Chapter 1

Introduction

What distinguishes human beings from the rest of the animal world? "Intelligence" has been a key word in the answer to this philosophical and scientific question. One approach to this problem is psychometric testing, the effort to measure and compare individual and group differences in the quality and effectiveness of mental functioning. An alternative approach is to study the use of important *categories* of human reasoning. In every culture the major notions used to conceptualize reality are what Aristotle called "categories of the understanding," including the seen and the unseen, the present and the absent, the changing and the changeless, and matter and spirit. The cosmologies and epistemologies of modern societies, capitalist and socialist alike, are based above all else on two such cosmic categories—time and space. Perhaps the most basic aspect of a person's mentality is the way in which the major categories of life are lived. Of these categories, the person's experiences of time and space are arguably the most fundamental. The essential categories of reason that dominate our intellectual life, Durkheim contended, "correspond to the most universal properties of things. They are like the solid frame which encloses all thought … for it seems that we cannot think of objects that are not in time and space, which have no number, etc. … They are like the framework of the intelligence" ([1912] 1965: 21–22). While time and space are inseparable, time retains a certain priority over space in modern societies (Whitrow 1989: vi–vii). This priority, however, is nearly reversed among members of indigenous, oral cultures, such as the Australian Aborigines, where considerations of time are easily and commonly recast in terms of space.

In the sociological, anthropological, and related literatures on time and temporality, several empirical generalizations, on the surface, seem to be well established. The literatures of this subject, spanning more than a century, reveal a general consensus that modern, Western people have a "linear" perspective on time, and that they tend to be "future oriented." Additionally, it is known in the study of time in sociology (Adam 1990) and in social anthropology (Gell 1996) that members of "primitive," preliterate, and pretechnological cultures have a "holistic," "cyclical" view of time that is a synoptic, all-at-once gestalt (e.g., Barnes 1974) and also have a "present orientation." There also is evidence in these social-scientific literatures that these cross-cultural differences in time consciousness are related to cultural evolution. For example, it is well established that in hunting-and-gathering, preliterate, and tribal societies, communal social relations are given great emphasis, and that, in many instances, these societies show a remarkable insistence on a principle of social equality (Itani 1988). And, in modern, Western societies, and far beyond, social relations, of course, *include* communal and equality-based informal social relations but in addition are organized in a more formal way, with an emphasis on economic activity and on a competitive social hierarchy. In spite of these generalizations, there remains much to do in the study of time and social organization.

Daunting problems remain regarding the concepts' definitions. The linear-cyclical distinction is taken for granted by many "temporal dualists" but rejected out of hand by those who reject social duality theory. The notion of "cyclical" time is fundamentally a metaphor that might or might not include "alternating" or "flattened" time, and it remains badly in need of a clear definition (see Gell 1996: 30–36, 84–85, 91–92). Linear time, assumed by many to be self-explanatory in its meaning, is based on the thinnest of rationales to be the "opposite" of cyclical time. A second distinction is between present or near-present orientation and futural orientation, which presents its own problems of clear conceptualization. Beyond these four concepts that are often, but not always, contrasted as two *pairs* of temporal orientation, of linear versus cyclical and of present-past versus futural, there are, of course, nearly endless ways to conceptualize temporal experience. But it should be considered premature to give up on these broad notions of time awareness, because they are of fundamental importance and, it will be argued here, can be considered culturally universal cognitive structures. In this book, attention will be confined to just these four kinds of time consciousness—cyclical, linear, present oriented, and futural—with the full awareness that other kinds of time consciousness are of great importance and descriptive value.

A seven-part definition of "cyclical" time, which will be called "patterned cyclical," has been developed inductively by the author through a protracted study of the "primitive" civilization with *the* most elaborated study of its time orientation, the Australian Aborigines. It will be found that when these seven aspects of patterned, cyclical time are, as a methodological operation, turned into their opposites or near opposites, the result is a full description of our ordinary, linear notion of time, based as it is on clocks, calendars, schedules, and timetables. Neither of these two kinds of time consciousness, having seven-part definitions, are dualities, and both can be regarded and measured as continuous variables, so that any cross-cultural differences that might exist can be considered a matter not of kind but of degree. An effort also is needed, and made here, to clearly define present-oriented and future-oriented kinds of time consciousness. Moreover, these resulting definitions can and will be *criterion validated* by showing that they are important aspects of the four most general kinds of information processing that contemporary cognitive neuroscience has been able to associate with the functioning of the organ of all thought and symbolic reason, the human brain.

There also are serious conceptual difficulties in relating social organization to time consciousness. For example, it has been established in social anthropology and sociology that members of primitive culture tend in their social lives to emphasize *communal* social relationships and, equally important, to hold to a principle of social *equality* (and, of course, to have many other important features as well). But how, in these cultures, are the social relations and forms of time consciousness related? Might their cyclicity of time orientation be related to communal social relationships, or to the effort to establish social equality, or to both, or to their interactions? And might their present orientation result from communal relationships, or from equality in social interactions, or from both, or from their interactions? Remarkably, this *specification* of just which aspects of social organization contribute to kinds of time orientation has not been addressed.

An analogous situation obtains in the study of time in modern society. For modern, Western societies, there is a vast literature linking industrialization, capitalism, urbanization, postmodernization, and other social macroprocesses to both linearity and futurality. These social macroprocesses involve *social relations* based on economics and politics, referred to by Fiske (1991) as "market-pricing" and "authority-ranking" social relations, respectively. Once again, there are, of course, innumerable other ways to conceptualize participation in modern life, but here attention will be based on relations of money and power. There certainly would seem to be a consensus

that market-pricing and authority-ranking social relations influence the modern tendency toward linearity and futurality, but again it is far from clear *how* these social and cognitive variables are linked. Does our involvement in economic relations make us linear thinkers, or do relations of social power, or is it a combination? And what makes us futural in our temporal orientation? Economic social relations or power-based relations, or both? Once again, theory and data are needed. In the theory presented and tested in this book, four kinds of time consciousness will be paired, in four propositions, to the *positive* experiences of four social relations. In one of these pairings, however, which sees the linearity of time consciousness influenced by market-oriented, economic social relations, we will be in for a surprise with respect to culture and the *valence* of involvement in market-pricing social relations.

Two other theoretical possibilities, which to the best of my knowledge have never been raised in the study of time and societal development, are: (1) that cyclicity and present orientation, which are obviously complementary and closely linked, might together form an *emergent* level of time consciousness, and (2) that linear and futural time orientations, which also are complementary and closely linked, might similarly interact to form an *emergent* level of time consciousness. The theory presented in this book explores these possibilities explicitly.

A parallel argument can, and will, be made about social organization. We have referred to four aspects of social relations that also seem to pair in a natural way. First, communal-sharing and market-pricing social relations, involving the principles of communion and agency, respectively, can be seen as being opposite in their meanings. And second, in instances of hierarchical, authority-based relations being set aside, or suspended, the result is an opposite situation, a *conditional equality*.

It also is important to consider the valences of these social relations. For example, communal-sharing social relations are positive as we enjoy the company of companions, community members, and friends, but are negative as relations become hostile, abusive, and destructive. Thus we will, in the process of theory construction, confine our attention to four social relations, but we will need eight variables to do so. It will be proposed (1) communal-sharing and equality-based social relations, which are complementary in any society and together are apt to be fundamental to primitive societies, together in their interactions result in a higher level of social organization, the basis of informal sociality, which can be called "hedonic community," and that (2) economic and political social relations, which also are complementary and prevail in modern societies, result in a higher level of social organization, the basis of formal sociality, which Chance

(1988) calls "agonic" society. This model, it will be shown, finds its basis and its criterion validation in primate and human ethology.

The Theory

The theory of social relations and time consciousness presented in this book is both general and complex. It is general in that it conceptualizes kinds of time consciousness as aspects of the most general modes of information processing known to be associated with the human mind and brain. It causally links these kinds of time consciousness to basic problems of life that have engendered the most fundamental kinds of social relations. And the theory is complex in that it is based on three levels of analysis—the mental, the social, and the biological, so the cognitive model of time consciousness and the sociological model of social relations are both shown to have a biological basis and an evolutionary history.

1. The *cognitive* model of time consciousness posits the existence of four elementary, irreducible forms of time consciousness: (1) the ongoing experience of the present is termed *immediate-participatory*; (2) immersion in the patterns and cycles of nature and social life, often referred to as "qualitative" or "cyclical" time, will be termed *patterned-cyclical*; (3) our experience of what Martin Heidegger ([1927] 1962) called "ordinary" time, involving the measure of motion with clocks, calendars, and schedules, is termed *ordinary-linear*; and (4) efforts to plan for and bring about the future is termed *episodic-futural*. These four kinds of time, once explained, will then be grouped in pairs into two of the highest-level kinds of temporal experience: first, the unity of our simultaneous involvement in the present and in the cycles and patterns of life engenders a *natural* time experience; and second, the unity of our ordinary-linear and episodic-futural experiences of time engenders a *rational* time experience (the topic of chapter 9). While the four kinds of temporal experience will be seen as cultural universals, the same is not true of natural and rational time experience, which might or might not emerge as cognitive structures in the mind of any individual human being. An argument will be made that the rational and natural kinds of temporal experience are not only different but are opposites, because ordinary-linear time and patterned-cyclical time are opposites, and immediate-participatory time and episodic-futural time—involving temporal compression and temporal stretching, respectively—also are opposites.
2. The second level of theory is *biological*. The most modal functioning of the brain and nervous system, it will be proposed, provides the

infrastructure for the four elementary forms of temporality. The neuroscientific literature on brain functioning and the experience of time includes some rather abstract, mathematical models of a putative "internal clock" in the brain (e.g., Treisman et al. 1990; Rammsayer and Vogel 1992). These models, however, do not contradict the simple fact that there is no evidence for a "clock" in the brain providing a direct measure of elapsed duration; human beings have not developed the capacity to know "what time it is," as measured by a clock, beyond close approximations. Insofar as time consciousness involves the processing of information on a very general level, it is a natural step to postulate that the proposed four elementary forms of temporality might be expressions of the most general modes of information processing of the human brain.

Luria (1973) and Pribram (1981) have identified a fundamental polarity associated with the cognitive functioning of the frontal and posterior lobes of the brain. The frontal lobes are the command-and-control center of the brain and are the biological infrastructure of cared-about plans and intentions. Pribram (1981) proposes that the frontal lobes, working closely with limbic and other structures, generate a mode of information processing that he calls "episodic." The posterior lobes of the brain—parietal, occipital, and temporal—are in contrast responsible for sense perception and the construction of the present moment, a kind of information processing that Pribram calls "participatory." The immediate-participatory mode of primordial temporality, our mindful immersion in the present, is based on the primary information processing of the three posterior lobes of the brain.

A secondary but still important polarity in brain organization is found in the division of labor between posterior regions of the left and right cerebral hemispheres, which are specialized for two kinds of information processing that have been interpreted as opposites by numerous philosophers, psychologists, neuroscientists, and others. Bogen (1969) refers to the left and right hemispheres, especially in the right-handed adult with a reasonably normal brain, as usually but not always specialized for "propositional" and "appositional" modes of information processing, respectively. Levy-Agresti and Sperry (1968) refer to these same lateralized modes of information processing as "logical-analytic" and "gestalt-synthetic." Bogen makes a critical point when he writes of "[w]hat may well be the most important distinction between the left and right hemisphere modes [of information processing], … the extent to which a linear concept of time participates in the [left hemisphere's] ordering of thought" (1977: 141, emphasis deleted). It should be cautioned that all neuroscientists do not accept the inference of two kinds of information processing from the experimental literature, taking this

to be an inflationist view of cerebral lateralization theory carried out by scholars with a commitment to a generous view of the boundaries of human consciousness (Efron 1990; Corballis 1991; but cf. TenHouten 1992a). It is proposed that the ordinary-linear mode of time consciousness is an aspect of the logical-analytic, *serial* mode of information processing of the left side of the brain, and patterned-cyclical time consciousness of the gestalt-synthetic, global, and *simultaneous* information processing of the right side of the brain.

3. The third level of analysis is *sociological*. A model claiming the existence of exactly four elementary forms of sociality will be presented. Florian Znaniecki in 1934 proposed that every human cultural system possesses a hierarchy of one supreme dominant element and unspecified numbers of dominant and subdominant elements. These dominant elements of a cultural system he posited to be culturally universal which, he suggested, would require that they have a biological basis and an evolutionary history. He offered no substantive interpretation of these elementary forms of sociality. The task of specifying such a model, carried out in this book, begins with a consideration of social duality theory. The idea that there are two kinds of society is an ancient one, finding current expression in philosophy, psychology, sociology, anthropology, and primate ethology. The distinction made is between formal and informal social organization, which parallels Tönnies' ([1887] 2000) still-useful distinction between the folk *Gemeinschaft* (community) and the exchange *Gesellschaft* (society), and their associated mentalities of Natural Will and Rational Will, in whose honor the natural-time/ rational-time distinction is introduced. Max Scheler's (1926) elitism and careless scholarship have made him a nearly forgotten figure in the history of social theory, but he left behind a highly cogent idea. He conceptualized four elementary forms of sociality, paired under two larger principles: (1) kinds of being with one another; and (2), the kind and rank of values in whose direction the social members see with one another. Scheler conceptually unpacked the first, informal level of society, seeing that it contained two elements, identity and life community. Formal society, in his view, was based on two kinds of social relations, rank and value, corresponding to the institutional domains of politics and economics.

A remarkably similar conceptualization was developed by Robert Plutchik ([1962] 1991) in his psychoevolutionary classification of emotions. He proposes that there are, for all animal species, four fundamental, existential problems of life: identity, temporality (reproduction), hierarchy, and territoriality. He said that the negative and positive experiences of these

existential problems led to eight prototypical adaptive reactions that define eight primary emotions that together form secondary emotions. There is a close conceptual agreement between Scheler's identity, life community, rank, and value, and Plutchik's identity, temporality, hierarchy, and territoriality. More recently, Fiske ([1991] 1992) has identified four elementary forms of social life, which he terms *equality matching* (EM), *communal sharing* (CS), *authority ranking* (AR), and *market pricing* (MP). Fiske had, without reference to any of the aforementioned scholars, replicated Scheler's notion that there are four basic things we do in the social world, which we can combine in complex ways. As will be explained, there are some serious conceptual problems with Fiske's model, but his terminology is well known and will be used in this book.

An argument will be made that these four functions exist as a double polarity. It will be proposed that equality-matching and authority-ranking are opposite human tendencies, either to make things unequal between people (AR) or to contradict this hierarchy and to create a state of conditional equality (EM). Communal-sharing and market-pricing social relations, it will be further proposed, are a result of opposite relations of the individual to society, with society within the individual in CS and the individual within the society in MP. The social model that emerges, the topic of chapter 8, has a structure isomorphic to the mind's dimensions of information processing in general, and time processing in particular, for it is a dynamically related double polarity in which the elements of agonic society are the opposites of those of hedonic community. It will be shown that these concepts are consistent with recent advances in human and primate ethology.

Chapter 2 explores the history of time in the minds of colonizers and the colonized, and in this context it introduces our case study, the Australian Aborigines, who will play an important role in this book. A study of Aboriginal culture and its concept of time has been used to inductively develop the model of *patterned* and *cyclical* time consciousness. The meaning of the familiar duality of linear and cyclical time is neither rejected nor taken for granted but is instead subjected to a rigorous process of definition. The present conceptualization was realized, inductively, through a case study of Aboriginal time consciousness. The author carried out three years of ethnographic field research while living with Aboriginal extended families. As a result of this fieldwork, together with a study of the relevant literatures, seven closely related aspects of Aboriginal time consciousness were identified, all based on the patterns and cycles of nature and culture (see chapters 3 and 4). It will be shown in chapter 5 that when these seven aspects of cyclical time are turned into their logical opposites, the result

is a full description of our ordinary, clock- and calendar-based "linear," one-dimensional time. The biological bases of the four kinds of time consciousness are established next, with chapter 6 devoted to the ordinary-linear/patterned-cyclical opposition with its basis in psychophysiology and cerebral lateralization theory; chapter 7 focuses on the immediate-participatory/episodic-futural polarity with its basis in two of the three highest-order functional units of the brain, the posterior cortical unit for processing and storing information from the outside world and the unit for programming, regulating, and verifying mental activity (Luria 1973: 43). With this preparation, it then becomes possible to postulate the social conditions under which the four kinds of time consciousness are used, discussed in chapters 9–12. At the simplest level, the theory holds that participation in agonic society and involvement with power and resources contribute to a time consciousness that is, in its emphasis, episodic-futural and ordinary-linear, and comprises a rational experience of time; hedonic social relations, involving relations of social equality and inequality, contribute to an immediate-participatory temporality of the sensed world, that together with a patterned-cyclical time consciousness, engender a natural experience of time.

There are refinements of these basic propositions, and these statements are certainly not meant to suggest a one-way causality, with social relations the independent variables and kinds of time consciousness the dependent variables. The situation is, of course, more complex than that, and there is every reason to anticipate reciprocal effects. For example, the process of becoming a stockbroker leads to work experience that will sharpen and intensify time consciousness that is episodic and predictive, oriented to the linear dimensions of time and money. On the other hand, a person who already possesses an effective episodic-linear, rational time consciousness is apt to become a stockbroker.

The theory presented in this book is, from a logical point of view, quite simple and straightforward in its meaning. The propositions of the theory are testable. The theory is tested by a radical cross-cultural comparison, between Australian Aborigines and Euro-Australians. It will be argued, in chapter 14, that life-historical interviews provide the richest possible source of data for the empirical study of time consciousness and temporality. In order to carry out such a test, a lexical-level, quantitative, content-analytic methodology has been developed for indirectly measuring social relations and time variables, based on a remarkable classification of the English language developed by Roget ([1852] 1977) in his *International Thesaurus*. Roget was able to sort individual words into 1,042 "broad classes of ideas,"

here called "folk concepts," with the uses of words in many of these categories serving as multiple indicators of eight social-relations variables—the negative and positive experiences of identity matching, communal sharing, authority ranking, and market pricing and four time consciousness variables—immediate-participatory, patterned-cyclical, episodic-futural, and ordinary-linear. The data set consists of 658 transcripts of life-historical interviews with Aborigines and Euro-Australians obtained throughout Australia in a wide range of ecological settings. It will be shown that the theory fits the data. The methodology for the study will be explicated in the context of a discussion of text and temporality, the topic of chapter 14. The study, and its results, will be presented in chapter 15, and these results will be discussed in chapter 16, which also will contain a general discussion.