

# 13 Remembering the Future

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*Expectation refers to the future, and memory to the past. On the other hand, the tension in an act belongs to the present: through it the future is transformed into the past. Hence, an act may contain something that refers to what has not yet come to pass.*

—St. Augustine<sup>1</sup>

Taxed with the assignment of telling George Miller something interesting about how the mind works, I chose to discuss a knot of ideas that have grown up in the course of my attempts to understand the role of culture in human psychological processes. I further restrict my choice of topics to matters that I have been thinking about since I left Rockefeller University, where we shared research facilities and students, so that my thoughts might just come as interesting news.

At the time that George and I parted institutional ways, I was still a cross-cultural, experimental psychologist, with some anthropological leanings. Over the past decade I have come to focus less on international, cross-cultural differences and more on the universal features of culture in shaping human thought. As far as I know, George is not familiar with this work, little of which has been published. So, it is the universal features of culture-in-mind that I discuss in this chapter.

I begin with an epigram from St. Augustine to signal as clearly as possible that I make no pretense that my thoughts on time and cognition are

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<sup>1</sup>Upon finishing this chapter I encountered an essay by Valsiner entitled “Making of the Future,” which contains many interesting suggestions for expanding on the basic ideas I am proposing. Valsiner’s essay also contains a number of marvelous quotations from Greek and later European philosophers.

original. I am certain they have been discovered countless times before. Yet, I have found my personal course of rediscovery very satisfying, and I offer the following remarks in the hope that they will prove stimulating to George's further education and to mine.

## PAST, PRESENT, AND FUTURE

We are all accustomed to the notion of remembering as the summoning up of past experiences in the process of dealing with the present. The study of memory, conventionally understood, has been one of psychology's most productive growth industries since the 1960s, thanks in no small part to George Miller's contributions.

Nor is concern with the question of time and cognition alien to George's work. Speaking of tasks confronting American psychologists during and after World War II, Miller commented:

It's the purpose or goal of a machine to get a gun aimed at some particular point, for example. It [the gun] has a goal in the old teleological sense that scientists had ruled out on the grounds that the future cannot control the present. But in the servo-system the *future position* of that gun controls the *present motion* of the gun in a very real, perfectly intelligible sense. (Interview with J. Miller, 1983, p. 24),

It was, I argue, the goal not of the gun, but of the gunner and servo-mechanism designer to aim a gun at a particular point. In particular, I hope to demonstrate the way in which the designer's goal influences the fine structure of the gunner's actions through the servo mechanism is but an esoteric example of the general properties of mediation through artifacts, or what Vygostky (1929) referred to as "the cultural mode of thinking."

In an earlier era, when learning theories were in the ascendancy and before American psychologists were helping to create smart tools for wartime use, Edwin Boring, one of Miller's former colleagues at Harvard, pointed out quite clearly that our common-sense ideas about events occurring in the present are really based on the memory of the past. Appropriately enough, Boring's message returned lately through the popularity of the work of Edelman (1989), a Rockefeller colleague not known for having a high opinion of psychologists. Edelman's book, *The Remembered Present*, begins with the quotation of a passage published by Boring in 1933:

To be aware of a conscious datum is to be sure that it has passed. The nearest actual approach to immediate introspection is early retrospection. The experience described, if there be any such, is always just past; the description

is present. However, if I ask myself how I know the description is present, I find myself describing the processes that made up the description; the original describing is past. . . . Experience itself is at the end of the introspective rainbow. The rainbow may have an end and the end may be somewhere; yet I seem never to get to it. (Boring, 1933/1963, p. 228)

Edelman summarized a vast array of evidence from the neurosciences to substantiate his theory about what sort of organism human beings must be if the phenomenal present is “really” the past. I am less concerned with the technical adequacy of Edelman’s neurological model than I am with the fact that remembering the present, if somewhat odd, is nonetheless broadly recognized.

What then of memory for the future? Whether we look to the ideas of St. Augustine on the future as expectation, Miller, Galanter, and Pribram (1960) on plans, or Bernstein (1967) on the organization of living movement, one message repeats itself: The present is a dynamic, evolving, trajectory which not only integrates current sensory input with prior experience, but also “calculates” an “imagined future” which then “feeds back” to complete the fundamental, transformational cognitive cycle. Ingvar (1985), whose article on “memory of the future” triggered the idea for this chapter, summarized evidence that plans, ambitions, and “sets” are normally remembered in great detail, just as memories of the past can be reconstructed. In addition, he summarized the neuropsychological evidence that memory for the future is selectively lost owing to lesions of the prefrontal and frontal cortices. Ingvar referred to these structures as the “neuronal substrate of the future”(p. 130).

Of course, in one sense we all take for granted the existence of a memory of the future. I can speak coherently, for example, of my memory of what I will be doing (plan to do) this weekend. Research on the selective disturbance of planning functions as a result of prefrontal and frontal lobe lesions has been well known for a long time (Luria, 1970). Previously I did not think of such phenomena as memory for the future. It was only when I recently happened upon a reference to Ingvar’s article, while ruminating about cultural mechanisms of cognitive development, that memory for the future began to seem like a necessary property of human thought.

To understand why memory for the future is a particularly interesting idea, I need to back up to sketch a few of my ideas about culture and the role of culture in creating and recreating human beings.

### CULTURE AS THE SPECIFIC MEDIUM OF HUMAN LIFE

My notions of culture have undergone a good many changes over the years as my personal experience and reading warred with each other in search for

coherence. Early on, I found myself sympathetic with Boas' combination of configurationism and cultural relativity, which served as a foundation for my thinking about cultural context. These ideas then became fused with those of Luria (1979) and Vygotsky (1978) on the mediated nature of human thought. Such a fusion could not help but be incoherent at some point, because Luria and Vygotsky were not cultural-relativist anthropologists; they were psychologists who focused on the morphological development of culturally organized behavior in face-to-face interactions, and they adhered to a 19th-century notion of historical progress. In dealing with the incoherence of crossing a synchronic, configurational anthropological theory of thinking with a diachronic, structural/functional psychological theory of a very different sort, I stumbled into talking about *cultural* psychology (Cole, 1988, 1990).<sup>2</sup>

A summary of my version of cultural psychology begins with the work of the Soviet cultural-historical psychologists, Luria (1928), Vygotsky (1929), and Leontiev (1930). Central to their formulations is the notion that human beings live in an environment transformed by the artifacts of prior generations, extending back to the beginning of the species (Geertz, 1973; Ilyenkov, 1977; Sahlins, 1976, Wartofsky, 1979). The basic function of these artifacts is to coordinate human beings with the physical world and each other. Cultural artifacts are simultaneously ideal (conceptual) and material. **They are ideal in that they contain, in coded form, the interactions of which they were previously a part and which they mediate in the present. They are material because they exist only insofar as they are embodied in material artifacts.**<sup>3</sup> This principle applies with equal force whether one is considering language/speech or the more usually noted forms of artifacts

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<sup>2</sup>Elsewhere I have surveyed a group of ideas about cultural psychology with affinity to my own (Cole, 1991). For example, Shweder (1990) focuses on the context- and the content-specificity of human thought as well as the centrality of mediation by meaningful symbols. Bruner's (1990) vision of cultural psychology also emphasizes the premise that human experience and action are shaped by our intentional states. A fundamental tenet of Bruner's approach to cultural psychology is that it locates the emergence and functioning of psychological processes in the social-symbolically mediated everyday encounters of people in the lived events of their everyday lives. These events are organized in large part, Bruner argues, by a "folk psychology," understood as "a system by which people organize their experience in, knowledge about, and transactions with the social world" (p. 35). In my terms, what Bruner refers to as a folk psychology is treated as a central mediational structure, parts of which are recruited in each situation people find themselves in.

<sup>3</sup>Readers familiar with contemporary sociological theories of action will readily recognize a close affinity between the views about mediation derived from the writings of the cultural-historical school that I am expressing and those of Giddens (1984). For example, Giddens wrote "According to the notion of the duality of structure, the structural properties of social systems are both medium and outcome of the practices they recursively organize . . . Structure is not to be equated with constraint but is always both constraining and enabling" (p. 25).

which constitute material culture.<sup>4</sup> The American anthropologist White explained, "An axe has a subjective component; it would be meaningless without a concept and an attitude. On the other hand, a concept or attitude would be meaningless without overt expression, in behavior or speech (which is a form of behavior). Every cultural element, every cultural trait, therefore, has a subjective and an objective aspect (1959, p. 236).

The special characteristics of human mental life are precisely those characteristics of an organism that can inhabit, transform, and recreate an artifact-mediated world. As Soviet philosopher Ilyenkov put it, "the world of things created by man for man, and therefore, things whose forms are reified forms of human activity . . . is the condition for the existence of human consciousness" (1977, p. 94). The special nature of this consciousness follows from the dual material/ideal nature of the systems of artifacts that constitute the cultural environment. Human beings live in a "double world," simultaneously "natural" and "artificial."

The characteristics of human psychological processes that accompany this view of human nature as created in "culture as historically accumulated systems of artifacts" were described in particularly powerful language by White, who wrote:

Man differs from the apes, and indeed all other living creatures so far as we know, in that he is capable of symbolic behavior. With words man creates a new world, a world of ideas and philosophies. In this world man lives just as truly as in the physical world of his senses. . . . This world comes to have a continuity and a permanence that the external world of the senses can never have. It is not made up of present only but of a past and a future as well. Temporally, it is not a succession of disconnected episodes, but a continuum extending to infinity in both directions, from eternity to eternity. (1942, p. 372).<sup>5</sup>

Among other properties White here attributes to culture, his emphasis on the way it creates an (artificial) continuity between past and future merits special attention, as I show later.

With this skimpy background about some of the basic systems intuitions underlying the notion of culture I am employing, let me turn to two different ways in which remembering the future is fundamental to human thought and action.

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<sup>4</sup>D'Andrade (1986, p. 22) made this point when he told us that "material culture—tables and chairs, buildings and cities—is the reification of human ideas in a solid medium."

<sup>5</sup>Although it would be an error, in view of recent decades of work on protocultural features among primates (Parker & Gibson, 1990), to overstate the discontinuities between homo sapiens and other species, I concur with Hinde (1987) in believing that these phenomena do not imply culture in the way in which human beings have culture.

## THE FUTURE IN THE WORD

In the first publication in English by a member of the cultural-historical school of psychology, Luria wrote that the key feature of human, mediated thought processes is that "instead of applying directly its natural function to the solution of a particular task, the child puts between that function and the task a certain auxiliary means . . . by the medium of which the child manages to perform the task" (1928, p. 495). Insofar as we consider the class of mediating artifacts called words, in what sense is the future contained within them? I try to answer this question in several overlapping examples. What these different examples have in common is that the activities described are mediated by systems of artifacts, paramount among which is language. In thinking about these examples, it is necessary to keep firmly in mind the fundamental nature of artifacts: Artifacts are elements of the physical world that have been appropriated and transformed in the course of prior human experience. Every word can be considered a crystalized structure that has mediated many interactions successfully in the past (or it would not exist) and carries within its shape coded traces of the structure of those previously successful occasions.

A word such as *love*, for example, is more than a description of a (vague) set of emotions; it is a bundle of semantic/pragmatic potential which points to future feelings and behaviors. To say that I love my wife, my children, or my work is to specify a broad range of obligations, inclinations, or behaviors. It enables others to predict that I will be glad to get home Sunday noon, that I not only worry about my children's fate, but would sacrifice my own well-being on their behalf, and that early Sunday evening I am more likely to be found at my computer terminal than my television set.

Burke, who proposed similar ideas many decades ago, beautifully captured the way in which words, trailing their pasts, imply their futures as well. In *Literature as Equipment for Living* (1941/1973), he discussed the ways in which proverbs are tools for "consolation or vengeance, for admonition or exhortation, for foretelling" (p. 293). Proverbs, Burke wrote (p. 296), are "*strategies* for dealing with *situations*." Consulting the *Oxford Concise Dictionary*, he reported that a *strategy* is defined as "movement of an army or armies in a campaign, art of so moving or disposing troops or ships as to impose upon an enemy the place and time and conditions preferred by oneself" (p. 297). When used to describe rhetorical strategies that posit particular future states as the "given" content of an argument, rather than particular spatial positions of adversaries, the scholars of ancient Rome and early modern Italy referred to this process using the word *prolepsis*, meaning "the representation of a future act or development as being presently existing" (*Webster's Dictionary*).

In recent years we have seen some interesting suggestions about the role

of prolepsis in the organization of human psychological functions. Rommetveit (1974) pointed out that ordinary human discourse is at times proleptic "in the sense that the temporarily shared social world is in part based upon premises tacitly induced by the speaker" (p. 87). Through prolepsis, "what is said serves . . . to induce presuppositions and trigger anticipatory comprehension, and what is made known will hence necessarily transcend what is said" (p. 88).

Stone and Wertsch (1984) used prolepsis in this manner to characterize the way in which teachers seek to induce children's understanding of how to complete cognitive tasks with which they are having difficulty; in effect, the teachers presuppose (a least hypothetically) that the children understand what it is they are trying to teach as a precondition for creating that understanding.

Recognizing a variety of ways in which instantiation of the future as present reality enters into the process of constructing and comprehending meaning, I illustrate how, according to a cultural-mediational theory of mind, the interlocking systems of artifacts that constitute every human culture, or the "cultural tool kit," to use a metaphor proposed by Wittgenstein (1972), can be considered simultaneously to be systems of strategies for dealing with the future that their past history presupposes.

## SOCIAL ORGANIZATION OF THE FUTURE IN THE PRESENT

Although the example of language acquisition could be pursued a great deal further, I switch gears and discuss a ubiquitous form of prolepsis which arises from the disjunction in cultural history of parents and children, or the younger and older generation, broadly considered. In addition, I argue that the mechanisms of cultural development bear both interesting similarities and differences to biological development.

With respect to biological development, we know that the genetic code assembled when sperm and egg unite at conception provides the constraints within which the biological process of development takes place. As cells in the zygote proliferate and distinctive new structures come into being, this genetic code represents the "final cause" or "end in the beginning," which makes the emergence of new forms and functional relationships possible. For example, about 5 weeks after conception the hands begin to emerge as limb buds. Cell proliferation occurs very rapidly, and as cells multiply, the limb buds elongate in the shape of a paddle. Then five protrusions appear on the edge of the paddle which will become a five-fingered hand, with muscles, bone, tendons, nerve cells situated in a pattern appropriate to a

human hand. None of this could have happened if the genetic code had not provided the necessary constraints "ahead of time."

Cultural constraints are not contained in biological form, but are rather embodied in the material/ideal, patterned, artifacts that mediate the life of the community. In the case of both biological and cultural constraints, of course, the final cause or *telos* is only an "if all other things equal" final cause. The actual process of development is one of probabilistic, not predetermined, epigenesis (Gottlieb, 1973).

There is no secret about the sense in which cultural constraints exist in children's futures; they are born into a culturally structured world. Many years ago, Dollard (1935) suggested that we think of the encounter of a new human being with this distinctive form of environment in the following terms:

Accept two units for our consideration: first, the group which exists before the individual; and second, a new organism envisioned as approaching this functioning collectivity. The organism is seen at this moment as clean of cultural influence and the group is seen as functioning without the aid of the organism in question. We will suppose that the organism is nearing the group through its intra-uterine development and that it is finally precipitated into group life by the act of birth. Let us ask ourselves at this point what we can say systematically about what this organism will be like when it comes of age, sex granted. All of the facts we can predict about it, granted the continuity of the group, will define the culture into which it comes. Such facts can include the kind of clothes it will wear, the language it will speak, its theoretical ideas, its characteristic occupation, in some cases who its husband or wife is bound to be, how it can be insulted, what it will regard as wealth, what its theory of personality growth will be, etc. (pp. 14-15)

Dollard's thought experiment clearly indicates the sense in which cultural constraints are in the child's future, but it does not explain how the palpable *cultural* constraints in place in adulthood are transformed "backwards" into palpable *material/physical* constraints at birth.

The answer, again, I believe, is prolepsis. To give an idea of the process of prolepsis at work as an intergenerational process, I chose examples from several points in the lifespan (birth, early infancy, early childhood, and adulthood).

## THE FIRST FACE-TO-FACE MEETING

During the process of birth, the realignment of biological, behavioral, and social factors affecting development brings about perhaps the most revolutionary stagelike change in all of development. The moment of birth is

also especially interesting, because (modern medical procedures for determining the fetus' gender aside) it is an early and fundamental moment when the child's phylogenetic and cultural histories begin to intertwine owing to the cultural mediation of the child's experience.

Rather than concentrate on the potential consequences of cultural variations in birthing practices (see, for example, Richardson & Guttmacher, 1967), I focus on the way that birth provides evidence of the process of prolepsis. In addition, this example illustrates one way in which the ideal side of culture is transformed into the material cultural organization of the child's environment as well as the special nature of sociality characteristic of culture-using creatures. The example (taken from the work of pediatrician Macfarlane, 1978) also clearly demonstrates White's point that culture provides a specifically human form of temporal continuity.

Figure 13.1 presents in schematic form five different time scales operating simultaneously at the moment when parents see their newborn for the first time. The vertical ellipse represents the events immediately surrounding birth, which occurs at the point marked by the vertical line. At the top of the figure is what might be called "physical time," or the history of the universe that long precedes the appearance of life on earth.

The bottom four time lines correspond to the "developmental domains" (Wertsch, 1985) that, according to the cultural framework espoused here, simultaneously serve as major constraints for human development. The second line represents phylogenetic time, the history of life on earth, a part of which constitutes the biological history of the newborn individual. The third line represents cultural-historical time, the residue of which is the child's cultural heritage. The fourth line represents ontogeny, the history of a single human being which is the usual object of psychologists' interest.

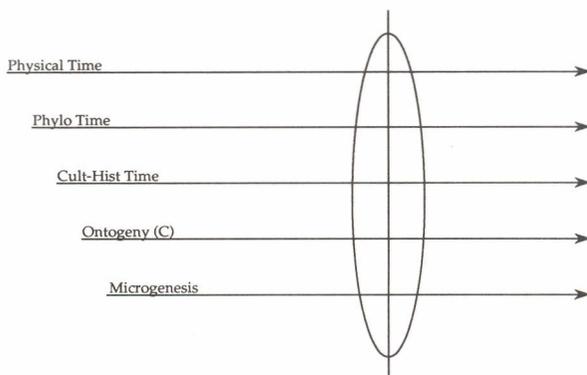


FIG. 13.1. The five time scales, or "genetic domains" relevant to understanding the role of culture in human development emphasized by cultural-historical psychologists. The vertical line indicates the moment when parents first see their child and discover its sex.

The fifth line represents the moment-to-moment time of lived human experience, the event called “being born” (from the perspective of the child) or “having a baby” (from the perspective of the parents) in this case. Four kinds of genesis are involved—phylogenesis, culturogenesis, ontogenesis, and microgenesis—each lower level embedded in the level that precedes it.

Macfarlane’s example forces us to keep in mind that not one but *two* ontogenies must be represented in place of the single ontogeny in Fig. 13.1. That is, at a minimum one needs a mother and a child interacting in a social context for the process of birth to occur and for development to proceed. These two ontogenies are coordinated in time by the simultaneous structuration provided by phylogeny and cultural history.

When we consider the behaviors of the adults as they first catch sight of their newborn child and categorize it as male or female, we see the way in which the mother and child’s ontogenies are coordinated under constraints provided by a combination of phylogeny, cultural history, and the mother’s ontogenetic experience. The parents almost immediately start to talk about and to the child. Their comments arise in part from phylogenetically determined features (the anatomical differences between males and females) and in part from cultural features they have encountered in their own lives (what they know to be typical of boys and girls in their culture). Typical comments include “I shall be worried to death when she’s 18” or “It can’t play rugby” (said of girls). Putting aside our negative response to the sexism in these remarks, we see that the adults interpret the phylogenetic-biological characteristics of the child in terms of their own past (cultural) experience. In the experience of English men and women living in the 1950s, it could be considered “common knowledge” that girls do not play rugby, and that when they enter adolescence they will be the object of boys’ sexual attention, putting them at various kinds of risk. Using this information derived from their cultural past and assuming cultural continuity (e.g., that the world will be very much for their daughter as it has been for them), parents project a probable future for the child. This process is depicted in Figure 13.2 by following the arrows from the mother→(remembered) cultural past of the mother→(imagined) cultural future of the baby→present adult treatment of the baby.

Two features of this system of transformations are essential to understanding the contribution of culture in constituting development:

1. Most obviously, we see an example of prolepsis. The parents literally represent the future in the present.
2. Perhaps less obviously, we see the way in which the parents’ (purely ideal) recall of their past and imagination of their child’s future becomes a fundamentally important *material* constraint organizing the child’s life experiences in the present.

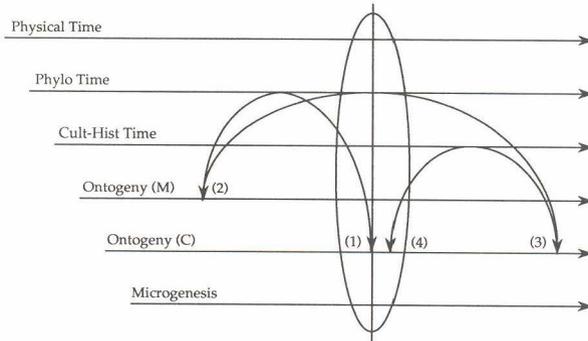


FIG. 13.2. Actual face to face interactions remind us that two ontogenies must be considered in evaluating how culture influences the development of gender-specific characteristics of the child in later life. The sequence of events occurs as follows:

1. Mother sees that baby is a girl.
2. Mother consults her own past (cultural) experience for what she knows about female children.
3. Mother imagines future of the child in light of her own past experience (she is unlikely to become a rugby player).
4. Mother behaves toward baby in the present in terms of how she imagines the future of the baby to be in the future.

In this way, the imagined/ideational activity of the mother is converted into material changes in the baby's present.

This rather abstract, nonlinear process of transformation gives rise to the well-known phenomenon that even adults totally ignorant of the real gender of a newborn will treat the baby quite differently depending on its symbolic/cultural "gender." Adults literally create different material forms of interaction based on conceptions of the world provided by their cultural experience. For example, they bounce "boy" infants (those wearing blue diapers) and attribute "manly" virtues to them whereas they treat "girl" infants (those wearing pink diapers) in a gentle manner and attribute beauty and sweet temperaments to them (Rubin, Provezano, & Luria, 1974).

Macfarlane's example also demonstrated an important distinction between the social and the cultural, which are generally conflated in "two-factor" theories of development. *Culture* in this case refers to remembered forms of activity deemed gender-appropriate for the child as an adolescent and for the parents raising a female child; *social* refers to the people whose behavior is conforming to, and implementing, the given cultural pattern. In addition, this example motivates the special emphasis placed on the *social* origins of higher psychological functions by cultural-historical psychologists (Cole, 1988; Rogoff; 1989, Valsiner, 1988; Vygotsky, 1934/1987; Wertsch, 1985). As Macfarlane's transcripts clearly demonstrate, human nature is social in a sense different from the sociability of other species. *Only* a culture-using human being can "reach into" the cultural past, project it into the (ideal/conceptual) future, and then "carry" that ideal/conceptual

future “back” into the present to create the sociocultural environment of the newcomer.

This example gives us a way to think systematically about the qualitative change in human behavior associated with the acquisition of language that occurs continuously throughout infancy. Vygotsky (1934/1987) and Luria (1948/1970) pointed out that as children master the lexicon of their native language/culture, there is a change in the interfunctional organization of their entire personalities; the cultural -historical and phylogenetic lines of development now interact from, so to speak, the inside. The process of prolepsis simultaneously undergoes a quantum increase in complexity, as the child’s cultural-historical context interacts with those of the older generation.

Finally, this analysis of parental comments on first seeing their child helps us to understand ways in which culture contributes to both continuity and discontinuity in individual development. In thinking about their babies’ futures, these parents assume that the “way things have always been is the way things will always be,” calling to mind White’s telling image that, temporally, the culturally constituted mind “is not a succession of disconnected episodes, but a continuum extending to infinity in both directions, from eternity to eternity” (see page 251). In this manner, the medium of culture allows people to “project” the past into the future, thereby creating a stable interpretive frame which is one of the important elements of psychological continuity.

This assumption, of course, is wrong whenever there are conditions of cultural change following the birth of the child. The invention of new ways to exploit energy or new media of representation, or simple changes in custom, may sufficiently disrupt the existing cultural order to be a source of significant developmental discontinuity. As but a single example, in the 1950s, American parents who assumed that their daughter would not be a soccer player at the age of 16 would have been correct. Yet, in 1990, a great many American girls play soccer.<sup>6</sup>

I know of no recordings equivalent to Macfarlane’s from other cultures, but an interesting account of birthing among the Zinacanteco of South-central Mexico appears to show the same processes at work. In their summary of developmental research among the Zinacanteco, Greenfield, Brazelton, and Childs (1989) reported a man’s account of his son’s birth at which the son “was given three chilies to hold so that it would . . . know to buy chili when it grew up. It was given a billhood, a digging stick, an axe, and a [strip of] palm so that it would learn to weave palm” (p. 177). Baby

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<sup>6</sup>In addition, as life-span developmental psychologists emphasize, unique historical events (a war, a depression) may provoke great discontinuity in development (Hetherington, Lerner, & Perlmutter, 1988).

girls are given an equivalent set of objects associated with adult female status. The future orientation of differential treatment of the babies is not only present in ritual, but coded in the Zinacantecan saying, "For in the newborn baby is the future of our world."

### THE FUTURE IN THE PRESENT DURING EARLY CHILDHOOD AND ADULTHOOD

My next examples of the proleptic mechanisms of development illustrate how adults bring different futures into the present to shape children's experiences, depending on what kind of future they remember. Tobin, Wu, and Davidson (1989) conducted a comparative study of preschool socialization in three locales: Hawaii, Japan, and China. They recorded classroom interactions which they then showed to teachers and other audiences in all three countries to evoke their interpretations and basic cultural schemata relevant to the preschool child. For economy's sake, only the Japanese and American data will be discussed.

When Tobin and his colleagues videotaped a day in the life of a Japanese preschool, young Hiroki was acting up. He greeted the visitors by exposing his penis and waving it at them. He initiated fights, disrupted other children's games, and made obscene comments.

American preschool teachers who later observed the videotape disapproved of Hiroki's behavior, his teacher's handling of it, and many aspects of life in the Japanese classroom, in general. Starting first with the overall ambience of the classroom, Americans were scandalized by the fact that there were 30 preschoolers and only one teacher in the classroom. How could this be in an affluent country like Japan? They could not understand why Hiroki was not punished by being isolated.

Japanese observers had a very different reaction to the tape and a correspondingly different interpretation of Hiroki's behavior and the classroom at large. First, although teachers acknowledged that it would be very pleasant for *them* to have a smaller classroom, they believed it would be bad for the children, who "need to have the experience of being in a large group in order to learn to relate to lots of children in lots of kinds of situations" (p. 37). When asked about their ideal notion of class size, the Japanese teachers generally named 15 or more students per teacher in contrast with 4-8 students that represent American preschool teachers' ideal. When Japanese preschool teachers observed a tape of an American preschool, they worried about the children. "A class that size seems kind of sad and underpopulated," one remarked (p. 37). Another added, "I wonder how you teach a child to become a member of a group in a class that small" (p. 38).

Members of the two cultures also had very different interpretations of the

probable reasons for Hiroki's behavior. One American speculated that Hiroki misbehaved because he was intellectually gifted and easily became bored. Not only did the Japanese reject this notion (on the grounds that speed is not the same as intelligence), but they offered a different interpretation. To them, such words as *smart* and *intelligent* are almost synonymous with *well-behaved* and *praiseworthy*, neither of which applied to Hiroki. They believed that Hiroki had a "dependency disorder." Because of the absence of a mother in the home, he did not know how to be properly dependent and, consequently, how to be sensitive to others and obedient. Isolating Hiroki, they reasoned, would not help. Rather, he needed to learn to get along in his group and develop the proper understanding in that context. Tobin and his colleagues commented, "Japanese teachers and Japanese society place [great value] on equality and the notion that children's success and failure and their potential to become successful versus failed adults has more to do with effort and character and thus with what can be learned and taught in school than with raw inborn ability" (p. 24).

The Japanese who watched the tape also disapproved of the promotion of individualism that they observed in tapes of an American classroom, believing that "a child's humanity is realized most fully not so much in his ability to be independent from the group as his ability to cooperate and feel part of the group" (p. 39). One Japanese school administrator added, "For my tastes there is something about the American approach [where children are asked to explain their feelings when they misbehave] that is a bit too heavy, too adultlike, too severe and controlled for young children" (p. 53).

There are many interesting implications to be drawn from these observations, only a tiny fraction of which I have touched on here. However, in the present context my purpose is to relate them to the situation such children will encounter as adults, in particular, the situation that Japanese boys will face should they pursue a career in the "American pastime" of baseball.

My source in this case is a fascinating account of the fate of American baseball players who play in the Japanese major leagues (Whiting, 1989). Despite their great skill, experience, and physical size, American ballplayers generally have a very difficult time in Japan. There are many reasons for their difficulties, but crucial is a completely different understanding of keys to success in this team sport, a difference that mirrors differences in preschool education in the two cultures to an amazing degree. The title of the book *You Gotta Have Wa* pinpoints one key difference. *Wa* is the Japanese word for group harmony and, according to Whiting, it is what "most dramatically differentiates Japanese baseball from the American game" (p. 70). American ballplayers maintain that individual initiative and innate ability are the key ingredients to success, whereas the Japanese emphasize that "the individual was nothing without others and that even the

most talented people need constant direction" (p. 70). Linked to the emphasis on group harmony is an equivalent emphasis on *doryoku*, the ability to persevere in the face of adversity as the key to success; whereas Americans emphasized individual talent.

Whiting pointed out that the ideals of *wa* and *doryoku* are cornerstones of not only Japanese baseball, but Japanese business as well. He said, "*Wa* is the motto of large multinational corporations, like Hitachi, while Sumimoto, Toshiba, and other leading Japanese firms send junior executives on outdoor retreats, where they meditate and perform spirit-strengthening exercises, wearing only loin-clothes and headbands with *doryoku* emblazoned on them (p. 74).

Despite their acknowledged talent, American players who understand the sources of success, the cultivation of which can clearly be seen in their preschool education, are generally unable to submit to the Japanese way of doing things. In a remark which echoes poignantly on the Japanese disapproval of the American emphasis on verbalizing and valuing personal feelings over group harmony, one American ballplayer who had a long and acrimonious public dispute with his manager was led to ask in desperation, "Don't you think that's going too far? What about my feelings? I have my pride, you know." To which the manager replied, "I understand your feelings, however there are more important things(p. 93)"

Here again we see an example in which culture operating on young children exerts an effect that is conditioned not by present necessity, but by deep beliefs about "how things work" and how things will work in the life of the child later on. The constraints arising from notions of adult life may have relatively minor consequences in the present life of the child; it makes no earthshattering difference to infants if they are dressed in blue or pink or are growing up to be Japanese or American—yet, as Dollard pointed out, the cumulative effects of such differential patterns of interaction governed by images of the future are very clear but they are very clearly not easily accessed for purposes of self-reflection.

### SOME CONCLUDING OBSERVATIONS

If space allowed, I would continue to discuss a number of different examples of the process of prolepsis that can profitably be addressed with the kind of cultural theory of mind that I am proposing. My colleagues and I collected many examples of classroom discourse which yield readily to a proleptic analysis (Newman, Griffin, & Cole, 1989). For example, we recorded interactions and examined them for evidence about the ways in which teachers attempt to teach children about mixing chemicals. The data were coded to record when the teacher offered help and a judgment about

whether such help was needed or not. In a great many cases, this judgment was straightforward. Yet, in a significant number of cases the teacher offered help, and it was simply unclear if the child needed it or had evoked it at all. When asked about these uncodable occasions, the teacher said that she gave the added help because she knew that the children were going to need that particular skill in the next lesson. She wanted to make sure they understood so they would not get lost later. Teaching number facts and short division with remainders yields to the same analysis: Teachers are speaking in proleptic terms whose meanings are not to be found on the surface of their talk with children, but rather, hidden as deep presuppositions.

I have not, as yet, been able to rethink thoroughly the implications of the cases I analyzed here for Miller's notion of the teleology in a servomechanical rocket. In cases where there is a fixed goal, set ahead of time by cultural agency and "wired into" the device, the resulting system of interactions loses the ever-contingent nature of human thought in which not only distance from preconceived object to preconceived means is calculated, but the very existence of relevant parameters parsable as distance, object, means, and so on need to be established.<sup>7</sup>

The meaning/teleology constraining human interaction is nowhere adequately reified in scientific concepts and practices. Unable to proceed further, I conclude with two literary fragments that capture particularly well some of the properties of culturally mediated mind that I have been talking about, but which I have not yet been able to model in my research. Each concerns the crucial backward-looking property of the cultural mode of thinking; each locates the future "behind the back" of humans; each strikes me as totally convincing with respect to the way in which it characterizes both the existential uncertainty of humans and our species' constant striving for unreachable perfect knowledge.

In one of his historical essays, Benjamin (1968) wrote about a poem purported to describe a painting by Paul Klee. The poem is attributed to Gerhard Scholem:

My wing is ready for flight;  
I would like to turn back.  
If I stayed timeless time  
I would have little luck.

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<sup>7</sup>I am treading clumsily here on territory that is covered more gracefully and authoritatively in Shutz (1962), James (1975), among others. Shutz, for example, wrote, "Meaning . . . is not a quality inherent in certain experiences emerging within our stream of consciousness but the result of an interpretation of a past experience looked at from the present. Now with a reflective attitude." (p. 210).

Benjamin wrote as follows:

A Klee painting “Angelus Novus” shows an angel looking as though he is about to move away from something he is fixedly contemplating. His eyes are staring, his mouth is open, his wings are spread. This is how one pictures the angel of history. His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe which keeps piling wreckage upon wreckage and hurls it in front of his feet. The angel would like to stay, awaken the dead, and make whole what has been smashed. But a storm is blowing from Paradise; it has got caught in his wings with such violence that the angel can no longer close them. This storm irresistibly propels him into the future to which his back is turned, while the pile of debris before him grows skyward. This storm is what we call progress. (pp. 257–58)

From T.S. Eliot’s, *The Four Quartets* (1959):

So here I am, in the middle way, having had twenty years—  
 Twenty years largely wasted, the years of *l’entre deux guerres*—  
 Trying to learn to use words, and every attempt  
 Is a wholly new start, and a different kind of failure  
 Because one has only learnt to get the better of words  
 For the thing one no longer has to say, or the way in which  
 One is no longer disposed to say it. And so each new venture  
 Is a new beginning, a raid on the inarticulate  
 With shabby equipment always deteriorating  
 In the general mess of imprecision of feeling,  
 Undisciplined squads of emotion. And what there is to conquer  
 By strength and submission, has already been discovered  
 Once or twice, or several times, by men whom one cannot hope  
 To emulate—but there is no competition—  
 There is only the fight to recover what has been lost  
 And found and lost again and again; and now under conditions  
 That seem unpropitious. But perhaps neither gain nor loss.  
 For us, there is only the trying. The rest is not our business. (pp. 21–22)

I was raised in a cultural setting that did not place much hope in the utility of religious world views, and a society which has come to distrust deeply the claims of savants to be able to tell the future. The future is not knowable in the telling, only in the remembering.

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