• Recently, there has been an explosion in research on time. This book provides a much needed summary of that work. *The Human Organization of Time* will prove a valuable resource to anyone interested in temporal research in organizations.

Leslie PERLOW, Harvard Business School.

<sup>9</sup> Finally a masterful book about time. Bluedorn's work is comprehensive and cutting edge, laying out the interplay of time with fundamental aspects of organizations and individuals. It should be on every serious organizational scholar's bookshelf.

Kathleen ei sen hardt, Department of Management Science and Engineering, Stanford University Coauthor of Competing on the Edge: Strategy as Structured Chaos

<sup>9</sup> This is a wonderful and important book, full of fascinating information, insights, conjectures, and constructs. Bluedorn forges a compelling case for the importance of time, and of our roles as current stewards of the temporal commons. From the Big Bang to the Bolshevik revolution to the puzzles of Deep Time, from the social construction of zero to the theory of relativity, from the gates of Trenton State Prison to the gates of Dante's Inferno, *The Human Organization of Time* weaves a compelling fabric of temporal threads. Bluedorn has found power and poetry in time.

ramón aldag, Department of Management and Human Resources, University of Wisconsin

<sup>9</sup> *The Human Organization of Time* is a broad look at how we truly think about time. It unifies the many human patterns of time-scale concepts and gives depth and perspective to a complex field. Thorough and insightful, it will become the standard work.

Gregory benford, Department of Physics, University of California, Irvine Author of Deep Time

<sup>9</sup> The Human Organization of Time stands to be a definitive source for those interested in temporality and time. Bluedorns knowledge of diverse literatures and his attention both to historical perspectives as well as contemporary theorizing and research is noteworthy. Issues of time and temporality pervade the human experience; Bluedorn helps us to appreciate temporality as a social construction with very real consequences for organizations and their members.

jennifer M. GEORGE, Jesse H. Jones Graduate School of Management, Rice University

<sup>9</sup> A remarkable and original contribution to our understanding of the social construction of time and its effects on people and organizations. Playing off against a backdrop of work preoccupied with enduring and stable features of social life, Bluedorn underscores the importance of temporal features—pace, tempo, rhythm, entrainment, and historical turning points.

alan meyer, Lundquist College of Business, University of Oregon

# The

## Human Organization

of Time

#### TEMPORAL REALITIES AND EXPERIENCE

Allen C. Bluedorn

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Designed by James P. Brommer Typeset in 10.5/14.5 Caslon To those who have brought such exquisite meaning to my times, may their times be the best of times always:

To my wife, Betty; To my sons, John and Nick; To my brother, Ralph; To my mother, Evelyn; To my father, Rudolph, 1905—1988.



coupled (Weick 1979), which makes them more vulnerable to both small and large disruptions (see Weick 1995, p. 179, and Perrow 1984, pp. 62-100).

I believe this is a reason why speed and punctuality values are positively correlated. Being late or early is a disruption, especially in a tightly coupled system whose components are operating at close to maximum speeds. If schedules have been set to maximize efficiency, that is, with very small slack time tolerances allocated to deadlines such as takeoff and landing times, the efficiencies designed into the system will actually make the disruption a much bigger problem than if the system had not been designed to be quite so efficient in the first place (see the description of slack in Perrow 1984, pp. 89-90). In tightly coupled systems, the general association will be especially strong between valuing and practicing strict punctuality and doing things rapidly.

In a very real way this point returns us to the problem of longitude. The punctuality tolerances required for accurately determining the location of a ship at sea were extremely tight, allowing an error of less than one one-hundredth of i percent per day, the tolerance set by Parliament and enforced by the Board of Longitude. For errors greater than this, the threat of a disruption cascading through the system was horrific indeed, much to the sorrow of thousands of mariners. So despite problems they may cause, punctuality and speed play vital roles in promoting human well-being. The problem seems to be in striking the proper balance, in deciding how punctual? How fast? These are issues to which we will return in Chapters 7 and 9.

### **Eternal Horizons**

5

Does eternity only stretch one way? —Charlotte Perkins Gilman, *The Hotne* 

Winston Churchill thought eternity stretched both ways, for he believed, "The longer you can look back, the farther you can look forward" (1974, p. 6897). Mary Austin reached the same conclusion even more strongly than did Churchill: "The arc of my mind has an equal swing in all directions. I should say the same of your mind if I thought you would believe it. But we are so saturated with the notion that Time is a dimension accessible from one direction only, that you will at first probably be shocked by my saying that I can see truly as far in front of me as I can see exactly behind me" (1970, p. 41).

These perspicacious observers of the human condition reached much the same conclusion about a connection between past and future. This chapter will examine this proposed connection between past and future, and even more important, examine why it exists and why it is important. But before examining these issues, we will begin with two simpler questions, questions whose answers will lead us to these weightier issues. One question asks, How far ahead do people look? (In Churchills' terms, how far forward do they look?) The other asks, How far back do people look? (In Churchill's phrase, how long back do people look?)

For example, how often do you think about things that might happen 250 years from now, that is, 250 years ahead? As we are about to learn, such be-

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havior is rare, at least in the United States, but as we will see later in the chapter, at least one prominent CEO thought about matters two-and-one-hall centuries ahead and took them very seriously.

To address the question of how far ahead people look, I asked a large sample of students at the University of Missouri-Columbia for information about how far ahead they looked when they *made plans or decisions*. (The 362 people—students are people—in the sample ranged from nineteen to forty-one years in age, with the average age being 20.83 years; women made up 46 percent of the sample.) They responded to the three questionnaire items that follow, and you are invited to answer them for yourself:

1. When I think about the short-term future, I usually think about things this far ahead.

2. When I think about the mid-term future, I usually think about things this far ahead.

3. When I think about the long-term future, I usually think about things this far ahead.

The respondents' answers are presented in Table 5.1 and are likely representative of this age group at colleges and universities in the United States. These responses also provide a distribution against which you can compare your answers.

Although Table 5.1 presents a wealth of information, several points are particularly notable. First, although over half of the respondents defined the short term as three months ahead or less (55.5 percent), over one-fourth of the sample (26.8 percent) thought of the short term as at least one year ahead—just under 3 percent defining it as five years ahead. These data reveal considerable variance in what sample members defined as short term, with a fair number defining it further ahead than stereotypes might have led us to anticipate. The variance certainly indicates that not all short terms are the same. As for the long term, close to half of the sample (45.1 percent) defined the long term as being ten or more years ahead, which again is likely further ahead than stereotypes would have led one to predict. And similar to the short term, the variance in this distribution indicates that not all long terms are the same. Nevertheless, and despite the variance, few if any of the respondents indicated they thought about things 250 years into the future—as did the CEO whom we shall encounter

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Distances respondents typically looked into three regions of the future.

	Region of the Future						
Distance into the Future Short-Te		040.8	Mid-Term		Long-Term		
One day	17	(4.7%)					
One week	58	(16.0%)	4	(1.1%)			
Two weeks	41	(11.3%)	8	(2.2%)			
One month	47	(13.0%)	38	(10.5%)	5	(1.4%)	
Three months	38	(10.5%)	33	(9.1%)	9	(2.5%)	
Six months	59	(16.3%)	46	(12.7%)	11	(3.0%)	
Nine months	5	(1.4%)	10	(2.8%)	3	(0.8%)	
One year	72	(19.9%)	76	(21.0%)	46	(12.7%)	
Three years	15	(4.1%)	59	(16.3%)	43	(11.9%)	
Five years	10	(2.8%)	62	(17.1%)	82	(22.7%)	
Ten years			23	(6.4%)	81	(22.4%)	
Fifteen years			2	(0.6%)	22	(6.1%)	
Twenty years			1	(0.3%)	39	(10.8%)	
Twenty-five years					14	(3.9%)	
More than twenty-five years					7	(1.9%)	
Total	362	(100%)	362	(100%)	362	(100%)	

later in the chapter. As would be expected, the answers about the mid-term future tended to be somewhere in between those for the short and long terms.

But do the differences presented in Table 5.1 make a difference? That is, are they related to other phenomena that someone somewhere, social scientist or layperson, considers important? If they are, the differences become much more important, because as Alfred North Whitehead (1925a, p. 12) argued, significance accrues through the relationship of one thing with another (see Chapters 2 and 7). Such is the case with the differences about the futures just described. As you have probably anticipated by now, these differences are related to other phenomena, important phenomena, phenomena that are themselves related to yet other phenomena, such indirect relationships making the kinds of temporal differences just presented even more meaningful, even more important. And one such phenomenon is the distance people look into the past, which will be considered in its own right in the next section, as well as its relationship with the distance people look ahead.

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#### TEMPORAL DEPTH

If asked to summarize the findings presented in the preceding discussion, one would likely say something like "They were about time horizons." Yet the phrase "time horizons" never appeared in that discussion. The distances into the future that people look, individually and collectively, have traditionally been labeled "time horizons," both in general discourse and in organization science research (e.g., Ebert and Piehl 1973; Judge and Spitzfaden 1995; Mannix and Loewenstein 1993). But the distances into the *future* that people look are only part of a larger phenomenon that I have labeled temporal depth (Bluedorn 2000e).

I originally defined temporal depth as the temporal distances into the past and future that an individual typically considers when contemplating events that have happened, may have happened, or may happen (Bluedorn 2000e, p. 124). Although temporal depth certainly applies to individuals, it also applies to collectivities, especially as manifested in the cultures of groups (e.g., departments and organizations), so the phrase "individuals and collectivities" now replaces "an individual" in the definition, making the definition of temporal depth as follows: *the temporal distances into the past and future that individuals and collectivities typically consider when contemplating events that have happened, may have happened, or may happen.* 

Thus temporal depth refers to both individual and cultural phenomena. It also deals with time in two directions, adding to the future a consideration of the past, the past generally being ignored in organization science (for exceptions, see March 1999; Thoms and Greenberger 1995; Webber 1972; and others cited later in the chapter), not that the rest of the social sciences are much less deficient in this regard (see Zimbardo and Boyd 1999, p. 1272). Because temporal depth also encompasses the past, I asked the 362 college students who answered the three questions about the future (see Table 5.1) for three parallel pieces of information about how they typically considered the past when they made plans or decisions. The three items they responded to follow, and as before, you may wish to respond to them yourself and compare your answers with those given by the respondents in this sample:

When I think about things that happened recently, I usually think about things that happened this long ago.

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TABLE 5.2

Distances respondents typically looked into three regions of the past.

Distance into the Past*	Region of the Past						
		Recent		Middling		Long Ago	
	28	(7.7%)					
One week	123	(34.0%)	10	(2.8%)	1	(0.20/)	
Two weeks	92	(25.4%)	30	(8.3%)	1	(0.3%)	
One month	65	(18.0%)	100	(27.6%)	1	(0.570)	
Three months	28	(7.7%)	69	(19.1%)	21	(1.970)	
Six months	19	(5.2%)	57	(15.7%)	21	(5.870)	
Nine months			6	(1.7%)	13	(0.070)	
One year	5	(1.4%)	54	(14.9%)	67	(3.0%)	
Three years			23	(6.4%)	74	(18.3%)	
Five years	2	(0.6%)	11	(3.0%)	96	(20.4%)	
Ten years			1	(0.3%)	51	(23.8%)	
Fifteen years			1	(0.3%)	10	(14.170)	
Twenty years				(0.570)	10	(2.8%)	
Twenty-five years					5	(1.4%)	
Total	362	(1009/)	2.02	(1000)	2	(0.6%)	
	302	(100%)	362	(100%)	362	(100%)	

\* No respondents selected the category "More than twenty-five years," so it is not included.

2. When I think about things that happened a middling time ago, I usually think about things that happened this long ago.

3. When I think about things that happened a long time ago, I usually think about things that happened this long ago.

The respondents' answers appear in Table 5.2. As noted with their answers to the questions about the future, these responses are likely representative of this age group at colleges and universities in the United States. And as before, these responses also provide a distribution against which you can compare your answers.

So what do the answers in Table 5.2 reveal about these individuals' past temporal depths? Almost the entire sample defined the *recent past* as extending into the past no longer ago than six months, with slightly over two-thirds of the sample (67.1 percent) defining it as two weeks ago or less. At the other

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figure 5.1. Average lengths of time that defined three past temporal depths and three future temporal depths for a sample of college students. *Note:* Γo calculate the average for the long-term future temporal depth, the seven respondents who selected "More than twenty-five years" as their responses were treated as if they had given "Thirty years" as their responses. No respondent chose More than twenty-five years" for the other two future temporal depths or for any of the three past temporal depths.

extreme, 62.7 percent of the sample defined "a long time ago" as sometime from one year to five years ago, but no one defined it as beginning more than twenty-five years ago. And as with their responses about the future, the responses about "a middling time ago" fell somewhere in between those for the recent past and a long time ago.

The results about past and future temporal depths seem to parallel each other. To see how closely, I converted the fifteen temporal depth categories the respondents were given to choose from (presented in Tables 5.1 and 5.2; see the Appendix for how these categories were presented on the questionnaires as

part of the Temporal Depth Index) and calculated the average number of days for short-term (recent), mid-term (middling), and long-term (long-ago) intervals for both the future and the past. The results are presented in Figure 5.1.

The key differences depicted in Figure 5.1 are all statistically significant, which Is to say that (1) the differences among the future regions are all statistically significant, (2) the differences among the past regions are all statistically significant, and (3) the differences between the components of each parallel pair (e.g., short-term future and recent past) are all statistically significant.<sup>1</sup> And what are these differences? Perhaps the most noteworthy of the differences is that each of the future regions extends much further into the future than their past counterparts extend into the past. The short-term future, about five times further than does the recent past; the mid-term future, about three-and-one-third times as far as the middling past; and the long-term future, about twice as far as the long-ago past. So although the steplike pattern is similar for both the past and future regions, the future depths extend over substantially larger amounts of time than do those in the past.

#### The Proposed Connection

The results presented so far present a great deal of information about the two "how far?" questions: How far ahead do people look? How far behind do people look? But they have not addressed the connection between future and past temporal depths proposed by Churchill and Austin. Are they right, that in Churchill's words, "The longer you can look back, the farther you can look forward"? The data from which the results have been presented so far allow the proposed connection to be tested by correlating the average of the three future temporal items with the average of the three past temporal depth items (see the Appendix about averaging these items), and the result is a statistically significant positive correlation (see the Appendix). The proposed connection is accurate: The longer the respondent's past temporal depth, the longer the respondent's future temporal depth. And this result was found not only in this sample but also in four other large student samples as well. (The details about these samples and correlations are given in the Appendix, which presents the Temporal Depth Index and a description of its development. The Temporal Depth Index is a questionnaire scale that combines a structured response format with the same six items about future and past temporal depths presented earlier in this chapter.)

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#### Eternal Horizons

Results from a group-level investigation of this connection found the same relationship. In the study of the national sample of publicly traded companies (see Chapters 3 and 4), Steve Ferris and I found a statistically significant positive correlation between past and future organizational temporal depths, a relationship that persisted after controlling for several organizational and environmental variables (Bluedorn and Ferris 2000). So at the organizational level as well as at the individual, past temporal depth and future temporal depth are positively correlated: The longer the depth of the past, the longer the depth of the future.

Such findings seems plausible, even intuitively plausible, but only so post hoc, for little research, almost no systematic research, has been conducted on this relationship at either the individual or the group level. This is not to say that there was a complete absence of clues about it, because there were clues, and they provide some of the rationale for examining this relationship in the first place. They form the basis, perhaps, along with the observations of Churchill and Austin, for the intuition that a positive correlation between past temporal depth and future temporal depth would be found. So an examination of these clues may provide greater insight into why this connection exists between past and future temporal depths.

#### The Temporal Depth Demonstration

For the better part of a decade I have presented versions of the following demonstration to groups of many kinds: "In Columbia, Missouri, a time capsule was buried in 1966, and the inscription on it specifies the date on which it is to be opened." I then ask each group, What date does the inscription specify for opening the time capsule? And regardless of the group I ask—undergraduate or graduate students, managers, college faculty, the general public remarkably, the large majority of every audience, audiences that number over ten thousand people collectively, overwhelmingly responds with an estimate of sometime within one hundred years following the date on which the capsule was buried. I estimate that over 90 percent of these people have been able to answer this question with uncanny accuracy (within fifty years)—without ever having seen the instructions on the capsule. (The instructions are to open the capsule in 2066.) But the demonstration is not over. It proceeds with a description of a second time capsule, one in another country.

Half a world away, American entrepreneur Stephen Chubb visited the site

of a then recently buried Japanese time capsule. In itself this was not noteworthy, but the date for opening it was—by American standards. For the instructions were to open the capsule *five thousand years* hence, a temporal depth Americans seldom consider, as is indicated in the dates for opening the American capsule (and Table 5.1). Referring to the United States, Chubb wondered, "How long would someone put a time capsule in the ground in this country?" (Murray and Lehner 1990, p. A16). This difference between Japanese and American practices is an order-of-magnitude difference between the two countries, between the two cultures, so the audiences at my time capsule demonstrations often gasp audibly when I say, "five thousand years."<sup>2</sup>

To reinforce the claim that one hundred years is a typical future temporal depth selected for opening American time capsules, that the Columbia, Missouri, time capsule is not idiosyncratic, one more piece of evidence will be presented. And that evidence, like Stephen Chubb's experience, comes from across an ocean, but this time the Atlantic rather than the Pacific.

Approximately two hundred yards inland from the French coast, the sidewalk from a parking lot makes an abrupt right turn and heads toward the sea. Where the sidewalk pivots, a time capsule was buried on July 6,1969. At Omaha Beach. At the American Cemetery.

Beneath the cluster of five-pointed stars arranged in the pentagon-shaped insignia of a five-star general, the marker's inscription explains:

In memory of general dwight d. EISENHOWER and the forces under his command this sealed capsule containing news reports of the JUNE 6,1944 NORMANDY LANDINGS I's placed here by the newsmen who were there June 6,1969 TO BE OPENED JUNE 6,2044

The event the capsule commemorates occurred on June 6, 1944, which makes it the appropriate date, not the date of burial, from which to measure the length of time to opening. The interval spans, of course, one hundred years, as does its counterpart in Columbia, Missouri. But unlike its Missouri counterpart, indeed unlike most time capsules, this time capsule will likely be opened, and opened when specified. And there is more than one reason that it

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will be opened on schedule. First, the capsule Is part of a cemetery holding tremendous symbolic significance to an extremely powerful and wealthy nation, which quite properly maintains the cemetery meticulously. The image of the nearly ten thousand gravestones arranged in geometric perfection is an image known worldwide, an image that is almost as memorable when seen in a photograph or on television as it is moving when seen in person. So the capsule is part of an administrative structure designed to attend to such matters.

The second reason the capsule will be opened as specified is less formal, but powerful in its own way. It is a spiritual reason. For to walk through this place is to be humbled; it quietly compels reverence, a reverence and gratitude that deepen as one learns that among the graves lie thirty-three pairs of brothers, side by side in death as they once were in life. Even a short visit produces a profound respect, both for the deceased and for the larger effort of which they were such a significant part. Those buried in this cemetery cannot be honored direcdy; instead, reverence is extended to their shrine, to their memory. And by honoring it, we connect with them, thereby adding meaning to our own lives. Such meaning makes us want that capsule to be opened on time. And it will be: on June 6, 2044.

Thus as revealed in their time capsules, even profoundly symbolic ones, future temporal depths vary from nation to nation. Moreover, a clue is hidden in the time capsule demonstration about the relationship between past and future temporal depths, a clue that several audience members have brought to my attention spontaneously over the years. Without prompting, one or two audience members will approach me after my presentation to discuss the demonstration. They will say something like "Isn't it to be expected that the Japanese would pick a date much further in the future to open their time capsule because Japan is so much older than the United States?" They will usually not provide the detailed logic for a relationship between age of the country and the depth of future for opening time capsules, but the intuitive logic is there: the older the country, the longer its future temporal depth.

So this demonstration helps tease out one clue that past and future temporal depths would be positively correlated, albeit that was not its original intent. I originally developed the demonstration to reveal how deeply temporal matters are embedded in cultures, in the core of culture known as basic underlying assumptions (Schein 1992, pp. 16-27). The demonstration works well to illustrate that point, as no one in the audience has ever been formally taught the proper time to open time capsules in America. It also demonstrates the major cultural differences about capsule-opening times, hence that such times, like all times, are socially constructed. (All times are not. . . ) But the demonstration also suggests the relationship between past and future temporal depths, thereby offering one clue to that relationship.

#### Time's Arrow

Even before developing the time capsule demonstration, I had learned of the remarkable discovery made by Omar El Sawy (19B3) and described it and its importance (Bluedorn and Denhardt 1988), a practice I have continued to the present (e.g., Bluedorn 2000e). This discovery provides the second clue that past and future temporal depths are positively correlated, and it does so explicitly—albeit El Sawy did not use the term *temporal depth*.

El Sawy conducted an experiment with CEOs from high-technology companies in Silicon Valley. He asked each CEO to think of ten events that happened in the past and when each of those events happened. Similarly, he asked each CEO to think of ten events that might happen in the future and when those events might occur. But he asked half the CEOs to answer the questions about the past events first; the other half, the questions about future events first. That was the experimental manipulation, a design that allowed inferences about cause and effect. To wit, if there is a relationship between past and future, which temporal direction affects the other?

Responses from thirty-three of the CEOs produced two sets of results that answered this question unambiguously. First, no statistically significant differences appeared between the two experimental groups for either the median age of the past events or the age of the oldest *past* event identified. Thus the experimental manipulation had no statistically significant impact on the CEOs' past temporal depths. El Sawy concluded, "It is safe to conclude that based on the available data, the CEO will always invoke the same past span whether he looks forward first or backwards first" (1983, p. 145). Looking forward first referred to listing ten events that might happen as the first task; looking backward first, to listing first ten events that had happened. Having the CEOs think about the future first had no statistical impact on how far into the past the CEOs would think about events.

El Sawy's second finding completes the answer to the question of which direction affects which. Having already determined that thinking about the fu-

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ture leaves past temporal depth unaffected, El Sawy found a major effect for thinking about the past first. The CEOs who were asked to think first about events that had happened in the past thought about events significantly further into the future than did the executives who thought about the future events first. (The distances into the future were measured by the median distance into the future of the ten future events as well as the single future event among the ten envisioned to occur the furthest distance into the future.) And as El Sawy noted, "Not only is there statistical significance, but there is also operational significance" (1983, p. 146). For example, the average (mean) temporal depth of the event thought of as occurring the furthest into the future was 5.11 years for the CEOs who listed the future events first. For the CEOs who listed past events before listing future events, the average (mean) temporal depth of the longest event was 9.18 years (El Sawy 1983, p. 147). This is a difference of 4.07 years, and as shown in Table 5.1, this is a difference large enough to move thinking from the short term to the long term for all but about 7 percent of the respondents who provided the results reported in that table. This is operational significance indeed.

El Sawy achieved these effects by simply asking half of the CEOs to think about events in the past before then asking them to think about events in the future. He did not ask the past-first group to think about events in the past that occurred a long time ago or before a specific year. Thus he provided no temporal structure for when in the past to think about events, just anytime in the past. This aspect of the design enhances the power of the results, because the results are more "natural" this way and less likely to be limited to the experimental situation. In this experiment, as in real life, when the CEOs thought about the past, they went wherever they wanted to go. So the results revealed another version of time's arrow, a version consistent with the position taken by those who argue for an arrow of time in the physical universe (e.g., Eddington 1928; Coveney and Highfield 1990; see Chapter 2). The past leads to and influences the future, but the future does not influence the past.

Thus El Sawy's research provided a second clue that past and future are related, and it even added a causal direction (i.e., "A connection to the past facilitates a connection to the future" [March 1999, p. 75]). This leads to findings about organizational age, which may provide a third clue and suggest at least part of the reason for the connection between past and future temporal depths.

#### The Organizational Age Connection

Stève Ferris and I found that organizational age was positively correlated with both past and future temporal depths, and that these relationships persisted after controlling for several organizational and environmental variables (Bluedorn and Ferris 2000). The older the organization, the further its members looked into both the past and the future, and the positive temporal depth correlations with the organization's age may suggest why.

With greater age comes a larger past—though *a potentially larger past* might be the more accurate phrase (see Butler 1995, p. 929)—a past that in the case of organizations apparently becomes received history. Not that these correlations speak to the truth status of the received history, such history being subject to social construction processes as much as any other human phenomena, including the future, as Paul Fraisse noted: "We construct our past as well as our future" (1963, p. 177). Indeed, George Orwell made this point well in *1984*. "And if all others accepted the lie which the Party imposed—if all records told the same tale—then the lie passed into history and became truth. 'Who controls the past,' ran the party slogan,' controls the future: who controls the present controls the past'" (1961, p. 32).

Orwell was writing, of course, in opposition to the machinations of totalitarian regimes that consciously write histories without concern for fact or evidence, but write them only to facilitate their own ends. Yet his point exemplifies the larger issue that history is always a matter of interpretation, of construction, of points of view consciously or unconsciously held. And in the case of organizational age, greater age does not point to greater truth; it simply provides a longer timescape within which to search for material, a wider temporal loom upon which to weave the fabric of history.

And the determination of organizational age illustrates the constructed, enacted nature of the past, because what at first glance seems like a simple, even objective matter becomes ambiguous when mergers and acquisitions are involved. Is the founding date the date that the oldest of the merger partners began operations, or is it the date when the last partners merged? Families can face the same ambiguities when one or both spouses have been married previously and they and their children combine to form new families. As the definition of the situation principle teaches (see Chapter 1), the important issue is when the people in the organization or family *believe* it was founded. It

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is important because it places a temporal boundary on the past and by doing so limits the span to be searched when looking to and for the firm's (or family's) history.

So the history of a firm, nation, or family is socially constructed. But why is this important? And what about the past links it to the future and gives the past dominion over the future? El Sawy's findings empirically support the past's primacy, and his theoretical explanation was based on the work of Paul Fraisse and Karl Weick, work that must be examined before such explanations can be extended.

#### THE PAST AS METAPHOR

Fraisse saw the future as representations individuals draw from experience, as something that is "imagined as a repetition of the past" (1963, p. 172). And as individuals mature, they develop the ability to conceive a future "which is a creation in relation to our [their] own history" (p. 172). So to Fraisse the future was linked inextricably to the past, a connection Karl Weick (1979,1995) <sup>as</sup>-serted forcefully.

To Weick, human beings were sense-making creatures, and all sensemaking is retrospective, all explanation relies on the past: "All understanding originates in reflection and looking backward" (i979> P·  $^{19}$ 4). So to understand the present and the future, one turns to the past—not just can, but must. Buttressed by the work of Alfred Schutz (e.g., 1967, p. 51), which reached much the same conclusion, Weick argued that the past was used to understand the present and the future, that neither could be understood without the past. And how the past can provide this understanding, this meaning, is a major insight.

Both Fraisse and Weick have essentially argued that people think about the future as if it will be like the past, albeit Weick does so in greater detail. So people will generally anticipate the future as if it will be like the past. Another way to say this is that people use the past as a metaphor for the future. As such, it is instructive to examine the way metaphors are generally used to develop understanding and to enhance meaning. Aristotle was one of the earliest writers to explain how this happens, and he did so in his analysis of literary forms when he wrote, "It is a great matter to observe propriety in these several modes of expression, as also in compound words, strange (or rare) words, and so forth. But the greatest thing by far is to have a command of metaphor. This alone

cannot be imparted by another; it is the mark of genius, for to make good metaphors implies an eye for resemblances" (Aristotle 1911, p. 87).

Having a command of metaphor was the poet's greatest gift, and its essence was an "eye for resemblances," which means knowing both when things resemble each other and when they do not. This point is made even more explicitly in another translation of the same passage: "It is a great thing to make a fitting use of each of the forms mentioned as well as double and foreign words, but greatest is the use of metaphors. For this alone cannot be gained from others and is a sign of the naturally well-endowed poet, for to make good metaphors is to observe similarities among dissimilarities" (Aristotle 1961, p. 44).

The emphasis Aristotle placed on metaphor suggests he regarded it as an especially powerful way to produce insight, understanding, and meaning—the core competencies of a good poet. So if the conclusion just reached is correct, that the past is a metaphor for the future, its use as a metaphor should focus on observing similarities among dissimilarities. And this is basically what Robert Neustadt and Ernest May recommended, twenty-four hundred years after Aristotle, in their discussion of how to use history in decision making: "Comparing all those seemingly analogous situations with the present one, what are *Likenesses* and *Differences*? Compare how' with 'then' *before* turning to what should be done now" (Neustadt and May's emphases; 1986, p. 41).

Unfortunately, the similarities, the likenesses, may overwhelm the differences (see Morgan 1997, pp. 4-5). And according to Weick, "people who select interpretations for present enactments usually see in the present what they've seen before" (1979, p. 201). In terms of the past-as-metaphor perspective developed in this chapter, "what they've seen before" implies the use of "an eye for resemblances," the ability to see the similarities. But as Aristotle, Morgan, and Neustadt and May all noted, there is more to the mature use of metaphor than detecting the similarities between events and situations; the differences matter too. They matter, in part, because the ability to detect and deal with novelty may be a key to both organizational learning and performance (Butler  $r995> PP \cdot 944-46$ ).

And if Weick has drawn the correct conclusion about how the past is used to enact the present, being able to note the differences may be even more important than being able to see the similarities. This is especially so in equivocal enactments, which Weick (1979, p. 201) described as involving a figure-ground construction, one in which the ground consists of the strange and unfamiliar

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(the differences); the figure, that which is known. Because the figure draws one's attention, the ground may grow, may change and become even less familiar and more different without one being aware of these changes. And if unnoticed—the natural tendency is to attend to the figure these changes make the people involved susceptible to a "figure-ground reversal" wherein "nothing makes sense" (Weick 1979, p. 201).

Although Weick discussed metaphors and their use in organizational contexts (1979, pp. 47-5i) and even referred to his own concept of retrospective sense-making as a "key metaphor" (p. 202), to my reading he did not explicitly frame his discussion of the past's use to enact the present in terms of metaphor. But as we have just seen, his ideas greatly inform the past-as-metaphor frame, which provides a cogent link between Aristotle's description of metaphor, Neustadt and May's advice, and the matter of how metaphor can be used to make sense of things in organizations.

Or how it can come to make less and less sense of things. When seen in this contrarian way, these principles of metaphor can explain what otherwise seem to be absurd decisions and behaviors. An example of such absurd behavior is the process Danny Miller (1990) described as the Icarus Paradox.

Put briefly, the Icarus Paradox describes how effectiveness leads to ineffectiveness, how success leads to failure. The gist of the process Miller described is that as organizations become successful, their members, especially the more powerful decision makers, begin to attribute the reasons for the organization's success to the way the organization does things, and they grow confident in these practices. If the organization continues to be successful, or if its success increases, the attributions continue and people's confidence in how the organization operates increases. But at some point, the confidence becomes overconfidence, even hubris, and the organization stops trying to adjust and adapt because the people in it, especially the powerful decision makers, believe they have found *the answers*, not just a good way to do things, but the *only right way* to do things. As a result the organization does not change when it needs to change, and its effectiveness diminishes. In extreme cases, the organization goes out of business.

Miller picked his label for this process aptly, for it follows closely the mythical Greek story of Icarus, the son of Daedalus, who after escaping from the labyrinth on Crete by using wings his father built for him that were made of wax and feathers, became intoxicated with his success and the thrill of flight. This led him to fly higher and higher until the heat of the sun melted the wax that was holding the feathers to his wings, and he plummeted to his death in the sea below.

The legend of Icarus displays amazingly close similarities to the organizational process Miller described (Miller chose his metaphor well). And when Miller's insights are combined with the material from Weick, the combination can help explain the use of the past to enact the present and future, and in so doing help explain how success leads to failure. To interpret the Icarus Paradox in these terms, assume that an organization has already experienced the initial complex of success, attribution, and confidence. In the process of organizational sense-making, the people in the organization can now take this complex as its past and use it as a metaphor to explain the present and imagine the future. In terms of the figure-and-ground analysis, the way the organization did things and its success in the initial complex constitute the figure. The ground would be a residual category of factors (e.g., general economic conditions) now deemed irrelevant to the organization's functioning and success. With each succession of success-attribution-confidence complexes, the figure becomes more and more dominant, the ground less noticeable. But the ground holds the secret of the organization's existence and success. For in the ground is to be found the organization's environment, and that environment is always changing-sometimes faster, sometimes slower-but changing nevertheless. The only point at issue is how fast it is changing.

But this change in the ground goes unnoticed, especially when those in the organization reach a state of overconfidence, of hubris. To them there is no need to change because in their exalted state those in the organization cannot even imagine a possible need to change, hence they have no reason to attend to the organization's environment and engage in a process of robust enactment, creating new environments that will require the organization to change. If the process continues long enough without the antidote of humility, the organization comes to be so out of step with environmental factors that serious problems develop precipitously. And when people in the organization attempt to interpret what's happening, they have a hard time doing so, perhaps even experiencing the ground-figure reversal that makes the situation uninterpretable for a time. Weick described it this way: "As that ground enlarges unnoticed, people who still see what they've seen before and still write the same old histories are seeing less and less of what is there and are becoming more

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vulnerable to a figure-ground reversal" (1979, p. 201). In past-as-metaphor terms, they see similarities, but they do not see the differences, and that tunnel vision is hazardous to the organization's health; sometimes it is even fatal.

One difference between the story of Icarus and this organizational process is that once the wax melted in Icarus's wings and the feathers fell away, Icarus was doomed. He had no hope of survival. However, unlike Icarus, an organization that is beginning its death spiral can recover before it crashes, a point illustrated by several examples in Miller (1990). Thus this difference is an example of observing a key dissimilarity among similarities.

So simply looking to the past is insufficient. The past must be used wisely and must not be interpreted as a simple recipe for success, a single recipe that can develop in organizations and be used for a long time (Butler 1995, p. 929), which means the past cannot be used simply as input for a manager seeking to make a programmed decision. It cannot be used this way because, as a metaphor for both the present and the future, the past must be interpreted sagely. This is so because there are key differences among the similarities: "Although the past may not repeat itself, it does rhyme" (attributed to Mark Twain in Least Heat Moon 1982, p. io).<sup>3</sup> History does not repeat itself, which means the differences between past and both the present and future must be identified along with the rhyme, the similarities. History may be, as Michael Crichton had one of his characters say, "the most powerful intellectual tool society possesses" (1999, p. 480), but it is only powerful managerially and over the long term when it is used metaphorically, when people who look to it deliberately find its similarities to and differences from the present and the future. In this quest managers share much with poets, indeed they are poets, indeed all people are poets because all employ metaphor in the comparisons they make between the past and the present and the future. And some grammatical forms may promote this temporal poetry more readily than others.

As If the Future Had Already Happened

To consider the future, it may help to treat it like the past, that is, as ifit had already happened. This is the premise Weick proposed in his discussion of future perfect thinking (1979, pp. 195-200). Future perfect thinking is a grammatical prescription instructing managers and planners and all who consider the future to do so in the future perfect tense. Thus rather than the simple future tense as used in a statement like "We shall overcome," the future perfect tense would have us say, "We shall have overcome." Alfred Schutz believed that the "planned act bears the temporal character of pastness' (Schutzs emphasis), because the actor projects the act as completed and in the past, a paradox that places the act in both the past and the future at the same time, something the future perfect tense makes possible (1967, p. 61). These were insights that Weick both noted (1979, p. 198) and built upon to explain why future perfect thinking may make it easier to envision possible futures.

Several studies (Bavelas 1973; Rollier and Turner 1994; Webb and Watzke as cited in Weick 1979) have revealed a consistent finding about the impact of tense on people's ability to imagine events. In all three studies participants were asked to imagine events (i.e., trips, football games, car accidents), and the experimental manipulation in all the studies had half of the participants imagining the event in the past, because they were told the event had already occurred, and the other half were told that the event would happen, so they envisioned it in the future. In all three studies, the participants who envisioned the events occurring in the past envisioned them with significantly more detail than the people who envisioned them in the future. Of course, participants in both conditions were equally ignorant of real details, so the difference in tense led to the difference in details.

Weick extrapolated these findings to the difference between the simple future tense and the future perfect tense. He argued that just as thinking about events occurring in the past makes them easier to visualize than thinking about them in the future, because the future perfect tense is more like the past than the simple future tense, thinking in the future perfect tense should make visualizing future events and scenarios easier than doing so in the simple future tense. Among the reasons this may be so is that the simple future tense is more open-ended than the future perfect tense, the latter seeming to convey a sense of closure and a focus on specific events, which is unlike the simple future tense in which anything is possible (Weick 1979, pp. 198-99). It is well to note that although Weick did not explicitly frame his argument in terms of metaphor, it is really another example of the past-as-metaphor-forthe-future idea developed in this chapter, albeit a more precise manifestation of it. The precision comes in Weick's conclusion that some futures are more like the past, are more similar to it than others. In his argument, the future described in future perfect terms is more similar to the past than the future described in simple future terms. And if he is right, the future should be easier

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to envision in terms of detail when it is cast in the future perfect frame. But whose future? Whose past?

#### The Primacy of Experience

The line of reasoning just presented may also explain why an individual's or an organization's history plays such a central role when contemplating the future. Regardless of how constructed it is, the history of the specific individual or organization will be seen as more real and less imaginary than that of any other individual or organization. And it would seem that this greater sense of reality, this verisimilitude, would come in large part from actually experiencing the history. In the case of organizations, the actual experience is reinforced by the received experiences from the organization's past, which are made more real by the imprimatur of formal and informal authority. Although vicarious learning is possible, learning from direct experience and historical continuity, if relevant, seem likely to trump experiences reported by other people and about other organizations. Personal and organizational histories occupy prominent figure positions in the figure-ground dichotomy, and that such histories are used to cope with the future is indicated by several pieces of evidence.

First, some companies and executives within them consciously use the past to deal with the future. Emerson Electric Company has used "5-back-by-5~ forward" charts that contrast the past five years' financial data with five-year projections. Among other things, when combined with the current year, these data helped the company detect trends (Knight 1992, p. 62)—a point that anticipates Gregory Benfords thinking, which will be presented later in the chapter. As another example, when he was CEO at Intel, Andy Grove used the past to help him see the future: "I have a rule in my business: To see what can happen in the next ten years, look at what has happened in the last ten years" (1996, p. 68). This rule seems straight out of El Sawy's findings. Indeed, both it and Emerson Electric's five-back-by-five-forward practice, especially their temporal symmetry, are consistent with the positive correlations between past and future temporal depth presented earlier (i.e., five years back, five years forward; ten years behind, ten years ahead).<sup>4</sup>

And those positive correlations are a second form of evidence that the past may be used to deal with the future, especially when El Sawy's (1983) findings are added to those correlations. The correlations reveal a connection, and El Savvy's findings indicate the connection is for the past to affect the future's

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depth. By extension, this combination of findings would indicate that the past is used to think about the future, and not the other way around. Thus in their study of organizational visions, Laurie Larwood et al. (1995) found a significant positive correlation between how long firms had held their current visions and how long those visions extended into the future. So regardless of whether general future and past temporal depths are considered, or the past and future temporal depths of organizational visions are involved, the past is connected to the future. But it is not just connected, because El Sawy's (1983) findings and the several positive correlations point to longer past depths as a way to generate longer future depths. And longer depths may confer advantages.

#### EFFICACIES OF LONGER VIEWS

Advantages may accrue to older organizations in several ways. For one, the older the organization, the longer its past temporal depth (Bluedorn and Ferris 2000). This means that, ceteris paribus, older organizations will tend to have more history, more examples to draw upon from which guidance may be obtained for dealing with the future (see Butler 1995, p. 929, about long memories and variety of analogues). Having more history to choose from makes the metaphorical task even more challenging because the decision makers must choose between competing historical episodes or find creative ways to synthesize them. Having more historical material to choose from makes the metaphorical task of creating good metaphors by observing "similarities among dissimilarities" even more challenging, hence making metaphorical skill even more strategic.

This potential albeit challenging advantage conferred by greater age also suggests the importance of the organization's founding date, in particular, how that date is constructed in the organization. Its importance stems from the founding date's function as a marker defining the boundary of the organization's temporal frame. Given the salience of the organization's own past vis-àvis the pasts of others, the date organizational members take for the organization's founding establishes a past boundary beyond which decision makers will not look for instructive episodes from the organization's history. However, unlike the organization's future temporal depth, its time line into the past is always bounded by the organization's founding date. And as with paradigms generally (Barker 1992), the frame bounded in the past by the organization's

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founding date limits the search for information from the organization's history to the domain of events that occurred on or after that date.

So longer organizational histories confer potential advantages, maybe even competitive advantages. And because longer past temporal depths are associated with longer future depths, do longer future depths confer advantages too?

#### Organizational Performance

To the extent that this question has been addressed, the received wisdom appears to hold that a long-term future temporal depth is better than a short-term depth. William Ouchi's best-seller, *Theory* Z (1981), associated long-term future depths with the success of Japanese organizations and contrasted them with the short-term depths of their then-struggling American counterparts. James Collins and Jerry Porras reached a similar conclusion in another best-seller, *Built to Last* (1997), that the long term is better than the short-term. And Terrence Deal and Allan Kennedy were critical of "short-termism," especially its effects on human resource practices (1999, pp. 43-62), an issue also present in Ouchi's and Collins and Porras's analyses.

Examples of how long-term future orientations influence behavior often present striking contrasts to behaviors guided by short-term future orientations. One such example was IBM's decision, actually Thomas Watson's, to pay a large portion of employees' salaries to the employees' families while the employees were in the American Armed Services during World War II (Carroll 1993, p. 48), military pay being much lower than the remuneration at IBM. This decision made no strategic sense whatsoever from a short-term future perspective, but from a long-term perspective one would anticipate that it helped create a generation of extraordinarily dedicated and loyal employees as evidenced by the account of this practice being "one of the stories most often told over the years as IBMers explained their loyalty to their employer" (Carroll 1993, p. 48).

A similar example occurred in 1995 when Aaron Feuerstein, the CEO of textile manufacturer Malden Mills, made a similar decision after much of his company's physical plant was destroyed in a catastrophic fire. Feuerstein decided to pay the company's idled workers their full salaries and wages while the plant was being rebuilt (Calo 1996). Just as at IBM, such a decision makes economic sense only from a long-term perspective, the behavior of employees being a major consideration in such a perspective. Indeed, one of the employ-

ees who benefited from Feuersteins' decision commented, "I owe him everything I have, and everything I'm gonna have. I'll pay him back" (Calo 1996). Interestingly, Malden Mills was a privately held company at the time when Aaron Feuerstein made the decision that made him famous (e.g., he was invited to attend the 1996 State of the Union address), so he had much more freedom to make this type of decision than would a CEO at a publicly traded company. As such, his behavior as the CEO of a privately held company supports Deal and Kennedy's (1999, pp. 43-62) view that an increased emphasis on shareholder value during the 1980s and 1990s led to even more of an emphasis on the short term.

Another example of a decision with long-term consequences also illustrates the connection between the past and the future. Lincoln Electric Company, a Cleveland, Ohio-based manufacturer of arc welders, has used a well-chronicled (e.g., Sharplin 1998) pay system for many years. An important part of this system is a major annual bonus paid to all employees based on merit ratings and company profits.

In 1993, Lincoln paid the bonus with \$55.3 million in borrowed money (Hastings 1999, p. 178). The firm's top management made this decision because the bonus system was such a substantial portion of each employee's pay, but also because the bonus had been paid regularly for so many years, hence having become a part of the psychological contract between the employees and the company, an almost taken-for-granted part of Lincoln's culture. To have not paid the bonus because the company had a loss that year, a loss owing totally to an unsuccessful attempt to expand operations internationally, would have been to break faith with the company's workforce. This in turn would have put at risk employee loyalty and dedication developed over decades, loyalty and dedication that had developed in part owing to the company's unique incentive system based on the bonus. So a decades-old tradition to which management and line workers alike looked for guidance concerning the future influenced a major and risky decision. In terms of the metaphorical processes already discussed, the differences between past and future were identified (i.e., the company's major loss that year), but the differences were not quite enough to invalidate the metaphor, and the annual bonus, the similarity, was maintained-as was a de facto commitment to the long-term future.

Thus IBM, Malden Mills, and Lincoln Electric, all historically successful manufacturers but in very different industries, illustrate how a long-term fu-

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ture temporal depth can be implemented and contribute to organizational effectiveness. But is this the case for temporal depth generally? Steve Ferris and I found the relationships between temporal depth and measures of organizations' financial performance so mixed (i.e., some were significant, some were not) and contingent (Bluedorn and Ferris 2000) that the best answer that can be given at present is *sometimes*. And a pioneering study focused on future temporal depth and managers' ethical beliefs and values suggests that sometimes a *shorter* temporal depth may even be better.

#### Principles of Right and Wrong

T. K. Das, no stranger to investigations of future temporal depth (e.g. 1986, 1987), conducted the study (2001). He gathered data from 585 vice presidents of American companies and measured their future temporal depths and their beliefs and values concerning fourteen ethical principles (e.g., the categorical imperative, the golden rule).

When I first encountered this research, I was still under the sway of the received wisdom that a long-term depth was generally better than a short-term depth. As indicated, I was certainly not unique in holding this view, because the Long Now Foundation, which was "established in 1996 to foster long-term responsibility," has been involved in a project that extends ten thousand years into the future (Brand 1999, p. 4). And why ten thousand years? This future depth was chosen as a result of a suggestion that because "10,000 years ago was the end of the Ice Age and beginning of agriculture and civilization; we should develop an equal perspective into the future" (pp. 4-5). If some attributes of that reason seem familiar, they should, because the reason reflects some key points from earlier in the chapter; to wit, past temporal depth affects future temporal depth (i.e., looking back over the span of human civilization to the Ice Age for guidance about the future), and past and future temporal depths are positively correlated (i.e., they looked back ten thousand years so they are going to look ahead ten thousand years). We will encounter the Long Now Foundation again in Chapter 9.

So, reinforced by my own beliefs and those of others such as the Long Now Foundation, I expected that if Das found any relationships, he would find that executives with longer future temporal depths would have stronger beliefs about ethical principles than those with short-term horizons. Actually, Robert Axelrod's (1984) famous prisoner's dilemma research similarly led me to anticipate this (i.e., Axelrod's finding that strategies which confer mutual benefits rather than mutual pain or harm are most successful in the prisoner's dilemma game *in a condition where many rounds of the game will be played*, where the game is played with a long-term future depth, also led me to anticipate what I thought Das would find).

But as sometimes happens in the social sciences, Das found exactly the opposite (of what *I* thought he would find). He found that the relationship between having a near-future rather than a distant-future orientation and seven ethical principles was statistically significant, that the executives with the nearfuture orientations felt more strongly about the ethical principles than did their distant-future-oriented counterparts *for* all seven of these ethical principles. If the significance level is relaxed somewhat, two more significant relationships can be added to the original seven, and just as with the original seven, these two also show that the near-future-oriented executives felt more strongly about each of the two ethical principles than did their distant-future-oriented counterparts. (The five other ethical principles tested did not reveal statistically significant differences between executives with near- and distant-future orientations.)

That the short-term is associated with stronger feelings, beliefs, and values about ethical principles than is the long-term leads to the question of whether the greater strength of these feelings leads to different behaviors involving the ethical principles. This would seem to follow from the logic of values-attitudes-behaviors complexes (e.g., Fishbein and Ajzen 1975), but Das did not collect data that would allow this relationship to be tested. Indeed, his explanation for why the distant-future-oriented executives felt less strongly about ethical principles, that having such a perspective would reveal more of the obstacles and complexities involved in trying to follow and implement the ethical principles (Das 2001, pp. 3-4), could not be tested with his data either. Nevertheless, his findings revealed a clear pattern of relationships between future temporal depth and strength of feelings about many ethical principles, findings with important albeit unexplored behavioral implications.

Das's method for measuring future temporal depth asked the executives in his sample to consider important events they expected to happen in their "own *personal* life in the future" (Das's emphasis; 2001, p. 30), in other words, while they were still alive. But there are more times still to be considered, because people recognize that there was time before their memories began and there will be time after their earthly existence ends.

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And people do think about events in such times, both events that occurred before their births and ones that may occur after their deaths. But at least in the West, considerations about things before one's birth, and especially after one's death, take on a special quality. Such considerations occur in a different time than one's lifetime, which is a fundamental temporal distinction (e.g., Cottle 1976, pp. 105-6).

#### Still Longer Views

The Iroquois have extended planning considerations beyond the lifetime of any planner by considering the impacts of plans and decisions on their descendants *seven generations* ahead (Lyons 1980, pp. 173-74). Similarly, the CEO alluded to earlier in the chapter, Matsushita founder and CEO Konosuke Matsushita, presented a corporate plan to his employees in 1932 that would also have an impact on many future generations. The corporate plan covered the next 250 years (Lightfoot and Bartlett 1995, p. 82). A 250-year plan extends at least ten generations into the future, and given the time capsule demonstration discussed earlier, is it surprising that if someone were to develop a 250-year plan, it would be a Japanese rather than an American CEO?

Both the Iroquois and Matsushita have given consideration to matters not only beyond quarterly earnings reports, but beyond the life span of any living tribal member or company employee, indeed beyond the likely lifetime of the children of any current member or employee. Compared with the temporal depths presented in Table 5.1, the Iroquois and Matsushita were dealing with qualitatively different time frames, time frames at least one order of magnitude greater than those of the respondents in the Table 5.1 sample, different probably from those of most Americans. They are dealing with matters that on the scale of human lifetimes occur in *Deep Time*.

Deep time refers to the immense temporal vistas, scores of millions, often hundreds of millions, occasionally billions of years long that geologists use to chronicle the earth's physical history, including the history of life on it. John McPhee (1981, p. 20 and other pages) coined the term, and it has been used by other writers with an ear for a well-turned phrase (e.g., Gee 1999), including Gregory Benford (1999), who made it the title of his book dealing with the topic on a more human rimescale. Among other virtues (see Chapter 7), thinking in a deep-time frame forces one to recognize the ubiquity of change. And Benfords account of the WIPP project illustrates this well (1999, pp. 33-85). WIPP stands for Waste Isolation Pilot Plant, a U.S. government underground facility near Carlsbad, New Mexico, used for storing moderately radioactive nuclear waste. The federal government created teams of natural and social scientists to address several questions associated with the project, including the likelihood of humans gaining access to the underground facility sometime during the future, as well as how to provide a warning to future humans that the location was dangerous, a warning that would also communicate the nature of the danger. The relevant deep-time future was defined as the next ten thousand years.

But with the exception of archaeologists, social scientists seldom employ time horizons of this magnitude—if they explicitly employ time horizons at all. Some natural scientists such as astronomers and geologists do deal with such time frames, often much longer time frames, but even so, the teams had to deal with matters seldom encountered in everyday life as they addressed the issues about the WIPP project that concerned the government (i.e., dangers, warnings for future generations). For example, when will the United States no longer exist? This question was raised because the issue of political control of the WIPP site was obviously important in assessing the likelihood of future humans breaking or blundering into the facility. When the teams turned to history, they found no record of any political entity in human history that had existed continuously for ten thousand years; in fact, recorded human history does not extend back quite that far.

Another question was equally startling: At what point will no one on the planet be able to understand English (or any other contemporary language) as it was spoken and written at the end of the twentieth century? The relevance of this question is obvious to the issue of providing a warning and explanation that will be understandable for ten millennia. Languages change subtly, incrementally, yet change they do, and after enough changes accumulate, they result in different languages. How many readers today can read *Beowulf* in the original? Benford (1999, p. 76) used this example to illustrate the point about how much language can change, and in the case of *Beowulf* only a little over one thousand years are involved. This illustrates how daunting the challenge is of even formulating a plan to plausibly communicate across deeptime intervals.

A noteworthy point, and one consistent with this chapter's analysis of temporal depth, is that the teams used deep history to help deal with the

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deep human future. The past again served as metaphor for the future: deeppast metaphors for deep-future concerns. The further behind they looked, the further ahead they were able to see. And looking in either deep-time direction, but especially toward the past, confers a potential advantage beyond simply being able to see further. In an interview I conducted with Gregory Benford (March 28, 2000), Greg indicated that an advantage a deep-time perspective confers is an enhanced ability to detect *patterns*. So it is not just that change becomes more evident, but patterns in the change may be detected more readily.

Jennifer George and Gareth Jones (2000) emphasized the importance of detecting such patterns in their discussion of cycles and spirals as important temporal elements of social science theory development. Similarly, Srilata Zaheer, Stuart Albert, and Akbar Zaheer (1999) demonstrated the important impact of differing temporal depths on statistical relationships among phenomena (see also Mitchell and James 2001). Perhaps one reason that the theory of long-wave economic cycles proposed by N. D. Kondratieff (1935) seems striking, even daring, is that social scientists seldom look for patterns spanning temporal depths of such lengths-fifty years being what Kondratieff proposed. Yet if one does not think and look for cycles in time spans of one hundred years or more, one cannot detect fifty-year cycles, because to be a cycle, a pattern must repeat itself. This is Benfords point: Looking at things over longer temporal depths than are usually employed increases the chances of spotting patterns with longer wavelengths, patterns whose wavelengths are too long to allow detection with either short-depth or atemporal viewpoints. All of this indicates that Ralph Waldo Emerson was right: "The years teach much which the days never know" (1983, p. 40).

Thus deep-time perspectives, temporal vistas extending beyond the length of human lifetimes, provide perspectives from which new insights can potentially be drawn. And more people may actively engage deep time than the data presented early in the chapter (e.g., Table 5.1) would suggest. For within what at first glance appears to be a large segment of deep time, John Boyd and Philip Zimbardo (1997) discovered that many people do actively attend to a deep-time-like domain, a region they dubbed the transcendental future. They defined this temporal realm as "the period of time from the imagined death of the physical body to infinity" (p. 36). Moreover, it is not just there, but people imagine themselves as active participants in the transcendental future and may see it as the time in which they attain goals such as reunions with deceased loved ones, eternal life, reincarnation, and the end of current suffering (p. 36). Boyd and Zimbardo (pp. 41-46) developed a scale to measure an individual's orientation toward this form of time and found that the young and the old tend to believe in it and be more oriented to it than those of intermediate age, that members of some religious groups are oriented to it more strongly than others, that belief in it varies by ethnicity, and that women are more oriented to the transcendental future than men. But there was no relationship between a transcendental-future time perspective and any components of the five-factor model of personality (see Chapter 3 for more about the "Big Five").

As the label indicates, Boyd and Zimbardo's concept and research concerned the transcendental *future*. They did suggest the possibility of a transcendental past as well (the expanse of time before a person's birth [Boyd and Zimbardo 1997, P- 36), and this possibility is consistent with the connection between the past and future developed in this chapter. For example, writing of her people's relationship to the past, South African Miriam Makeba described that relationship like this: "But in my culture the past lives. My people feel this way in part because death does not separate us from our ancestors. The spirits of our ancestors are ever-present. We make sacrifices to them and ask for their advice and guidance. They answer us in dreams or through a medium like the medicine men and women we call isangoma" (Makeba's emphasis; 1987, p. 2). And regarding the connection between past and future she wrote, "But for us, birth plunges us into a pool in which the waters of past, present, and future swirl around together. Things happen and are done with, but they are not dead. After we splash about a bit in this life, our mortal beings leave the pool, but our spirits remain" (p. 2).

So deep time, or at least a portion of it, may extend to the considerations of many more people than just the historians, astronomers, geologists, and archaeologists among us—if one allows the transcendental future as part of the same time line associated with the same reality such scientists address. One could object, and point out that the transcendental future seems to be about more than a different time; it seems to be about a different place, a different reality altogether (i.e., the hereafter). Nevertheless, the transcendental future is a worthy addition to the catalog of human times, regardless of whether it fits neatly as a region of deep time or not.

The concept of a transcendental future grew out of research about tempo-

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ral perspectives in general, specifically general orientations to the past, present, and future. However, Boyd and Zimbardo's interest was not in comparing short-, mid-, and long-term temporal depths; rather, it was in examining the degree to which people were oriented to a transcendental future, and in examining the extent to which this variation covaried with other factors such as age, gender, and ethnicity. This is a natural extension of the questions involved in research on general past, present, and future temporal orientations (e.g., Kluckhohn and Strodtbeck 1961, pp. 13-15), orientations that at first glance appear similar to issues of temporal depth. However, as I have argued elsewhere in opposing the use of the general temporal direction or domain that an individual or group may emphasize (Bluedorn 2000e) than the distance into each that the individual or group typically uses. The latter is the issue of temporal depth; the former, what I have called *temporal focus* (Bluedorn 2000e).

#### TEMPORAL FOCUS

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dorn 2000e, p. 124). Research on this topic has been conducted under a variety of labels, including time orientation (Kluckhohn and Strodtbeck 1961), Confucian Dynamism (Hofstede and Bond 1988), focus (Settle, Alreck, and Glasheen 1972 as cited in Kaufman-Scarborough and Lindquist 1999, p. 290, and 1978 as cited in El Sawy 1983, pp. 277-8611; and Settle, Belch, and Alreck 1981 as cited in both El Sawy 1983, pp. 129-40, 277-8611, and Kaufman-Scarborough and Lindquist 1999, p. 303), and time perspective (Lewin 1951, p. 75). And that societies differ in temporal focus is widely noted. For example, in comparing the West's temporal orientation to that of her own people's, Miriam Makeba wrote, "In the West the past is like a dead animal. It is a carcass picked at by the flies that call themselves historians and biographers" (1987, p. r).5 But the West is a big place, and temporal focus varies within it too. So Gregory Benford would write, "Englishmen were fish swimming in this sea of the past. For them it was a palpable presence, a living extension, commenting on events like a half-heard stage whisper. Americans regarded the past as a parenthesis within the running sentences of the present, an aside, something out of the flow" (Benford 1992, pp. 208-9).

Temporal focus is the degree of emphasis on the past, present, and future (Blue-

Such descriptions are consistent with James March's observation that the

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evidence from studies of organizations is overwhelming in substantiating a general organizational tendency to favor the present over the future" (1999, p. 73). They are consistent with March's thinking because much—not all by any means—of the published research on organizations has been based on American organizations. The observation about organizations favoring the present is important because different temporal foci indicate different organizational priorities. For example, March suggested that a focus on the present will be reflected in organizational attention to short-term efficiency, whereas a focus on the future will direct attention more to long-term adaptability (p. 73).

Individuals differ in temporal focus too, and these differences have received significant attention over the years (e.g., Cottle 1976; Doob 1971; Fraisse 1963; Usunier and Valette-Florence 1994; Zaleski 1994). Consistent with Makeba's description of the past as a picked-at carcass, Philip Zimbardo and John Boyd concluded that most research on temporal focus has concentrated on the individual's future or present orientation, "with relatively little attention to past orientation" (1999, p. 1272). Within this limitation they summarize this research as relating an individual's future orientation to several outcomes such as better academic achievement and engaging in fewer health risk behaviors, whereas a primary present orientation has been related to behaviors such as crime and addictions (p. 1272).

So both cultural and individual temporal-focus differences have been associated with other important matters, albeit the question of causality is difficult to sort out. Here the issue is constrained more tightly: Is temporal focus related to temporal depth? And if so, how? As already noted, I concluded elsewhere that temporal focus and depth are conceptually distinct (Bluedorn 2000e). In that discussion, I presented evidence that the two variables were empirically distinct as well. El Sawy investigated a similar question (1983, pp. 126-27). He used different conceptual labels and different measures, but his results, like mine, suggested that "the two dimensions are separate" (p. 126). These findings have now been joined by new results presented in the Appendix that strongly support this conclusion (see the Appendix).

The results presented in Bluedorn (2000e) and the Appendix consistently support the distinction between temporal depth and temporal focus. Conceptually the two terms refer to different phenomena, and empirical measures of the two share so little variance in common that for practical purposes they can be regarded as orthogonal. Temporal depth is the distance looked into past and

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future. Temporal focus is the importance attached to the past, present, and future. And how much importance do people attach to past, present, and future?

One way to address this question is to compare people's responses to Usunier and Valette-Florence's (1994) orientation toward the future and past scales. Although this method does not offer comparisons with the importance of the present, it does provide a straightforward method for gauging the importance people attach to the past and the future. Results from two large samples of college students in the United States revealed almost identical results indicating that the future is considered important in absolute terms (an average score around six on a seven-point scale in both samples) and is regarded as significantly more important than the past (averages a little over four on seven-point scales in both samples).<sup>6</sup> Although these results may simply confirm one's expectations for American samples, they provide a quantitative assessment that reveals the large margin by which the future is considered more important than the past. They also indicate that the past, though regarded as less important than the future, is not seen as completely irrelevant either.

A more fine-grained approach to this question is to ask people, How important are each of the three future (short-term, mid-term, and long-term) and past (recent, middling, and long-ago) depths? Doing so allows the importance of the three future regions to be compared with each other just as it allows the importance of the three past regions to be compared. Further, the importance of each component in the three sets of parallel items (e.g., short-term future and recent past) can be assessed and compared with its counterpart. And because of the results just presented from the general orientation-toward-thepast-and-future comparisons, one would expect the future item in each pair to receive a higher importance rating than its past counterpart.

The respondents in the same sample that produced the results presented at the beginning of the chapter (i.e., Tables 5.1 and 5.2, Figure 5.1) were asked about the importance of each of these six temporal depths, and their responses are presented in Figure 5.2.

Among the three future depths, only the importance of the mid-term and long-term futures differ significantly from each other. And as a visual inspection of Figure 5.2 reveals, even that difference is not large in substantive terms, at least not compared with the differences among the three past temporal depths.

A quick glance at the left side of Figure 5.2 reveals immediately that one is no longer looking at the same results depicted on the right side. Major differ-



FIGURE 5.2. Average importance given to three regions of the past and three regions of the future by a sample of college students

enees exist among the three temporal zones of the past, and as would be expected from their depiction in Figure 5.2, all three differences are statistically significant. The recent past is clearly the most important of the three zones, followed by the middling and long-ago pasts in descending order of importance. Although not quite as high as the importance ratings given to the short-term future, the importance rating for the recent past (5.16) is fairly close to its future counterpart (5.67). The same cannot be said for the mid-term/middling and long-term /long-ago pairings. The middling past has an importance rating of the long-ago past (3.79) falls below the midpoint, both of which are ratings well below those of their future depth counterparts.<sup>7</sup> Perhaps Miriam Makeba had the West's attitude about the long-ago past in mind when she described that attitude so grimly as a picked-at carcass.

Overall, the sample ratings revealed small differences between the shortterm, mid-term, and long-term futures, but within the past, the sample rated the recent past as most important, much more important than either the mid-

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dling or the long-ago pasts. Perhaps the most important point to emphasize is that these are the results from a single sample that was collected in the United States, and the results from the orientations-toward-the-past-and-future comparisons are from American samples too. As such, the results from all three samples are values constructed by the processes that produce American personalities and culture in general (although each sample included international students, all three samples were overwhelmingly composed of students born and reared in the United States). For this reason it seems reasonable to anticipate major differences if comparable samples were collected elsewhere in the world. Not that every sample would produce different results, but it seems reasonable to expect that many results would differ, which is all the more reason to extend this research outside the United States.

#### CAVEAT EMPTOR

Although the caveat just issued was directed at the temporal focus findings, it could be applied just as easily to the temporal depth findings. Temporal depths are socially constructed just as temporal foci are. But until the temporal depth findings presented in this chapter are replicated outside the United States, we cannot know for sure whether the positive correlation between the lengths of past and future temporal depths is a unique manifestation of people socialized in late-twentieth-century American culture, or whether these relationships are universal. The same concern would seem to apply to organizational age and its positive correlations with past and future temporal depths. All of these temporal depth findings require investigation in other cultures.

And what of the descriptive data about the intervals defined as the short-, mid-, and long-term regions of the past and future? Of all the findings reported, these would seem most likely to vary from person to person, from organization to organization, from country to country.

Some of the most important theoretical interpretations presented in this chapter involved the concept of metaphor and the proposition that the past is a metaphor for the future. And though more broadly based than the empirical findings, from Aristotle to Weick, the theory too is mainly from the Western tradition. Yet of all the findings presented and ideas developed in this chapter, I suspect that the one most likely to be universally true is that the past is a metaphor for the future. Even in cultures where the past is relegated to the status of a picked-at carcass, some of it is still used to explain the present and cope with the future. And when this task of metaphorical interpretation is performed carefully and wisely, distinguishing valid similarities among true differences, humanity may do more than merely cope. For at least cope it must because the eternal challenge is to construct a future humans can live in, and better yet, to construct a future in which humanity will want to live.

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