The

Human Organization

of Time

TEMPORAL REALITIES AND EXPERIENCE

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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.

Again, the idea was to disrupt people's sleep patterns so their ability to function would decline. And in both cases, the disruption was intended, not to help them, but to produce harm to those whose sleep would be disrupted. So why do this to ourselves *voluntarily* in the case of daylight saving time?

Humanity constructs its times, and daylight saving time is no exception. Perhaps it is time to rethink the practice and sever our connections with it. Deconstruction may be in order. Should policy makers require further study before ordering its demolition, let the funding agencies support such research, but with connections to deadlines on the order of three or four years, not thirty or forty. And whatever the time frame for conducting the research and making the policy decisions, let it all proceed with a greater sense of urgency than that which moved the Board of Longitude (see Chapter 4). Otherwise, latter-day Dantes will have far too much material to draw upon as they make each new day in their Infernos the first day after the switch into daylight saving time. Mistaking the worst of times for the best of times is a nasty error.

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Carpe Diem

> The utility of living consists not in the length of days,
> but in the use of time; a man may have lived long,
> and yet lived but a little.
>
> —Michel Eyquem de Montaigne, *Essays*

What is the most impressive project in human history? What project is most impressive, that is, if impressiveness is gauged by the project's complexity and scope, its audacity and importance, and ultimately, of course, by its success. There is no right or wrong answer to this question, value-laden as it is, but one could certainly agree on legitimate contenders: the pyramids of ancient Egypt and Mesoamerica, the Great Wall of China, the Apollo program (moon landings), and the mapping of the human genome would generate few objections. All of these projects were efforts to seize the day (carpe diem), to seize it grandly, and all of them involved *preparations* to seize the day as well—seizing the day and preparing to do so being the subjects of this chapter. But there is another project, little known to the general public, often unknown even to major portions of the professorate, that deserves to be included in this list.

The project was proposed in 1857, and what was proposed was nothing less than a complete inventory of every word in the English language, past and present. But not just a list of these words, though the outcome envisioned would certainly include such a list, but a list that would describe the origin of every word and include the first written sentence in which the word was published. Further, the list would also include additional published sentences illustrating every major meaning the word had taken on as well as the important subtleties

in its use. Finally, the project was to be undertaken almost entirely by volunteers (Winchester 1998, pp. 103-7). The task of finding the *first* published use of even a single English word would provide sufficient challenge to most bibliophiles, but for *every* English word that had existed up to the time the project would begin seems almost unimaginable. Yet not only was the unimaginable conceived; it was undertaken. And almost unbelievably, it was accomplished, producing what came to be known as the *Oxford English Dictionary.* The second edition of this work is a de rigueur portion of any major library's reference collection, a blue-clad twenty-volume portion of that collection measuring—according to my tape measure—44.5 inches from A to Z (not counting two supplements). It is a dictionary nearly four feet wide. And the print is small.

The project began formally in 1858, and it did so with some fundamental management errors. For the dictionary's first editor had a pigeonholed storage device constructed to hold records of the sixty thousand to one hundred thousand words he expected to receive from the volunteer workers, the people who were to find the dictionary's words and their initial published uses. He also estimated that the first volume of the dictionary would be produced in two years.

His estimate was a little on the short side, for the first volume was not produced in his lifetime, nor was the entire dictionary produced during his successor's. (It was estimated the task would take ten years when his successor took over.) The first edition of the entire dictionary was produced, 6 million word records and seventy years later, being declared finished on December 31, 1927. It contained 414,825 listed words, 1,827,306 previously published usages, 227,779,589 typeset letters and numbers in all (project summary details from Winchester 1998, pp. 106-12, 219-20). Those who organized and managed this project knew it was a big one, but they clearly had no idea early on that they had undertaken a project of epic proportions.

Nor were they the only ones to underestimate the scope of a big dictionary project. In 1963 Frederic Cassidy proposed a plan to develop a dictionary of American folk speech, a plan that the American Dialect Society then placed him in charge of as the dictionary's editor. And Cassidy explicitly estimated how long the project would take: "We must expect that collecting, to be adequate, must continue for at least five years, and editing, though it may begin before the collecting is completed, will take another three or four years" (Cassidy as quoted in Penn 1999, p. 25). Cassidy originally made that estimate in 1963, and as of his death in 2000 the staff of the *Dictionary of American Re-*

gionalEnglish, as the dictionary is titled, was working on volume 4, which was to contain the words beginning with P, Q_, R, and some of S (Cushman 2000, p. 15). That is thirty-seven years later and some of S and all of T, U, V, W, X, Y, and Z were still to come.

Do these two examples illustrate a special problem in estimating how long it will take to complete a new dictionary, that lexicographers especially are overly optimistic about their projects? No. It turns out that dictionaries and their lexicographers epitomize the rest of us and our projects. We are *all* overly optimistic about completion times, and we are so most of the time. This characteristic is called the planning fallacy.

Daniel Kahneman and Amos Tversky (1979) first applied the planning fallacy label to this phenomenon, which is defined formally as "the tendency to hold a confident belief that one's own project will proceed as planned, even while knowing that the vast majority of similar projects have run late" (Buehler, Griffin, and Ross 1994, p. 366). Intriguingly, Roger Buehler, Dale Griffin, and Michael Ross's (1994) research indicates that people estimate completion times for other people's projects with little *systematic* error, whereas they tend to substantially *underestimate* the completion times of their own projects. So the planning fallacy does not seem to be a universal planning error; instead, it seems to be focused on estimates for people's own projects. These differential estimates apparently result from using different types of information to make the estimates. For other people's projects, people tend to rely on factors such as deadlines and how long similar previous projects took to complete. But for their own, people seem to downplay, even disregard such information, and instead they focus on the scenarios they envision for their projects, scenarios that tend to be unrealistically optimistic (Buehler, Griffin, and Ross 1994).

So as already indicated, the editors of the *Oxford English Dictionary* and the *Dictionary of American Regional English* were not unusual at ah when they underestimated—by an order of magnitude—how long their projects would take. Nor were the builders of the Sydney Opera House, who were off by ten years about its completion date (Buehler, Griffin, and Ross 1994, p. 366).

Such errors in estimating completion dates can be more than just troublesome and embarrassing, because they can lead to timing problems, especially if explicit in-phase or out-of-phase entrainment strategies (see Chapter 7) have been built around the estimates. For example, because key American commanders thought the war with Germany would be over before the end of 1944,

winter clothing was stored rather than transported to the front, where it would be needed during the winter of 1944-45—when the war was very much not over (Ambrose 1997, P.110). Planning forms the basis for decisions, and if the planning is wrong, so are the decisions. And the planning fallacy tends to make at least part of many plans wrong.

Buehler, Griffin, and Ross found that the planning fallacy could be counteracted if people were able to both "consider their past experiences and to relate the experiences to the task at hand" (1994, p. 376). Remembering past experience was not enough; such memories had to be related to "the task at hand" to reduce the planning fallacy.[1] This finding connects well with the general premise about the importance of linking the past with the present and the future (see Chapters 5 and 7; Neustadt and May 1986; Weick 1995). Nevertheless, if people are left to their own devices, at least for their own projects, they seem to focus on an idealized future, one they intend to create, hence days they intend to seize.

But given the planning fallacy, when people plan for themselves, they may unknowingly make plans to seize many more days, many more years, many more decades than they realize their plans commit them to seize—which may not be all bad. Because if a project's length is directly proportional to the amount of effort and resources it will require, many great undertakings might never have been accomplished because they would have been too intimidating to begin.

Carpe diem means *seize the day*, and as Chapter 7 revealed, there are some days people want to seize, to experience, and others they never want to encounter again. Chapter 7 was about *what* makes some times good and others bad, which implies that most people seek out the former and try to avoid the latter. This chapter is about *how* people try to do this seeking and avoiding, *how* they try to increase the proportion of the days that qualify as at least good times if not the best of times, as well as avoiding the opposite as best they can. As will be seen, *how* to seize the good hours and avoid the bad ones often involves complex rather than simple choices. Given finite resources, choices of which days to live imply choices of days to forgo, and such choices of paths not taken can be exceptionally important, because some of them will haunt us for the rest of our lives. But before examining the consequences of forgoing days and hours, we will consider ways people prepare to seize some days and avoid others, dealing first with planning in general, and then with time management.

PLANNING OR ORGANIZING THE FUTURE

Planning is a way we attempt to organize our days before we arrive at them, and as the findings about the planning fallacy indicate, such attempts are seldom error-free. Thus Karl Weick observed about planning, "The dominance of retrospect in sensemaking is a major reason why students of sensemaking find forecasting, contingency planning, strategic planning, and other magical probes into the future wasteful and misleading if they are decoupled from reflective action and history" (1995, p. 30). The overly optimistic completion estimates produced by the planning fallacy are certainly an example of how such "magical probes into the future" can be "wasteful and misleading," especially misleading. Yet Weick did not dismiss planning out of hand because his statement included an important contingency: if the plans are "decoupled from reflective action and history," a point supported by Buehler, Griffin, and Ross's (1994) planning fallacy research.

Buehler, Griffin, and Ross (1994) found that people exhibited no significant planning fallacy tendencies if they were instructed to recall and use their past experiences to construct a plausible scenario for completing an upcoming task. Conversely, people who either were given no instructions about using past experiences or were simply directed to think about past experiences with projects similar to the one they would be estimating revealed significant planning fallacy effects. The plausible-scenario-condition results eliminated a systematic error from the planning process, but not all error.[2] Nevertheless, by demonstrating that some planning errors can be reduced or eliminated by properly integrating the past into the planning effort, Buehler, Griffin, and Ross's results are consistent with Weick's more general point that plans need to be linked to "reflective action and history."

But planning fallacy errors aside, does planning help people and organizations move on to better days? Does planning help them seize the days they intend to seize? One way to answer these questions is to examine the relationships between planning and various measures of performance. For individuals the evidence is mixed, and because just about all of that evidence comes from research on time management practices, it will be discussed later in this chapter in the section on time management. For groups, Gregory Janicik and Caroline Bartel (2001) found that both strategic planning (evaluating the performance environment and developing strategies based on the evaluation) and

temporal planning (discussion of time allocation, deadlines, etc.) were positively correlated with group performance, the latter by fostering the development of group temporal norms about matters such as deadlines and being on time. And at the organizational level, until recently reviews of planning research have revealed mixed relationships between planning and organizational performance (e.g., Rhyne 1986; Pearce, Freeman, and Robinson 1987).

To resolve such ambiguous results, C. Chet Miller and Laura Cardinal (1994) performed a meta-analysis on forty-three samples reported in twenty-six studies. This approach allowed them to calculate the average correlations between planning and organizational growth and between planning and organizational profitability, both of which were statistically significant and positive, though relatively small. The authors concluded, "These mean correlations support two conclusions: planning positively influences growth, and planning positively influences profitability" (1994, p. 1656). Additional analysis revealed that variance in the planning-performance correlations was significantly related to a variety of methodological factors.[3]

These are important findings because they help explain three decades of accumulated contradictory findings about planning's impact on organizational performance. And they indicate planning is positively correlated with performance, that planning is associated with higher levels of organizational performance. And given these findings, it is not surprising that J. Robert Baum, Edwin Locke, and Shelly Kirkpatrick (1998) found a similar phenomenon was positively related to organizational growth too, a phenomenon that overlaps a great deal with planning, especially strategic planning. That phenomenon was vision, and the attributes and contents of entrepreneurial CEOs' visions were positively related to their firms' growth.

So the entire planning-visioning complex seems to be positively associated with organizational performance, meaning it helps organizations seize the days more successfully. But it may also be related to something else, something even more important: the evolution of the entire human species.

Visiting the Futures

Richard Alexander examined the evolution of the human line, the hominids, and asked the following question: "What selective challenge could drive the hominid line so far away from that of other primates, and, even more puzzling, what sort of challenge could have caused this divergence to accelerate in its

later stages?" (1990, p. 3). In his judgment, traditional forces of natural selection such as climate and predators were inadequate answers to this question, so he considered nontraditional forces. The answer he proposed was that the hominids provided the selective forces for their own evolution, that they had become "so ecologically dominant that they in effect became their own principal hostile force of nature" (p. 4). They provided their own hostile force through intergroup competition, a process that arose at some point in hominid development when hominids "began to cooperate to compete" (p. 4). That is, hominids learned how to cooperate within their groups, in part, in order to compete with other hominid groups. Such a process would provide the selective forces that would produce the evolution of the human brain and important aspects of the human psyche. And in this process cultural and technological differences could confer significant advantages to one group over the other.[4]

From the standpoint of organizing the future, a crucial part of Alexander's analysis is the central role he saw for foresight, planning, fantasizing, and dreaming in the development of human mentality and consciousness (1990, p. 7). As Alexander put it,

> Among other things consciousness implies the ability to think about times and places and events separated from our immediate personal circumstances. It implies the ability to use information from the social past to anticipate and alter the social future, to build scenarios—to plan, to think ahead, and to anticipate different possible outcomes and retain the potential to act in several alternative ways, depending on circumstances that can only be imperfectly represented at the time the plans or scenarios are being made. (p. 7)

Planning in general and scenario building in particular are thus given center stage in Alexander's model of human evolution. But why? What advantages could such abilities confer? From an evolutionary perspective, scenario building, which to Alexander includes "dreaming and daydreaming as well as serious or purposeful planning" (p. 7), is a form of practicing for the future that is much less expensive than actual experience. It allows one to test hypotheses about what will happen, especially in interactions with other people. In Alexander's view the development of human problem-solving abilities had largely involved developing the ability to deal with *social* problems (i.e., issues involved with living among other people in general, not just matters such as crime and poverty, though these would be included too). This makes the pri-

mary significance of scenarios their ability to help both individuals and groups deal with other individuals and groups, especially from the standpoint of competition. Competition often involves deception, so detecting and dealing with deception may be a particularly important matter that scenarios can help people address. This is suggested by the importance Alexander assigned to the role of reputation in human interaction, especially for cooperation in groups (pp. 8 and 10), and research on benevolent behaviors supports Alexander's views about reputation (Wedekind 1998; Wedekind and Milinski 2000).

But another advantage to scenario building may accrue as well, and it is social in many ways too. For these advantages come from observing others and the scenarios they construct. In Alexander's view of human evolution, scenario building is so important because it provides an increased ability to "anticipate social situations and the reactions of others to them," which through mental parodies assists the person "in developing responses most self-beneficial when the necessity for social interaction arises" (1990, p. 9). And as with so many other human abilities and characteristics, Alexander described the ability to create useful scenarios as itself varying, the variation being sufficient for some people to specialize in this task and make a living at it, people such as strategic planners.

So the task of planning, either in one's individual life or in organizations, is actually a task that may have played a central role, perhaps one of *the* central roles, in the evolution of humanity. This does not reduce the importance of this task in its organizational context. If anything, its major role in human evolution reinforces and extends its importance. But this is not to say that all planning efforts are equally successful or that all approaches to planning are equally valid. Thus what has become the dominant approach to planning in so many twenty-first-century organizations may be flawed, and a change, not to a brand new approach, but to a tremendously ancient approach may be mandated.

Alexander offered a clue when he referred to people's ability to "generate and use alternative scenarios" (1990, p. 8). The concept of generating and using *alternative* scenarios is the key, and the problem with so much traditional strategic planning is that it focuses on developing a single plan (see Mintzberg 1990 for a review). But a single plan presupposes a single dominant scenario. Hence much traditional planning works to produce a single plan based on a single view of the future, either a view that is the only view, one that is basically an extrapolation of the present, or a view regarded as the most likely future. The

problem with this approach is that it leaves so little room for change and adjustment when the future that arrives differs from the future that was anticipated, and the future that arrives is always different. Perhaps because a goal provides guidance for the planning effort, a future state that is to be achieved, it may imply a single plan is needed. But the equifinality principle teaches that the same end can be reached from different starting points and with a variety of means (von Bertalanffy 1952, p. 142), meaning there are "many ways to skin the cat" (Perrow 1984, p. 94).

And there is always more than one possible future. Charles Dickens framed the issue well in the question he had Scrooge ask the Ghost of Christmas Yet to Come: "Are these the shadows of the things that Will be or are they shadows of the things that May be, only?" (Dickens 1984, p. 127). Following complexity theory (Marion 1999), more than one future is always possible, and even if a single future were somehow preordained, it is unlikely that anyone would ever know it. Yet so much traditional planning acts as if there were a single future, hence a single best plan. And by taking such a view, perhaps guided by Frederick Taylor's template that there is always one best way (Kanigel 1997), it abandons an age-old human ability, the ability to "generate and use alternative scenarios."

It is this ability that some companies and planners use, albeit a small number of them, when they engage in what is explicitly known as scenario planning. This approach to planning was first used by military organizations (van der Heijden 1996, p. 15), which fits well with Alexander's emphasis on intergroup competition and the importance of scenarios. After World War II, scenario planning came to be used by business executives as well as generals. This form of planning combines highly probable events with uncertain events to develop several scenarios that portray alternative futures. When this approach is used in conjunction with decision making about projects, those involved try to develop projects that will succeed in several of the scenarios, all of them if possible. Doing so may require some balancing of success probabilities among the different scenarios, hence some tradeoffs, but it is easy to see the difference between this approach to planning and the approach that produces a single, often inflexible plan. A crucial characteristic of this approach is that the scenarios are not ranked in terms of their perceived likelihood, with a single plan being directed toward a most likely scenario. Instead, the multiple scenarios force managers to consider a variety of possible futures (see van der Heijden

1:996, pp. 16-17). And as demonstrated by Royal Dutch/Shell, the ability to consider several possible futures can lead to competitive advantages.

Royal Dutch/Shell pioneered the use of scenario planning in the private sector, and according to van der Heijden, it allowed the company to deal with the radical changes facing the energy industry in the 1970s much more rapidly and successfully than many of its competitors. This was because the information about the changes was readily interpreted in terms of the crisis scenario, one of the scenarios the company had developed during its planning to describe a possible future (van der Heijden 1996, p. 18). Not that the crisis scenario was considered the most likely future; rather, the scenario planning effort at Shell had required managers to think through that scenario, along with several others, and to take them all seriously as real possibilities. Doing so created several frames for interpreting information (frames are basically different definitions of the situation, Goffman 1974, pp. 10-11),[5] so when the information about the growing energy crisis started coming in, Shell executives were better prepared to recognize it and interpret it correctly because they had already developed a frame for doing so. They recognized what was happening because, in a sense, they had been there before. By and large, executives at Shell's competitors did not have such frames available for ready interpretation, so they were visiting what to them was unexplored territory.

One could argue that Shell just got lucky because a crisis scenario happened to be included in the set of scenarios developed during its planning efforts. Actually, this is true, but in a different sense than the way such an attribution is usually made. For by skillfully developing several plausible scenarios about the future, Shell increased the odds that it would have thought through the *general* conditions that would actually develop. There is no guarantee in scenario planning that any of the scenarios will actually describe the future, but by creating several scenarios the chances increase that one of them will be close, or at least close enough to help understand it. But as in the case of the Shell example, the point is not really to predict the future exactly; the more important and achievable goal is to provide managers with frames that will allow them to more accurately perceive and understand what is happening. In this way, the scenarios about the future function much like the past was described in Chapters 5 and 7, as a source of meaning for events.

But the key for using them this way is the ability to have several scenarios, hence several frames, available to help people recognize and interpret signals,

the information being received. F. Scott Fitzgerald believed that "the test of a fir.st-rate intelligence is the ability to hold two opposed ideas in the mind at the same time, and still retain the ability to function" (1945, p. 69). Seen from the perspective of scenario planning, Fitzgerald was conservative, because multiple frames, at least three of them (the optimal number is in dispute) (Schwartz 1991, p. 233; Wack 1985, p. 146), should be active at any time, and performance above the base "ability to function" is not only desired but usually required. Implicit in scenario planning is the understanding that all times are not the same, for to believe otherwise would mean that scenario planning would be impossible.

Yet scenario planning presents a paradox: If a critically important human attribute is the ability to develop alternative scenarios, as Alexander's work indicates, why is scenario planning, formal or informal, so rare in contemporary organizations? The answer may He in other forms of time humanity has constructed.

Polychronicity, Clocks, and Planning

Chapter 1 introduced several important forms of time, most notably polychronicity and fungible time, the latter being the form of time that would develop from the mechanical clock and the clock metaphor. Both forms were then discussed at length in subsequent chapters, the clock-based form as fungible time in Chapter 2, polychronicity in Chapter 3, and both forms provide an explanation for the scenario-planning paradox.

Consider the example at the beginning of Chapter 1. The Kaiser wanted to reconsider the German battle plan that would begin World War I a few hours later, but his chief of staff, General Helmuth von Moltke, told him of the plan, "once settled, it cannot be altered." So the German plan remained unaltered, a crucial turning point in world history. Converging in this decision are the two temporal forms, one of which is revealed in the sequence of events. The plan was developed first, and then it would be implemented; task A was followed by task B, and the two tasks would not be mixed.

This is an extreme form of monochronic behavior, the low end of the polychronicity continuum, and as Richard Gesteland (1999, p. 55) and Edward Hall and Mildred Hall (1990) have noted, Germany has traditionally been a very monochronic society, so much so that Hall and Hall would say, "Other Western cultures—Switzerland, Germany, and Scandinavia in particular—are dom-

inated by the iron hand of monochronic time as well. German and Swiss cultures represent classic examples of monochronic time" (1990, p. 14). So in a monochronic culture, one does one task at a time; ergo, one plans first, then one implements the plan. Frederick Taylor would promote this template in his scientific management writings, saying that in his system specialists would plan and employees would carry out the plan: "As far as possible the workmen, as well as the gang bosses and foremen, should be entirely relieved of the work of planning, and of ah work which is more or less clerical in its nature. All possible brain work should be removed from the shop and centered in the planning or laying-out department, leaving for the foremen and gang bosses work strictly executive in its nature" (Taylor 1947b, pp. 98-99).

Thus in Taylor's system, a temporal template mandating a prescribed sequence of activities would be buttressed by the organization's structure, its division of labor: specialists who would plan and workers who would carry out the plan.

Notice the singular form: plan. The Kaiser was dealing with a plan, and workers in Taylor's system would each be carrying out a plan. They were not dealing with many plans based on multiple scenarios. Their approach to planning, even if in some phase it involved considerations of alternative futures, leads to a single plan, whereas scenario planning is much more open-ended as it keeps open the possibility of multiple futures rather than closing them. And a single plan, first to develop, then to implement, is more compatible with a monochronic orientation than is an approach that would have people simultaneously aware of several scenarios and moving back and forth among them as they try to make sense out of what is happening. As this description indicates, the scenario-planning approach is compatible with a more polychronic orientation. But with much of northwestern Europe as well as the United States being traditionally monochronic, one would expect planning processes in these countries to reflect a monochronic orientation; and in planning they have, which is, perhaps, a major reason why scenario planning in them has been relatively rare.

Moreover, the clock metaphor reinforced the monochronic approach to planning by providing the ultimate exemplar of good managerial performance: God created the universe, gave it a push to get it going, and because he designed and built it so well, it will operate well forever—like clockwork—without intervention (see Chapter 1). With this image framing the manager's gen-

eral worldview, it is easy to see how a manager would believe that if the plan were good enough it could be passed on to others who would implement it well without further effort or contact with the manager. But if problems arose, it would reflect poorly on the manager because the plan was deficient. This is an impossible standard for any manager, who after all is not God. Yet managers would apotheosize to just such a status in Frederick Taylor's vision of scientific management. God would plan, and if he planned well in the "planning department," the "workmen, gang bosses, and foremen" would execute well. So it is not without foundation that Robert Kanigel could conclude, "Taylor bequeathed a clockwork world of tasks timed to the hundredth of a minute, of standardized factories, machines, women, and men" (1997, p. 7). And this bequest was monochronic in the extreme.

Both of these temporal forms, a strongly monochronic orientation and the clock metaphor, produce a relatively inflexible plan and inflexible attitudes about the plan, Von Moltke's "once settled, it cannot be altered" being an example of the most extreme inflexible attitude. Not that the absence of any direction is desirable either, as I experienced in Romania a few years ago.

I was in Romania to teach a version of my MBA organization theory class to the faculty who were establishing a business department in their university—the overthrow of the Communist regime having made such an enterprise possible. After I had been in the city of Sibui for four days I commented to one of my American colleagues, "In Romania, the word *tentative* in the phrase 'tentative plan' is redundant." My colleague, who had been in Sibui for several months, laughed and agreed. To check that my perception was not just the impression of an American interpreting things through American eyes, I made the same observation to a Romanian I was working with at the university there. He smiled and exclaimed, "Plans! We have no plans!" This, of course, supported my conclusion as well, the point being that plans and planning were more flexible in Romania than they were in the United States, not that they did not exist at all. Perhaps they were too flexible, but then again, this degree of flexibility may have been appropriate given conditions in Romania at the time.

Overall, the point is that plans and attitudes about them can be too flexible or too strict, and contextual factors such as the amount of change in an organization's environment (Burns and Stalker 1961) may influence what amount of flexibility will yield the best results. For example, the traditional methods of

strategic planning may be effective in slow-moving industries (Brown and Eisenhardt 1998, p. 158). But given the volatility present in many industries, an approach such as scenario planning that incorporates a greater degree of flexibility may lead to better results in such environments. Shona Brown and Kathleen Eisenhardt stated this general flexibility dilemma so very well: "Whether it is airlines, space exploration, or pharmaceuticals, the dilemma of strategy in an uncertain, changing future involves balancing between the need to commit to a future while retaining the strategic flexibility to adjust to the future. The most effective managers achieve this balance by straddling between the rigidity of planning for tomorrow and the chaos of reacting to today" (Brown and Eisenhardt 1998, p. 147).

Direction is necessary, not rigidity. And another way to flexibly approach the future while still maintaining direction is to engage the future with a series of low-cost probes. Brown and Eisenhardt's (1998, pp. 147-59) intriguing image of probing the future refers to experimenting—with new markets, new products, and new business partners—but not in anything like a bet-the-company manner, for these are *low-cost* probes. Nor are these the "magical probes" Weick critiqued (quoted earlier in the chapter), for they most certainly involve "reflective action." This is so because many of them fail *usefully* and provide important information to the company, often about what *not* to do; conversely, others succeed and encourage the company to proceed with certain products, partners, and so forth. Most effective when guided by an overall vision of the company, such probing of the future provides strategic advantages to the firm by enhancing its decision making and its timing.

This approach can complement scenario planning. Conceptually there is no reason a continuous program of low-cost future probes should be incompatible with scenario planning, and at a major computer firm both approaches were used extensively. Side by side with a continuous series of future probes, four managers devoted most of their attention to envisioning "alternative future scenarios" and assessing how the company would perform in each of them. A regular monthly meeting served the vital function of integrating the work of the scenario planners with the results of the probes, and involved both planners and operating managers, which further integrated the efforts (Brown and Eisenhardt 1998, p. 153).

So a variety of methods can provide planning flexibility within the framework of an overall direction, and these can be used together effectively if inte-

grating mechanisms are provided to unify them. And planning itself seems to be associated with greater degrees of organizational success. But these conclusions involve planning at the organizational level. What of individuals? What works or is claimed to work for individuals and their attempts to seize the day?

RUMORS OF TIME MANAGEMENT

Many people develop deliberate time management strategies, which they often pass on to others as examples of how they too can successfully manage their time. For example, "When I get up in the morning, before anything else I ask myself what I must do that day. These many things, I list them, I think about them, and assign to them the proper time: this one, this morning; that one, this afternoon; the other, tonight. In this way I do every task in order and almost without effort."

Although this advice reads like a manager's testimonial for to-do lists in the latest time management treatise, it was actually written by Leon Battista Alberti shortly before 1434 (Alberti 1971, p. 180; see Watkins 1969, pp. 3-4). Among other things, Alberti's advice demonstrates that what would today be called basic time management techniques had appeared far before the latter stages of the industrial revolution, and their appearance serves to illustrate the changing attitudes and beliefs about time that appeared during the Renaissance (Quinones 1972).[6]

But what is time management? As authors who write about time management admit, time cannot be managed in the same sense that other resources can (e.g., Mackenzie 1997, p. 13); instead, time management is "the management of the activities we engage in during our time" (Ferner 1980, p. 12). Another way to say this is that time management is self-management (Ferner 1980, p. 12; Mackenzie 1997, p. 13). It may be self-management, but a lot of people seem to be involved, for an entire industry has evolved to help people perform this task and encourage them to make the effort, an industry that includes a large literature of articles and books, a major selection of training programs, and an entire set of products, both paper and electronic, to help organize one's time.

Underlying this entire complex of beliefs, techniques, and prescriptions is the same fundamental assumption that has underlain much of organization-level planning for so long, the belief that it is best to do things monochronically.

The Monochronic Assumption

The most famous story in the time management literature is about a top executive and a consultant and the advice the consultant gave the executive to help him manage his time better. Both Alec Mackenzie (1997, PP. 4l_42) and Michael LeBoeuf (1979, pp. 52-53) presented the story in their books on time management, and both accounts included the same basic information. The executive was the president of Bethlehem Steel, Charles Schwab; the consultant was Ivy Lee; and the consultant's task was to respond to Schwab's command to "Show me a way to get more things done with my time" (LeBoeuf 1979, p. 53).

As the story goes, Ivy Lee handed Schwab a piece of paper and gave him the following instructions:

> Write down the six most important tasks that you have to do tomorrow
> and number them in order of their importance. Now put this paper in your
> pocket and the first thing tomorrow morning look at item one and start
> working on it until you finish it. Then do item two, and so on. Do this until
> quitting time and don't be concerned if you have finished only one or two.
> (LeBoeuf 1979, p. 53).

Added to this advice for a single day was the further prescription to do this daily from then on. The story then advances to its denouement, which is that after trying it out, Schwab found the advice so wonderful that he paid Lee twenty-five thousand dollars for giving it to him.[7]

The story teaches the importance of making to-do fists and setting priorities, and to teach their importance is the way the story is normally used. But it also teaches that it is best to do things monochronically, one thing at a time. This is the message in the portion of the advice that says "look at item one and start working on it until you finish it. Then do item two, and so on." This is as purely monochronic as it is possible to get if one has more than one thing to do during a day. Interestingly, even Alberti intimated the importance of a monochronic pattern in some of his advice, or at least the dangers of being too polychronic: "And do you know, my children, what I do to prevent one task from interfering with another and finding afterwards that I have started many things but finished none, or perhaps that I have done the worst and neglected the best?" (Alberti 1971, p. 180). What he did, of course, was what was presented earlier: He created a to-do fist, with different tasks assigned to different parts of the day. And he did this "to prevent one task from interfering with
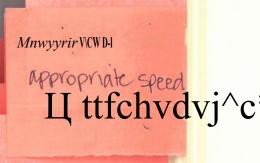
another and finding afterwards that I have started many things but finished none." His solution was to create a relatively monochronic to-do fist, albeit it is hard to tell whether he did so mentally or on paper.

Some contemporary time management writers have even been explicit about this point, although they do not use the term *monochronic*. For example, *"Do you remember* hearing the adage 'To save time, do two or three things at once?' Times change. The wisdom gleaned from so much frenetic activity—and the resulting burnout and slipshod quality—is now: 'Do one thing at a time and do it well'" (emphasis in original; Hedrick 1992, p. 36).

I do not remember the "old adage" Hedrick refers to. Instead, the adage I have heard repeated to me and others many times is to take things one at a time. Not that doing some things monochronically is necessarily wrong—Peter Drucker lauded as "one of the most accomplished time managers I have ever met" a bank president who set aside blocks of time for single activities so he could deal with them uninterrupted (1967, p. 48). And as seen already, the idea of doing one thing and staying focused on that one thing—working monochronically—has been an important prescription, explicit as well as implied, in the time management domain for centuries.

But as a *universal* imperative, the monochronic prescription is simply wrong. As presented in Chapter 3, people vary widely in their preferences along the polychronicity continuum, and while advising a very monochronic individual to do things monochronically may be the equivalent of bringing coals to Newcastle, telling a very polychronic person to do things monochronically will soon have that person reading the inscription over the entrance to Dante's Inferno, if not passing through it. Telling monochronic people to do everything polychronically would be equally wrongheaded and equally debilitating. So just as the greater wisdom about speed is knowing when to go fast and when to go slow (see Chapter 7), rather than trying to do everything monochronically, true wisdom comes from learning which things to do monochronically and which things to do polychronically; wisdom is missing from prescriptions to do everything one way or the other.

Prescriptions to one extreme or the other do not just lead to misery, they can also lead to excessive flexibility or inertia. Just as at the organizational level, the monochronic approach often leads to inflexibility regarding one's daily schedule, which may be the reason Carol Kaufman-Scarborough and Jay Lindquist (1999) found monochronic people more likely to defer dealing with

tasks that arise after their schedules are planned: because they do not want to change their schedules. Interestingly, Alberti presented a relatively inflexible face when he described his day and plans for it: "In the morning I plan my whole day, during the day I follow my plan, and in the evening, before I retire, I think over again what I have done during the day" (Alberti 1969, p. 172). That he would state that he then followed his plan during the day not only emphasizes the plan's importance, it emphasizes the point that the plan was *followed*. If he is to be taken at his word, Alberti stuck to his daily plans, and as we have already seen, he also claimed to plan things monochronically.

How inflexible can individual plans become? The executive whose time management Peter Drucker admired would allow phone calls only from his wife or the president of the United States to be put through to him if they occurred during one of the times he had planned for focused attention on a single task (Drucker 1967, p. 48). This may have been appropriate for such times, just not for all times. But a too polychronic, too flexible approach is likely to lead to the other problem, the one Alberti described as "finding afterwards that I have started many things but finished none," which is also known as dithering (see Bluedorn, Kaufman, and Lane 1992, p. 23).

So the monochronic-is-best assumption has pervaded individual time management just as it has organizational planning. But even so, time management has been developing for at least six centuries, as the Alberti material indicates, making it reasonable to assess its results.

Does It Work?

To assess time management, two sets of information are needed. First, one needs to know what criteria to use. Second, one needs to know exactly what behaviors and practices to assess. As far as the criteria, these vary, but they seem to be a combination of individual effectiveness and efficiency, the extent to which individuals achieve their goals and how well they use their resources, especially time, to achieve them. Several sources in the time management literature have given primacy to individual effectiveness (Lakein 1973, p. 11; LeBoeuf 1979, p. 17; Reynolds and Tramei 1979, p. 13; Seiwert 1989, p. 2) while acknowledging that being efficient is important too. Others such as Jack Ferner (1980, pp. 12-13) considered both important, whereas Mackenzie (1997, pp. 14-28) included effectiveness and efficiency—identified as progress toward goals and productivity, respectively—among a set of four time management purposes. Overall, Jack

Ferner summed up the criteria by which time management should be assessed: "This [his] book is designed to help you become an effective and efficient user of your time" (1980, p. 13). So the proper measures are (1) Does following time management practices make a person more efficient? and (2) Does following them make a person more effective?

But before beginning the assessment, we need to know what to assess. Not counting the monochronic imperative, which has already been invalidated by data presented and discussed in Chapter 3, what behaviors are prescribed by the time management field? The behaviors can be divided into two categories: fundamentals and tactics. Given my reading of the traditional time management literature and my experience teaching the subject, I believe there are just two fundamentals: (1) know your goals (set them if you do not have any), and (2) use your goals to set priorities about what you will do and how many resources you will expend in the doing. (Stephen Covey [1989, pp. 149-50] reached a similar conclusion, albeit stated differently.) Tactics are easy too because they are everything else, from the universal to-do list to advice to hold stand-up meetings (see Chapter 7). Everything else is a tactic because, by definition, goals define what is important to a person, and in the time management paradigm they should serve as the arbiter for why anything is done. Thus during his tenure as Bethlehem Steel's CEO early in the twentieth century, Charles Schwab should have been using his goals (we will never know for sure—he could have been using someone else's) to decide what the "six most important tasks" were that he had to do tomorrow, for if he was using them, all six tasks would, at least in Schwab's judgment, have helped him attain those goals. Similarly, his ability to "number them in order of their importance," to prioritize them, would have been guided by goals as well, some being more likely to lead to goal achievement than others. This description is, of course, simpler than reality, but it does capture the foundation of the time management paradigm. But does it work?

If we count goal setting as part of the paradigm, the extensive body of research on goal setting presents a compelling case that when done in accordance with several principles, goal setting promotes effectiveness at both the individual and organizational levels (see Locke and Latham 1990). But goal setting did not really develop from the time management literature; this technique to enhance motivation and performance developed largely outside the time management domain, and in terms of scientific research on goal setting,

entirely outside the time management domain. So goal setting works, but it is not uniquely a time management technique.

Nevertheless, a look at one of the tactics recommended in the time management literature suggests more than goal setting may work as advertised. The tactic is to identify prime time and match that time with important activities (e.g., Lakein 1973, pp. 48-50).[8] The idea of prime time is that there are certain times of the day when a person is particularly aware and competent, and if a person can learn when these times are, it makes good sense to schedule important activities for them. This time management tactic is supported by the research on morningness that shows such times do exist, although they vary from person to person, and that scheduling important activities for them does enhance performance on those activities (see Chapter 7). And Alberti seems to have anticipated this time management idea too (did he invent all of this single-handedly?):

> With strenuous effort he accomplishes the same thing that earlier and at
> the proper time would have been easy. Remember, my children, that there
> is never such an abundance of anything, or such ease in obtaining it, but that
> it becomes difficult to find out of season. For seeds and plants and grafting,
> for flowers, fruits, and everything else, there is a season: out of season the
> same thing can be arranged only with a great deal of trouble. One must,
> therefore, keep an eye on time, and plan to suit the season; one must labor
> steadily, and not lose a single hour. (Alberti 1969, p. 172)

The references to things being out of season and that there is a season for everything reflect a more epochal view of time (see Chapter 2), after which Alberti skillfully uses the metaphor to deal with scheduling issues generally.

The whole idea of prime time and the principle of matching the task to the time is a specific example of in-phase entrainment strategies described in Chapter 7. This is the strategy of matching one rhythm with another so that they are in phase. (Doing some things "out of season," an out-of-phase entrainment strategy can be a good one too, such as making phone calls during low-rate periods.) But sometimes prime time is not just there; sometimes it must be created, as was revealed in a study of software engineers.
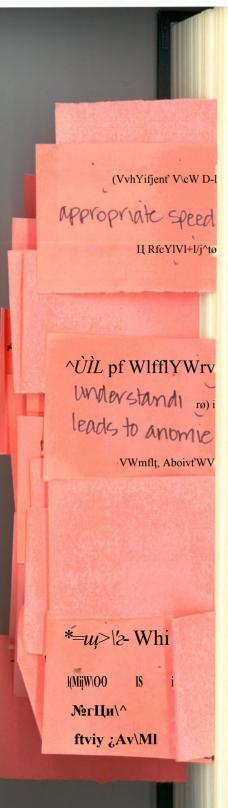
Leslie Perlow (1999) studied a team of software engineers who worked at a Fortune 500 company, and it would be fair to say that the people she studied had time problems. Their work required collaboration, hence frequent inter-

actions, but their work also required individual efforts, and these efforts were made difficult by the incessant interactions, many of which were spontaneous, that would disrupt the individual efforts. Having observed the problem associated with the team's work patterns, Perlow designed an intervention that would create a new kind of time for the team, a time Perlow and the team called *quiet time* (1999, p. 72).

Quiet time was a time of the day, sometimes two times during the day, during which spontaneous interactions and interruptions from team members were forbidden (making quiet time similar to the periods of uninterrupted time Drucker lauded the bank president for creating). A key attribute of quiet time was that it was scheduled; people knew ahead of time when it would occur. This is so important because Perlow had discovered that having a period free of interruptions was not that useful if the people who experienced the interruption-free period did not know it was coming. If such a period occurred by chance owing to the vagaries of everyone's work activities, it could not be exploited well because the engineers always expected to be interrupted by one or more of their colleagues. Uninterrupted time allowed only the kind of individual work the engineers needed to perform if they knew when to expect it.

So quiet time was not only an uninterrupted interval, but also a *scheduled* uninterrupted interval. And as it turned out, it developed into a series of intervals scheduled on several weekdays that came to be highly valued by the engineers and which seemed to substantially enhance their productivity. So quiet time did not just happen; like so many times it was constructed, socially constructed, and in this case it was socially contracted too. With Perlow's help, the engineers created their own form of prime time, a time in which they knew they did certain kinds of work best. And following the time management prescription for prime times, the engineers learned how to prepare for and plan to do certain types of work that required sustained periods of uninterrupted time.

Perlow's work with the software engineers also illustrates the point made before about the problems that can be associated with either an *unvarying* monochronic or an *unvarying* polychronic basis for work. Before the quiet time intervention the engineer's day could be described as relatively polychronic because the engineers were constantly interrupting each other, forcing each other to weave back and forth among multiple tasks. Instituting quiet time changed that by creating monochronic eyes in the hurricane of polychronic interaction, but it did not transform the workday into a monochronic desert either. Instead,

some times were monochronic (quiet time), whereas others not only permitted but encouraged the interaction between team members necessary to do parts of their job.[9] Perlow called this latter temporal form *interaction time* (1999, p. 72). That overall productivity improved when both types of time alternated during a week supports the assertion that neither an unvarying monochronic nor an unvarying polychronic time is optimal, that what needs to be learned is when to do things monochronically and when to do them polychronically. This was a lesson the team of software engineers apparently learned and learned well during the quiet-time intervention. Unfortunately, this learning was less successful at the organization level because quiet time stopped being used after the study ended, even though some of the engineers wanted it to continue. Apparently key elements of the organizations' culture, such as the criteria for success, had not changed and these aspects of the culture motivated behaviors that led the practice of quiet time to "disintegrate" (Perlow 1997, p. 124> aK° pp. 125-28). So even though the engineers had started to seize their days more effectively by using quiet time, after the study ended, quiet time disappeared and the days seized the engineers once again.

Perlow's findings support the time management principle of using and scheduling prime time wisely, and they also support the idea that time management should not be based on an invariant polychronicity. But these are but a single tactic and one major assumption, important as they may be. What about time management as a whole? Does the complex of assumptions, fundamental principles, and tactics—if followed and implemented well—lead people to be more efficient and effective? Given the number of time management books sold and the number of people who have participated in time management training, surprisingly little research has been conducted on this question, remarkably little. And of the research that has been conducted, the results are mixed.

Four studies have dealt with the possible association between the time management complex and individual effectiveness. Two of them examined the effects of the time management complex on college students, and two examined time management's effects on organizational employees.

In the first of the two studies of college students, Therese Macan et al. (1990) developed a questionnaire measure of the time management complex. The measure consisted of four dimensions: (1) setting goals and prioritizing activities; (2) mechanics, such as making lists; (3) perceived control of time, which gets at the extent to which people believe they can affect how time is

spent; and (4) preference for organization/disorganization, which is how people prefer to keep their work space and approach projects (Macan et al. 1990, p. 761). Macan et al. correlated each dimension with a series of performance and outcome measures, several of which directly addressed the students' individual effectiveness. Students' self-ratings of performance were significantly and positively correlated with all of the time management dimensions except preference for organization; conversely, students' grade point averages were positively correlated with preference for organization as well as perceived control of time. Job satisfaction was positively correlated only with perceived control of time, and life satisfaction was also positively correlated with perceived control of time as well as time management mechanics. Overall, Macan et al. found that some aspects of the time management complex were positively related to two measures of student performance as well as two types of satisfaction. Interestingly, the fundamentals (goal setting and prioritizing tasks) were correlated only with students' self-rating of performance.

Using a different set of scales, Bruce Britton and Abraham Tesser (1991) measured attributes of undergraduate college students' time management behaviors while they were early in their freshman year. Then they waited four years and correlated the freshman time management scores with the students' grade point averages (GPAs). They found both short-range planning (similar to Macan et al.'s goals/priorities and mechanics factors) and time attitudes (similar to Macan et al.'s perceived control of time factor) significantly and positively correlated with the GPAs. The higher the scores were on both variables, the higher the GPAs.

Both sets of results suggest that at least some parts of the time management complex may have positive impacts on college students' lives. But what about people in the world of full-time work?

Lyman Porter and John Van Maanen (1970) studied the time management behaviors of forty city government administrators and thirty-eight industrial managers. Each manager's superior rated the manager's overall effectiveness, and Porter and Van Maanen found that among the city administrators the *less* effective managers did more planning of their time allocations; but among the industrial managers, the *more* effective managers did more planning of their time allocations and perceived more control over them. These results suggest the effectiveness of time management behaviors may be contingent on the organizational context in which they are used.

The final study of organizational employees is in many ways the benchmark study of the time management complex in the workplace. It was conducted by Therese Macan (1994) on a sample of 353 employees drawn from a public social service agency and a department of corrections system, and it used versions of the same time management scales Macan et al. (1990) used in their study of college students. Supervisors' ratings of each participant's performance served as the measure of individual effectiveness.

There were no statistically significant correlations between *any* of the time management dimensions and employee performance. Neither setting goals and priorities, nor using the mechanics of time management, nor having a preference for organization was related to individual performance. However, perceived control of time was negatively correlated with both job-induced tensions and with somatic tensions (the greater the perceived control, the lower the tensions) and positively correlated with job satisfaction (the greater the perceived control, the higher the job satisfaction). And Macan found the same results in this research when she estimated the structural equation parameters of a theoretical model linking the time management complex to job performance and other outcomes.

Although both the individual correlations and the structural equation estimates revealed no associations between the dimensions of time management and individual job performance, the structural equation model did reveal several important associations. First, the more employees reported having a preference for organization and the more they indicated they set goals and priorities, the more they perceived that they were in control of their time. This is an important link, because perceived control of time was the only variable from the time management complex directly related to any of the outcome variables in the model. It was not related to job performance, but it was related to three other individual outcomes. The relationships were negative with both job-induced and somatic tensions (the greater the perceived control of time, the lower the tensions) and positive with job satisfaction (the greater the perceived control of time, the greater the job satisfaction). Thus the data supported Macan's (1994) model that three dimensions—setting goals and priorities, using mechanics, and preferring organization—influence the fourth, perceived control of time, and the fourth has an impact on two types of tensions and job satisfaction. But nothing from the time management complex was related to individual job performance.

Even if future research should replicate Macan's finding that none of the time management dimensions are related to individual job performance, her findings still indicate that the time management complex is related to several important human outcomes. If, as her model indicates, the time management complex can lead to reduced tension and greater job satisfaction, those results themselves justify support for time management practices. Although such practices may be related to the individual effectiveness of college students, Porter and Van Maanen's findings indicate a highly context-bound association with effectiveness on the job, and Macan's findings suggest there may be no association with individual performance at all. Nevertheless, these few tests of time management's effectiveness do provide sufficiently positive results to indicate that the time management complex may indeed help people manage their activities, to help them seize and experience better days. But which days?

CHOOSING THE DAYS

Eugène Minkowski described two ways people connect with the future. One way is activity: "Through its activity the living being carries itself forward, tends toward the future, creates it in front of itself," while the other way is expectation: "In activity we tend toward the future. In expectation, on the contrary, we live time in an inverse sense; we see the future come toward us and wait for that (expected) future to become present" (1970, pp. 83 and 87). Paul Fraisse (1963, p. 173) described the same two modes. These modes of engaging the future can differ by culture as well as by personality, and Neil Altman's account of his stay in India illustrates the cultural variation well. Altman said of his reaction when he first arrived, "It took a year for me to shed my American, culturally based feeling that I had to make something happen" (Neil Altman as quoted in Levine 1997, p. 204). This is an obvious description of the activity mode, one with an obvious bias toward proactively seizing the day. But after living in India for a year, Altman had shifted to an orientation closer to the one that existed in the part of India where he was living: "Whatever work was going to get done would come to me. By the second year Indian time had gotten inside me" (Neil Altman as quoted in Levine 1997, p. 205). Rather than making things happen, the work would now come to him, which reflects more of an expectation mode, perhaps a mode where, however calmly, the day seizes the individual.

So do we seize the day or does the day seize us? As would seem reasonable, both do some seizing. For example, even Peter Drucker acknowledged that the banker he lauded as one of "the most accomplished time managers" he had ever met "had to resign himself to having at least half his time taken up by things of minor importance and dubious value" (Drucker 1967, pp. 48-49). And Druckers' overall conclusion was "the higher up an executive, the larger will be the proportion of time that is not under his control and yet not spent on contribution" (p. 49). Time "not under his control" indicates a proportion more in the realm of expectation, and speaking of proportions indicates a mixture, which is also important.

Stephen Kern concluded, "Every individual is a mixture of both modes [activity and expectation], which makes it possible for him [her] to act in the world and maintain an identity amidst a barrage of threatening external forces" (1983, p. 90). Perhaps both modes are necessary because both modes involve choices. The choices are easier to see in the activity mode because they are often reflected in overt behavior. But the expectation mode does not necessarily imply passivity (Minkowski 1970, p. 87), so it involves choices too, both about what to do and what not to do. Indeed, the ability to refuse a request, to say no, is often a political matter, especially in organizations (Izraeli and Jick 1986), and saying no or not clarifies one's relationships with others (e.g., one's power status, how powerful one is, at least vis-à-vis other people in the organization, especially compared with a specific individual who asks you to do something, a subordinate being easier to decline than one's boss, ceteris paribus).

The software engineers Leslie Perlow studied illustrate how the ability to say no as well as the lack of this ability influenced the engineers' work. Perlow found that engineers framed work as either "real engineering" or "everything else," with "everything else" meaning things that were mainly activities that involved the engineers with each other interactively, hence in interactive time (Perlow 1999, p. 64). The problem was that all time was interactive time, and because of norms of reciprocity and the knowledge that they had to cooperate with each other to do their jobs, the engineers were apparently reluctant to say no when other engineers wanted to interact. So by keeping them from doing "real engineering," the interactions presumably kept the engineers from doing what they considered their proper work. Interestingly, what quiet time did was say no for the engineers. The engineers did not have to say no individually, because quiet time was socially constructed as a time during which it was illegit-

imate to approach or interrupt another engineer. This made it possible for the engineers to do "real engineering."

The case of the software engineers illustrates both the activity mode of engaging the future, the creation of quiet time, and the expectation mode, interaction time, where the time dominated the individuals—they could not say no. So creating quiet time helped the engineers seize the day, and interaction time represented the day seizing the engineers. But sometimes the person and the day pass each other by, with neither seizing the other, first just in intervals of minutes and hours, then in months and years; when this happens, the people involved do wish for time to return.

Times That Might Have Been

Michel de Montaigne admonished, "what may be done tomorrow, may be done to-day" (1892, p. 69), because he was very conscious of human mortality and the uncertainty of any person's duration. So if one's life might end tomorrow, then it was best to experience more of life today because tomorrow might never come.

The opposite of Montaigne's admonition is, of course, what we call procrastination: What maybe done today, may be done tomorrow. Although it can involve the deferral of tasks for years, procrastination tends to be thought of as a short-term time management strategy, albeit a faulty one, that deals with things on a scale of days and weeks. The procrastination pattern has inspired a body of research (see Van Eerde 1998, 2000), but results are mixed about this behavior's impact on individual effectiveness (Lay 1986; Puffer 1989; Steel, Brothen, and Wambach 2001). Of interest here is the point that procrastination represents a choice, regardless of whether that choice is un-, semi-, or fully conscious, and that choice represents one type of future engaged and at least one other forgone. Further, when procrastination results in a task or project never attempted, in a path never taken, the consequences can last a lifetime. And from the standpoint of the individual psyche, a major consequence is often regret.

Thomas Gilovich and Victoria Medvec have developed a research stream on the topic of regret, and they have focused on how regret is related to both action (errors of commission) and inaction (errors of omission) (see Gilovich and Medvec 1995). But the errors of omission cover a wider domain of decisions than just procrastination decisions that result in things never done. The domain includes deliberate decisions not to do something, but with no pre-

tensions about that something being done later, as is normally part of procrastination behavior. Gilovich and Medvec have found that the things people regret the most in their lives tend to be the things they decided not to do, the errors of omission. Moreover, actions that go astray tend to generate the greater regret in the short term, but the regret associated with inaction tends to be greater in the long term (Gilovich and Medvec 1994). And a collaboration with Daniel Kahneman revealed that major regretted inactions could produce two kinds of emotional responses, a relatively innocuous wistfulness and a more powerful despair (Gilovich, Medvec, and Kahneman 1998).

But why should actions forgone produce either emotional response over the long term? Gilovich and Medvec have developed a series of reasons, and as they note, "there is unlikely to be a single answer" (1995, p. 385). In addition to the cognitive processes they suggest as answers, another explanation is implied by the cognitive processes associated with the planning fallacy. The planning fallacy seems to be produced when people estimate completion times for projects they will undertake *themselves*. In making these estimates people seem to envision idealized futures in which the project proceeds flawlessly as planned; they do not rely on base rates generated either from their own experiences with similar projects or from others' experiences with similar projects.

A comparable type of idealized envisioning may take place as people consider the consequences of actions they failed to take. As Gilovich and Medvec noted, "People tend to idealize many aspects of their distant pasts, and lost opportunities are no exception" (1995, p. 391). As people think about their past and actions they decided not to take, they envision an alternate future from the point at which the action was not taken. This type of visioning can be seen as the same type of visioning that goes on when people estimate completion times for their projects, which is based on idealized visions of the project unfolding without problems or errors. Doing the same thing for an action not taken would also develop a type of planlike scenario for what would have happened if the action had been taken, and the more idealized the plan, the more likely it would be to generate stronger regret feelings. For as Gilovich and Medvec noted, unlike actions, inactions tend to be open-ended, which means the chains of events that can be imagined following from forgone actions are "potentially infinite" (1995, p. 390). Because such event chains are "potentially infinite," the imagined consequences of forgone actions can compound and grow constantly larger in one's mind.[10]

This explanation does share some elements with Gilovich and Medvec's explanation based on differences in imagined consequences, so it may be more of an extension of that explanation than a completely distinct one, yet it is hoped that it provides some new understanding. It has not, of course, been tested empirically, but the potential similarity to the cognitive processes that seem to underlie the planning fallacy enhance its plausibility, not as "the" explanation, but as one factor in an overall set of explanations.

The phenomenon of regret associated with actions not taken, a regret that grows more intense as time passes, illustrates the importance of seizing the right day or of being seized by the right day. But if neither form of temporal engagement takes place, the connections with the day form weakly, if they form at all, and one has a sense of falling behind the time and of being profoundly late—and in the contemporary era such feelings and experiences may be increasing.

Behind the Times

In an era before most of the United States would have recognized the three-letter acronym HMO Julius Roth described the "career timetables" (1963, e.g., pp. xviii-xix) of patients hospitalized with serous illnesses. One of the salient features of these career timetables was the undesirable experience of falling behind, or at least perceiving that one was falling behind the typical treatment schedule. As Roth observed, "Patients as a group, moreover, maintain a constant pressure to be moved along faster on the timetable, the pressure increasing sharply as patients perceive themselves falling behind schedule" (Roth 1963, p. 61). The patients wanted to catch up, because a sense of being behind the timetable is unpleasant. For example, Barbara Lawrence studied career timetables among a large sample of managers at an electric utility company. She found that those managers who were significantly behind the typical career timetable at the company (those who had not been progressing upward through the hierarchy of managerial positions as quickly as the average manager) were less satisfied with their careers than the managers who were "on time" or "ahead of time," were more likely to wish they were in a different occupation, and were more likely to see their jobs as just a source of income (Lawrence 1984, p. 28).

Roth's insight about perceptions of falling behind leading to pressure to speed up resonates with James Gleick's (1999) observations about a general tendency toward acceleration in contemporary life. It might be that a vicious

cycle is created in which people begin to perceive themselves as falling behind a benchmark timetable, so they exert pressure to speed up in order to catch up, which may also accelerate the larger system of which they are a part. This then makes it harder to stay apace and leads to more feelings of falling behind, which leads to more efforts to speed up, which accelerates the system, and so on until either the individual or the system—but probably the individual—collapses.

Several recent analyses of the work and family domains and their intersection and intermingling suggest the vicious cycle may be accelerating and that many people feel they are having to work longer and harder trying to keep up (Bailyn 1993; Hochschild 1997; Perlow 1997,1998). Whether people in general are actually working longer hours could be debated given recent research findings regarding time use (Robinson and Godbey 1997), but the issue of the number of hours worked reflects thinking in a fungible time frame: "By themselves, minutes-per-day data in the time diary almost defy interpretation. There must be an understanding of the respondent's perception of time" (Robinson and Godbey 1997, p. 229). So number of hours worked may not be the main issue anyway, for just because people may work the same number of hours does not mean they work the same hours—a point manifesting yet again the fundamental principle that all times are not the same. In this case, not all hours are the same, which is indicated by the way people feel about their hours. Many people seem to feel and believe they are falling behind—"are running out of time" (Robinson and Godbey 1997, P· 4*0—an(¿ many also believe they are having trouble combining the domains of work and family (e.g., Hochschild 1997), which strongly suggests that the hours are indeed not the same. This is critical because as the definition of the situation principle instructs (see Chapter 1), these beliefs and feelings are real in their consequences.

Analyses of the work and family domains also suggest changes in times that could break this vicious cycle, or at least mitigate it if not drive a dagger into its heart. One such change has been discussed, the institution of quiet time in the team of software engineers Perlow studied (1997,1999)· This change not only helped the engineers do their own work better and helped the entire team work together better, but also helped some of them improve the balance between their work and family lives.

Balancing work and family is a challenge, one that seems to call for the creation of new times. The creation of quiet time is one example of a new time

that helped people address this challenge; flextime and compressed workweeks may be others (Baltes et al. 1999). So to address problems of family and work time balance, to address the more general matter of a sense of falling behind, indeed, to address the experience of life itself, humanity can exercise the option of creating new times. And these creation efforts can be facilitated by a set of guiding principles about time and the human experience, the presentation of which make up the final chapter.