patient country, Sweden, can resist the immediate $100 and are willing to wait a year for any amount of money over $144. In contrast, in Africa, Rwandans require at least $212 in a year before they are willing to pass up $100 today. On average, around the globe, people won't defer gratification for a year until the delayed amount exceeds $189.

FIGURE 1.4. **Global distribution of patience across 76 countries. Darker shades indicate greater patience. Hatched regions indicate a lack of data.**[28]

This map nicely highlights a continuous spread of global national-level variation in patience, including some variation within Europe. Starting with the most patient, the countries in black are: Sweden, the Netherlands, the United States, Canada, Switzerland, Australia, Germany, Austria, and Finland.[29]

Greater patience in these experiments is associated with better economic, educational, and governmental outcomes across countries, between regions within countries, and even among individuals within regions. At the national level, countries with more patient populations generate greater incomes (Gross Domestic Product, or GDP, per capita) and more innovation. These populations have higher savings rates, more formal schooling, and stronger cognitive skills in math, science, and reading. Institutionally, more patient countries have more stable democracies, clearer property rights, and more effective governments. The strong relationship between patience and these outcomes emerges even when we look at each world region separately. In fact, the data suggest that greater patience is most strongly linked to positive economic outcomes in less economically developed regions like sub-Saharan Africa, Southeast Asia, and the Middle East. That is, inclinations to defer gratification may be even more important for economic prosperity where the formal economic and political institutions operate less effectively.[30]

The same patterns emerge if we compare regions within countries or individuals within local regions. Within countries, regional populations possessing greater average patience generate higher incomes and attain more education. Similarly, comparing individuals within the same local area, more patient people get paid more and stay in school longer.

Delay-discounting measures are related to what psychologists call *self-regulation* or *self-control*. To measure self-control in children, researchers sit them in front of a single marshmallow and explain that if they wait until the experimenter returns to the room, they can have two marshmallows instead of just the one. The experimenter departs and then secretly watches to see how long it takes for the kid to cave and eat the marshmallow. Some kids eat the lone marshmallow right away. A few wait 15 or more minutes until the experimenter gives up and returns with the second marshmallow. The remainder of the children cave in somewhere in between. A child's self-control is measured by the number of seconds they wait.[31]

Psychological tasks like these are often powerful predictors of real-life behavior. Adults and teenagers who were more patient in the marshmallow task as preschoolers stayed in school longer, got higher grades, saved more money, earned higher salaries, exercised more, and smoked less. They were also less likely to use drugs, abuse alcohol, and commit crimes. The effect of steely marshmallow patience on adult success holds independent of IQ and family socioeconomic status, and even if you only compare siblings within the same families—that is, a more patient child does better than her sibling when they are adults.[32]

As with individualism, guilt, and conformity, a person's patience and self-control are calibrated to fit the institutional and technological environments that they confront across their lives. In some regulated-relational societies, there's little personal payoff to self-control, so we shouldn't expect the association between patience and adult success to be universal. Nevertheless, when local social norms reward self-control or penalize impatience, all manner of psychological tricks develop that ratchet up people's self-control. As we go along, we'll see how cultural learning, rituals, monogamous marriage, markets, and religious beliefs can contribute to increasing people's patience and self-control in ways that lay the groundwork for new forms of government and more rapid economic growth.

UN Diplomats Get Parking Tickets

Representing 149 countries, diplomats to the United Nations in New York City were immune from having to pay parking tickets until November 2002. With diplomatic immunity, they could park anywhere, double-park, and even block driveways, business entrances, and narrow Manhattan streets without having to pay fines. The effect of this immunity was big: between November 1997 and the end of 2002, UN diplomatic missions accumulated over 150,000 *unpaid* parking tickets totaling about $18 million in fines.

While bad for New Yorkers, this situation created a natural experiment for two economists, Ted Miguel and Ray Fisman. Because nearly 90 percent of UN missions are within one mile of the UN complex, most diplomats faced the same crowded streets, rainy days, and snowy weather. This allowed Ted and Ray to compare the accumulation of parking tickets for diplomats from different countries.

The differences were big. During the five years leading up to the end of immunity in 2002, diplomats from the UK, Sweden, Canada, Australia, and a few other countries got a total of zero tickets. Meanwhile, diplomats from Egypt, Chad, and Bulgaria, among other countries, got the most tickets, accumulating over 100 *for each member* of their respective diplomatic delegations. Looking across nations, the higher the international corruption index for a delegation's home country, the more tickets those delegations accumulated. The relationship between corruption back home and parking behavior in Manhattan holds independent of the size of a country's UN mission, the income of its diplomats, the type of violation (e.g., double-parking), and the time of day.[33]

In 2002, diplomatic immunity for parking violations ended and the New York Police Department clamped down, stripping the diplomatic license plates from vehicles that had accumulated more than three parking violations. The rate of violations among diplomats plummeted. Nevertheless, despite the new enforcement and overall much lower violation rates, the diplomats from the most corrupt countries still got the most parking tickets.

Based on real-world data, this study suggests that the delegations from diverse countries brought certain psychological tendencies or motivations with them from home that manifested in their parking behavior, especially when there was no threat of external sanctions.[34] This is not, however, a tightly controlled laboratory experiment. Diplomatic scofflaws, for example, may have been influenced by the opinions of their passengers or by a greater desire to annoy police who they may have perceived as xenophobic. So, those from less corrupt countries like Canada might appear to be acting impartially and in favor of anonymous New Yorkers, but we can't be totally sure.

Now, consider this experiment, the Impersonal Honesty Game: university students from 23 countries entered a cubicle with a computer, a die, and a cup. Their instructions were to roll the die twice using the cup and then report the first roll on the computer screen provided. They were paid in real money according to the number that they rolled: a roll of 1 earned $5; 2, $10; 3, $15; 4, $20; 5, $25; and 6, $0. Basically, the higher the number they rolled, the more money they got, except for a 6, which paid nothing.

The goal of this experimental setup was to assess participants' inclinations toward impersonal honesty while minimizing their concerns about the watchful eyes and judgments of other people, including the experimenters. Participants were alone in a cubicle and could simply cover the die with their hand if they were concerned about secret surveillance. Of course, this meant that no one, including the experimenters, could really know what number a person rolled. But, while there's no way to know what any single person actually did, we have probability theory, which tells us what should happen at the group level, if people follow the rules.

Let's consider the percentage of people from each country who reported rolling a "high-payoff" number, a die roll of 3, 4, or 5. Since a die has six sides, half of the rolls should be these "high-payoff" values if people are reporting honestly. Thus, 50 percent is our *impartial benchmark*. By contrast, self-interested individuals should just report a 5. If everyone in a country were self-interested, we'd expect 100 percent of reported rolls to be high-payoff. This is our *self-interested benchmark*.

Not surprisingly, all countries fall between our two benchmarks. In WEIRD countries like Sweden, Germany, and the UK, the reported high-payoff rolls are about 10 to 15 percentile points above the impartial benchmark of 50 percent. Across countries, however, the percentage reporting higher rolls goes up from there to nearly 85 percent in Tanzania. As expected, every population breaks impartial rules; but, it turns out that some populations break such rules more than others.[35]

Figure 1.5 shows the strong relationship between the percentage of high-payoff reports in this simple experiment and an index of corruption for each country. As with parking violations around the UN, people from more corrupt countries were more likely to violate an impartial rule. Unlike with the diplomats, however, this is a controlled experimental situation in which even the experimenters can't figure out what any one person did. The difference must thus lie in what people bring into the cubicle with them.

It's important to realize that this is a quintessentially WEIRD experiment. The task measures people's motivation to follow an impartial and arbitrary allocation rule over one's own self-interest (why does 6 result in zero, anyway?). Extra money one obtains by misreporting a die roll doesn't obviously take money away from another person, but only vaguely from some impersonal institution—the research team or their funders. No one is directly hurt if you report a 5 instead of a 6, and anonymity is virtually assured. At the same time, any extra money you get by

inflating your die roll, or by merely entering a 5 into the computer, could be shared with your children, parents, friends, or needy cousins. In fact, misreporting could be seen as an opportunity to help your family and close friends at the expense of some impersonal organization. In some places, it would be considered irresponsible not to violate such a silly rule to help one's family.

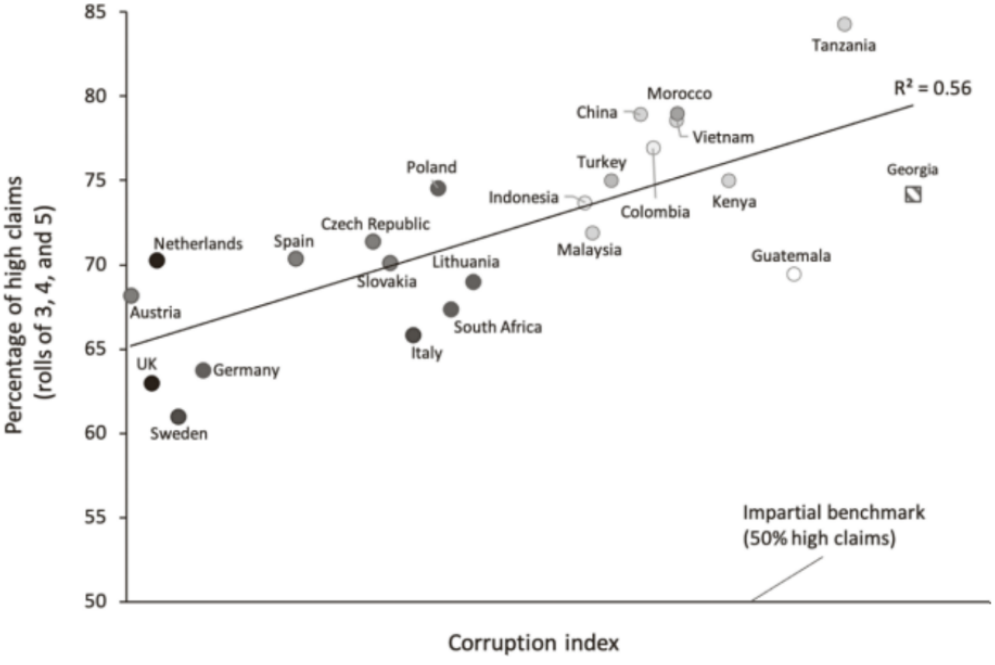

FIGURE 1.5. **Relationship between the percentage of people reporting dice rolls of 3, 4, or 5 for each country and the corruption index. The darker the circle, the higher the country's score on psychological individualism, as shown in Figure 1.2. The hatched box for the Republic of Georgia indicates missing data on individualism.**[36]

Why do so many WEIRD people act against their families' interests to follow this arbitrary, impartial rule, and expect others to follow it as well? Could this dimension of psychology influence the formation and functioning of formal governing institutions?

WEIRD PEOPLE ARE BAD FRIENDS

You are riding in a car driven by a close friend. He hits a pedestrian. You know that he was going at least 35 mph in an area of the city where the maximum allowed speed is 20 mph. There are no witnesses, except for you. His lawyer says that if you testify under oath that he was driving only 20 mph, it may save him from serious legal consequences.

Do you think:

a. that your friend has a definite right to expect you to testify (as his close friend), and that you would testify that he was going 20 mph, or
b. that your friend has little or no right to expect you to testify and that you would not falsely testify that he was only going 20 mph?

This is the Passenger's Dilemma, which has been done with managers and businesspeople around the world. If you picked response (b), you're probably pretty WEIRD, like people in Canada, Switzerland, and the United States, where more than 90 percent of participants prefer not to testify and don't think their friend has any

right to expect such a thing. This is the *universalistic* or nonrelational response. By contrast, in Nepal, Venezuela, and South Korea, most people said they'd willingly lie under oath to help a close friend. This is the *particularistic* or *relational* response, which captures people's loyalty to their family and friends. Figure 1.6 maps the percentage of universalistic responses across 43 countries, with darker shades indicating more universalistic and fewer particularistic responses.[38]

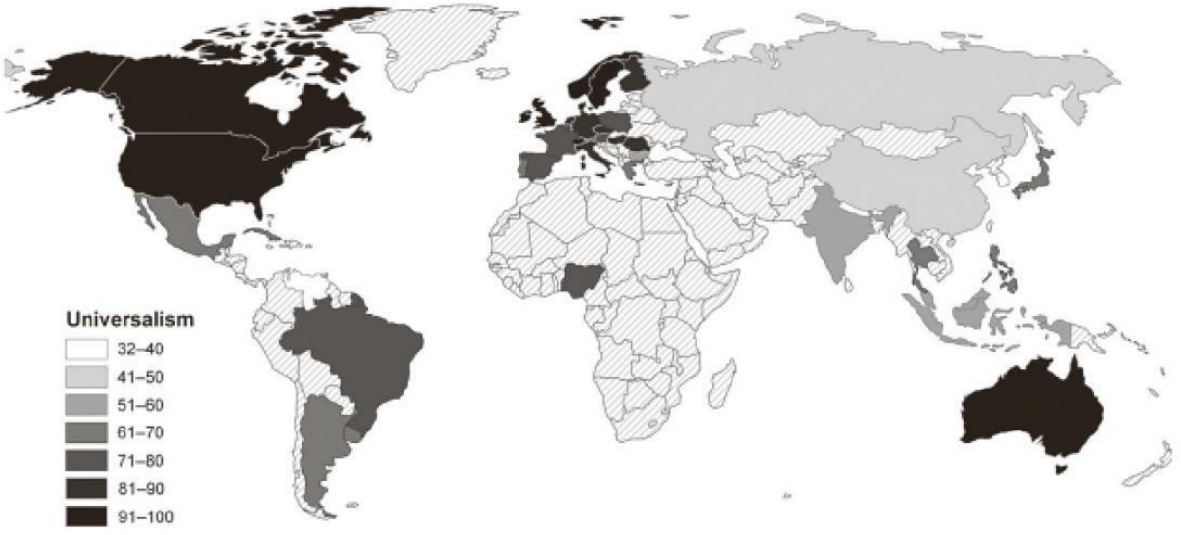

FIGURE 1.6. **Universalistic or nonrelational responses to the Passenger's Dilemma among managers in 43 countries around the globe. The darker shading captures the percentage of people who gave the universalistic response and were thus unwilling to help their friends. Cross-hatching indicates that no data are available.**[37]

There's nothing special about the content of the Passenger's Dilemma. In places where people would help their friends by testifying, they also report a willingness to (1) give their friends insider company information, (2) lie about a friend's medical exam to lower his insurance rates, and (3) exaggerate the quality of the cuisine at a friend's restaurant in a published review. In these places, the "right" answer is to help your friend. People aren't trying to distinguish themselves as relentlessly honest individuals governed by impartial principles. Instead, they are deeply loyal to their friends and want to cement enduring relationships, even if this involves illegal actions. In these places, being nepotistic is often the morally correct thing to do. By contrast, in WEIRD societies, many people think badly of those who weight family and friends over impartial principles and anonymous criteria like qualifications, merit, or effort.

TRUSTING STRANGERS

How would you answer the famous Generalized Trust Question (GTQ): "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"

The percentage of those surveyed who say that most people can be trusted provides us with a crude assessment of *impersonal trust* that we can use to map the globe. The GTQ has been so widely used that we can distinguish not only countries but also regions, provinces, and U.S. states. The darker the shading in Figure 1.7, the higher the percentages of people in that region who say that most people can be trusted.

WEIRD populations have among the highest levels of impersonal trust, although there's interesting variation within both the United States and Europe. Across countries, the percentage of people who generally think most people can be trusted ranges from 70 percent in Norway to 4–5 percent in Trinidad and Tobago. In the United States, people in North Dakota and New Hampshire are the most trusting, with around 60 percent of people generally trusting others; meanwhile, at the other end, only about 20 percent of people are generally trusting in Alabama and Mississippi. In Europe, regional variation is also substantial. For example, trust is twice as high in Trento, in northern Italy (49 percent), than in Sicily (26 percent), in the south. A similar pattern distinguishes northern from southern Spain.[40]

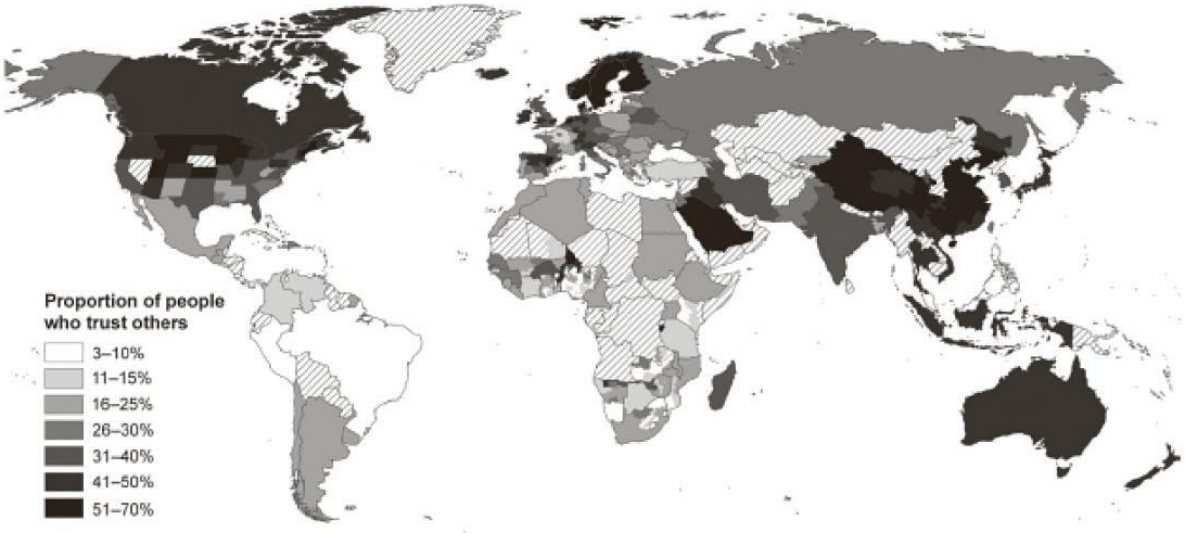

FIGURE 1.7. **Impersonal Trust Map. This maps responses to the Generalized Trust Question across countries and among regions within certain larger countries. Darker shading indicates greater impersonal trust. Specifically, the higher the percentage of people in the area who said that most people could be trusted, the darker the shading. Hatched areas reveal our ignorance. For the United States, the shading gives the average percentage of "trusters" from 1973 to 2006 in different states.**[39]

While the GTQ is useful, because it has been put to hundreds of thousands of people around the world, we should worry that it might not capture people's actual decisions when they confront a stranger in a situation involving real money. To explore this, researchers have combined data from hundreds of experiments in which they paired strangers, put cash on the line, and then observed how much trust was extended in making an investment. The data, from over 20,000 participants in 30 countries, confirm that in places where people actually do trust strangers in anonymous experimental settings, they also tend to say, when asked the GTQ, that most people can be trusted.[41]

However, although the GTQ often does tap *impersonal* trust, it can be misleading in places where a dense network of relational ties sustains broad trust without fostering sociality and exchange among strangers. For example, the dense social networks in China allow many populations to maintain high levels of trust with those around them ("people around here") without possessing much *impersonal* trust. The signature for this pattern emerges when people are specifically asked about how much they trust strangers, foreigners, and people they've met for the first time. In China, people report trust on the GTQ but explicitly distrust strangers, foreigners, and new acquaintances.[42]

Impersonal trust is part of a psychological package called *impersonal prosociality*, which is associated with a set of social norms, expectations, and motivations for impartial fairness, probity, and cooperation with strangers, anonymous others, or even abstract institutions like the police or government. Impersonal prosociality includes the inclinations we feel toward a person who is not tied into our social network at all. How should I treat this person? It's like a baseline level of prosociality with anonymous others, or a default strategy.[43]

Impersonal prosociality also includes motivations, heuristics, and strategies for punishing those who break impartial norms. In places where people trust strangers and cooperate with those they've just met, they are also more inclined to punish anyone who violates their impartial norms of fairness or honesty even if the violation isn't directly against themselves. At the same time, they are less inclined to seek revenge against those who've personally crossed them.

These psychological differences are strongly associated with national outcomes around the globe. Countries where people show more impersonal prosociality have greater national incomes (GDP per capita), greater economic productivity, more effective governments, less corruption, and faster rates of innovation. Of course, if formal institutions like courts, police, and governments are well functioning, it's a lot easier to develop impersonal prosociality, but how do you get there in the first place? Won't in-group loyalty, nepotism, cronyism (i.e., loyalty to friends), and corruption always undermine any effort to build formal governing institutions that are impersonal, impartial, and effective? What if a psychology favorable to impersonal prosociality arose first, prior to any complementary formal governing institutions?[44]

Obsessed with Intentions

> Two men, Bob and Andy, who did not know one another, were at a very busy outdoor market. There were lots of people. It was very crowded and there was not very much room to walk through the crowd. Andy was walking along and stopped to look at some items on display, placing a bag that he was carrying on the ground. Bob noticed Andy's bag on the ground. While Andy was distracted, Bob leaned down and picked up Andy's bag and walked away with it.

How good or bad was what Bob did? (use this scale)

VERY BAD BAD NEITHER GOOD NOR BAD GOOD VERY GOOD

Now, try this one:

> Two men, Rob and Andy, who did not know one another, were at a very busy outdoor market. There were lots of people there. It was very crowded and there was not very much room to walk through the crowd. Rob was walking along and stopped to look at some items on display, placing a bag that he was carrying on the ground. Another very similar bag was sitting right next to Rob's bag. The bag was owned by Andy, whom Rob did not know. When Rob turned to pick up his bag, he accidentally picked up Andy's bag and walked away with it.

How do you judge Rob in this situation? How good or bad was what Rob did? (Use the above scale.)

Most Americans judge Rob less harshly than Bob, seeing him only as "bad" instead of "very bad." Similarly, judgments of how much Bob and Rob should be punished drop from "very severely" (Bob) to only "severely" (Rob). The sole difference between Rob and Bob in these stories is their mental states—their intentions. Bob stole Andy's bag while Rob took it by accident. In both cases, equal harm was done to Andy.

To explore the role of intentions in moral judgments, a team led by the anthropologist Clark Barrett and the philosopher Steve Laurence (and including me) administered a battery of vignettes like those above to several hundred people in 10 diverse populations from around the globe, including traditional societies in Amazonia, Oceania, Africa, and Southeast Asia. We aimed not for broad samples from whole countries or regions, as with much of the data discussed above, but for remote, rural, and relatively independent small-scale societies that still maintain traditional lifeways. Economically, most of these groups produce their own food, whether by hunting, fishing, farming, or herding. For comparison, we also included people living in Los Angeles. The various vignettes that people responded to focused on theft, poisoning, battery, and food taboo violations, and examined a wide range of factors that might influence people's judgments of someone like Bob or Rob.[45]

It turns out that how much people rely on others' mental states in judging them varies dramatically across societies. As usual, WEIRD people anchor the extreme end of the distribution, relying heavily on the inferences we make about the invisible states inside other people's heads and hearts.

Figure 1.8 summarizes people's responses to the above vignettes—our theft scenario. The height of the bars represents the difference between how harshly people judged Bob (intentional theft) vs. Rob (accidental theft). These scores combine measures of goodness and badness with how much the participants thought the perpetrators' reputations should be damaged and how much they should be punished. The results reveal the importance of intentions across these populations—taller bars mean that people weighted Rob's and Bob's intent more heavily for punishment and reputation as well as badness. On the right side, the populations in Los Angeles and eastern Ukraine gave the greatest weight to Bob's intentions, judging him much more harshly than they did Rob. At the other end of the distribution, the people of Yasawa Island (Fiji) made no distinction between Bob and Rob. Other groups, like the Sursurunga in New Ireland (Papua New Guinea) and Himba herders (Namibia), used intentions to shade their judgments of perpetrators, but the overall impact of intentions was small.

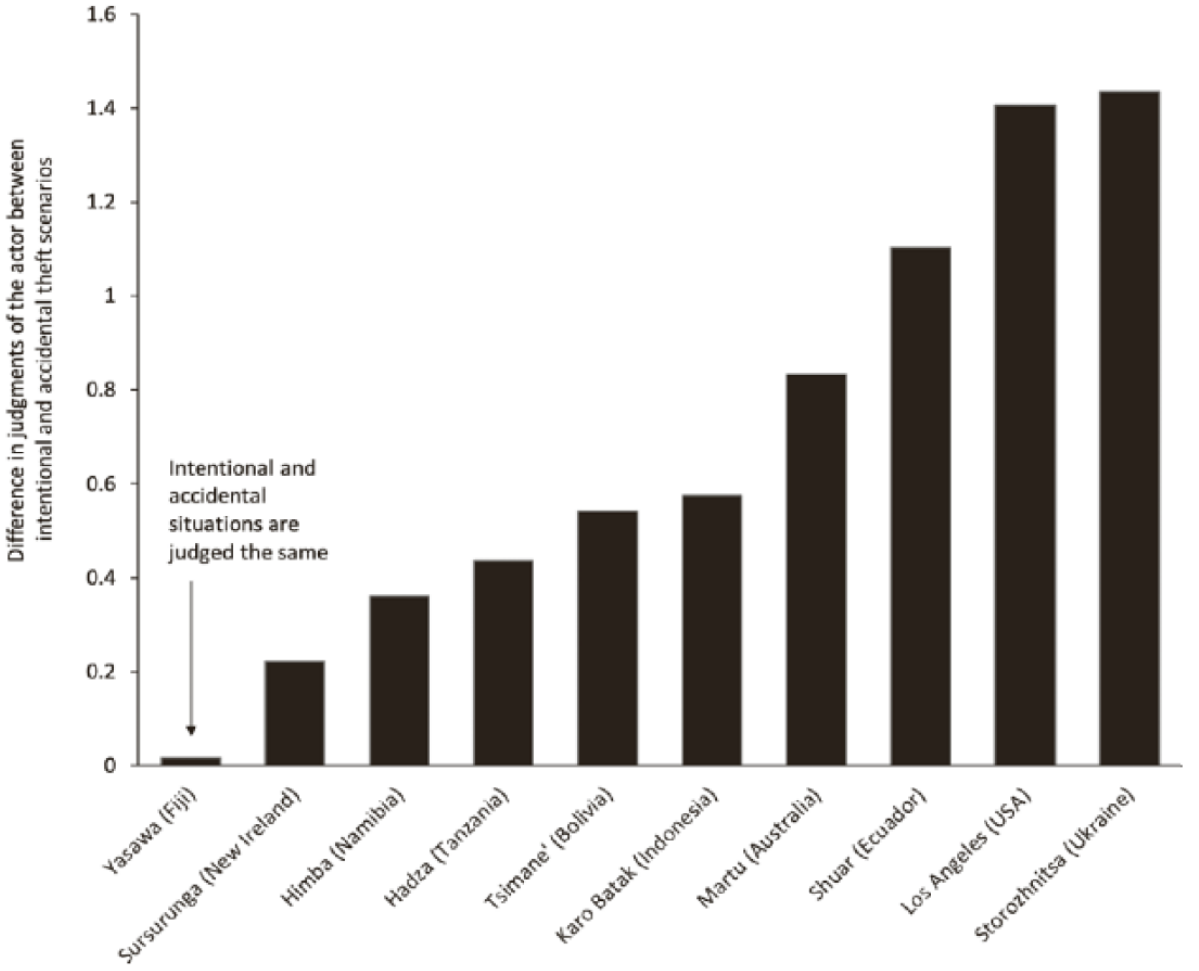

FIGURE 1.8. **For 10 diverse societies, this plot shows the differences between the severity of judgments for the intentional vs. accidental theft scenarios (as presented for Rob and Bob, above). The judgments combine measures of badness, reputational damage, and punishment. The taller the bar, the larger the impact of intentions on the severity of judgments.**

Patterns similar to those shown for theft in Figure 1.8 emerge for crimes like battery and poisoning, as well as for taboo violations. The importance of intentionality varies from zero in Yasawa, Fiji, to its maximum among WEIRD people.[46]

Differences such as these—in the use of mental states for making moral judgments—have been confirmed in subsequent research and aren't confined to comparing small-scale societies to WEIRD people. The Japanese, for example, are less inclined than Americans to weigh intentionality when making moral and legal judgments of strangers, especially in more traditional communities. The application of intentionality in judgment depends heavily on the nature of the relationships among the parties involved. Japan is noteworthy because its formal legal institutions are nearly an exact replica of America's, but those institutions operate very differently because people's underlying psychology is different.[47]

Many WEIRD people find these results surprising. Intentions, beliefs, and personal dispositions are so central to WEIRD moral judgments that the idea that people in other societies judge others based mostly or entirely on what they did—the outcome—violates their strong intuition that mental states are primary. But, putting relatively little importance on mental states is probably how most people would have made moral judgments *of strangers* over most of the last 10 millennia. This expectation comes directly out of how kin-based institutions operate in regulated-

relational societies. As you'll see in later chapters, kin-based institutions have evolved culturally to create tight-knit and enduring social units by diffusing responsibility, criminal culpability, and shame across groups like clans or lineages, which downgrades and sometimes eliminates the importance of individual mental states in making moral judgments.[48]

Missing the Forest

In the year 2000, I had returned to the communities of the Mapuche, an indigenous population in rural Chile that I studied in 1997–98 as part of my doctoral dissertation. Living on small farms nestled among rolling hills in the shadow of the snowcapped Andes, the Mapuche still use oxen and steel plows to cultivate wheat and oats along with small vegetable plots. Extended families work together in activities like sowing and threshing that culminate in yearly harvest rituals, bringing together otherwise scattered households. I'd spent almost a year wandering around these fields and communities, often evading the angry dogs that protect people's homesteads, so that I could interview Mapuche farmers and sometimes administer psychological and economic experiments. I learned, among other things, that an oxen team can reliably pull your four-wheel-drive Subaru out of deep mud, and that it's possible to outrun a pack of guard dogs because they wear out before you do, as long as you're prepared to do seven-minute miles for several miles.[49]

On this trip, I had brought along some experimental tasks that I'd learned about while hanging out with the psychologist Richard Nisbett at the University of Michigan. Nisbett and some of his students, now all accomplished psychologists, had uncovered substantial differences between East Asians and Euro-Americans in their reliance on "analytic" vs. "holistic" thinking. The key distinction is between focusing on "individuals" or their "relationships." When thinking analytically, people zoom in on and isolate objects, or component parts, and assign properties to those objects or parts to explain actions. They look for strict rules or conditions that permit them to place individuals, including animals or people, into discrete categories with no overlap. They explain things by coming up with "types" (what type of person is she?) and then assign properties to those types. When thinking about trends, analytic thinkers tend to "see" straight lines and assume things will continue in their current direction unless something happens. In contrast, holistic thinkers focus not on the parts but on the whole, and specifically on the relationships between the parts or on how they fit together. And, as part of a larger web of complex relationships, they expect time trends to be nonlinear or even cyclical by default.[50]

Various experimental tasks tap different aspects of analytic vs. holistic thinking. In administering one of these tasks—the Triad Task—I presented individuals with a target image and two other images, labeled A and B. For example, I presented a target image of a rabbit, along with an image of a carrot (A) and a cat (B). After verifying what participants saw in the images, I asked them whether the target (e.g., the rabbit) "goes with" A or B. Matching the target to one of the pair indicates a rule-based, analytic approach, while matching it to the other points to a holistic or functional orientation. If the participants matched the rabbit and the cat, they are *probably* matching them using an abstract rule-based category—rabbits and cats are both animals. However, if they matched the rabbit and the carrot, they are probably prioritizing a specific functional relationship—rabbits eat carrots.

Seating the Mapuche within a global distribution, Figure 1.9 shows the results of a similar Triad Task administered through the website yourmorals.org to over 3,000 people from 30 countries. As usual, WEIRD populations pile up at one end of the distribution—in black—while the rest of the world spreads out across the spectrum. WEIRD people are highly analytical compared to most other societies. As for the Mapuche, taking their choices at face value, they were the most holistic, having picked the analytic choice only a fifth of the time, on average.[51]

Based on my Mapuche ethnography, I think that these percentages may mask even larger psychological differences. When I went back and interviewed each of my Mapuche participants, I learned that most of their seemingly "analytic choices" were in fact derived from holistic reasoning. For example, when the target image was a pig that could "go with" either a dog (analytic, both are animals) or a cornhusk (holistic, pigs eat corn), some Mapuche who'd picked the dog explained that the dog "protects" or "guards" the pig. Of course, this makes perfect sense: most farmers rely on dogs to protect their homes and livestock from rustlers (and pesky anthropologists). The Mapuche ferreted out a variety of contextually appropriate holistic relationships to support their seemingly "analytic choices." Truly analytic responses from them are likely below 10 percent.

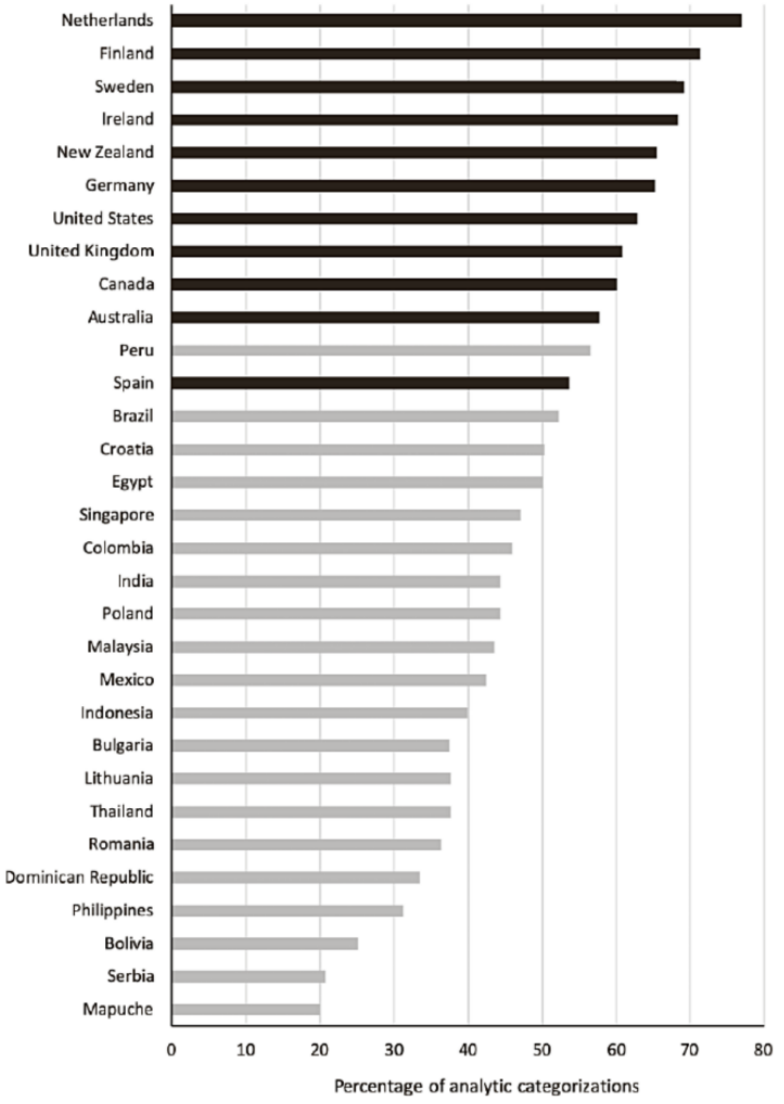

FIGURE 1.9. **Analytic vs. holistic thinking across 30 countries using the Triad Task with 3,334 individuals. WEIRD countries appear in black. The Mapuche data derive from a slightly different version of the Triad Task.**[52]

Across societies, inclinations toward analytic over holistic thinking influence our attention, memory, and perception, which in turn influence our performance even on tasks with objectively correct answers. For example, after watching video clips of underwater scenes, East Asians remembered the backgrounds and context in memory tests better than Americans. Eye-tracking measurements reveal why: East Asians spent more time visually exploring parts of the scene beyond the focal or central animals and objects.[53] By contrast, Americans zeroed in on and tracked the center of attention while ignoring the context and background. These patterns of attention shaped what participants remembered.

If a population became more inclined toward analytic thinking and the use of intentions in moral or legal judgments, how might that influence the subsequent development of law, science, innovation, and government?

The Rest of the Iceberg

Self-focused, individualistic, nonconforming, patient, trusting, analytic, and intention-obsessed capture just a small sampling of the ways in which WEIRD people are psychologically unusual when seen in a global and historical perspective. We also overvalue the things we ourselves own (the *endowment effect*), overestimate our valued talents, seek to make ourselves look good (self-enhancement), and love to make our own choices. Table 1.1 lists some of the key psychological peculiarities discussed in this book, some of which I've already mentioned and others that we'll encounter in later chapters.

If you're surprised that WEIRD people are psychologically unusual, you're in good company. Researchers in both the disciplines of psychology and economics, along with much of the rest of the behavioral sciences, were also rather surprised when experimental studies from around the world began to reveal striking patterns of psychological variation. Many had simply assumed that they could confidently make claims about *human* brains, hormones, motivations, emotions, and decision-making based on studies with American college students or any other WEIRD sample.[54]

TABLE 1.1. KEY ELEMENTS IN WEIRD PSYCHOLOGY

Individualism and Personal Motivation

- **Self-focus, self-esteem, and self-enhancement**
- **Guilt over shame**
- **Dispositional thinking (personality): Attribution Errors and Cognitive Dissonance**
- **Low conformity and deference to tradition/elders**
- **Patience, self-regulation, and self-control**
- **Time thrift and hard work (value of labor)**
- **Desire for control and love of choice**

Impersonal Prosociality (and Related Worldviews)

- **Impartial principles over contextual particularism**
- **Trust, fairness, honesty, and cooperation with anonymous others, strangers, and impersonal institutions (e.g., government)**
- **An emphasis on mental states, especially in moral judgment**
- **Muted concerns for revenge but willingness to punish third parties**
- **Reduced in-group favoritism**
- **Free will: notion that individuals make their own choices and those choices matter**
- **Moral universalism: thinking that moral truths exist in the way mathematical laws exist**
- **Linear time and notions of progress**

Perceptual and Cognitive Abilities and Biases

- **Analytical over holistic thinking**
- **Attention to foreground and central actors**
- **Endowment effect—overvaluing our own stuff**
- **Field independence: isolating objects from background**
- **Overconfidence (of our own valued abilities)**

Despite the growing evidence, many psychologists and economists remain either in shock or denial, as it turns out that much of the material in textbooks and academic journals, as well as in popular works of nonfiction, don't actually tell us about *human* psychology, but merely reflect WEIRD cultural psychology. Even now, over 90 percent of participants in experimental studies remain WEIRD, long after the alarm was raised. Nevertheless, the good news is that the

brought together diverse clans and neighboring tribes. These rituals sometimes included circumcision rites that initiated adolescent boys from scattered communities.[3]

Despite the ties of marriage and ritual, the most striking feature of Buckley's three decades with the Wathaurung were the violent conflicts that occurred among bands, clans, and tribes. In his life story, Buckley recounted 14 conflicts, which included several deadly night raids as well as pitched battles involving hundreds of warriors. In one instance, 300 enemy tribesmen amassed at the far side of a clearing. Buckley's band fled for their lives but eventually had to regroup, assemble allies, and defend their territory at great cost. In another horrifying scene, his band stumbled across the bloody remnants of a friendly band that had been massacred the day before. The dominant justifications for most of this violence involved disagreements over women—over who would marry whom—though in a few cases the attacks were revenge for the use of sorcery to cause "unnatural" deaths (e.g., sorcery-induced snakebites).

In describing one of these conflicts, Buckley gives us a glimpse of corporate guilt. A man from another clan had "lured away" one of the wives of Buckley's band. By "lured away," it seems that she simply preferred to live with a different man. When Buckley's band happened across the "thief's" band, the escaped wife was forcibly taken back. She ended up residing in Buckley's lodgings, much to his distress. Months later, in the middle of the night, the woman's jealous lover suddenly appeared, stabbed the sleeping husband, who was lying next to a snoozing Buckley, and fled with his mistress. A few weeks later, Buckley's band again encountered this group, but this time the murderer and "stolen" wife were elsewhere. To Buckley's horror, his band wreaked vengeance, killing both the murderer's adult brother and four-year-old daughter, who seemed completely innocent, from Buckley's point of view.

After 25 years with his band, saddened by the violent deaths of those closest to him, Buckley began to live independently from his tribe. Like other hunter-gatherers, he'd learned to fear and distrust strangers, since lone travelers could be scouts for raiding parties. Following standard practice, Buckley surrounded his little camp with low turf-and-bark fences to conceal his campfires at night.

After seven years of living on his own, having actively avoided contact with ships and sailors, Buckley finally decided to reenter the European world, at a new settlement called Melbourne.

Evolved to Learn

Buckley's experience in Aboriginal Australia highlights two central questions for understanding human nature. First, Buckley and the other fugitives utterly failed to survive by hunting and gathering despite starting with about four days' worth of supplies and entering one of Australia's most bountiful ecologies. They couldn't find enough food, start fires, build shelters, or make the necessary spears, nets, or canoes. That is, these men couldn't survive as hunter-gatherers on a continent where humans had lived as foragers for nearly 60,000 years. Why not? Since our species has spent most of the last two million years living as hunter-gatherers, one might think that the one thing our big primate brains should be good at is surviving by hunting and gathering. If they didn't evolve to make us better at hunting and gathering, then what did our big brains evolve for?

The second important question highlighted by Buckley's experience arises from the social world he encountered. After falling in with his Aboriginal family, he hardly mentions hunger, thirst, or the other deprivations that dominate the first part of his story. Instead, the action shifts to a world structured by social norms that organize people into clans and tribes, threaded into interdependent webs of culturally-prescribed obligations and responsibilities. Social norms prescribed arranged marriages, encouraged men to marry multiple wives, and effectively placed half of the local population under an incest taboo. Alongside marital ties, psychologically-potent rituals helped solidify the bonds within and between clans and tribes. However, despite these social bonds, violent intergroup conflict remained a constant threat and a major cause of death. In this world, people's survival depended heavily on the size and solidarity of their social groups. But, where did all these clans, marriage groups, rituals, and tribes come from?

The key to addressing both of these questions is to recognize that humans are a cultural species. Unlike other animals, we have evolved genetically to rely on learning from others to acquire an immense amount of behavioral information, including motivations, heuristics, and beliefs that are central to our survival and reproduction. This ability to learn from one another is so powerful compared to other species that we alone can accumulate increasingly complex bodies of cultural knowledge, related to everything from sophisticated projectile technologies and food-processing techniques to new grammatical tools and expanding packages of social norms. These topics form the core of my last book, *The Secret of Our Success: How Culture Is Driving Human Evolution, Domesticating Our Species, and Making Us Smarter*. There I lay out in detail how we can understand our species' origins, psychology, and culture from an evolutionary perspective. Here, I'll briefly sketch some of the foundations of this approach before applying it to the origins of WEIRD psychology and the modern world.

The way to approach the centrality of culture in human nature is not by opposing "evolutionary" or "biological" explanations with those based on "learning" or "socialization." Instead, researchers have incorporated culture under an expanded evolutionary approach by asking how natural selection has shaped our primate brains to allow us to most effectively learn the ideas, beliefs, values, motivations, and practices we'll need to survive and thrive in whatever ecological or social environments we end up in. Thus, we have evolved genetically to learn adaptively in ways that calibrate our minds and behavior to the environments we encounter.

Specifically, our evolved capacities for cultural learning have been honed to figure out *who* to learn from, *what* to learn, and *when* to use cultural learning over other informational sources like individual experience or innate intuitions. This is the *who*, *what*, and *when* of cultural learning. Let's quickly go through this triad.

To figure out who to learn from, adults, children, and even infants integrate cues related to a potential role model's skill, competence, reliability, success, prestige, health, age, sex, and ethnicity, among others. By preferentially attending to more successful or prestigious people, learners focus their attention and memory on those individuals most likely to possess useful information, practices, motivations, values, etc., that lead to greater success and status. By combining cues like prestige and success with self-similarity cues like sex and ethnicity (e.g., speaking the same dialect), learners can target their attention on those who possess the skills, strategies, and attitudes most likely to be useful to them in their future roles or communities.[4]

Besides influencing who we learn from, natural selection has also shaped what we pay attention to—like food, sex, and gossip—and how we process, store, and organize particular kinds of beliefs and preferences. For example, when given information about the diet, habitat, and dangerousness of novel animals, children from places as diverse as Fiji, Amazonia, and Los Angeles implicitly assume that this information applies to an entire category—say, "cobras"—and then preferentially remember the dangerousness of these species over information about their habitats, diets, or names. When they make mistakes, children err in adaptive ways, mistaking harmless species for dangerous ones instead of mistaking dangerous animals for safe ones. These kinds of *what-cues* influence our inferences, memory, and attention in ways that help us filter out, structure, and recall the really important information while avoiding costly mistakes.[5]

Of course, the cultural elements we acquire can themselves influence what we subsequently attend to, remember, and believe. One source of these culturally induced what-cues comes from the "fit" between newly encountered beliefs or practices and those previously acquired. For example, if you grew up believing both that the tribe in the next valley was evil and that eating human flesh is evil, then you're predisposed to believe it when someone tells you that the tribe in the next valley engages in cannibalism. Evil tribes do evil things. It all fits, psychologically speaking.[6]

This brings us to the question of *when* learners should rely on cultural learning over their own experience, personal information, or instincts. The answer is straightforward: when problems are difficult, situations are ambiguous, or individual learning is costly, people should rely more heavily on learning from others. To put these ideas to the test, my favorite experiments manipulate both the difficulty of a task and the size of cash payoffs for correct responses. Participants, for example, might be paid different amounts of money for correctly identifying which of a set of curvy lines is the longest. They can rely on their own direct perception or on cultural learning—on the decisions of others. The harder the task is—i.e., the closer the curvy lines are in length—the more people rely on observing other people's decisions and aggregating this information into their own judgments. In practice, this often involves ignoring one's perceptions and going with the choice made by a majority or plurality of other people. Further, as long as the task isn't too easy, putting more cash on the line for correct answers only *increases* people's reliance on cultural learning over their own direct assessments or perceptions. This implies that cultural learning will tend to dominate our experiences and intuitions in domains that are important but too costly or impossible to explore through personal experience or trial and error. Think religion and ritual.[7]

Crucially, these genetically evolved learning abilities aren't simply downloading a cultural software package into our innate neurological hardware. Instead, culture rewires our brains and alters our biology—it renovates the firmware. When learners watch others, they are actively calibrating their neurocircuitry in ways that move their perceptions, preferences, behaviors, and judgments closer to those of their chosen models. Consider the delay-discounting measures for patience from the last chapter (Figure 1.4). When given the opportunity to learn patience from another person by observing their choices, learners gradually adjust their delay discounting to match their model. To implement these psychological adjustments, brain scanning studies reveal that the striatum, which is part of the brain's reward and reinforcement learning system, processes any deviations between learners and their models and then induces proportionate plastic changes in the medial prefrontal

cortex, which appears to encode the most appropriate reactions for a given context. Similar studies reveal how cultural learning neurologically shapes our preferences for, and perceptions of, expensive wine, handsome men, and good songs. By selectively attending to particular kinds of ideas and individuals under particular circumstances, our cultural learning abilities adaptively rewire our brains and biology to better calibrate them for navigating our culturally constructed worlds.[8]

By selectively filtering and recombining the beliefs, practices, techniques, and motivations acquired from others, our species' learning abilities give rise to a process called *cumulative cultural evolution*. Operating over generations, cumulative cultural evolution can generate increasingly sophisticated technologies, complex languages, psychologically-potent rituals, effective institutions, and intricate protocols for making tools, houses, weapons, and watercraft. This can, and often does, happen without anyone understanding how or why practices, beliefs, and protocols work, or even that these cultural elements "do" anything. In fact, in some cases, cultural products operate more effectively when people don't understand how or why they work, as will become clear when I discuss rituals and religions.[9]

What's amazing about the products of cumulative cultural evolution is that they are often smarter than we are—much smarter. These practices, which range from poison recipes to incest taboos, have evolved culturally to embody a tacit knowledge of the world that we—the practitioners—often lack. To see this, let's begin with a case in which there's a well-understood goal: making a deadly arrow poison used by Congo Basin hunter-gatherers. This is perhaps the deadliest hunting poison known, dropping prey in their tracks before they can vanish into the bush. The recipe combines 10 different plant varieties, including three powerful poisons—nightshade, poison rope, and sassy bark. Poison rope alone can bring down a hippo in 20 minutes. These ingredients are first thickened with fig latex and yam juice. Saliva is then stirred in until the mixture turns brownish red. Then, a marsh toad is added, presumably for its toxic skin. This concoction is brought to a boil before crushed beetle grubs and stinging ants are blended in. The resulting dark paste is set into a bark envelope, which is then placed inside the body of a dead monkey and buried for several days. Once it is unearthed, sap from the euphorbia tree is added to this deadly adhesive paste, which can then be applied to arrows.[10] Do NOT try this at home.

If you are a young learner, or a new arrival like Buckley, are you going to modify this protocol? Which plant, insect, amphibian, or processing step are you going to drop or change? Can you drop the monkey burial? Maybe; but perhaps that step catalyzes a chemical reaction that intensifies the poison. You'd be wise to first copy all the steps. Then, later, if you are particularly well stocked with game and a bit bored, you might experiment with procedural variations. But most of the time, you'll end up with less effective concoctions, meaning your prey may vanish into the bush. I suspect that it would take hundreds of experiments by a team of ethnobotanists to both understand what's going on chemically and eventually improve on this traditional recipe.[11]

Unfortunately, we don't know precisely how this ancient poison recipe culturally evolved. However, we do know something about cultural learning among Congo Basin hunter-gatherers and have explored the implications of different learning strategies for cumulative cultural evolution. The evidence suggests that aspiring hunters first learn from their fathers how to make arrow poisons. About a third of these foragers then update their fathers' recipes with insights from others, probably from the most successful and prestigious hunters. When transmission patterns like

these are placed into cultural evolutionary computer simulations, or carefully manipulated in experiments with real people trying to learn new things, the results reveal how cultural evolution can assemble highly adaptive and complex recipes, procedures, and tools over generations without anyone understanding how or why various elements are included. In *The Secret of Our Success*, I lay out a broad range of other examples, from the use of particular spices in hot climates, which reduces the threat posed by foodborne pathogens, to a repertoire of fish taboos in Fiji that protect pregnant and breastfeeding women and their offspring from the dangerous reef toxins that accumulate in certain marine species.[12]

Over at least two million years, our species evolved in a world in which we were becoming ever more reliant on tapping into a growing body of complex cultural know-how to acquire the skills, practices, and preferences that were crucial for finding food, making tools, and navigating the social world. To thrive in this world, natural selection favored expanding brains that were increasingly capable of acquiring, storing, organizing, and retransmitting valuable cultural information. As part of this, natural selection beefed up both our motivations and our capacities for cultural learning, including the mentalizing abilities that allow us to copy other people's motor patterns and infer their underlying beliefs, heuristics, preferences, motivations, and emotional reactions. These abilities increasingly connected us with other minds.[13]

The sharpening of our cultural learning abilities further fueled cumulative cultural evolution to generate an ever-broadening array of more complex adaptations, thereby generating autocatalytic feedback between genes and culture. As the importance, diversity, and complexity of cultural products ratcheted up, natural selection gradually strengthened our inclinations to rely on cultural learning over our instincts and individual experiences because the tools, protocols, and practices that we acquired from others became far superior to anything that any single individual could possibly figure out on their own. Eventually, our species became obligate cultural learners, dependent on the inheritance of our communities for our very survival. We thus evolved as a species to put faith in the accumulated wisdom of our forebearers, and this "faith instinct" is at the core of our species' success.[14]

Understanding how our adaptive cultural learning abilities generate the process of cumulative cultural evolution helps illuminate the origins of our complex tools, nuanced practices, and sophisticated languages; but, what about the social world? How can we explain the clans, incest taboos, arranged marriages, and intergroup violence that dominated Buckley's Aboriginal life? At their core, these are questions about human sociality, about why we associate and cooperate with some people but avoid—and sometimes kill—others. To get a grip on this, we first need to understand what institutions and social norms are, and how they emerge. Then, with that under our belts, we'll explore the most fundamental of human institutions, those based on kinship and marriage. Understanding these primordial institutions and their psychological underpinnings will prepare the ground for examining why and how human societies scale up in political and social complexity in the ways they do, and why the path taken by Europe in the last millennia is so peculiar.

Evolving Societies

and "sister," sets of norms and perhaps even some internalized motivations about the relationships get stretched outward along with the labels, effectively pulling more distant kinfolk closer over time. However, unlike many agricultural societies where norms tighten social networks, the norms of mobile hunter-gatherer societies allow—even compel—individuals and families to weave extensive, far-flung kin networks that stretch out for tens or hundreds of miles.[20]

In many societies, the innate anchor derived from our close genetic kin can be combined with the psychological power of personal names to create an institution that helps people stitch together broad individual networks. In Africa, among Ju/'hoansi hunter-gatherers in the Kalahari Desert, the names of people's close kin are used to establish analogous relationships with distant kinfolk, and even strangers, to effectively draw them closer. For example, if you meet a young woman named Karu and your daughter is named Karu, you can tell this new Karu to call you "mother" or "father." This pulls her closer and means that you should treat her like a daughter, which of course automatically implies that Karu is off-limits in the marriage department. This naming practice pulls people closer, both psychologically and socially, and provides a flexible way to enmesh everyone within a kinship network. Based on one calculation, people's naming networks stretched out in a radius of 60 to 115 miles. As in many such populations, Ju/'hoansi want to encompass everyone within a circle of kinship, and they get nervous around people outside of that circle.[21]

Alongside kin altruism, kin-based institutions also tap into our pair-bonding instincts, which form the core of marriage. In many ways, marriage represents the keystone institution for most—though not all—societies and may be the most primeval of human institutions. Pair-bonding is an evolved mating strategy found scattered around the natural world, from penguins and seahorses to gorillas and gibbons. It permits males and females to team up to rear offspring. In evolutionary terms, there's a kind of swap here. Females grant males preferred sexual access and stronger guarantees that her kids are in fact his kids. In return, males invest more time and effort in protecting, and sometimes providing for, her and her offspring.

By anchoring on these pair-bonding instincts, marriage norms can dramatically expand family networks in a couple of interrelated ways. For example, marriage norms in many societies constrain women's behavior and sexuality in ways that increase the confidence of both her husband and his family that her children are also his (genetic) children. Thus, many marriage norms increase *paternity certainty*. By exploiting our instincts for parental investment and kin altruism, greater paternity certainty not only induces more fatherly investment in children, but also firms up the kids' links to their entire paternal side. By recognizing and highlighting these links, marriage norms can effectively double the size of a new baby's kindred. Putting this into broader perspective, individuals in most other primate species don't know their fathers and thus effectively miss half of their genetic relatives.[22]

By firming up the links between children and their fathers, as well as between spouses, marriage creates in-laws, or what anthropologists call *affines*. Interestingly, even when affines are not genetically related, their evolutionary fitness is still intertwined in the children of the couple that connects them. For example, my wife's sisters and my mother's brother aren't related at all, but both share a genetic interest in my kids. By creating affines, cultural evolution has harnessed a shared genetic interest that no other species has managed to exploit. In many societies, these otherwise weak affinal ties are highlighted and nourished by social norms involving gifts, rituals, and mutual obligations. Among hunter-gatherers, meat-

sharing norms often specify that some of the first portions of a hunter's kill go to his wife's parents.[23]

The effect of marriage bonds on kinship ties are big: a married man with just one brother and one daughter not only has affinal connections to his father's family and his wife's relatives, but he also has a connection to his brother's wife's family and eventually his daughter's husband's family. Consequently, within hunter-gatherer bands, over half of the average person's relatives are affines of some kind, not blood relatives. Without affines, hunter-gatherer bands would not consist of mostly relatives.[24]

In harnessing our pair-bonding instincts to build up larger societies and broader social networks, cultural evolution has often favored *lifelong* marital bonds because these bonds stitch large kin networks together. During his hunter-gatherer life in Australia, William Buckley's closest companion was his "brother-in-law," a relationship that survived both the death of the man he socially replaced and his sister, who created the affinal tie. By contrast, when natural selection built our pair-bonding instincts, the bonds were only "designed" to hold for as long as fatherly investment paid off in the health and survival of the kids. When it evaporates, the emotional or motivational door opens to forming new pair-bonds. Here, cultural and genetic evolution are often at odds, favoring enduring vs. temporary unions (respectively), and many modern couples find themselves caught in the crossfire between norms that prescribe lifelong unions and the ephemeral emotions of pair-bonding.

Marriage norms also regulate who can marry and reproduce with whom, which subtly structures societies in ways most people don't realize. One common way that cultural evolution has repeatedly managed this is by harnessing our innate aversion to incest to create sexual and marriage taboos that apply much more broadly than the small circle of close relatives circumscribed by inbreeding concerns. Natural selection has endowed humans with psychological adaptations that suppress our sexual attraction toward close relatives because of the likelihood of unhealthy offspring. By using a few simple cues, this psychological mechanism generates a sense of disgust that usually causes us to avoid sex with siblings, parents, and children. One important cue is growing up together. Tellingly, this developmental "proximity alert" sometimes misfires, leading to sexual repulsion between unrelated boys and girls who happen to grow up together. This effect is interesting, because you might think that siblings or other people who grow up together would be more inclined to fall in love, since they share so much already.[25]

The existence of innate incest aversion provides a psychological anchor on which cultural evolution has constructed potent incest taboos. By harnessing our disgust reaction at the idea of sex with siblings or parents, cultural evolution need only "figure out" ways to (1) stretch this feeling out to other individuals and (2) deploy it in judging others. It's that uncomfortable feeling you (might) get when you imagine consensual sex between step-siblings. They aren't genetically related, but it still seems wrong. Among mobile bands of hunter-gatherers like the Ju/'hoansi, incest taboos prohibit everyone from marrying their first, second, or third cousins as well as anyone closer, like a niece. This pattern contrasts with norms in many agricultural societies, where only some cousins fall under incest taboos while others are preferred marriage partners.[26]

In her account of Ju/'hoansi marriage norms, the ethnographer Lorna Marshall shows how incest taboos extend our innate incest aversion. Despite having no knowledge of the health risks, Ju/'hoansi felt that the idea of sex with a parent or

sibling was horrible, disgusting, and dangerous. In fact, it was so awful that some women refused to discuss it. However, when asked about sex with cousins, Ju/'hoansi didn't show the same strong emotional reactions; they nevertheless felt that it would be "like" having sex with a brother or sister. Essentially, they described a discomfort with the idea of sex with cousins based on an extension of the disgust they experienced at the idea of sibling incest. As we'll see, although these broad prohibitions on marrying *all* cousins are relatively rare in agricultural societies, they oddly reemerged in early medieval Europe, with substantial long-term consequences.[27]

By providing psychological anchors, our instincts for kin altruism, pair-bonding, and incest aversion help explain why marriage and family have long been our most persistent institutions. I'll refer to institutions rooted in the above-described instincts as *kin-based institutions*. Notably, however, included in these institutions are also norms that cultivate enduring interpersonal connections and relationships with non-kin, often by tapping other aspects of our evolved psychology in the same ways that marriage norms are built around our instincts for pair-bonding and inbreeding avoidance. Communal rituals provide a nice example.

COMMUNAL RITUALS

Describing the Ju/'hoansi trance dance, the ethnographer Megan Biesele observes: "The dance is perhaps the central unifying force in Bushman [Ju/'hoansi] life, binding people together in very deep ways which we do not fully understand."[28] Such psychologically-potent communal rituals, which forge enduring interpersonal ties, mend existing relationships, and enhance group solidarity, have been documented in most small-scale societies.

Inspired by such ethnographic insights, psychological scientists have begun to systematically decompose rituals into their key elements. Rituals can be thought of as ensembles of "mind hacks" that exploit the bugs in our mental programs in subtle and diverse ways. Let's consider three of the most common active ingredients found in communal rituals: synchrony, goal-oriented collaboration, and rhythmic music.

Synchrony seems to exploit both our evolved action-representation system and our mentalizing abilities. When moving in step with others, the neurological mechanisms used to represent our own actions and those used for others' actions overlap in our brains. This is a neurological by-product of how our body's own representational system is deployed to help model and predict others' movements—it's a glitch. The convergence in these representations blurs the distinction between ourselves and others, which leads us to perceive others as more like us and possibly even as extensions of ourselves. For evolutionary reasons, this illusion draws people closer together and creates a feeling of interdependence.[29]

Tapping our mentalizing abilities, synchrony also harnesses the fact that we humans unconsciously track who is mimicking us and use it as a cue that they like us and want to engage with us. This arises in part because mimicry is one of the tools we use to help us infer other people's thoughts and emotions—if someone frowns, you automatically micro-frown to better intuit their feelings. During synchronous dances, drills, or marches, our mental tracking system is flooded with false mimicry cues, suggesting that everyone likes us and wants to interact. Since we're usually positively inclined to such affiliative cues, and the synchronous patterns cause all participants to feel similarly, a virtuous feedback loop can emerge.[30]

In addition to synchrony, rituals also nurture relationships, enhance cooperation, and elevate interpersonal trust by bringing people together to work collaboratively on a joint goal, which often involves completing a sacred ceremony. Research with both children and adults confirms that working together on a shared goal deepens group solidarity and strengthens interpersonal connections.

Complementing synchronous movement and joint action, rhythmic music contributes to the psychological potency of rituals in three different ways. The first is practical: it provides an effective mechanism for individuals, at least those with rhythm, to sync up their physical movements. Second, making music together can serve as the joint goal for the group. And third, by operating through a second modality—sound added to movement—music provides a means to enhance the ritual experience by influencing our mood.[31]

Although the systematic experimental work on these ritual elements remains far from complete, the existing findings are beginning to suggest that these three effects are synergistic. That is, working together in highly orchestrated ways, in sync to rhythmic music, magnifies our sense of solidarity and willingness to cooperate more powerfully than simply the sum of the effects of each separate element. This "orchestrated teamwork effect" likely harnesses our *interdependence psychology*, which I'll discuss below.

These insights from psychological research converge with the observations of anthropologists. Enriching Megan Biesele's account of Ju/'hoansi trance dances (above), Lorna Marshall elaborates on the effects of this communal dance ritual:

> People bind together subjectively against external forces of evil, and they bind together on an intimate social level ... Whatever their relationship, whatever the state of their feelings, whether they like or dislike each other, whether they are on good terms or bad terms with each other, they become a unit, singing, clapping, moving together in an extraordinary unison of stamping feet and clapping hands, swept along by the music.[32]

The Ju/'hoansi dance is an explicitly collaborative effort to banish troublesome spirits that—as a by-product—heals social wounds and festering grudges.[33]

Synchronous movement, rhythmic music, and goal-oriented teamwork all interact to endow rituals with their power to infuse participants with communal feelings and an expansive sense of interconnectedness and interdependence. However, these are just a few of the psychologically active ingredients found in rituals. In later chapters, we'll encounter other ways in which rituals tap into and manipulate aspects of our psychology, and see how ritual has been one of the basic tools used by cultural evolution to hold human societies together.[34] Like many such "mind hacks," it turns our psychological bugs into social technologies.

Incidentally, if all this business about incest taboos, cousin marriage, and communal rituals seems weird, it's not. These practices are all commonplace in many or most human societies. You are the WEIRD one. Keep that in mind.

INTERGROUP COMPETITION AND COEVOLVED SOCIAL PSYCHOLOGY

Though I've given you only a glimpse of some of the institutions of mobile hunter-gatherers, it may already be clear that they are remarkably well designed for surviving in the marginal and unpredictable environments that have dominated our species' evolutionary history. Ju/'hoansi incest taboos, for example, compel parents to arrange marriages for their children with distant kinfolk, dramatically extending

their social networks. These distant connections pay off by providing a safe haven when droughts, floods, injuries, raiding parties, or other disasters strike. Similarly, food taboos foster broad meat sharing, which mitigates the threat posed by streaks of bad luck for hunters. Communal rituals nurture social harmony, both within and across bands. These institutions create diverse safety nets, open trading opportunities, and firm up alliances.

How did groups develop institutions that effectively compelled individuals to bear personal costs like sharing meat or not marrying attractive cousins? There's no evidence that people designed these institutions or even understand what they do. When asked about their incest taboos, for example, no Ju/'hoansi suggested that they foster the formation of sprawling networks that interconnect distant families and thereby create a kind of social insurance. As you'll see, this is typical. Even WEIRD people, despite their immense confidence in the rational construction of their institutions, have little inkling of how or why their institutions really work.

Of course, not all norms are beneficial, and groups do indeed regularly develop arbitrary norms as well as those that favor powerful constituencies, like old men. Sometimes groups even develop maladaptive norms that are harmful to both individuals and their communities. However, social norms are put to the test when groups with different norms compete. Norms that favor success in competition with other groups tend to survive and spread. Such intergroup competition can occur through violent conflict, as Buckley experienced, but it can also occur when less successful groups copy the practices and beliefs of more successful groups or when more prosperous groups simply grow faster, through higher fertility, lower mortality, or greater net immigration. These and related forms of intergroup competition create a countervailing force that can favor group-beneficial norms over other cultural evolutionary pushes and pulls. Further, by mixing and matching different social norms, these processes can gradually assemble and spread increasingly effective, cooperative institutions.

This kind of competition has certainly driven the scaling up of human societies over the last 12,000 years, but its importance likely extends well back into our evolutionary history, before the origins of agriculture. The richest insights into the nature and extent of this ancient competition come from analyses of ethnographically and historically known hunter-gatherers. Wherever we look, from the Arctic to Australia, hunter-gatherer populations compete, and those with the best combinations of institutions and technologies expand and gradually replace or assimilate those with less effective cultural packages. For example, around 1000 CE, a population speaking an Inuit-Inupiaq language and carrying a new set of cooperative institutions, which included potent rituals and broad food-sharing norms, fanned out from the northern slope of Alaska and spread across the Canadian Arctic. Over several centuries, this population gradually replaced the fragmented and isolated hunting communities who had lived there for millennia.[35]

When detailed cases like these are combined with genetic and archaeological findings from ancient Stone Age populations, the emerging picture indicates that our preagricultural ancestors were likely embroiled in intergroup competition, including violent conflicts, that would have profoundly shaped their institutions, just as it has continued to do in more recent millennia. This suggests that during much of our species' evolutionary history, the social environments that we had to adapt to genetically were culturally constructed by the kinds of institutions that survived these ancient forms of intergroup competition.[36]

punished for norm violations or praised for excelling in culturally-valued domains like reading.

3. *Developmental impact*: Because much of our brain development occurs during adolescence, childhood, and even earlier, the social norms that shape our early life experiences may have particularly large effects on our psychology. For example, a growing body of evidence suggests that we may have evolved to make enduring calibrations to aspects of our physiology, psychology, and motivations based on stress and other environmental cues experienced before age five. As adults, these early calibrations may influence our self-control, risk-taking, stress responses, norm internalizations, and relationships. By shaping our early lives, cultural evolution can manipulate our brains, hormones, decision-making, and even our longevity.[40]

Beyond these direct avenues into our psychology, cultural evolution also may help us successfully adapt to our institutional worlds by assembling practices or "training regimens"—often in the forms of games, stories, rituals, sports, and socialization practices—that hone our minds and bodies in ways that promote future success in our culturally constructed worlds. For example, reading bedtime stories may be a cultural practice that helps children train their brains in ways that promote success—culturally defined—in both school and work in WEIRD societies.

In considering this, keep in mind that intergroup competition and cultural evolution act on the entire psychological-institutional package, which includes all these avenues into our heads. Strong food-sharing norms, for example, may guarantee that fewer people experience acute food shortages as children or infants, thereby avoiding the long-term psychological shifts induced by such shocks. That is, the evolution of social norms that create well-functioning social safety nets ensures that a smaller percentage of children will experience the stressful nutritional deficits that trigger changes in their lifelong impulsivity, self-control, and response to stress. At the level of the community, these induced psychological shifts may improve the functioning of certain kinds of institutions such as banking and credit organizations. Thus, some institutions may spread in part because of how they ontogenetically shape a population's psychology.[41]

Perhaps the most important impact of the coevolutionary duet between psychology and institutions lies in how these mental shifts influence the kinds of new norms, ideas, practices, and beliefs that emerge and spread. Norms or beliefs spurned by a population with one psychology can be adored and adopted by a population with a different cultural psychology. As you'll see, the particular idea of endowing individuals with "rights" and then designing laws based on those rights only makes sense in a world of analytical thinkers who conceive of people as primarily independent agents and look to solve problems by assigning properties, dispositions, and essences to objects and persons. If this approach to law sounds like common sense, you are indeed WEIRD.

INSTITUTIONS CHANGE AND PSYCHOLOGY ADAPTS

All efforts to explain human psychology, politics, economics, and historical patterns rely on assumptions about human nature. Most treatises assume that people are either rational, self-interested agents or blank slates that await the inscription of their marching orders by murky cultural forces. Even approaches that take evolution and psychology seriously still typically adopt the "doctrine of psychic unity," the idea that everyone is more or less psychologically indistinguishable.

Because they are rooted in WEIRD folk-models of individuals and society, these assumptions can usually be slipped in, unstated and unnoticed. Instead, here, I've outlined and grounded some of the key aspects about human nature that I'll be putting to work in later chapters.[42] The most important points to keep in mind as we head down the runway are:

1. Humans are a cultural species. Our brains and psychology are specialized for acquiring, storing, and organizing information gleaned from the minds and behaviors of others. Our cultural learning abilities directly reprogram our minds, recalibrate our preferences, and adapt our perceptions. As we'll see, culture has devised many tricks for burrowing into our biology to alter our brains, hormones, and behavior.
2. Social norms are assembled into institutions by cultural evolution. As powerful norm-learners, we can acquire a wide range of arbitrary social norms; however, the easiest norms to acquire and internalize tap deeply into aspects of our evolved psychology. I've highlighted a few aspects of our evolved psychology, including those related to kin-based altruism, incest aversion, pair-bonding, interdependence, and tribal affiliation.
3. Institutions usually remain inscrutable to those operating within them—like water to fish. Because cultural evolution generally operates slowly, subtly, and outside conscious awareness, people rarely understand how or why their institutions work or even that they "do" anything. People's explicit theories about their own institutions are generally post hoc and often wrong.

3

Clans, States, and Why You Can't Get Here from There

> I believe that if our philosophers had lived among the Machiguengas [Matsigenkas] ... they would have greatly doubted the concept of Man as a social animal.
>
> —Padre Andres Ferrero (1966), a Catholic missionary who ministered to the Matsigenka in the Peruvian Amazon[1]

To understand the roundabout cultural evolutionary pathway that led to WEIRD psychology and modern societies, we first need to explore the more general processes that have driven the emergence of larger-scale cooperation, greater political integration, and broader exchange networks over the last 12 millennia. How has our species, since the origins of agriculture and animal husbandry—"food production"—managed to scale up from the relatively egalitarian, fluid networks of most Paleolithic hunter-gatherers to the vast societies of the modern world? As you'll see, the underlying processes are essentially the same as those sketched in the last chapter and were likely operating for tens or even hundreds of thousands of years before food production developed. Occasionally, these processes likely led some Paleolithic societies to scale up in size and complexity for a few centuries or more before collapsing under pressure from the rapidly changing climate. The crucial difference lies in how the emergence of food production altered and intensified the influence of intergroup competition on cultural evolution and how this shaped our institutions and psychology.

By laying out the pathways along which societies have *typically* scaled up, I'm setting the stage for showing how and why certain European populations during Late Antiquity and the Early Middle Ages were knocked off the usual trajectories and ended up on an entirely new pathway, one that hadn't been accessible before in human history.

At the dawn of agriculture, all societies were built on institutions rooted in family ties, ritual bonds, and enduring interpersonal relationships. New institutional forms always built on these ancient foundations by variously augmenting, extending, or reinforcing the inherited forms. That is, social norms related to family, marriage, ritual, and interpersonal relationships—kin-based institutions—only became more complex and *intensive* as societies began to scale up. Later, once purely kin-based institutions were insufficient to scale up societies any further, additional non-kin-based, nonrelational institutions did develop. But, crucially, these institutions were always built atop a deep foundation of kin-based institutions. The fact that people couldn't simply wipe away their ancient kin-based institutions when building these new nonrelational or impersonal institutions creates what researchers call a strong *path-dependence*. That is, given that new forms always build on older forms, and these

older forms are anchored in our evolved primate psychology, there are a limited number of pathways along which these new institutions can develop.[2]

How Ilahita Got Big

In the mid-20th century, anthropologists working in the remote Sepik region of New Guinea noticed that villages rarely exceeded about 300 people, of whom about 80 were men. The 300 were divided into a handful of patrilineal clans. When communities exceeded this size, cracks inevitably began to appear, and eventually social ruptures occurred along clan lines. Larger villages fractured into feuding hamlets and pushed away from each other to reduce conflicts. Though these explosions were typically sparked by disagreements about marriage, adultery, or witchcraft-induced deaths, they often ignited a pyre of nagging grievances.[3]

The relatively small size of these communities is puzzling, since warfare and raiding posed a persistent and deadly threat. Because different villages had roughly the same weapons and military tactics, greater numbers could make all the difference. Larger communities were safer and more secure, so people had life-and-death incentives to "make it work" and grow larger. Nevertheless, there seemed to be an invisible ceiling on the scale of cooperation.[4]

There was one striking exception to the "300 rule": an Arapesh community called Ilahita had integrated 39 clans into a population of over 2,500 people. Ilahita's existence put to rest simple explanations for the 300 rule based on ecological or economic constraints, since Ilahita's environment and technology were indistinguishable from those of surrounding communities. As elsewhere, villagers used stone tools and digging sticks to grow yams, taro, and sago (the starchy pith of palms) and used nets to hunt pigs, wallabies, and cassowaries.[5]

In the late 1960s, the anthropologist Donald Tuzin set off to investigate. His questions were simple: How was Ilahita able to scale up? Why didn't this community break up like all the others?

Tuzin's detailed study reveals how Ilahita's particular package of social norms and beliefs about rituals and gods built emotional bridges across clans, fostered internal harmony, and nurtured solidarity across the entire village. This cultural package stitched Ilahita's clans and hamlets into a unified whole, one capable of larger-scale cooperation and communal defense. The nexus of Ilahita's social norms centered on its version of a ritual cult called the Tambaran. The Tambaran had been adopted by a number of Sepik groups over several generations, but as you'll see, Ilahita's version was unique.

Like most communities in the region, Ilahita was organized into patrilineal clans, which usually consisted of several related lineages. Clan members saw themselves as connected by descent through their fathers from an ancestor god. Each clan jointly owned land and shared responsibility for each other's actions. Marriages were arranged, often for infant daughters or sisters, and wives moved to live in their husbands' hamlets (patrilocal residence). Men could marry polygynously, so older and more prestigious men typically married additional, younger wives.[6]

Unlike other Sepik communities, however, Ilahita's clans and hamlets were crosscut by a complex organization of eight paired ritual groups. As part of the Tambaran, these groups organized all rituals, along with much of daily life. The highest-level pairing divided the village into two parts, which we'll call ritual

groups A and B. Groups A and B were each then divided in half; label these halves 1 and 2. Crucially, these second-tier divisions crosscut the first-tier ritual groups, so at this point, we have subgroups A_1, B_1, A_2, and B_2. Hence, people in A_2 have a link with those in B_2: both are in subgroup 2, and social norms dictated that they would sometimes need to work together on ritual tasks. Each subgroup was then further divided into two sub-subgroups that crosscut the higher levels. This continued down for five more tiers.

These ritual groups possessed a variety of reciprocal responsibilities that together threaded a network of mutual obligations that crisscrossed the entire village. For example, while every household raised pigs, it was considered disgusting to eat one's own pigs. People felt that eating one's own pigs would be like eating one's own children. Instead, members of one ritual group (e.g., group A) gave pigs to the other half (group B). This imbued even simple activities like pig rearing with sacred meaning while at the same time threading greater economic interdependence through the population. At communal ceremonies, ritual groups alternated administering initiation rites to the men of their paired ritual group. Ilahita males had to pass through five different initiation rites. Only by completing these rites could boys become men, earn the privilege to marry, acquire secret ritual knowledge, and gain political power. However, sacred beliefs required that these rites be performed by the opposite ritual group. So, to become a respected man and ascend the ritual (and political) hierarchy, all males were dependent on those in other Ilahita clans.

Alongside these ritual obligations, Tambaran norms also called for the entire village to work together in large community projects. Vastly larger than other structures in the community, the spirit house in Figure 3.1 was one such project.

Consistent with much psychological research on rituals, Tuzin's ethnography suggests that these mutual obligations and joint projects built emotional bonds among individuals and—most importantly in this context—across clans and hamlets. Much of this effect probably comes from tapping our evolved interdependence psychology. Interestingly, this isn't "real" interdependence, as in modern societies, where none of us would survive without massive economic exchange, but a kind of culturally constructed interdependence. Clans alone, as they did elsewhere in the Sepik, could have been economically independent, growing yams, raising pigs, and conducting initiation rites all on their own. However, Ilahita's Tambaran gods forbade such activities, and thus imposed a kind of "artificial" interdependence.[7]

Ilahita's Tambaran also incorporated psychologically potent communal rituals. Along with joint music-making and synchronous dance, the Tambaran gods demanded what anthropologists call *rites of terror*. Often administered to adolescent boys, these rites put participants through pain, isolation, deprivation, and frightening experiences involving darkness, masked figures, and unnatural sounds. Here again, new psychological evidence confirms old anthropological hunches: experiencing terror *together* forges powerful memories and deep emotional connections that bind participants for a lifetime. This creates the "band of brothers" phenomenon that emerges among soldiers who have faced combat together. In this institutionalized form, however, such rituals draw together young males from different clans and actively induce these binding psychological effects—thereby forging enduring interpersonal bonds in each new generation.[8]

Though rites of terror have evolved independently in small-scale societies all over the world, Ilahita had a particularly intense package, with five initiation

This social and ritual system was infused with a powerful set of supernatural beliefs. Unlike their ancestor gods, who presided narrowly over particular clans, the Tambaran gods governed the entire community—they were village-level gods. Villagers believed that their community's prosperity and prestige derived from the proper performance of the Tambaran rituals, because those rituals satisfied the Tambaran gods, who, in return, blessed their community with harmony, security, and success. When village amity waned, the elders assumed that people hadn't been diligently performing the rituals properly and would call for supplemental rites to better satiate the gods. Although the elders had the causality wrong, performing additional rituals still would have had the desired psychological effect—mending and solidifying social harmony. By Tuzin's account, this was indeed what happened when such special rituals were performed.

The Tambaran gods also fostered greater harmony through their perceived willingness to punish villagers. Unlike the broad-based punishing powers of the powerful and moralizing gods found in today's world religions, the Tambaran gods were only believed to punish people for inadequate ritual performances. This supernatural punishment, however, would have helped guarantee that villagers conscientiously attended to the rituals, which is crucial since the rituals were doing important social-psychological work in bonding the community.

The Tambaran gods' supernatural punishment may have also suppressed sorcery accusations and their associated cycles of violence. In New Guinea, as in many societies, people don't see most deaths as accidental. Deaths that WEIRD people would consider as due to "natural causes" (e.g., infections or snakebites) are often perceived as caused by sorcery—i.e., murder by magic. An unexpected death, especially of someone in their prime, often provoked sorcery accusations, and sometimes led to revenge-driven slugfests between clans that could persist over years or even generations. After the Tambaran arrived in Ilahita, many of the deaths that villagers would have previously perceived as sorcery-induced were instead attributed to the anger of the Tambaran gods, who were believed to strike people down for failing in their ritual obligations. This possibility reoriented people's suspicions away from their fellow villagers and toward the gods. These new supernatural beliefs thus short-circuited one of the prime fuses that would have otherwise led to community disintegration.[11]

Overall, the Tambaran was a complex institution that integrated new organizational norms (ritual groups), routine practices (e.g., raising pigs), potent initiation rites, and beliefs about supernatural punishment in a manner that restructured social life. These cultural elements tapped into several aspects of innate human psychology in ways that strengthened and sustained the emotional bonds among Ilahita's clans. This enabled Ilahita to maintain a large community of many clans while other villages fractured and fell apart.

But, where did Ilahita's Tambaran come from?

Let's start with where it didn't come from. Tuzin's investigation reveals that the Tambaran wasn't designed by any individual or any group. When Tuzin showed the elders how elegantly the Tambaran partitioned and integrated their community, they were as surprised as he was. They'd followed simple prohibitions, prescriptions, and rules of thumb about people's roles, responsibilities, and obligations that created the system without anyone having a global understanding of how it all fit together. As in nearly all societies, individuals don't consciously design the most important elements of their institutions and certainly don't understand how or why they work.[12]

Instead, the Tambaran evolved over generations, morphing into diverse forms as it diffused across the Sepik. Ilahita just happened to end up with the best working version. Here's the story that Tuzin pieced together:

In the mid-19th century, a Sepik tribe called the Abelam began aggressively expanding, seizing territory, and sending families and clans fleeing from their villages. Because they were more militarily successful than other groups, it was widely assumed that the Abelam had developed some new rituals that had permitted them to tap into powerful supernatural forces. Around 1870, Ilahita's elders learned about the Tambaran from some of these refugees. It was decided that Ilahita's best chance to withstand the coming onslaught from the Abelam was to copy the Tambaran from them—to fight fire with fire. Piecing together the refugees' descriptions of the Tambaran, Ilahita assembled its own version.

Crucially, while Ilahita's Tambaran did end up resembling that of the Abelam, a number of consequential "copying errors" were inadvertently introduced during the reconstruction. There were three key errors. First, Ilahita "misfit" the ritual group organization to their clan structures, accidentally producing a greater degree of crosscutting and integration. The Ilahita system, for example, put brothers in different ritual groups and partitioned clans. The Abelam version, by contrast, left brothers together and clans fully encompassed within single ritual groups. Second, a misunderstanding created bigger, more powerful Tambaran gods. The Tambaran gods have specific names. Among the Abelam, they are the names of their clans' ancestor gods—so their Tambaran gods are just an ensemble of their ancestor gods. In Ilahita, the clans each already had their own ancestor gods. Not recognizing the divine Abelam names, Ilahita's elders superimposed the Tambaran gods over their own clan gods, effectively creating village-level gods where none had previously existed. Although it might seem odd to measure the size of a god, this copying error swelled the Tambaran gods by a factor of 39—instead of sitting at the apex of only one clan, these gods ascended to preside over 39 clans. Finally, Ilahita's elders simply appended the Abelam's four initiation rites to their own single Arapesh rite, giving them five initiation levels. By pushing up the age at which senior men passed out of the Tambaran system, this change effectively made the most powerful elders a decade older, and hopefully wiser, than among the Abelam.[13]

With this retrofit of the Tambaran, Ilahita halted the relentless advance of the Abelam and expanded its own territory. Ilahita swelled further over the subsequent decades as refugees from other villages flooded in. Despite their lack of kinship or marital ties to Ilahita's clans, immigrants were woven into the community through the Tambaran ritual system.

SCALING UP

Ilahita highlights how hard it is to sustain broad cooperation and scale up societies. Even when facing mortal threats, most Sepik communities couldn't get more than about 80 men to live, work, and fight together. Instead, people were killed, captured, or driven off their lands. Moreover, while the 300 rule represented a glass ceiling on cooperation, even this degree of cooperation wasn't easy, automatic, or effortless. Elsewhere in the Sepik, where warfare and raiding were less intense, other Arapesh populations preferred to live in smaller hamlets, with fewer than 90 people.

This case gives us a glimpse of the two key processes that drive up the scale and intensity of cooperation: (1) intergroup competition and (2) the "fit" between

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