

"This is another landmark book by Richard E. Nisbett. Nisbett shows conclusively that laboratory experiments limited to American college students or even individuals from the Western Hemisphere simply cannot provide an adequate understanding of how people, in general, think. The book shows that understanding of how individuals in Eastern cultures think is not just nice, but necessary, if we wish to solve the problems we confront in the world today. We ignore the lessons of this book at our peril."

—Robert J. Sternberg, IBM Professor of Psychology and Education; Director, Center for the Psychology of Abilities, Competencies, and Expertise (PACE Center), Yale University; President, American Psychological Association

"Cultural psychology has come of age and Richard Nisbett's book will surely become one of the canonical texts of this provocative discipline. *The Geography of Thought* challenges a fundamental premise of the Western Enlightenment—the idea that modes of thought are, ought to be, or will become the same wherever you go—east or west, north or south—in the world."

—Richard A. Shweder, anthropologist and  
William Claude Reavis Professor of  
Human Development at the University of Chicago

"The cultural differences in cognition, demonstrated in this groundbreaking work, are far more profound and wide-ranging than anybody in the field could have possibly imagined just a decade ago. The findings are surprising for universalists, remarkable for culturalists, and, regardless, they are most thought-provoking for all students of human cognition."

—Shinobu Kitayama, Faculty of Integrated  
Human Studies, Kyoto University

# THE GEOGRAPHY OF THOUGHT

*How Asians and Westerners*

*Think Differently . . . and Why*

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RICHARD E. NISBETT

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CHAPTER 4

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"EYES IN BACK OF YOUR  
HEAD" OR "KEEP YOUR  
EYE ON THE BALL"?

If people really do see the world in terms dictated by their social existence, then we might expect modern East Asians to have the same sort of holistic worldviews as ancient Chinese thinkers did, and we might expect modern people of European culture to exhibit the same sorts of analytic approaches that were characteristic of ancient Greek thinkers. Moreover, the different social realities might produce very different patterns of literally *seeing* the world. People who live in a world in which external forces are the important ones could be expected to pay close attention to the environment. People who live in a world in which personal agency produces results might focus primarily on objects that they can manipulate to serve their own goals.

## HOLISM VS. ANALYSIS

I was sitting on a plane bound from northern California recently when I heard the voice of a man—a European American—asking questions of his two-and-a-half-year-old son.

Dad: "What shape is the balloon?" No answer. "It's round, Jason."

Dad: "This is a pair of socks. Are they short or long?"

Little boy: "Short."

Dad: "That's right, short."

Dad: "This is a pair of pants. Are they . . . ?"

Little boy: "Short."

Dad: "No, Jason, they're long."

Though this exchange may seem to Westerners to be an unexceptional quiz, by Asian standards it is quite unusual. The father's questions consisted of directing his son's attention to objects and asking about their properties. Whereas this might seem to Westerners to be the most natural way to orient a child's attention, it's not to Easterners, and the reasons for this have profound implications for cultural differences in perception and cognition.

The ancient Chinese philosophers saw the world as consisting of continuous substances and the ancient Greek philosophers tended to see the world as being composed of discrete objects or separate atoms. A piece of wood to the Chinese would have been a seamless, uniform material; to the Greeks it would have been seen as composed of particles. A novel item, such as a seashell, might have been

seen as a substance by the Chinese and as an object by the Greeks. Remarkably, there is evidence that modern Asians also tend to see the world as consisting of continuous substances, whereas modern Westerners are more prone to see objects.

Cognitive psychologists Mutsumi Imae and Dedre Gentner showed objects composed of particular substances to Japanese and Americans of various ages from less than two to adulthood and described them in ways that were neutral with respect to whether each was an object or a substance. For example, they might show a pyramid made of cork and ask the participants to "look at this 'dax.'" Then they showed the participants two trays, one of which had something on it of the same shape as the object presented but which was made of a different substance (for example, a pyramid made of white plastic) and one of which had the same substance in a different shape (for example, pieces of cork). The investigators then asked their participants to point to the tray that had *their* "dax" on it.

Americans were much more likely to choose the same shape as the "dax" than were the Japanese, indicating that the Americans were coding what they saw as an object. The Japanese were more likely to choose the same material as the "dax," indicating that they were coding what they saw as a substance. The differences between Americans and Japanese were very large. On average, across the many trials with different displays, more than two thirds of four-year-old American children chose another object as the "dax," whereas fewer than a third of Japanese four-year-old children did. The differences were equally large

for adults. Even two-year-olds differed. American infants were somewhat more likely to choose the object than were the Japanese infants.

Taken at face value, the Imai and Gentner results indicate that Westerners and Asians literally see different worlds. Like ancient Greek philosophers, modern Westerners see a world of objects—discrete and unconnected things. Like ancient Chinese philosophers, modern Asians are inclined to see a world of substances—continuous masses of matter. The Westerner sees an abstract statue where the Asian sees a piece of marble; the Westerner sees a wall where the Asian sees concrete. There is much other evidence—of a historical, anecdotal, and systematic scientific nature—indicating that Westerners have an analytic view focusing on salient objects and their attributes, whereas Easterners have a holistic view focusing on continuities in substances and relationships in the environment.

In the turn-of-the-century midwestern neighborhood where I live in Ann Arbor, Michigan, many of the homes are attractive workers' cottages with white clapboard siding and gabled roofs. The homes were shipped by the Sears Roebuck Company and unloaded at the railroad station before being brought up the hill by horse carts to be put together like a puzzle from numbered pieces. Not too long after, Henry Ford, whose motor car company was and is located about forty miles from my town, invented the assembly line. Auto part "atoms" were put together by workers performing a repetitive, identical set of actions over and over again at a fixed station in the line. Iron ore came in one end of the River Rouge plant in Dearborn, Michigan, and, after being smelted and manufactured into

simple parts and put together by workers performing simple operations, came out as a Model A Ford on the other.

Beginning in the late eighteenth and early nineteenth century, the West, and especially America, began to atomize, that is to say, *modularize* the worlds of manufacture and commerce. The production of everything from muskets to furniture was broken down into the most standardized parts possible and the simplest replicable actions. Each implement, each component, each action of the worker was analyzed and made maximally efficient. Objects that had taken craftsmen months to create could now be produced in a matter of hours. Time itself became a modular entity: three minutes for bolting on the carburetor, two and a half for installing spark plugs.

Starting around the late nineteenth century, retail stores became modular "chains." It was possible to go into a Sears and, a half century or so later, a McDonald's, anywhere in the country—and eventually the world—and see the same rows of merchandise, or the same booths and burgers, in any of them. (One of my favorite *New Yorker* cartoons depicts two older American ladies asking a hotel doorman, "Is this the Geneva Sheraton or the Brussels Sheraton?")

The atomistic attitude of Westerners extends to their understanding of the nature of social institutions. In their survey of the values of middle managers, Hampden-Turner and Trompenaars asked whether their respondents thought of a company as a system to organize tasks or as an organism coordinating people working together:

- (a) A company is a system designed to perform functions and tasks in an efficient way. People

are hired to fulfill these functions with the help of machines and other equipment. They are paid for the tasks they perform.

- (b) A company is a group of people working together. The people have social relations with other people and with the organization. The functioning is dependent on these relations.

About 75 percent of Americans chose the first definition, more than 50 percent of Canadians, Australians, British, Dutch, and Swedes chose that definition, and about a third of Japanese and Singapore chose it. Germans, French, and Italians as a group were intermediate between the Asians and the people of British and northern European culture. Thus for the Westerners, especially the Americans and the other people of primarily northern European culture, a company is an atomistic, modular place where people perform their distinctive functions. For the Easterners, and to a lesser extent the eastern and southern Europeans, a company is an organism where the social relations are an integral part of what holds things together.

The holism of the ancient Chinese extended to a sense of the unity of human existence with natural and even supernatural occurrences. What happened on earth resonated with events in nature and in heaven. The same is true of East Asians today. Both Taoism, still influential in China and elsewhere in East Asia, and Shintoism, still important in Japan, retain strong elements of animism: animals, plants, natural objects, and even human-made artifacts have spirits. Advertisements that emphasize

nature have far more success in Asia than in the West. The Nissan corporation discovered this fact, to its chagrin, when it opened its advertising campaign for the Infiniti luxury car in the U.S. not with pictures of its automobile but with scenes of nature—often several expensive pages of nature scenes in a row—with just the name of the car at the end of the sequence. The campaign was a noted flop. ("Although," quipped one American advertising industry wag, "sales of rocks and trees are way up.")

Just as the social attitudes and values of continental Europe are intermediate between East Asian and Anglo-American ones, the intellectual history of the Continent is more holistic than that of America and the Commonwealth. The big-picture ideas are much rarer in Anglo-America than on the Continent. During the many decades that Anglo-American philosophers concerned themselves with atomistic, so-called ordinary language analysis, European philosophers were inventing phenomenology, existentialism, structuralism, poststructuralism, and postmodernism. The largest systems of political, economic, and social thought arise primarily from the Continent. Marxism is a German product; sociology was invented by the Frenchman Auguste Comte and raised to its highest level of achievement by the German Max Weber. In psychology, it is also the continentals who dominate the big-picture theories: the Austrian Freud and the Swiss Piaget are perhaps the most influential psychologists of the twentieth century. In my own subfield of social psychology, two Germans, Kurt Lewin and Fritz Heider, have contributed by far the broadest and most comprehensive theories. And the school

of psychology that I find myself belatedly belonging to is the historical-cultural one established by the Russian psychologists Lev Vygotsky and Alexander Luria.

It's not just that Anglo-American scholars don't tend to create broad-ranging theories; they can seem positively allergic to them. B. F. Skinner, America's chief candidate for the psychology pantheon, was not merely a reductionist of the extreme atomic school, he actually believed theories of any sort were inappropriate—too general and too removed from the unshakable facts. Students in my graduate school cohort who toyed with large ideas were likely to be accused by their peers of engaging in "night-school metaphysics." Even Anglo-American social scientists who are sympathetic to theories don't tend to like the big ones. My sociology teacher in graduate school was Robert Mer-ton, who praised "theories of the middle range" as being the right level to aim for. (To his dismay, this was once translated by an Italian scholar, perhaps tongue in cheek, as "theories of the average level.")

#### PERCEIVING THE WORLD

If East Asians must coordinate their behavior with others and adjust to situations, we would expect them to attend more closely to other people's attitudes and behaviors than do Westerners. In fact we have evidence that East Asians do pay more attention to the social world than do Westerners. Li-jun Ji, Norbert Schwarz, and I found evidence that Beijing University students have more knowledge about the attitudes and behaviors of their peers than

do University of Michigan students. A research team from our labs at Michigan headed by Trey Hedden and Denise Park, and by Qicheng Jing at the Chinese Institute of Psychology, examined how memory for words would be affected by the type of pictorial background they appeared on. Chinese and American college students and elderly people were asked to look at a large number of words. Some words were presented on a "social" background consisting of pictures of people, some on a background consisting of "nonsocial" objects such as flowers, and some on no background at all. After seeing the set of pictures, participants reported all the words they could recall. There was no difference between Chinese and Americans in recall of words initially presented on non-social backgrounds or on no background, but Chinese participants recalled more words that had been presented on social backgrounds than did American participants. Memory for the pictures of people apparently served as a *retrieval cue* for the words emblazoned on them, indicating that the Chinese had paid more attention to the social cues than the Americans.

There is good reason to believe that Westerners and Asians literally experience the world in very different ways. Westerners are the protagonists of their autobiographical novels; Asians are merely cast members in movies touching on their existences. Developmental psychologists Jessica Han, Michelle Leichtman, and Qi Wang asked four- and six-year-old American and Chinese children to report on daily events, such as the things they did at bedtime the night before or how they spent their last birthday. They found three remarkable things. First,

although all children made more references to themselves than to others, the proportion of self-references was more than three times higher for American children than for Chinese children. Second, the Chinese children provided many small details about events and described them in a brief, matter-of-fact fashion. American children talked in a more leisurely way about many fewer events that were of personal interest to them. Third, American children made twice as many references to their own internal states, such as preferences and emotions, as did the Chinese children. In short, for American kids: "Well, enough about you; let's talk about me."

That Asians have a more holistic view of events, taking into perspective the orientation of other people, is also indicated by a study by social psychologists Dov Cohen and Alex Gunz. They asked North American students (mostly Canadian) and Asian students (a potpourri of students from Hong Kong, China, Taiwan, Korea, and various South and Southeast Asian countries) to recall specific instances of ten different situations in which they were the center of attention: for example, "being embarrassed." North Americans were more likely than Asians to reproduce the scene from their original point of view, looking outward. Asians were more likely to imagine the scene as an observer might, describing it from a third-person perspective.

It should be noted that for the studies described in this section, and for all studies conducted by our research teams in which some participants were tested in English and some in another language, we used the method of "back-translation" to ensure comparability. Materials were

composed in language A and translated into language B. A native speaker of language B then translated the materials back into language A. If the native speaker of language A judged that the original and the back-translated version were identical in meaning, the materials were used as constructed. If not, the procedure was repeated.

My new Japanese student, Taka Masuda, was six feet two inches tall and weighed 220 pounds. He was a football player (yes, football—it's the third most popular sport in Japan). Needless to say, he was excited about going to his first Big Ten football game shortly after arriving at Michigan in the fall. He was in fact thrilled by the game, but he was appalled by the behavior of his fellow students. They kept standing up and blocking his view. In Japan, he told me, everyone learns from an early age to "watch your back." Nothing to do with paranoia—on the contrary, the point is to make sure that what you do doesn't impinge on the pleasure or convenience of others. The American students' indifference to the people behind him seemed unfathomably rude to him.

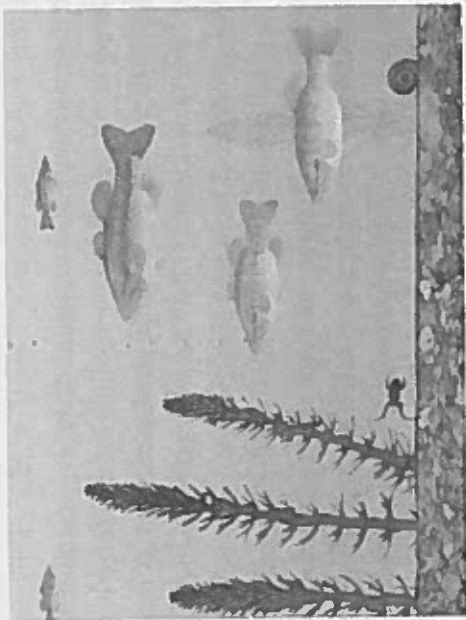
The behavior of American football fans motivated Masuda to test the hypothesis that Asians view the world through a wide-angle lens, whereas Westerners have tunnel vision. He achieved this by using a deceptively simple procedure. He showed eight color animated underwater vignettes, like the one reproduced in black-and-white at the top of the illustration on page 91, to students at Kyoto University and the University of Michigan. The scenes were all characterized by having one or more "focal" fish, which were larger, brighter, and faster-moving than any-

thing else in the picture. Each scene also contained less rapidly moving animals, as well as plants, rocks, bubbles, etc. The scenes lasted about twenty seconds and were shown twice. After the second showing, participants were asked to say what they had seen. Their answers were coded as to what they referred to: focal fish, other active objects, background and inert objects, etc.

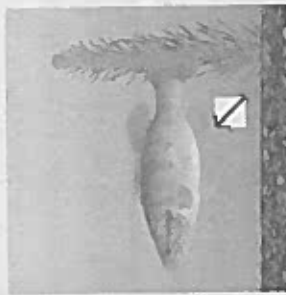
Americans and Japanese made about an equal number of references to the focal fish, but the Japanese made more than 60 percent more references to background elements, including the water, rocks, bubbles, and inert plants and animals. In addition, whereas Japanese and American participants made about equal numbers of references to movement involving active animals, the Japanese participants made almost twice as many references to relationships involving inert, background objects. Perhaps most tellingly, the very first sentence from the Japanese participants was likely to be one referring to the environment ("It looked like a pond"), whereas the first sentence from Americans was three times as likely to be one referring to the focal fish ("There was a big fish, maybe a trout, moving off to the left").

After participants had reported what they had seen in each vignette, they were shown still pictures of ninety-six objects, half of which they had seen before and half of which they hadn't. Their job was to say whether they had seen the objects before. Some of the objects that had actually been seen before were shown in their original environment and some were shown in a novel environment. Examples of both types are shown at the bottom of the illustration. The ability of the Japanese to recognize that

### Recall Task



### Recognition Task



Fish with Original  
Background



Fish with Novel  
Background

Examples of underwater scenes. *Top*: frame from film for recall task.  
*Bottom*: still photos for recognition task.



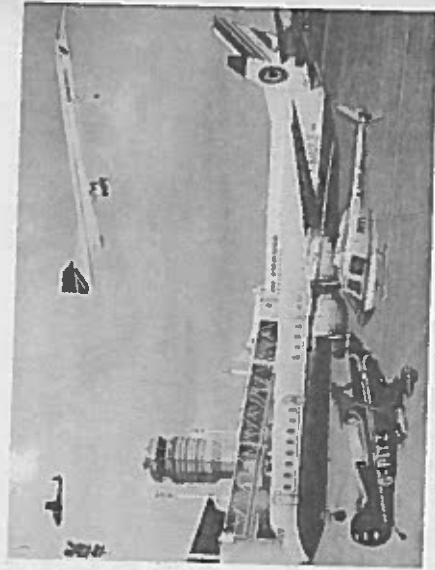
they had seen an object before was substantially greater than when the object was shown in the original environment than when it was shown in a new environment, suggesting that the object had become "bound" to the environment when seen initially and remained that way in memory. It made precisely no difference at all to Americans whether they saw the object in its initial environment or in a novel environment, suggesting that the perception of the object was fully separated from its environment.

In a follow-up study, Masuda and I showed various kinds of animals in different contexts to Americans and Japanese, this time measuring not only accuracy of recognition but also speed of processing. Again, the Japanese were more affected by the manipulation of background than were the Americans, making many more errors when the object was presented against a novel background than when it was presented against its original background. Moreover, the speed of Japanese judgments was impaired when the objects were presented against a novel background, whereas Americans' judgment speed was not affected.

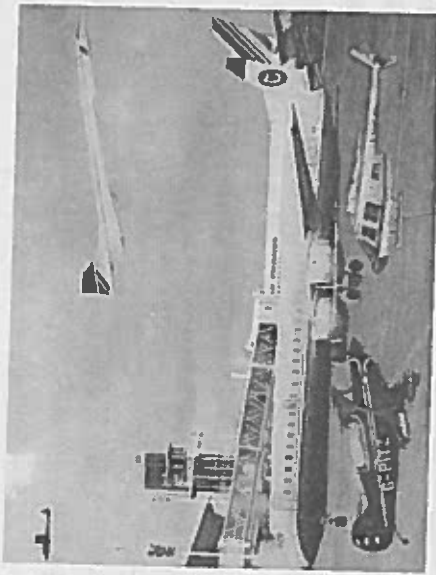
Suppose you were approached by a man on the street who asked for directions. As you are talking to the person, two men come between you carrying a large sheet of plywood. The man who was talking to you grabs the end of the plywood and his confederate remains after the plywood procession is gone—as if he were the person you had been talking to originally. How likely is it, do you suppose, that you would fail to notice that you were talking to a changeling? Short of the two men being identical twins, you might guess that there is no chance of such an error.

In fact, it is easy to fool people with this trick. And in general people are remarkably impervious to the fact that some scene they are viewing has been altered in a substantial way. Film editors depend on this susceptibility: actors are standing in a slightly different relation to one another in a particular scene than they were at what is supposed to be a split second before; the cigarette is burned farther down earlier in the scene than later, and so on.

One implication of the notion that Easterners pay relatively more attention to the field than do Westerners is that we would expect the latter to be relatively blind to changes in objects in the background and to changes in relationships between objects. We might also expect that Westerners would be quicker to grasp alterations in salient foreground objects than Easterners would be. In order to examine this possibility, Masuda and I showed brief computer-generated color film clips to Japanese and American participants. The clips were almost, but not quite, identical. The illustration on page 94 shows black-and-white versions of one of the pairs. The scenes shown are frames from partway through the clips. The participant's job was to report in what way the clips differed. It can be seen that they differed in several respects. For example, the helicopter at the bottom has the black rotor to the left in one version and to the right in the other. The Concorde that is taking off has its landing gear down in one version and up in the other. Relationships between objects also differ. For example, the helicopter and the single-engine plane are closer together in one version than in the other. Finally, background details are different: The control tower has a different shape in one version than in the other.



Frame from Airport Site Movie: Version 1



Frame from Airport Site Movie: Version 2

Two versions of airport site movie.

As we anticipated, the Japanese participants noticed many more background differences between the two clips and many more relationship differences than Americans did. Americans were more likely to pick up changes in focal, foreground objects.

If Asians pay more attention to the environment than Westerners, we might expect that they would be more accurate in perceiving relationships between events. Exploring this question, Li-jun Ji, Kaiping Peng, and I presented Chinese and American participants with a split computer screen. On the left side of the screen we flashed one of two arbitrary figures: for example, a schematic medal or a schematic lightbulb. Immediately after, on the right side of the screen, we flashed one of another two arbitrary figures: for example, a pointing finger or a schematic coin. For some of the trials, there was no association whatever between what came up on the left and what came up on the right. For example, the coin was no more likely to come up on the right if it had been the medal that had come up on the left than if it had been the lightbulb on the left. For other trials, there was an association, sometimes a fairly strong one. We asked participants how strong they thought the association was on each set of trials and how confident they were that they were right.

Chinese participants reported stronger associations between what came up on the left and what came up on the right than did Americans, their confidence in their judgments was greater, and their confidence was better calibrated with the actual degree of association than was the case for Americans. Most strikingly, Americans showed the usual tendency found in covariation-detection studies

of being overly influenced in their judgments by the first pairings seen. For example, if the lightbulb was frequently paired with the medal on early trials, the Americans tended to report that that had been the rule in general—even when that was not the case. The Chinese participants were subject to no such error.

Ji, Peng, and I also examined whether Americans are more capable of separating an object from its context than Asians. (There should be *some* advantage to the analytic, tunnel-vision perceptual style!) We presented East Asians (mostly Chinese and Koreans) and Americans with the Rod and Frame Test for "field dependence" invented by Witkin and his colleagues. In this test, you present participants with a long box, at the end of which is a rod. The rod can be manipulated independently of the box, which serves to frame the rod. The participant's task is to judge when the rod is exactly vertical, but the position of the frame inevitably influences judgments about the rod to a degree. People are deemed "field dependent" to the extent that their judgments about the verticality of the rod are affected by the context, that is, the orientation of the frame. We anticipated that the Asians would be more field dependent and indeed they were. They found it more difficult than did the Americans to make judgments about the position of the rod without being biased by the orientation of the frame.

#### CONTROLLING THE WORLD

If life is simple and you only have to keep your eye on the ball in order to achieve something, life is controllable. If

life is complex and subject to changes of fortune without notice, it may not matter where the ball is; life is simply not easily controlled. Surveys show that Asians feel themselves to be in less control than their Western counterparts. And rather than attempting to control situations, they are likely to try to adjust to them. Social psychologists Beth Morling, Shinobu Kitayama, and Yuri Miyamoto asked Japanese and American students to tell them about incidents in their lives in which they had adjusted to some situation and incidents in which they had been in control of the situation. The incidents of adjustment were apparently more common for the Japanese, since the ones they remembered were on average more recent than was the case for Americans. Incidents of control were apparently more common for Americans than for Japanese because remembered control incidents were more recent for the Americans. Morling also asked her participants how they felt in each type of situation. The Americans, but not the Japanese, felt awkward, anxious, and incompetent when they had to adjust to a situation.

Other evidence also suggests that feeling in control is not as important for Asians as it is for Westerners. A survey of Asians, Asian Americans, and European Americans found that feeling in control of their lives was strongly associated with mental health for European Americans, but much less so for Asians and Asian Americans. In addition, feelings of well-being were enhanced more for Asians than for Americans by having other people around who might aid in providing control. And whereas Westerners seem to believe it's crucial for them to have direct, personal control, Asians seem to believe outcomes will be

better for them if they are simply in the same boat with others.

Organizational psychologist P. Christopher Earley asked Chinese and American managers to work on managerial tasks under several different conditions. The managers thought they were either working alone; working with other members of their own group, that is, people from the same region of their country having interests similar to theirs; or working with members of an out-group, that is, people from another region of their country with whom they would have little if anything in common. The situation had been rigged so that the managers were really working alone in all conditions. In the "in-group" and "out-group" conditions, participants thought their performances would be assessed only at the group level and not at the individual level. Chinese managers performed better when they thought they were working with in-group members than when they thought they were alone or working with out-group members. Americans worked best when they thought they were alone, and it made no difference whether they thought they were working with an in-group or with an out-group.

The adage that "there's safety in numbers" may be Western in origin, but social psychologist Susumu Yamaguchi and his colleagues have shown that Japanese college students hold more closely to this tenet than do American students. They told participants in their study that they were interested in finding out the effects of an "unpleasant experience," namely swallowing a bitter drink, on performance of a particular task. Participants would be assigned either to a control condition or to the unpleasant

experience condition. Just which condition would depend on the result of a lottery.

There were indeed two conditions in the experiment, but they were an "alone" condition and a "group" condition. Participants in the alone condition were told that they would draw four lottery tickets, each having a one-digit number on it. In the group condition, all participants believed they were part of a four-person group (whose members they never actually saw) and that each person would draw a lottery ticket. To participants in both conditions it was explained that the sum of the numbers on the four tickets would determine who would have to take the bitter drink. Yamaguchi and his colleagues asked participants how likely it was that they would be among the unlucky ones. (There was no objective reason for participants in either condition to think that the chances were any different in the alone condition than in the group condition.) The Japanese thought they were more likely to escape the unpleasant experience in the group condition. American men thought they were more likely to escape in the alone condition. American women behaved like Japanese, thinking escape was more likely if they were in a group.

The Yamaguchi study, as well as one described later in this section, is one of the rare studies finding that Western males and females differ from one another more than Eastern males and females do. In general, we either find gender differences for both Western and Eastern cultures—of about the same magnitude—or we find gender differences for neither culture. As would be expected, given our theory about the social origins of the cognitive

and perceptual differences, females of both cultures tend to be more holistic in their orientation than males, but we find this only about half the time, and the gender differences are always smaller than the cultural differences. We have been unable to characterize the difference between tasks for which we find gender differences and those for which we don't.

Thus, to the Asian, the world is a complex place, composed of continuous substances, understandable in terms of the whole rather than in terms of the parts, and subject more to collective than to personal control. To the Westerner, the world is a relatively simple place, composed of discrete objects that can be understood without undue attention to context, and highly subject to personal control. Very different worlds indeed.

The world of Westerners, however, is not as controllable as they think. Ellen Langer, a social psychologist, identified a foible she called the "illusion of control," which she defined as an expectation that personal success is greater than the objective probability would warrant. The illusion can sometimes be a helpful thing. In one study, for example, people have been found to perform better on routine tasks when they believe mistakenly that they can control a loud, distracting noise that occurred periodically during the tasks. On the other hand, there are also some demonstrations of the illusion that make us look pretty silly. In my favorite study, Langer approached people in an office building and asked whether they would like to buy a lottery ticket for a dollar. If the person said yes, she then either handed the person a lottery ticket or

fanned out a bunch of them and asked the person to choose one. Two weeks later, she approached all those who had bought a ticket, saying that lots of people wanted to buy a ticket, but there were none left. Would the person be willing to sell the ticket back, and if so, what would the price be? On average, the people she had handed the ticket to were willing to sell the ticket back for about two dollars, but the people who had been allowed to choose their tickets held out for almost nine!

Much of what we know implies that Asians would be less susceptible to such illusions of control than Westerners, as well as less concerned about issues of control altogether. Ji, Peng, and I tested these notions with new versions of our covariation detection test and the Rod and Frame Test.

In a twist on the covariation detection task, in which the goal was to determine how likely it was that one particular object would appear on the right side of a computer screen given that another particular object had appeared on the left, we gave the participants control over which object would be presented on the left of the computer screen and allowed them to choose how much time would elapse on each trial between presentation of the object on the left and presentation of the object on the right. Under these circumstances, the Americans saw as much covariation as the Chinese did and they were as confident as the Chinese. Moreover, the Americans were reasonably accurate about the degree of covariation they saw, whereas the Chinese were actually slightly less accurate when they had control than when they didn't.

In a variation of the Rod and Frame Test, we gave the

participants control of the rod, allowing them to rotate it themselves. Under these circumstances, Americans became more confident about the accuracy of their judgments, whereas East Asians did not become more confident. And American men, who were the most accurate of the groups to begin with, actually became more accurate still. Accuracy for East Asians and for American women was unaffected by being given control.

#### STABILITY OR CHANGE?

When we think about the future of the world, we always have in mind its being where it would be if it continued to move as we see it moving now. We do not realize that it moves not in a straight line . . . and that its direction changes constantly.

—PHILOSOPHER LUDWIG WITTGENSTEIN

[We tend] to postulate that tomorrow will be the same as today; likewise, when we are aware of movement, we assume that tomorrow will differ from today in the same way as today differs from yesterday. . . . The lifespan of man has become longer; it will become longer still. The number of work hours in the year has decreased; it will decrease yet further. . . . The sharper our awareness of a past movement, the stronger our conviction of its future continuation.

—POLITICAL PHILOSOPHER BERTRAND DE JOUVENAL

As it turns out, "our" is rather too strong a generalization. Ancient Greek philosophers were powerfully inclined to believe that things don't change much or, if they really are changing, future change will continue in the same direction, and at the same rate, as current change. And the same is true for ordinary modern Westerners. But like ancient Taoists and Confucian philosophers, ordinary modern Asians believe that things are constantly changing; and movement in a particular direction, far from indicating future changes in the same direction, may be a sign that events are about to reverse direction.

These differing assumptions about change can be derived from different understandings about the complexity of the world, which in turn are a consequence of attending to a small part of the environment versus a lot of it. If the world appears a simple place because we're not paying attention to much of it, then not much change is to be expected. If change is occurring, then there is no reason to assume that it will do anything but continue in the same direction. But if the world seems to be a highly complicated place because we're noticing so much, then stability will be the exception and change will be the rule. The greater the number of factors operating, the greater the likelihood that some variable will alter the rate of change or even reverse its direction. The specifically cyclical assumptions of the Tao may spring from these theories about complexity. Or it could be the other way around: The belief that the world is constantly reverting to prior states may prompt the assumption of complexity. To be dialectical about it, probably both trends are operative, and feed each other . . . in a cycle!

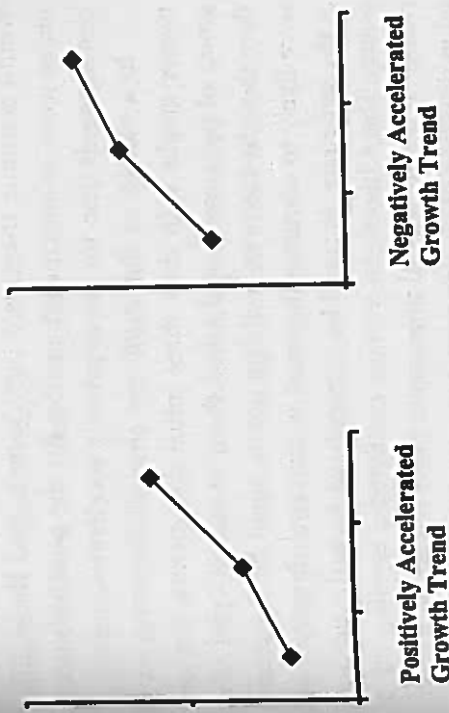
With Li-jun Ji, a student at Michigan at the time and Yanji Su, a colleague at Beijing University, I studied Chinese and American beliefs about change. In one study, we asked University of Michigan students and Beijing University students how likely they thought it was that some state of affairs would undergo a radical change. For example: "Lucia and Jeff are both seniors at the same university. They have been dating each other for two years. How likely is it that they will break up after graduation?"

There were four such items asking about the probability of change. In all four instances, the Chinese regarded change as more likely than did the Americans. On average, Chinese thought change was likely about 50 percent of the time and Americans thought change was likely about 30 percent of the time.

In a second study, Ji, Su, and I showed Beijing and Michigan participants twelve graphs in a booklet. Each graph showed an alleged trend charted over time, such as world economy growth rate or world cancer death rate. For example: The global economy growth rates (annual percentage change in real GDP) were 3.2 percent, 2.8 percent, and 2.0 percent for 1995, 1997, and 1999 respectively.

We asked the participants how likely they thought it was that the global economic growth rate would go up, go down, or remain the same for 2001.

The trends we presented were either growing or declining and the rate of change was either accelerating or decelerating. The illustration shows a positively accelerated growth curve and a negatively accelerated growth curve. We reasoned that the greater the increase in the



Examples of positively and negatively accelerated trends.

rate of change, the more likely it was that the Chinese would anticipate slowing or even reversal of the trend; as more rapid change in a given direction should signal reversal in the near future. For Americans, however, increases in acceleration might be a particularly strong indicator of continued movement in a particular direction. So we expected differences between Chinese and Americans to be greater when assessing positively accelerated trends than when assessing negatively accelerated trends.

We found that, as expected, Americans made more predictions consistent with the trends we showed them than did Chinese. In fact, this was true for all twelve graphs we showed. If a particular trend went up, the Americans were more likely to predict that it would continue going up than were the Chinese. If the trend went

down, the Americans were more likely to predict decline would continue than were the Chinese. And these differences were, as anticipated, greater for the positively accelerated trends than for the negatively accelerated ones.

In a variant of this study, we showed the same set of twelve graphs with their three initial data points to a new group of participants and asked them to actually plot what they thought the next two data points might be. Americans were likely to continue the trend in the same direction, and at the same rate, as could be extrapolated from the previous points. The Chinese on average predicted a leveling off of change and were several times more likely to predict a reversal in direction of change than Americans were. Again, these trends were more marked when graphs were positively accelerated than when they were negatively accelerated.

Beliefs about linear versus cyclical movement apply to change over very great time spans. Thomas More's 1516 political essay speculated on the form of perfect government. More invented the term "Utopia" to name his society. The word is a pun on a Greek root meaning both "nowhere" and "good place." More's Utopia was scarcely the first and certainly not the last in a long line of Western creations, including Plato's Republic, Puritanism, Shaker communities, Mormonism, the American and French revolutions, communism, and fascism. With the chief exceptions of Utopias modeled on the biblical ideas of the Garden of Eden and the promise of the New Jerusalem, Western Utopias have generally had five salient characteristics—all of which make them vastly different from the conviction of Confucius and other early Chinese thinkers that the perfect world existed in the past and that we

could hope only to strive to move from our current low estate back to that time of perfection.

In Western Utopias:

- there is steady, more or less linear progress toward them;
- once attained, they become a permanent state;
- they are reached through human effort rather than Fate or divine intervention;
- they are usually egalitarian; and
- they are usually based on a few extreme assumptions about human nature.

These attributes are in many ways the very antithesis of the future as it might be conceived by the Eastern mind, which is inclined to find the Middle Way between extremes and assumes reversion rather than advance.

It is worth noting here that the ancient Hebrews were in these respects closer to the Chinese than to the Greeks. Their Utopia—the Garden of Eden—was in the past and they hoped at most for a restoration. Their notion of the nature of change was similar to that of the Chinese—they had a clear notion of the yin and yang of life. Hebrew prophets of the eighth century B.C. sold real estate when things were going well for the Jews—because they felt sure that things would soon take a turn for the worse—and bought when things were going badly! This attitude toward life survives in the modern Jewish community, as is conveyed by countless jokes. Son: "Mom, guess what—I won a Pontiac in the raffle!" Mom: "Oy, the taxes alone will put us in the poorhouse."



If the differences in assumptions about the direction of human progress persist, and if people make analogies to the direction of a single human life, we might find that Westerners believe that their own futures will move continuously in a single direction—from bad to good or good to bad. East Asians might expect their lives to undergo reversals of fortune—from good to bad to good, or from bad to good to bad. In order to examine these possibilities, Ji, Su, and I asked college students at Michigan and Beijing to predict the course of their own life happiness. We showed them eighteen different trends to choose from. Six were linear—straight up or down but with oscillations along the way. Twelve were nonlinear—either stopping or reversing the initial direction of life change. Almost half of the Americans chose one of the six linear life courses as the most probable, whereas fewer than a third of the Chinese choices were linear. (Choices were not due to either group having uniformly optimistic or pessimistic assumptions about life course. The two groups were equally likely to feel they would end up happy and equally likely to feel they would end up unhappy.)

Like their ancient predecessors, then, East Asians believe that the world is full of change and that what goes around comes around. Westerners (or at any rate, Americans—we have no data on other Westerners at this point) appear to believe that what goes up needn't come down.

In chapter 3, we saw that the social organization and practices of modern Asians resemble those of the ancient Chinese and the social organization and practices of modern Europeans resemble those of the ancient Greeks. In this chapter we've seen that modern Asians, like the

ancient Chinese, view the world in holistic terms: They see a great deal of the field, especially background events; they are skilled in observing relationships between events; they regard the world as complex and highly changeable and its components as interrelated; they see events as moving in cycles between extremes; and they feel that control over events requires coordination with others. Modern Westerners, like the ancient Greeks, see the world in analytic, atomistic terms; they see objects as discrete and separate from their environments; they see events as moving in linear fashion when they move at all; and they feel themselves to be personally in control of events even when they are not. Not only are worldviews different in a conceptual way, but also the world is literally *viewed* in different ways. Asians see the big picture and they see objects in relation to their environments—so much so that it can be difficult for them to visually separate objects from their environments. Westerners focus on objects while slighting the field and they literally see fewer objects and relationships in the environment than do Asians.

If some people view the world through a wide-angle lens and see objects in contexts, whereas others focus primarily on the object and its properties, then it seems likely that the two sorts of people will explain events quite differently. People having a wide-angle view might be inclined to see events as being caused by complex, interrelated contextual factors whereas people having a relatively narrow focus might be prone to explain events primarily in terms of properties of objects. In the next chapter, we'll see whether the different worldviews are indeed associated with different kinds of causal explanations for the same event.