Mindscape

Most people believe the mind to be a mirror, more or less accurately reflecting the world outside them, not realizing on the contrary that the mind is itself the principal element of creation.   Rabindranath Tagore

MY PART IN DEVELOPING the state-space tool began nearly forty years ago.

In 1982 and 1983, when I was in my mid-twenties, a friend and I took a long backpacking trip overseas. In those days, many backpackers voyaged roughly along the equator, flying between tropical countries like Indonesia, Thailand, and Kenya. We decided to go instead from north to south and to travel as much as possible overland. We began in Finland, ended in South Africa, and in between visited eight countries, including the Soviet Union, India, and Zimbabwe. We chose this route to encounter as wide a range as possible of political, economic, and social systems. And in those days, the differences were breathtaking.

Soviet-style communism seemed alive and well in the countries of Eastern Europe; India was trying to find a distinctly South Asian economic path; and apartheid was still vigorous in South Africa.

Capitalism was, of course, an enormously powerful force in the world, yet it remained largely a Western phenomenon. Although Chinese leader Deng Xiaoping had begun introducing market reforms, particularly in the agricultural sector, to unshackle his country's economy, the rest of the world hadn't recognized the staggering implications of his changes. And truly globalized capitalism—its power raw and relentless—hadn't yet hyper-accelerated the homogenization of humanity's worldviews, institutions, and technologies.

We were a grubby pair, curious and adventurous. We broke Soviet tourist rules to visit rural Ukraine and Uzbekistan, hitched rides on trucks and freight trains in Africa, and pulled strings to meet senior diplomats. We treated the trip like a rolling seminar, collecting and reading huge amounts of local materials along the way—history books, translated novels, political magazines, religious philosophy, national propaganda, and even government legislation—and then mailing much of it home in boxes.

We found the contrasts between the societies we visited sometimes bewildering beyond our imagining. It was one thing to learn from afar about Finnish socialism, Soviet authoritarianism, the Indian caste system, Nepalese Buddhism, Maasai communalism, and South African apartheid. It was quite another to see these social phenomena up close and to talk to people accepting—or, in some cases, opposing—the worldviews, institutions, and technologies underpinning them. My friend and I asked ourselves what made these societies so wildly different from each other. We puzzled over how human beings who are, as Abraham Maslow has argued, basically the same in their biological and psychological needs for food, shelter, sex, community, and identity could create, as their various societies evolved through time, such vastly diverse ways of living together. It's a puzzle raised in the opening paragraphs of any basic anthropology, sociology, or comparative politics textbook, of course,

but its familiarity doesn't make it trivial. Brilliant people through history have struggled to address it, starting most famously with Aristotle, and it perplexes all but the most unreflective traveler.
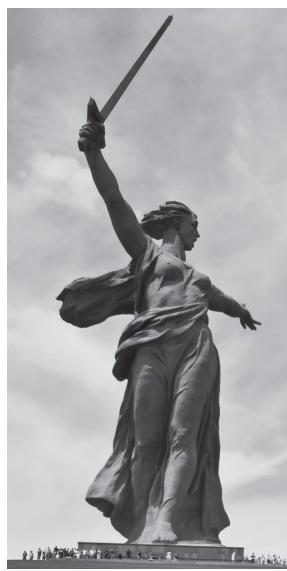

One evening in the Soviet city of Volgograd, my friend and I were chatting over dinner. The city, called Tsaritsyn until 1925 and then Stalingrad up to 1961, was the site of a titanic clash between Axis and Soviet forces in 1942 and 1943—arguably the single most important battle of World War II. Earlier in the day we'd visited the battleground's remarkable memorials, including the towering figure of Mother Russia calling the nation's sons to her defense, located at the top of Mamayev Kurgan, a hill that was a critical objective in the battle.

We were wondering about the underlying clash of beliefs between the Nazis and the Stalinist Soviets, and more generally, about how differences in worldviews contributed to the remarkable diversity of societies and social behaviors we were seeing on our travels. Perhaps, we thought, these differences could be traced to people's different answers to some basic questions regarding the fundamental nature of the world around them, particularly the social characteristics of that world. On the back of a paper serviette, I scribbled down five questions I thought were key:

1. Are moral principles universal and objective?
2. Can people choose their fate?
3. Are there large and essential differences between groups of people?

4. How much should we care about other people?

5. Should one resist authority or defer to it?

The first question taps the age-old debate between moral absolutism and moral relativism; the second raises the question of the limits to our agency or free will; the third asks how much we think other groups of people are like us; the fourth asks about our sense of responsibility to others; and the fifth speaks to our willingness or unwillingness to accept the use of coercive power. I assumed that the answer to each question could be placed somewhere on a single scale, with diametrically opposed answers at each end, so I drew the scales like this:

Morality is:

relative ——————————————————— absolute

A person's ability to choose his or her fate is:

low ——————————————————— high

Differences between groups are:

small and unimportant ————————— large and essential

We should care about other people:

a lot ——————————————————— not much

In our response to authority, we should generally:

resist ——————————————————— defer
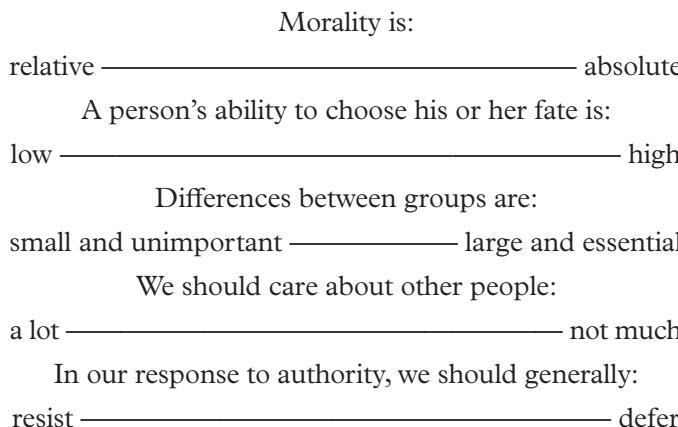
The scheme hugely simplified the way people think about the polit-ical, social, and moral issues affecting them and their societies (a component of our broader worldview that social scientists some-times loosely call "political ideology"), and we recognized that these questions are in many ways unanswerable in any absolute sense.[1] Still, we agreed they're more or less inescapable: any group of people needs to answer most of them, at least in a rudimentary way, to

develop a shared understanding of the nature of the surrounding world and of what counts as morally good or bad behavior in that world—both of which are central to a group's understanding of its identity and purpose.

And elementary as the scheme was, we saw that different combinations of answers would lead to radically distinct political perspectives.

For instance, if a group's members generally believe they should care a lot about other people, while also thinking that differences between groups are small and unimportant, they'll likely have a broad, communitarian worldview: their understanding of "we" will tend to encompass all people everywhere, so they'll be more likely to have feelings of responsibility for, and be prepared to help, even those far away.

But if the group's members combine that same belief in responsibility to others with the belief that differences between groups are large and essential, they'll still have a communitarian worldview, but their "we" will likely be far more exclusive—perhaps centered on a national, ethnic, racial, class, or religious identity that defines a clear line between "we" and "they." The Nazis, of course, adhered to a brutal racial identity of this kind, while the Stalinists fused Russian nationalism with proletarian class consciousness.

We arranged the answers to the questions to create stereotypi-cally "left" and "right" political views. Combining the positions on the right end of each scale yields a worldview emphasizing moral absolutes, individual agency, essential differences among groups, responsibility mainly to oneself, and willingness to defer to authority. In the North American context, this is a fairly conventional right-wing perspective. Combining the positions on the left end of each scale yields a worldview emphasizing moral relativism, the power of circumstances over choice, the essential similarity of all people,

responsibility to others, and resistance to authority—a common leftist perspective.

But a shift in a person's beliefs on any one of these dimensions can lead to a striking shift in perspective, we noticed. For example, flip the right-winger's attitude on authority—from believing one should generally defer to authority to believing one should generally resist it—and the conventional conservative turns into something resembling an American libertarian, such as a follower of the late US author and philosopher Ayn Rand. The left-winger's position on moral principles can be similarly flipped, because not all lefties lean towards moral relativism. Some are as adamant as conservatives about moral absolutes, but they take different principles to be absolute. While a conservative might emphasize the sanctity of life, for instance, someone on the left might stress the principle that women should control their own bodies (and therefore support abortion rights).

My friend and I were so absorbed with these ideas, we didn't notice that we were the last people in the restaurant. Eventually, one of the waiters suggested, with a certain Soviet-era brusqueness, that it was time for us to leave.

STATE SPACE

When I began my academic career in Canada years later, I came across somewhat similar approaches in political science, cultural anthropology, and social psychology. But most of them, including my own, seemed too unsophisticated to explain the enormous range of human worldviews. So I put aside the puzzle for more than two decades to focus on how environmental stresses—shortages of fresh water, for example—can cause conflict and how societies can innovate to address these problems.

When in 2008, I moved to the University of Waterloo, the exciting research community I found there inspired me to return to the

worldview puzzle. I dug around in an ancient filing cabinet in my basement to find my decades-old notes on the basic questions underlying political ideologies. At once, I realized that my list of five questions was woefully incomplete; there were certainly more. But how many of significance underlay the range of ideologies we see in the world, and what were they?

Our research group soon expanded internationally to include leading scholars on ideology in the United States and Europe, and together we studied previous research on the topic going back over a century, as well as reams of recent data on political attitudes within and across societies.[2] Drawing on an idea from complexity science, I suggested that we could use basic questions like those my friend and I had identified to create a "state space" that would help us visualize the diversity of political ideologies.

Here's how the idea works.

Let's assume that the ideologies we're studying answer only the first three of the questions I jotted down on the back of a napkin in Volgograd—those about morality, free will (agency), and group differences. Let's also assume that each question has only two answers, those given by the opposite ends of the question's scale. Then, if we arrange the three scales so they're perpendicular to each other, we create a cube—like the one shown here. This cube has eight smaller cubes inside it, each standing for one combination of answers to the three questions. The whole cube itself is the state space—it's the *space of all possible states* of political ideology in this imaginary, over-simplified world.

That's clear enough, perhaps even trivial; but here's where things get more interesting. After working with my colleagues, I revised my original list of five questions and added ten more—as shown in the table on page 306. I divided the questions, each addressing a specific "issue," into two broad categories: those concerning beliefs about

STATE SPACE

large and essential

GROUP
DIFFERENCES

small and unimportant

low

AGENCY   high   relative   MORALITY

absolute
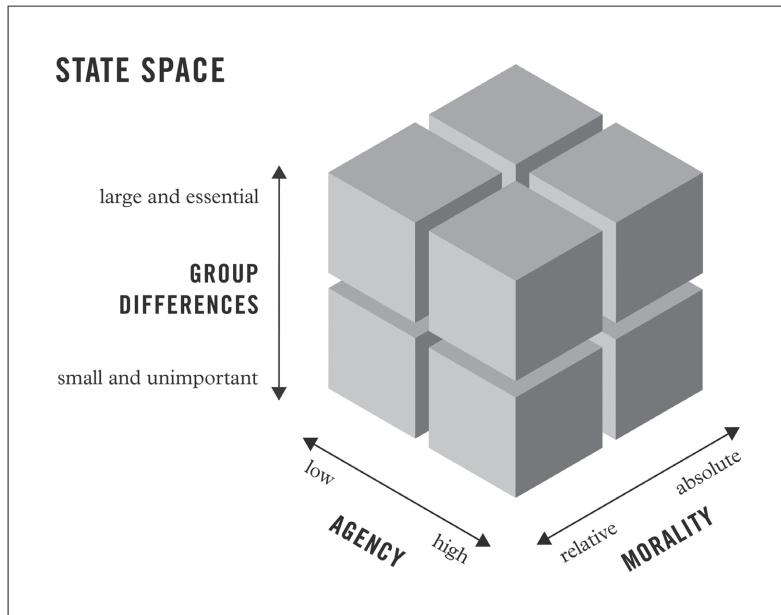
basic facts about the world (what I call "is" questions) and those concerning beliefs about how people should see or behave in that world ("ought" questions). This is/ought distinction is usually attributed to the eighteenth-century Scottish philosopher David Hume. Modern philosophers have shown that the line between the categories is fuzzy, but the distinction is still a useful way to order lists like this one.

Then, just as my friend and I had done in Volgograd, I posited two polar-opposite answers to each question in the table, placing one at each end of a scale. But this time, I arbitrarily divided the scale into five segments, with each segment standing for the strength of a person's belief in their answer to the specific question: strong ("S") and moderate ("M") on each side of a middle answer of "Ambivalent/No position." (You can find more information on the table and its scientific foundations at www.commandinghope.com).

IDEOLOGICAL STATE-SPACE QUESTIONS

	ISSUE	QUESTION	BELIEF STRENGTH						
I S	*Threat*	Is the world a safe or dangerous place?	**SAFE**	S	M	Ambivalent, no position	M	S	**DANGEROUS**
	Source of Understanding	Is the world best understood through reason or feeling (emotion/ intuition)?	**REASON**	S	M	Ambivalent, no position	M	S	**FEELING**
	Spirituality	Is the world infused with a spirit?	**MATERIAL**	S	M	Ambivalent, no position	M	S	**SPIRITUAL**
	Moral Principles	Are moral principles subjective or objective? (Relativism vs. absolutism)	**SUBJECTIVE, CONTEXTUAL**	S	M	Ambivalent, no position	M	S	**OBJECTIVE, UNIVERSAL**
	Agency	Is a person's fate a result of circumstances or choice? (Determinism vs. free will)	**CIRCUM- STANCES**	S	M	Ambivalent, no position	M	S	**CHOICE**
	Human Nature	Are people basically generous or selfish?	**GENEROUS**	S	M	Ambivalent, no position	M	S	**SELFISH**
	Relationship between Humans and Nature	Are human beings as one with nature or distinct and exceptional?	**AS ONE WITH NATURE**	S	M	Ambivalent, no position	M	S	**DISTINCT AND EXCEPTIONAL**
	Social Differentiation	Are the differences between groups small and unimportant or large and essential?	**SMALL AND UNIMPORTANT**	S	M	Ambivalent, no position	M	S	**LARGE AND ESSENTIAL**
	Source of Personal Identity	Does one's identity derive mainly from oneself or from one's group?	**FROM ONESELF**	S	M	Ambivalent, no position	M	S	**FROM ONE'S GROUP**
O U G H T	*Time*	For inspiration, should one look to the future or to the past?	**TO THE FUTURE**	S	M	Ambivalent, no position	M	S	**TO THE PAST**
	Change	Should change be encouraged or resisted?	**ENCOURAGED**	S	M	Ambivalent, no position	M	S	**RESISTED**
	Care for Others	How much should one help others?	**A LOT**	S	M	Ambivalent, no position	M	S	**NOT MUCH**
	Authority	All things being equal, should one resist authority or defer to it?	**RESIST**	S	M	Ambivalent, no position	M	S	**DEFER**
	Power	Is the use of power over others usually wrong or often right?	**USUALLY WRONG**	S	M	Ambivalent, no position	M	S	**OFTEN RIGHT**
	Wealth	Are large differences in wealth immoral or moral?	**IMMORAL**	S	M	Ambivalent, no position	M	S	**MORAL**

The state space now has fifteen dimensions—as before, one dimension for each question. Yet this time we can't really imagine the space as a physical object like a cube, because we live in a world of only three spatial dimensions. And in this case the number of answer combinations tucked inside the space is a lot more than eight—in fact, it's over thirty billion! (The number of answer combinations is equal to the number of answers per question to the power of the number of questions. Hence, two answers to each of three questions permit 2^3 or eight possible combinations; two answers to each of five questions permit 2^5 or thirty-two possible combinations; and five answers to each of fifteen questions permit 5^{15} or more than 30.5 billion possible combinations.)

In my mind's eye, I imagine stepping inside this multidimensional space and seeing an endless expanse of tiny dots, like the pixels on a computer screen, spreading out from me in every direction, with each dot representing a specific combination of answers to the fifteen questions.

In this gargantuan state space, people will prefer some broad zones of dots over others. For one thing, people's personalities and temperaments affect what political ideologies they adopt—and therefore how they'll answer the questions. People who are generally intolerant of ambiguity, anxious about loss, and unreceptive to new experiences, for instance, tend to have more conservative worldviews, probably because these views help them cope with everyday uncertainty and threats (and, underneath it all, perhaps ultimately, anxiety about death).[3] Since some kinds of personality and temperament are more common than others (lots of people are intolerant of ambiguity, for example), we'd expect the political ideologies these people prefer—and so the answers they give to the questions—to be more common too.

Also, research shows that people often share certain common moral intuitions, which leads them to prefer certain worldviews or

political ideologies over others. After surveying a vast range of psychological, anthropological, and cultural research, the social and cultural psychologist Jonathan Haidt and his colleagues have concluded that six common moral intuitions—relating to care, fairness, loyalty, authority, sanctity, and liberty—affect people's ideological positions.[4] (Liberals tend to anchor their worldviews in intuitions about care, fairness, and liberty, while conservatives tend to draw on all six intuitions, the researchers found.) People will answer the state-space questions differently depending on what moral intuitions they find most compelling. For instance, someone committed to the moral value of protecting personal liberty is likely to say (in answer to the question in the table about free will or "Agency") that a person's fate is more a result of choice than circumstances.

BASINS OF ATTRACTION

Metaphorically, the zones people prefer in the state space are a bit like valleys, or depressions, in a landscape—or "basins of attraction" in what complexity scientists call an "energy landscape." Just as water will flow into a depression in a real landscape on Earth and form a pool at that spot, people's beliefs will naturally gravitate to a comfortable basin in their worldview state space and settle there. Unstable worldviews or ideologies, on the other hand, are high points on the energy landscape. Just as it's hard to keep water at high points on a real landscape, people find it hard to sustain worldviews with configurations of belief that don't resonate with their personality types or moral intuitions. Their worldviews will then tend to migrate towards more coherent and appealing configurations, like water flowing downhill to ponds and lakes at a lower elevation.[5]

As I step into the state space in my mind's eye, I imagine that the fifteen-dimensional landscape of pixel dots has somehow been converted into our three-dimensional world and now resembles a

terrain we might find on Earth, with a pixelated topography of mountains, valleys, plains, and cliffs. I call this place the "mindscape": it's the geography of all possible human worldviews.

Some might object that the wording of the fifteen questions is too beholden to mainstream Western culture and received history, given my social, economic, and intellectual background and that of my collaborators. Or, they might say that even if we can discern questions that are common across cultures, arraying each answer along a single scale between polar-opposite (dichotomous) answers is arbitrary and quite possibly misleading.

But most of the questions, research suggests, are indeed common across cultures. The American political psychologist Kevin Smith and his colleagues note that "all mass-scale social units face common dilemmas" of this sort.[6] I've heard similar questions asked in everyday conversations from China to Zambia, and I'm sure many of you have had comparable experiences in your own travels. Also, any broad explanatory device like this has to be arbitrary to some extent; some details and nuances must be sacrificed for clarity of insight. In this case, to create a state space, we must array each question's answers along a single dimension, with opposite answers at each end. And human beings do tend to think dichotomously; for instance, we like to see things as being either clearly inside or outside their relevant categories.

Still, taken together, the questions I've listed are best seen as a working hypothesis about key underpinnings of people's political ideologies and their worldviews more generally. My collaborators and I are refining and adjusting them as we learn more, and we'll publish our findings over coming years. But I've decided that the early results are strong enough—even though we haven't yet dotted every scholarly i or crossed every T—to warrant presenting the questions here so that people can begin to use them.[7]

They can help us in two vitally important ways.

First, by creating an imaginary yet well-defined space—the mindscape—in which most if not all existing political ideologies reside, they can help us see better where those ideologies sit relative to each other, especially how close or far apart they are. The spatial metaphor also makes it easier to view our own and other people's worldviews from alternative perspectives—and perhaps improve understanding between ourselves and other groups. "By recognizing the underlying structures of meaning instilled in us by our own culture, we can become mindful of our own patterns of thought," says the American author Jeremy Lent.[8] And by shifting our answers to the questions, we can imagine moving across the mindscape towards another worldview.

In just this way, for example, the questions have helped me see more accurately where the climate contrarians I sometimes debate are coming from. We know that their deep skepticism of government regulation is often rooted in strong commitments to personal agency and the moral right to accumulate wealth. So in my debates with them, I sometimes mentally visualize shifting my own views on these issues step by step, as if moving a slider along the agency and wealth scales in the table. And as I do, I feel like I'm walking towards them through the mindscape.

Second, we can also use the questions to help us imagine alternative worldviews. Together, the questions are a bit like a laboratory bench on which we can mix different combinations of answers—rather than different combinations of chemicals—perhaps creating some stable worldview alternatives that otherwise wouldn't have occurred to us.

Why do we need this kind of imagination boost? Because all societies tend to adopt two or three dominant political ideologies, or basins of attraction in the mindscape; then, as we've seen in recent

decades in the West with modern conservatism and liberalism, they stay locked in a cycle between them for extended periods. Meanwhile, vast regions beyond those basins remain unseen and unexplored; and because we can't see, or because we resist exploring, any other basin—that is, other possible configurations of our beliefs and values—we become blind to even the possibility of alternatives.

When I traveled overseas with my friend in the early 1980s, the world's social and ideological systems were still markedly diverse. Of course, we found a few of them bizarre, and some morally reprehensible, but the experience still stretched our imaginations. Since that time, rising connectivity and a particular kind of globalized capitalism have homogenized many of humanity's worldviews, institutions, and technologies, creating, essentially, a vast basin of attraction around liberal-market ideas of economic individualism, property rights, limited regulation, and a consumerist notion of the good life.

Today, most of humanity's significant worldviews are either well inside this basin or orbiting around it. Many are inside, in the sense that they share the dominant capitalist ideology's basic tenets. Even the new populist authoritarianism that has arisen in societies as diverse as Hungary, the Philippines, Brazil, and the United States hasn't (yet) rejected capitalism's core principles. A few partially developed contemporary worldviews—like those of the Occupy protests of 2011 and 2012, the Transition Town movement promoting local economic autonomy, the youth climate strikes of 2019, and (as an example at the other extreme) the violent jihadist Islam that has arisen globally in the last thirty years—orbit around this dominant worldview, partly by defining themselves in opposition to aspects of it. Overall, then, humanity's conversation about alternative worldviews is astonishingly impoverished—and dangerously so, too, because we desperately need new ideas about how to live

together on our imperiled planet and redefine our relationship with Earth's material environment.

One way we can enrich this conversation, and at the same time radically change our mindscape's topography, is to introduce questions that create new dimensions in the mindscape. For example, until relatively recently the worldviews of modern Western societies almost always represented human beings as fundamentally distinct from, usually superior to, and having mastery over the surrounding natural world. There was literally no question about this aspect of our reality. But in the last sixty years in the West, scientific findings from biology and ecology have combined with environmental activism and greater attention to Indigenous ideas to reintroduce into popular awareness the earlier, fundamental recognition—represented by my table's seventh question—that humanity is deeply enmeshed in nature and so intimately dependent on it. In 1963, less than two years after Stephanie May was protesting on the New York City sidewalk about the dangers of nuclear radiation, the pioneering biologist Rachel Carson, author of the seminal environmental clarion call, *Silent Spring*, wonderfully described the meaning of this shift in viewpoint:

> We still talk in terms of conquest. We still haven't become mature enough to think of ourselves as only a tiny part of a vast and incredible universe. Man's attitude toward nature is today critically important simply because we have now acquired a fateful power to alter and destroy nature.
>
> But man is a part of nature, and his war against nature is inevitably a war against himself. The rains have become an instrument to bring down from the atmosphere the deadly products of atomic explosions. Water, which is probably our most important natural resource, is now used and re-used with incredible recklessness.

Now, I truly believe, that we in this generation, must come to terms with nature, and I think we're challenged as mankind has never been challenged before to prove our maturity and our mastery, not of nature, but of ourselves.[9]

That was nearly sixty years ago, and we've still not fully embraced the idea that humanity is part of nature, at great cost to all of us. But Rachel Carson's words show that the most vital innovations in our worldviews or political ideologies in our future could involve adding new dimensions to the mindscape, perhaps dropping current ones, and sometimes (as in this case) reintroducing forgotten ones.

MIGRATION BY JUMPS

Yet even if we can see an alternative worldview in the mindscape that could make our future better, how do we get there? Psychological, economic, political, or organizational barriers likely block most routes from today's worldviews to others that are potentially attractive—just like steep ridges and mountains can block our path across Earth's surface. Our Waterloo group calls this the migration problem.

It might seem relatively easy for a single person to move to a new worldview—say, to switch from a conservative to a liberal political ideology, or vice versa—because, as the systems theorist Donella Meadows said, "all it takes is a click in the mind." But most of us stick with our current worldview, even when abundant evidence shows it's not benefiting us, because it orders our reality and gives our lives meaning. Migration is even harder for a group of people together—say, a community or a whole society—because a group's dominant worldview is always intimately entangled with its prevailing institutions and technologies, and these are usually ferociously defended by powerful vested interests.

Also, migration as a group raises what social scientists call a "coordination problem." Even if everyone involved feels that the current worldview isn't working and has similar ideas about where they'd like to go, those who move first and move alone almost always pay a heavy price. At best, they'll isolate themselves, because they'll be talking in terms most other people can't really understand. At worst, they'll be targeted for attack. Inevitably a lot of people decide to let someone else go first.

Given such obstacles, many scholars, such as the American anthropologist Robert Boyd and biologist Peter Richerson, think people's worldviews and their underlying cultural systems generally evolve incrementally or in small bursts: each slight shift moves us a small step into the adjacent possible, but no further.[10] Then, after our institutions and technologies have shifted a bit too, we can take another small step. By this view, worldview change is necessarily plodding—and large worldview shifts can only happen as small changes accumulate over generations. And because worldview change occurs mainly within single cultures or societies, a global shift, in which much of humanity moves in roughly the same direction more or less simultaneously, is extremely unlikely. This kind of pessimism about fast and far-reaching worldview change encourages many governments and their advisors to look to shifts in institutions and technologies for answers to our global crises.

But our Waterloo group's research suggests that humanity as a whole might be able to jump well beyond the adjacent possible directly to another worldview. In fact, if lots of obstacles block the way between where we are now and that other worldview—a worldview that could be *enough* to genuinely reduce the danger humanity faces—jumping might be the only *feasible* way to get there.

Our research indicates that any big, global jump would require large and simultaneous changes in humanity's answers to several of

the fifteen questions in the list, or the addition of entirely new questions that create new dimensions in the mindscape. It would be akin to a Gestalt shift in psychology, or perhaps instances of religious conversion, in which the mind flips from one perspective on the world to another, with no position in between. When we look at the image on this page, our mind jumps from the perception of the female face to that of the male saxophonist and back; our brains find it very hard to hold an intermediate or "in between" state.

At least once before in humanity's history, something like a global worldview jump seems to have happened. Between about 900 and 200 BCE, an era that the German existential philosopher Karl Jaspers labeled "the Axial Age," civilizations in ancient China, India, Israel, and Greece—each suffering enormous upheaval at the time—experienced remarkably similar shifts in their dominant beliefs and values.[11] Scholars still debate the nature of these shifts and why they occurred. Some say they involved changes in moral values: unreflective and absolutist creeds that sanctioned selfishness and violence against members of other communities gave way to worldviews grounded in ideals of self-examination and personal responsibility that emphasized values of compassion, inclusiveness, and fairness. Others say the Axial Age was more cognitive: humans learned how to use abstract knowledge that was disengaged from everyday concerns; people could then see what they believed were more essential aspects of reality—its underlying "truths"—a change that made possible, among other things, modern science and universalized ethics.

Despite their differences on specifics, prominent scholars including the late American sociologist Robert Bellah and the renowned English author on world religions Karen Armstrong agree that the change did occur, that it was of great significance, and that it laid the foundation for modern civilization.[12] Yes, it happened over a period of centuries, perhaps as many as seven. But remember, in those days ideas spread at a snail's pace through societies and civilizations: people traveled, even over long distances, mostly on foot and communicated with each other almost always through speech. Any equivalent worldview transformation this century, in a highly networked world energized by mass travel and modern information technologies, would be immensely accelerated.

Are there other examples in history of global worldview jumps? Two such candidates might be the shift from city, principality, and kingdom to sovereign nation-state as a main unit of human group identity after the Treaty of Westphalia in 1648; or the recent diffusion around the planet of neoliberal economic principles that promote norms of deregulation, economic efficiency, and the commodification of nearly everything. Yet while both these transitions were enormously important, to be sure, neither reformulated the very basis—moral and cognitive—of human civilization, the way the original Axial Age did.

When we view humanity's situation today through a complex-systems lens, it looks like conditions could finally be ripe for a jump of similar magnitude—a kind of second Axial Age. Karen Armstrong herself suggests that such a transition has already begun, starting with the Enlightenment in Europe in the seventeenth and eighteenth centuries. Now, the extraordinary—and historically unprecedented—connectivity, uniformity, feedbacks, and emergence in today's global systems could make possible a deep and rapid transformation in humanity's beliefs about itself and its

future—sweeping nonlinear shifts in worldviews that could lay the foundation for a prosperous, just, and even exhilarating new era of human civilization.

BINDING QUESTIONS

While the state-space model is a good place to start to generate understanding of existing and possible worldviews in the mindscape, it isn't enough by itself, of course. We can use answers to the table's questions to identify some of a political ideology's key assumptions, to see where one ideology sits relative to others, and to find zones in the mindscape that haven't been fully explored. But by themselves, answers to the questions don't give us rich details of the content, or meaning, of a given ideology or its larger worldview. That content is a scaffolding of concepts, beliefs, and values around which people build the stories that guide their lives, including, ideally, the compelling visions of the future that can be the basis for their powerful hope and the hero stories they use to manage some of their deepest anxieties.

To begin to see such details, we must ask a different but related set of questions. For example, if a given worldview entails a belief that some moral principles are objective and universal, we need to ask: Which principles, exactly, does this worldview regard as such? Similarly, if a worldview sees a person's fate as largely a result of circumstances and not choice, we can ask: Which circumstances are most powerful? Perhaps economic conditions during upbringing are thought decisive, or family love, or genetic makeup.

We need answers to such questions to understand the stories people tell using their worldviews. I call the questions "binding questions," because their answers together *bind* a specific location on the mindscape to a detailed picture of what a real or imagined worldview at that location would look like to people holding it in the

context of their everyday lives. Binding questions give us an under-standing of the worldview "from the inside," so to speak. Below is a sample list.

EXAMPLES OF BINDING QUESTIONS

Asking questions such as the following of a given worldview or ideology will help establish key details of its perspective. This list is not exhaustive.

Threat: If the world is a dangerous place, what makes it dangerous?

Source of Understanding: If the world is best understood through reason, what kind of reason (for example, scientific, philosoph-ical, or religious) is most appropriate?

Spirituality: If reality is spiritual, what is the locus or source of this spirituality? What is sacred?

Moral Principles: If some principles are objective and universal, what are those principles?

Agency: If a person's fate is a result of circumstances, which cir-cumstances are most powerful?

Relationship between Humans and Nature: If people are exceptional and distinct from nature, in what ways are they exceptional compared to other species?

Social Differentiation: If differences between groups are large and essential, what groups and differences are most important?

Source of Personal Identity: If one's identity is derived from one's group, which group?

Time: If the ideology or worldview is oriented strongly to the past, which aspects of the past are important? If it's oriented strongly to the future, what is its vision of that future?

Change: If the ideology or worldview encourages change, what kind of change?

Care for Others: If one should help others, whom should one help?

Authority: If one should defer to authority, which authority?

Power: If the use of power is often right, which entities (for instance, the state, corporations, or paramilitary groups) have the principal right to use this power and when?

Wealth: If large differences in wealth are moral, which people and/or groups should rightfully benefit?

Consider the binding question for the issue of Social Differentiation in the table. It's a key one: "If differences between groups are large and essential, what groups and differences are most important?" From their answers to this question, we can learn what the holders of the worldview see as the most important groups in their social environment; they might, for instance, divide up their social world using markers like race or class or religion.

Then we can link together answers to some of the other state-space and binding questions. For example, if a man divides up his social world according to race, we can then ask to what degree race informs his personal identity—especially whether race is the basis for his idea of "we" and, if so, how much that "we" informs his personal identity, his sense of "Who I am." Next we can ask how much he thinks he should care for other members of this "we" group. White nationalists, for example, see themselves as part of the white racial "we" and usually feel strongly that they should take care of other members of what they identify as the white race, to the exclusion of others.

The Social Differentiation question is also important because when we—whatever our orientation—see our social world as cleaved into essentially distinct groups, we often further differentiate among these groups by what we believe is their underlying human nature and degree of agency. Those espousing so-called Nazi ideas (today

as much as in the last century), for example, not only differentiate the social world by what they see as "race," they then ascribe to the various races fundamentally different natures, with of course their own appearing superior: Aryans are innately generous, while Jews are innately selfish, according to their grotesque worldview.

One of the most common perspectives on social differentiation simply sees society as divided between groups with lots of power and those with little or none. Those with power—a characteristic sometimes associated with wealth—are seen, often correctly, as having a lot of control over their fate (or agency), which they use to exploit those without power. In the West, people on both the political left and the populist right often see themselves as members of such exploited groups, a view that makes it more likely they'll see the world they inhabit as dangerous. When such beliefs are coupled in their worldviews with strong beliefs in objective principles of justice and fairness—principles that the powerful seem to shamelessly violate—people in both groups can feel tremendous grievance and anger.

We'll see in the last chapter that the questions regarding Social Differentiation, Source of Personal Identity, and the Relationship between Humans and Nature are together particularly critical to shaping humanity's evolving conception of itself—so they're critical, too, to any positive vision of the future that can be the object of our hope. These questions, and all the state-space and binding questions more generally, can help us unpack some of the rich details of alternative visions and their underlying worldviews. But we still need a tool to see exactly how these details fit together and what they mean to each of us emotionally.

And we have just such a tool: cognitive-affective maps.

CHAPTER 16: HERO STORIES

1. John Dryden, "Act IV.i," *Aureng-Zebe,* ed. Frederick M. Link (Lincoln: University of Nebraska Press, 1971), 74.

2. Ernest Becker's most significant statement of his theory is *The Denial of Death* (New York: Free Press, 1973).

3. Tom Pyszczynski, Sheldon Solomon, and Jeff Greenberg, "Thirty Years of Terror Management Theory: From Genesis to Revelation," *Advances in Experimental Social Psychology* 52 (December 2015): 1–70, doi: 10.1016/bs.aesp.2015.03.001.

4. Corballis, *The Recursive Mind*, 108.

5. Becker, *Denial of Death,* 5.

6. Ajit Varki and Danny Brower, *Denial: Self-Deception, False Beliefs, and the Origins of the Human Mind* (New York: Hachette, 2013).

CHAPTER 17: STRATEGIC INTELLIGENCE

1. All quotations of Stephanie May in this chapter are extracted from chapter 17 (starting at page 315) through chapter 22 (ending at page 418) of her unpublished memoirs.

2. Meadows, *Leverage Points,* 19.

3. Erving Goffman, *Strategic Interaction* (Philadelphia: University of Pennsylvania Press, 1970), 100-1.

CHAPTER 18: MINDSCAPE

1. A comprehensive survey of current scholarship on political ideology is Michael Freeden, Lyman Tower Sargent, and Marc Stears, eds., *The Oxford Handbook of Political Ideologies* (Oxford: Oxford University Press, 2013). See also Teun A. van Dijk, *Ideology: A Multidisciplinary Approach* (London: Sage, 1998).

2. Foundational studies of political attitudes and ideology include Milton Rokeach, *The Nature of Human Values* (New York: Free Press, 1973); Michael Thompson, Richard Ellis, and Aaron Wildavsky, *Cultural Theory* (Boulder, CO: Westview, 1990); Valerie Braithwaite, "The Value Balance Model of Political Evaluations," *British Journal of Psychology* 89 (1998): 223–47, doi: 10.1111/j.2044-8295.1998.

tb02682.x; and John T. Jost, Aaron C. Kay, and Hulda Thorisdottir, eds., *Social and Psychological Bases of Ideology and System Justification* (Oxford: Oxford University Press, 2009). In cross-national studies of political attitudes and values, of particular importance is the World Values Survey. Since 1981, the survey has gathered large quantities of data in almost one hundred countries and is now the "the largest non-commercial, cross-national, time series investigation of human beliefs and values ever executed." For more information, see http://www.worldvaluessurvey.org/wvs.jsp. See also the "cultural dimensions theory" of Geert Hofstede, summarized in Hofstede,"Dimensionalizing Cultures: The Hofstede Model in Context," *Online Readings in Psychology and Culture* 2, no. 1 (2011), doi: 10.9707/2307-0919.1014

3. John T. Jost, Jack Glaser, Arie W. Kruglanski, and Frank J. Sulloway, "Political Conservativism as Motivated Social Cognition," *Psychological Bulletin* 129, no. 3 (2003): 339–75, doi: 10.1037/0033-2909. 129.3.339.

4. An early, seminal formulation of the relevance of "moral foundations theory" to people's attachment to political ideology is Jonathan Haidt, Jesse Graham, and Craig Joseph, "Above and Below Left-Right: Ideological Narratives and Moral Foundations," *Psychological Inquiry* 20 (2009): 110–19, doi: 10.1080/10478400903028573. Haidt's most complete statement of the theory is *The Righteous Mind: Why Good People Are Divided by Politics and Religion* (New York: Pantheon, 2012). A quickly accessible treatment can be found at https://moralfoundations.org/.

5. Basins of attraction are places of local stability or equilibrium where the system in question is more likely to settle and remain, because less energy is needed to keep the system there. In the state-space model, the basins are locations in the state space where large numbers of people don't have to invest a lot of cognitive energy—they don't have to think much—to maintain their political ideologies, because (among other reasons) the ideologies at those locations align with their temperaments and moral intuitions. Psychologists

can measure people's investment of cognitive energy by using methods such as the implicit association test, which captures the degree of subconscious association between mental representations in a person's mind. Generally, the more conscious an association, the more cognitive energy is invested in making the association.

6. Kevin B. Smith, Douglas R. Oxley, Matthew V. Hibbing, John R. Alford, and John R. Hibbing, "Linking Genetics and Political Attitudes: Reconceptualizing Political Ideology," *Political Psychology* 32, no. 3 (June 2011): 369–97, doi: 10.1111/j.1467-9221.2010.00821.x.

7. Field tests so far have produced notable results. For example, in a survey of over 450 people in North America drawn from a larger group of over 5,000 to represent a cross-section of adults with different incomes, education, and liberal or conservative political orientations, the state-space questions predicted people's political orientation as well as tried-and-true approaches that social psychologists and political pollsters use—such as measures of authoritarianism, traditional conservatism, and social dominance orientation. Specifically, the questions predicted about 47 percent of the variance in political orientation in the sample (i.e., they generated together an R-squared of 0.4714 in a regression analysis). The survey also produced some surprises. For instance, while most people in the group were moderately inclined to defer to authority, most were also morally opposed to the use of power over others.

8. Jeremy Lent, "As Society Unravels, the Future Is Up for Grabs," *Patterns of Meaning*, September 12, 2019, https://patternsofmeaning.com/author/jeremylent/.

9. Rachel Carson, speaking in "The Silent Spring of Rachel Carson," CBS Reports, television documentary (April 3, 1963), as quoted in Jonathan Norton Leonard, "Rachel Carson Dies of Cancer; 'Silent Spring' Author was 56," *New York Times*, April 15, 1964, https://archive.nytimes.com/www.nytimes.com/books/97/10/05/reviews/carson-obit.html.

10. Robert Boyd and Peter J. Richerson, *Culture and the Evolutionary Process* (Chicago: University of Chicago Press, 1985); and Peter J.

Richerson and Robert Boyd, *Not by Genes Alone: How Culture Transformed Human Evolution* (Chicago: University of Chicago Press, 2005).

11. Karl Jaspers, "I. The Axial Period," in *The Origin and Goal of History* (London: Routledge & Kegan Paul, 1953), 1–21.

12. Robert Bellah, *Religion in Human Evolution: From the Paleolithic to the Axial Age* (Cambridge, MA: Harvard University Press, 2011); and Karen Armstrong, *The Great Transformation: The Beginning of Our Religious Traditions* (New York: Knopf, 2006).

CHAPTER 19: HOT THOUGHT

1. Scholars such as neuroscientist António Damásio trace this reason-emotion dichotomy back to the writings of French philosopher René Descartes; it's now so deeply embedded in modern culture that I've represented it in one of my state-space questions. In reality, however, all human cognition, including rational cognition, is "embodied," in the sense that it's intimately affected by—and in many cases only possible because of—the manifold physical properties of our bodies, including how our bodies move in and manipulate their surroundings, their sensory apparatus, and the endocrine and neurochemical systems that involve emotion. See António Damásio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Penguin, 2005).

2. Paul Thagard, *Brain-Mind: From Neurons to Consciousness and Creativity* (Oxford: Oxford University Press, 2019), 155. See also Thagard, *Hot Thought: Mechanisms and Applications of Emotional Cognition* (Cambridge, MA: MIT Press, 2006).

3. Thomas Homer-Dixon, Manjana Milkoreit, Steven Mock, Tobias Schröder, and Paul Thagard, "The Conceptual Structure of Social Disputes: Cognitive-Affective Maps as a Tool for Conflict Analysis and Resolution," *SAGE Open* (January–March 2014): 1–20.

4. "Some people have asked us what group we represent," Stephanie told a reporter in June 1957, when her first anti-testing petition was circulating. "There is no organization involved," she said. "The only