Ethnopsychologies: Cultural Variations in Theories of Mind

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A set of basic beliefs about others' minds and behavior, referred to as folk psychology or theory of mind, is often discussed as if it were the same the world over. Yet, certainly variation in folk psychology exists. This article compares several aspects of European American theory of mind with other cultural models, as suggested by experiments and ethnographies, with the purpose of illuminating the degree to which there is variation. After summarizing 4 types of variation, the author explores possible sources of variability, implications for the mindreading process, potential universals, and directions for future research.

The ways in which people make sense of others can be explicated as a set of theoretical constructs. Among these constructs are lay knowledge about how perception operates, what people like and dislike, what motivates people, and so on. Interest in this lay knowledge in adult social psychology was spurred by F. Heider's (1958) volume on interpersonal relations. It is at the core of the recent work on children's theories of mind and is of central relevance to philosophy of mind. Throughout much of these literatures runs an assumption that everyday, unschooled knowledge of human psychology is basically the same everywhere. This presupposition deserves careful consideration because it has important implications for cultural and interpersonal understanding, for developmental theory, and for the process of social cognition. Below, I consider relevant background issues, including what a theory of mind is and what one might expect a priori regarding universality and variation. I then describe several aspects of American theory of mind and contrast these with those of other cultures, with an eye to the degree and quality of variations.

A definitional matter must be addressed initially. It should be noted that European American (EA) is used here to refer to what is commonly termed *Western* because the Western hemisphere is not as culturally homogeneous as the European American portion. EAs, as used here, refers to adult upper- and middle-income Americans of European descent, the majority of whom are thought to hold the naive folk psychology described or implied by the late 20th century academic literature on psychology and

philosophy of mind. Reflecting the European origins of this theory (back to Ancient Greece), many elements are probably shared by Europeans as well, and many non-EAs also share much of the theory. It is also important to note that regarding any specific aspects of the theory, there may well be regional or social class or other differences within this group, just as Nisbett and his colleagues (e.g., Cohen, Nisbett, Bowdle, & Schwarz, 1996) have found evidence for a "culture of honor" among White southern men in the United States. The purpose here is not to catalog exactly which parts of the theory are upheld by whom and when but to describe a generalized view that is thought to be fairly typical of this group as a whole.

The EA model is derived from the existing literature. Although very little empirical study of everyday adult person perception has been conducted, by piecing together data from existing experiments and discussion one can derive a rough sketch of some aspects of the model. Because of the paucity of experimental studies of EAs' folk psychology, what is presented here is best characterized as the European American social science model (EASSM) of folk psychology. While probably fairly accurate for the majority of people the majority of the time, this characterization of EA folk psychology certainly has limitations. For example, religious beliefs (e.g., whether nonmaterial sources like spirits or God can directly influence one's mind) are a source of variation within EA culture, but they are rarely considered in discussions of folk psychology. Although very important, variation in folk psychological thinking within the EA community has not received adequate attention from researchers to allow for in-depth discussion here. For other cultures, however, such variations have been addressed by ethnographers and some experimentalists. That variation is used here to elucidate the degree to which people might construe folk psychological matters differently than they are construed in the EASSM.

THEORY OF MIND

Premack and Woodruff (1978) introduced the term *theory of mind* to refer to a tendency to impute mental states to oneself and others. The term *theory* is applicable both because mental states are unobservable entities (hence, their existence is purely theoretical) and because ideas about internal states form a coher-

ent system from which one can make predictions about or explain behavior (Wellman, 1990). One important issue is whether people actually use that theory to arrive at interpersonal understanding.

There are two major lines of thought about the process of interpersonal understanding. According to the *theory theory* (Davies & Stone, 1995a; Gopnik & Wellman, 1994; Perner, 1991), one draws on a theory of mind to understand people's behaviors, psychological states, and traits. One takes in data concerning the person, consults the theoretical knowledge, and arrives at some folk psychological understanding. For example, if one sees someone looking at something and the person's vision is not blocked, one might think that she or he must see that which is being looked at (Flavell, Green, Herrera, & Flavell, 1991; F. Heider, 1958). If someone wants something and there are no obvious impediments, one may believe that the person will go about getting it (Bartsch & Wellman, 1995; Churchland, 1984; F. Heider, 1958). These acts of social cognition draw on the theory of mind as a database of possible explanations, and alternatives that are not in one's folk model are generally not even considered. For example, if a colleague walks by without saying "hello," an EA does not normally speculate that the person is currently occupied by a witch.

An important feature of the theory theory is that one's ideas about others are derived solely from the available evidence. In contrast, according to Bruner's (1990) narrative account (see also Carrithers, 1992), one has a set of innately specified constituent beliefs by which one makes sense of others. When people behave strangely and these beliefs are violated, one adds to the innate beliefs culturally informed narratives that make the behavior sensible. The stories serve to link the exceptional to the ordinary. This view is very compatible with a theory theory view, although the constituent beliefs have a different source.

An important alternative theory about how people read others is that they engage in a process of simulation (Davies & Stone, 1995a, 1995b). People understand others by projecting themselves onto others (Gordon, 1995a, 1995c) or by pretending that they are in the other's circumstances (Harris, 1995b). Theoretical knowledge is not primary. Instead, people have a capacity to imagine themselves as others. This enables them to read minds because they re-evoke the other's mental state in themselves. If I see someone looking at something, I imagine I am him and then I know what he sees. If someone walks by without greeting me, I imagine myself doing that, generate my reasons, and assume those to be that person's too. By simulation accounts, people do not usually draw on a theory, although simulations do result in their eventually having such a theory that they sometimes use to understand others (Goldman, 1995b, p. 88; Gordon, 1995b, p. 185; Harris, 1995b, p. 210; Heal, 1995, p. 34). The evidence described later concerns the resulting theoretical knowledge.

A PRIORI EXPECTATIONS

There are a priori reasons why one might expect or not expect variation in folk psychologies. Theories of how mindreading develops predict universals, at least in some basic core, whereas other factors suggest one would find substantial variability.

Universals: The Developmental Process

Nativism

One theory of how people acquire folk psychology is that it is inborn. By this reasoning, just as people are usually born with arms and legs, people are usually born with certain ideas or at least tendencies to think about the world in certain ways (Bruner, 1990; Carey, 1985; Spelke, Breinlinger, Macomber, & Jacobson, 1992; see also Spelke, Phillips, & Woodward, 1995). Where there are exceptions, individuals (e.g., those with autism; Baron-Cohen, 1995) rather than whole cultures are affected. In keeping with this, Wierzbicka (1992) claimed that a small set of basic mentalistic concepts, namely, *think, feel, know,* and *want,* are found in all languages and therefore are probably innate. Fodor (1987, 1992) also claimed that people have innate psychological concepts and even that the module in which they exist is encapsulated and invulnerable to evidence (Fodor, 1983). Somewhat differently, Baron-Cohen (1995) and Leslie (1995) argued that innately specified processors exist to handle folk psychological content; as they are specified by their authors, one would expect identical folk psychological results across cultures. For example, in both theories, watching an agent perform an act results in the observer's automatically computing what the agent's intention is. Computing intentions and arriving at a conceptual structure, whereby actions are explained with reference to intention, should thereby be universal. Baron-Cohen specified that the information gathered through these innate systems eventuates in a theory of mind, but the mindreading systems that lead to that theory make no clear allowance for how cultural variations might seep in. In all of these nativist theories, then, as currently formulated, at least the basics of and possibly all of folk psychology should be universal.

Simulation

Simulation (which, like the theory theory, is discussed with reference both to process and to development) also entails an innately specified processor that arrives at folk psychological understanding. For the most part, simulation theorists have had little to say regarding universality or development (except regarding the particular development of understanding false beliefs; but cf. Harris, 1990, 1995a). Based on most writing on simulation, folk psychology should be universal: "A person can successfully simulate the internal operations of others because they are largely homologous to her [or his] own" (Goldman, 1995b, p. 89).[1] All children should come to understand a single concept of desire because all children experience desire and should correctly simulate it when regarding others who desire.

The main exception among simulation theorists in considering development (and culture) is Harris (1990, 1995a). He claimed that "the child's conception of the mind is probably universal in the early years [because] children everywhere will have certain common experiences and arrive at a core set of conclusions" (Harris, 1990, p. 218). However, a culturally specific meta-

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[1] Goldman (1995b, p. 79) briefly acknowledged nonuniversality as a problem for the theory theory but did not take up the issues it presents for simulation theory.

theory will eventually be added to the universal core. Cultural variation, Harris believes, will mainly concern certain types of marked experiences: antisocialness, sickness, dreams, intense feelings, and so on. This is similar to Bruner's (1990) idea that it is noncanonical events that stimulate people to develop explanatory narratives (see also Heelas & Lock, 1981). What is not clear in simulation theory is how a culture could come up with its own unique simulations about those noncanonical events.

The Theory Theory

Also suggesting that folk psychology is basically the same everywhere is the aforementioned theory theory. This theory presupposes the scientist model of people as learners (Gopnik & Wellman, 1994). As good scientists, people take data in from the world and adjust their theories to fit those data. According to Gopnik and Wellman, a person's database is basically the same everywhere. For example, people everywhere act to fulfill their desires as long as nothing is impeding them. Children see this, reason about it, and arrive at the correct reason: He or she is walking toward something because he or she wants it.

It is worth noting here that for some, the term theory of mind refers to a universal core set of beliefs (like Bruner's, 1990, constituent beliefs), whereas folk psychology is reserved for a noncore set that is built on top of that core and that can be influenced by culture (Bartsch & Wellman, 1995; Gopnik & Wellman, 1994). However, if knowledge about minds is really theoretical, then constructs are defined in terms of other constructs in the theory (Churchland, 1984; Wellman, 1990). That being the case, variation in the noncore set mandates variation in the core set, calling universals into question.

In summary, the major theories of how one develops a theory of mind all predict universality, at least in the early years and in some core theory. Innate concept theorists say people are born with concepts intact. Innate module theorists, including simulation theorists, describe processors that should arrive at the same conclusions and eventually the same resulting conceptual formulations everywhere. Bruner's (1990) narrative theory claims a universal set of core beliefs that is either innate or innately predisposed to develop. For theory theorists, the basics of folk psychology are universal because the crucial evidence and people's theory-making capacities are the same everywhere. It is important to note that although narrative, simulation, and theory theory accounts admit to the possibility of variation in folk psychology in later years, all are deficient in explaining how variability occurred in the first place.

Variability

There are also many reasons to suppose that there might be important cultural variations in folk psychology, even at the core. Several of these are discussed below: external differences reflecting internal ones, optional construals, variations in preconditions for acts of social cognition, and variations in nuances of meaning.

External Differences Reflecting Internal Ones

Cultures certainly vary in externally observable ways. People eat different foods with different utensils, divide roles differ-

ently, engage in different religious practices, wear different clothing, and so on. Internal and external aspects of culture are probably importantly linked; cultural psychologists claim that mind and culture are mutually constituted (P. J. Miller & Goodnow, 1995). Habitual use of a given language might even lead one to consider people in language-specific ways (Ikegami, 1991). In Japanese, the person is lexicalized as "a location in which the act takes place" (p. 314). In contrast, in English, the person is a clearly identified agent, the source of action. As children grow into different cultures with different practices (including linguistic ones), it might make sense that they form different ideas about the mind that fit those practices.

Optional Construals

A second reason to expect variation in folk psychology is that some construals of EA folk psychology can be seen as optional. One might opt to construe them differently because there is no solid evidence one way or the other indicating the correct construal. For example, in the EASSM, there is no allowance that dead ancestors live among people and directly and intentionally influence their thinking or behavior. However, there is no solid evidence that dead ancestors are not influencing people; it simply does not make sense in the EA system that they could.

Similarly, another optional construal might be the extent to which people are viewed as autonomous individuals (Heelas, 1981; Lock, 1981b). In EA culture, people are usually considered responsible for their own behavior but not for that of others (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985/1996; Fincham & Jaspars, 1979; Hamilton & Sanders, 1992; Meijer & Semin, 1996; W. Mischel, 1973). In contrast, in Japan, even preschoolers are considered responsible for the actions of their classmates (Lewis, 1995). Notably, there is some movement away from the individual responsibility orientation of the EA, for example, in court cases in which it is argued that one's behaviors result from how one's parents treated one as a child. This within-culture variability deserves more systematic study. To the extent that it exists, it reinforces the point that the construal is optional.

Another aspect of folk psychology that might be optional is the degree to which a culture considers mental state products to be subjective or objective. In EA culture, subjectivity is often embraced. As was emphasized by the British Empiricists, EAs believe that it is not so much the event as the way that people construe the event that affects them. As a famous saying from Shakespeare's (circa 1603/1910) Hamlet goes, "there's nothing either good nor bad but thinking makes it so" (p. 55). Bruner (1990) discussed Kahler's (1973, as cited in Bruner, 1990) observation that the modern novel might sensitize the reader to the existence of different viewpoints in contrast to the omniscient narrator in an Ancient Greek drama. Highlighting the subjectivity of minds might be optional (Heelas, 1981; Lock, 1981b).

Variations in Preconditions

Other grounds for expecting variation become apparent when considering Flavell's (1974) three preconditions for successful

acts of social cognition. These preconditions are themselves formulated within an implicit theory theory perspective and reflect EA cultural biases, for example, an assumption that people always think of mental states as preceding behavior. That construal might be optional. The preconditions are (a) knowing of the existence of a mental state, (b) having a need to explain a behavior, and (c) drawing correct inferences. In accordance with the theory theory, one might see someone search in a cupboard for a chocolate bar and feel a need to explain (b) this searching behavior. Knowing about the desire (a) and its relation to an action, one probably infers (c) from the person's behavior that he or she has a desire to get the chocolate bar. All three preconditions suggest the possibility of cultural variation.

Existence

Consider the first precondition that acknowledging the existence of some mental phenomena is necessary to successfully engage in an act of social cognition. It is well documented that there is cultural variation in the database of emotion constructs. One example is EAs' lack of a conceptual equivalent to *lajya* (pronounced /lud-ja/), a feeling described by Hindu informants (discussed later in *Emotion*). Lacking *lajya* in the American conceptual system, people do not ascribe it in cases in which a Hindu would.

Need

Flavell's (1974) second precondition, the need to explain, is also most suited to a theory theory process and might vary in different cultural settings. Some cultures might be more oriented toward explaining behavior than are others and might urge children to learn and exercise such skills from an early age. Suppose Culture A emphasizes desire as leading to action: In this culture, "because one wants to" is the best reason for doing anything. In contrast, in Culture B, "because one wants to" would very rarely be thought to motivate behavior, and "because it is prescribed" is generally why anyone does anything. In Culture B, people do things because they are following carefully set rules; whereas in Culture A, they do so because they want to.[2]

Such differences might well result in differences in the need to explain. Specifically, when individual desire is sacrosanct and is considered the major motivator of action, then in a sense every action is a custom event stemming from a unique set of circumstances. Contemplating others' insides could be especially important to understanding actions in such cultures, and the "need to explain" by contemplating others' mental states could be higher than it is in cultures where social norms are more dictative of behavior. As an analogy in another domain, Darwin's (1859/1996) inspiration to explain the appearance of finches as resulting from natural selection arose in the context of the variation he saw in the Galapagos Islands. The relative lack of variation in European finches had not so inspired him.

Inference

As to Flavell's (1974) third precondition, the actual inferences made in acts of social cognition could vary by culture. Clearly, variations in ontology affect inference: If one does not

have the same concepts, one must draw different inferences. But even when the same concepts exist, inferences might differ. One reason for such differences would be cultural priming (Shweder & Bourne, 1984). Concepts that are well rehearsed are retrieved faster than ones that are not (Anderson, 1976). Cultures repeatedly present certain concepts and not others to their constituents; to the extent that people pay attention to such concepts and the stories in which they are embedded, they are in effect rehearsing certain concepts and their frames. American culture does not present *lajya* but often presents happy and sad; hence, Americans will undoubtedly pick out happy and sad quickly, relative to *lajya*; this will in turn affect inferences. Culture is like a continual priming effect, getting people to think about certain concepts and not others, thereby influencing the inferences people draw.

Although simulation approaches do not generally consider inference to play a part in mindreading, Harris (1995a) has specified a developmental account by which inference would play a role. He described a child feeling frightened and his parents asking, "Are you afraid of the dark?" In this case, the parents label the internal experience as "fear of the dark," leading the child to later infer that other, similar internal experiences are also fear of the dark. To the extent that parents in different cultures might label such experiences differently, one might expect different inferences. However, as mentioned earlier, simulation theory provides no clear suggestion of how a culture might arrive at different labels in the first place.

Nuance

Finally, there might be variations in aspects of folk psychologies, even when those aspects appear the same, because of nuances underlying apparently similar features. Recall that Wierzbicka (1992) claimed that all languages have words for *want, think, know,* and *feel*—a claim that has appealed to Wellman (1995) and suits Fodor's (1987) nativist arguments as well. Even if the claim is true regarding words, the question remains as to whether the concepts delineated really are the same across cultures or whether they might vary by culture in important ways. As Lock (1981a) put it,

> it is possible that when one proposes some basic universal dimensions from one cultural perspective, and finds an apparent fit of other cultural systems to those dimensions, one has not proposed universals at all. Rather, one has constructed a translation and classificatory system which enables one to gain some understanding of an alien culture by locating elements of their systems within the hermeneutic circle of one's own. (p. 185)

For example, perhaps even if all people have a desire word and hence something like a desire concept, such crucial features as what causes desire under what conditions, what desires cause (if anything), and so on might be sufficiently variable that one

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[2] These two views can of course be forged. Another way of putting their motivations is that in Culture A the prescribed rule is to do as one wants and in Culture B what one wants to do is follow the prescribed rule. However, people within one culture see themselves as being motivated mainly by their own desires, whereas people in the other see themselves as being motivated mainly by cultural prescription.

should not call the EASSM concept of desire universal. If this were the case, then although specific folk psychological constructs might share family resemblances across cultures, one could not do a clear one-to-one mapping of even a core set of concepts across cultures.

Summary

On the one hand, acts of social cognition might vary across cultures because of differences in folk psychologies. Culture practices are certainly different, and folk psychology might reflect those practices. Certain folk psychological interpretations (e.g., whether control of the individual is considered to be more internal or external) might be optional, based on cultural preference at a moment in history. Finally, cultures might offer different mental constructs or different levels of need to explain behaviors and internal states, and people in different cultures might draw different inferences regarding them. On the other hand, perhaps there is a universal set of understandings about the mind, due to real similarities in how people are and what they experience across cultures.

Having an apt characterization of what is universal and what is free to vary in folk psychology could aid in researchers' understanding of development (Lillard, 1997). However, the extant data do not allow researchers to adequately address this issue. Optimally, they would have data from children and adults in a wide array of cultures and could examine the development of folk psychologies across those cultures to locate similarities and differences from infancy onward. In the absence of such data, what is possible now is to look at the existing relevant data, mainly from ethnographies concerning adult folk psychology, to consider the range and character of variation. Although one can only draw weak conclusions with regard to development, one can consider such evidence in the light of an adult's mindreading process. Prior to looking at the evidence of variations in folk psychology, I examine some pertinent theoretical issues.

THEORETICAL ISSUES REGARDING THE ETHNOGRAPHIC EVIDENCE

Ethnography

The major anthropological method for doing research in other cultures is *ethnography*. In brief, an anthropologist lives among a given people, observes them, and asks "informants" for further explanations about what she or he sees (Hammersly & Atkinson, 1995; Weisner, 1996). The goal is not objective observation, as in psychology, but rather is immersion, deep knowledge of a culture, such that one might actually participate in that culture. One positive aspect of this is the depth of knowledge. A negative, from psychology's standpoint, is that ethnographers might draw out certain features that statistically would not hold up. Balancing this, one can argue that folk psychological variation is actually hard to pick out and might as easily be downplayed.

Culture is to the person as water presumably is to the fish: the only medium through which one has experienced the world and is often completely overlooked (Jahoda, 1993). Not many anthropologists appear to have looked for differing concepts of

the mind. People seem to assume that others share their same ideas about the mind and world. Because mental states are internal, one must work to discern different concepts of mind; it is easier to interpret others' behaviors in one's own folk psychological terms. EAs even say that "the car does not *want* to start" and "the thermostat *thinks* it is 50°" because psychological terms can provide the simplest construals for nonhuman events (Dennett, 1987). Given that everyday psychological terms are so willingly applied to entities that obviously do not share the implied mental states, it seems people would be quite likely to make this error in regards to other human beings and their folk psychological attributions.

Exemplifying the difficulty of perceiving folk psychological variation, one ethnographer described herself finally realizing that for the Quechua group she was studying in the Andean highlands, there were two selves in any given person: one everyday self and another that takes over when one is in a so-called *altered state*, like dreaming or drunk. Every culture needs in some way to make sense of such altered state phenomena; "second selves" was the interpretation of this particular one. The ethnographer asked the Quechua why they had failed to tell her about these two selves, and the informant replied that she had never asked (Carpenter, 1992).

Another example is cited by Bruner (1990): Bartlett (1932) had Cambridge University students retell a folk tale, like the game of telephone. One student privately told it to another, who then told it to another, and so on down the line. The result was that the folk tale became increasingly anglicized with each telling. Likewise, Vinden (1996) told Canadian university students a translated Quechua folk tale that contained no mental state terms. In retelling the tale, students inserted many mental state words. Making a folk psychology more like one's own than it really is might be the more likely error in ethnographic reports.

The Relation of Language and Thought

A second consideration regarding the evidence presented here is that some of it is derived from language: Certain concepts are delineated differently or are not delineated at all from language to language. One example of this is the Ifaluk word *fago*, referring to an emotion that bears resemblance to compassion, love, and sadness (see Lutz, 1988). It describes a parent's love for a child as well as one's response to the death of a loved one, two completely different feelings for EAs. Does this mean that the Ifaluk do not discriminate these emotions? Does it have any meaningful effect on discrimination? Some dismiss linguistic evidence for cultural variation in thought on the grounds that the Sapir–Whorf hypothesis has been disproven and hold that existence of certain terms in a language has nothing to do with the conceptual distinctions that speakers of that language can and do make (e.g., Pinker, 1994). However, this issue has received careful consideration in recent years, and current evidence lends reasonable support to the hypothesis that language does influence thought in meaningful ways (Hardin & Banaji, 1993; Hunt & Agnoli, 1991; Lucy, 1992).

The most forceful evidence against the Whorfian position came from seminal studies on color perception. Berlin and Kay's (1969) finding of a consistent hierarchy in the denoting of color

terms across languages was one major strike against the theory. Languages with only two color terms invariably denote black and white; when a third color is added, it is always red; a fourth would be green, blue, or yellow; and so on. Perception appeared to be guiding language rather than the reverse. Then Rosch (published as E. R. Heider, 1972) reported that the Dani, despite only using two color terms, remembered focal colors better than nonfocal ones. This served the crowning blow to the Sapir–Whorf hypothesis. Obviously perception, not language, was guiding thought. In fact, however, as was noted by Rosch, a more productive reading of these results is that the domain of color is probably not a good place to look for evidence for or against the hypothesis because it is a domain in which perception rather than conception dominates. The physiology of the eye is so responsible for how one perceives and recalls colors that it may completely overshadow any linguistic effects. (As seen below, this is not absolutely the case.) However, coming as it did at a time when the idea that the environment structures experience in universally invariant ways (Gibsonian affordances) was very popular, and due to concerns about Whorf's claims generally (the Eskimo snow word hoax being the most famous example), the hypothesis fell into disfavor. This disfavor was directed at the extreme version of the Whorfian hypothesis (that language determines thought) but had the effect of also discounting the more moderate claim that language influences thought. (See Sera, Berge, & del Castilo Pintado, 1994, and the reviews mentioned earlier for a thoughtful discussion of Sapir's and Whorf's claims.)

More recent evidence provides substantial support for the hypothesis that language influences thought. Some of this evidence even comes from the domain of vision. Kay and Kempton (1984) showed participants sets of three color tablets varying along a blue–green continuum and for each set asked them to specify which color tablet was most different from the other two. Some participants spoke Tarahumara, in which there is no blue–green distinction, whereas others spoke English. The English-speaking participants showed categorical perception in their judgments, but the Mexican–Indian Tarahumara speakers did not. More important, the difference disappeared in a manipulation designed to make label use irrelevant. In these experiments, then, habitual language use did influence how participants thought about colors.

Another example is provided by Sera et al. (1994), who looked for influences of gender on nouns for Spanish and English speakers. When asked if given items were more masculine or more feminine, Spanish speakers tended to judge them according to how they were gendered in Spanish; English speakers did not judge them in this way.

In the realm of social cognition, Hoffman, Lau, and Johnson (1986) presented Chinese–English bilinguals with two written descriptions of people, either in Chinese or in English. The two descriptions fit specific personality types denoted by a single word in English (*artistic, liberal*) but not in Chinese or by a single Chinese word but not a single English one. Five days later, participants were asked to perform several exercises concerning the characters they had read about previously. Participants made more inferences and exhibited better recall for characteristics of people about whom they had read when the character fit a one-word description in the language in which they were reading about the character. In other words, although the participants were Chinese–English bilinguals, participants who read the English version of the descriptions of the liberal person showed better recall of the description than participants who read that exact same description translated into Chinese, which has no word for *liberal*. The participants all presumably had the concept liberal because they all knew English well. However, the English language appeared to facilitate access to the schema, whereas the Chinese language did not.

Many more examples supporting the thesis that language influences thought are reviewed in the articles cited earlier (see also Gopnik, Choi, & Baumberger, 1996). Taken together, these studies suggest that language highlights certain concepts relative to others and that researchers might think of language, like culture, as a continual priming affect. Although people can and do entertain concepts not delineated in their language, having certain concepts primed in one's linguistic community is bound to affect in nontrivial ways their availability for use in the folk-psychological enterprise. "We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation" (Sapir in Mandelbaum, 1949, as cited in Ochs, 1988, p. 130).

Translating Conceptual Systems

In going into another culture to do research, one faces what seems (rightly or wrongly) even more difficult than doing research with children or animals. With the latter two groups, one attempts to simplify tasks so that they will be understood by group members. In working with another culture, however, one finds that simplicity will not do the job unless there are universal fundamentals. One must translate one's concepts into another conceptual system; when worldviews are extremely different, this can be difficult if not impossible. As Bateson and Mead (1942, as cited by P. J. Miller & Hoogstra, 1992) put it, "the words which one culture has invested with meaning are by the very accuracy of their cultural fit, singularly inappropriate as vehicles for precise comment upon another culture" (p. 94). The choice then seems to be either that there are fundamental universals or that one cannot understand other cultures.

However, there is a third possibility. Even without universal fundamental concepts, one can perhaps work through one's own concepts to those of another culture to make good enough sense of those of the other culture. One can learn about the ontological distinctions, the causal relations, and so on and forge some sort of understanding. One must find "the logic of their ways of putting [things] in the locutions of ours" (Geertz, 1983, p. 10). Indeed, considering this issue in conjunction with that of the relationship between language and thought, Wierzbicka (1992) pointed out that a culture's use of lexical items that are not included in the lexicon of some other culture is itself a window into cultural differences. This difference can be exploited for the goal of understanding across cultures. Although the translation process might be cumbersome and necessarily imperfect, it is possible to at least make a good approximation.

A daunting problem here, much discussed in recent anthropology, is that of ethnographer subjectivity. "In anthropology, the main condition of knowledge is still related to the individual fieldwork, which cannot be conceived independently of the sub-

ject; there is no experience apart from the experiencer, no knowledge without a knower" (Hastrup, 1994, p. 227). Rather than crumbling under this relativism, however, anthropology might explore both the culture of the observer and that of the observed (Shweder, 1991). Good ethnographers appear to bear this issue in mind when in the field (e.g., Rosaldo, 1980).

Use Versus Availability

Because of the way ethnographic evidence is acquired, it is difficult to assess use versus availability or performance versus competence. As discussed later, use is often what is at issue in the reports discussed below. Two cultures might both have a given concept, but one might emphasize it more than the other culture does. Ochs (1988) stated that

> cross-cultural differences are not necessarily categorical, i.e., "These people do x; those people don't do x." Instead, many cross-cultural differences reside in the preferential organization of acts and events. Many differences are differences in statistical frequency, i.e., "These people do x much more frequently than those people"; other differences are context-sensitive, i.e., "These people do x under these circumstances; those people do not do x under the same circumstances but they do x under different circumstances"; "These people prefer x as an initial strategy." (p. 135)

This approach bears similarity to that advocated by Siegler (1996) regarding child development: thinking in terms of availability and degrees of use rather than in terms of present or not present. Applied here, the point is that although all people might be able, for example, to describe others' behaviors in terms of traits or in terms of situations, the important question is what they actually do in their everyday lives.

Context

For reasons of space, the accounts below are necessarily brief. Ideally, one could include a full-length account of each culture to richly construct the system in which the relevant folk psychological concepts are embedded. However, in the interest of presenting a range of cultures, I instead take brief samples from many reports. To render some aspect of an entire folk psychological theory in just a few sentences is of course a false enterprise. As parts of entire folk psychological systems, the information given here loses much of its richness and complexity taken out of context. Because of this decontextualization, the reports might in places come across as a series of oddities: These people have a strange concept of desire, those ones have a strange way of thinking about agency, and so on. However, these oddities make sense when one reads about the different cultural structures of meaning and practice in which they are embedded. Interested readers are urged to go to the original ethnographic accounts.

Evolutionism

Certain reports suggest that adults in other cultures are similar to children in EA culture, inviting an interpretation of evolutionism in which EA culture is the most advanced and other cultures are slowly marching toward EA conceptualizations. It is possible that schooling or complexity promotes certain types

of understandings and that as these other cultures change in those directions, their understandings will come to resemble the EA one. However, it is also the case that from the other cultures' perspective, EA adults might in some ways resemble their children. For example, the EASSM's notion that one acts in accordance with one's desires might seem extremely childlike for other cultures.

THEORIES OF MIND ACROSS CULTURES

This section presents evidence from non-EA cultures and the EA culture during earlier historical periods as it applies to theories of mind. I begin by looking at the concept of mind, then examine ways of conceptualizing the relation between the mind and the world, and end by considering some aspects of three central mental state domains (perception, emotion, and thinking) as they are viewed in different cultures. It should be noted that this particular organization is in itself reflective of an EA orientation to the mental world (as is, indeed, the existence of this article, the theory of mind research area, etc.). Variations are considered both in terms of whether they reflect differences only in emphasis or in possibility and in terms of their implications for the mindreading process.

Mind

The European American Social Science Model

Below, I discuss four aspects of the EASSM of mind: its function, what it is identified with, some of its characteristics, and its importance as suggested by the amount of overt attention paid to it. Following this, several other cultural views of mind are presented. As was stated earlier, representations of the EASSM are based on a rather sparse data set and certainly do not include the range of variation represented in the EA community. It would behoove researchers to carry on the mission F. Heider set out in 1958 to develop a much richer portrait of EA folk psychology, including regional, economic, religious, and ethnic variations.

Function

In the EASSM, the mind is the seat of mental processes and states. One source of evidence for this is a set of lengthy interviews with Americans by D'Andrade (1987, 1995), which led to his creating the model depicted in Figure 1. The contents of the mind proper are mental states, like thoughts and feelings, and the mental processes that lead to those states (thinking and feeling). More details on these processes are provided in later sections.

Wellman's (1990) extensive thinking and experimental work on children's theories of mind resulted in the model depicted in Figure 2. Although Wellman's and D'Andrade's (1995) models are somewhat different in their details, what is most striking are their similarities. Relevant to the current point, the mind supports an array of mental states, such as thoughts, emotions, and desires. A striking addition to Wellman's diagram of the mind is the inclusion of trait concepts. Although traits are not mental processes like thinking and wanting, they are conceptual-
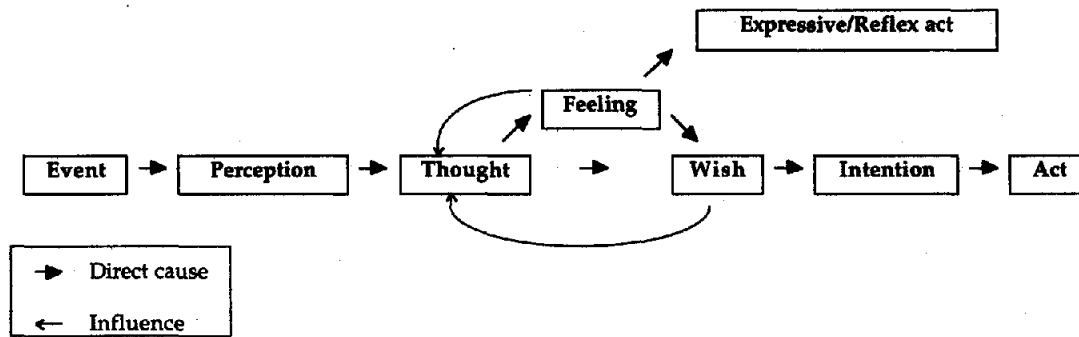
Figure 1. The folk model of the mind. From *The Development of Cognitive Anthropology* (p. 162), by R. D'Andrade, 1995, Cambridge, England: Cambridge University Press. Copyright 1995 by Cambridge University Press. Reprinted with permission.

ized as an internal influence on behavior and hence are part of the EA theory of mind. (For a discussion of mental states vs. processes, see D'Andrade, 1987.)

The results of experimental work are consistent with these figures. Rips and Conrad (1989) asked a group of 20 adults to rate the importance of various activities in how the mind operates. All mental states (e.g., remembering, imagining, and dreaming) obtained fairly high ratings, and the highest ratings were obtained by thinking and having emotions. Johnson and Wellman (1982) asked 14 adults whether the brain was needed for various acts. All participants agreed that it was needed for thinking, knowing, and remembering as well as for a variety of school tasks like writing and for the cognitive emotion of being curious. Over 85% agreed it was needed for acts of perception, for other feelings (being sad, being hungry), and for simple voluntary motor acts (e.g., clapping). In other experiments,

Johnson and Wellman asked younger and older children about whether the mind was needed for such tasks and obtained results from the older children that corresponded with the adult responses about whether the brain is needed, suggesting that mind and brain are interchangeable in this paradigm.

In summary, major functions of the mind in the EA view, judging from this data, are housing mental states and generating mental processes. Regarding emotions, it seems that EA adults think the mind is often responsible for feelings. In addition, however, people also tend to view minds as rational and as able to control or overcome emotions. The data reported here perhaps reflect a view that minds are responsible for emotions because they provide the data and the interpretation for those feelings, although it seems there is a special aspect of mind reserved for rational thought (Wierzbicka, 1992; see Damasio, 1994, for problems with this view).
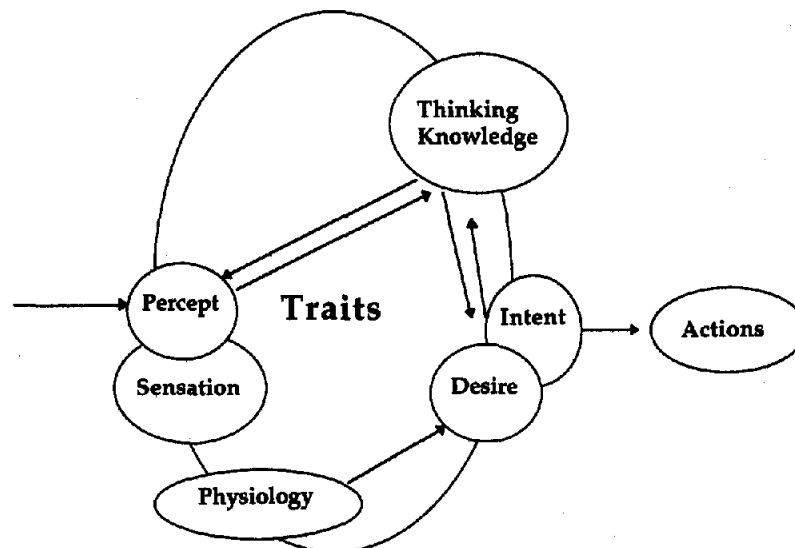

Figure 2. The European American theory of mind. From *The Child's Theory of Mind* (pp. 100, 109, and 114), by H. M. Wellman, 1990, Cambridge, MA: MIT Press. Copyright 1990 by MIT Press. Adapted with permission.

Identity

In the EA view, the mind is located in and often identified with the brain. For example, the *American Heritage Dictionary* (1994) defined mind as "the human consciousness that originates in the brain and is manifested especially in thought, perception, emotion, will, memory, and imagination." Despite this identity, the mind is also seen as distinct from the body, a division referred to as the *Cartesian split* (Ryle, 1949). Identifying mind with brain while simultaneously seeing mind as distinct from body reflects an inconsistency in the EA theory of mind.

The mind is also identified with the self in the EA view, as is apparent in Johnson's (1990) study of children's understanding of how brain transplants would affect identity. Adults were not tested, but EA 10-year-olds showed evidence of believing what Johnson intuited was the adult understanding: that a brain transplant has the effect of transplanting the self.

Characteristics

Some important characteristics of the mind in the EASSM are that it is private but knowable. In part because of these opposing characteristics, how one knows others' minds is prominent in philosophical discourse (e.g., Davies & Stone, 1995a, 1995b) as well as in the literature on children's understanding of the mind (Carruthers & Smith, 1996; Flavell & Miller, in press; Lewis & Mitchell, 1994; Moses & Chandler, 1992). Despite that minds are private, EAs claim to be able to know (or at least guess "beyond a reasonable doubt") the contents of others' minds. Malle (1994) showed that American college students even made up reasons for the behaviors of perfect strangers, for example, why a fictional person named Anne invited someone to have lunch with her. Hutchins (1974) reported similar findings, and the postulate is clear also in the literature on attribution. Although they are private, others' minds can generally be known.

Another feature of minds is containment, portrayed in the classic Geertz (1975) description:

> the Western conception of the person as a bounded, unique, more or less integrated motivational and cognitive universe, a dynamic center of awareness, emotion, judgment, and action organized into a distinctive whole and set contrastively both against other such wholes and against a social and natural background. (p. 48)

EAs think minds remain with and inside people.

In addition, in the EA view, minds are mediators between the world and one's response to it. In D'Andrade's (1987) and Wellman's (1990) diagrams, for example, thought mediates feelings or emotions. The external world enters the mind through perceptions, and the mind causes changes in the world through intentions leading to actions. Hence, Davidson (1980) claimed, "the fact that someone sank the *Bismarck* entails that he moved his body in a way that was caused by mental events" (p. 108). How exactly mental substance can cause physical change is hotly debated in philosophy, which is indicative of EAs' folk belief: If EAs did not believe that minds caused events, EA philosophers would not trouble over the issue. This view of mind as a mediator is also a premise of cognitive therapy.

As was mentioned in the introduction, another angle on this

feature of minds is that the EA orientation is subjective: EAs highlight how different people might have different responses to the same objective reality. It is not so much the event itself as the way EAs view the event that influences how they act. In line with this, Flavell, Flavell, and Green (personal communication, May1996) found that adults explain emotions with reference to thoughts. For example, if asked why someone who is brushing her teeth suddenly begins to feel very sad, most adults will refer to a change in her thoughts rather than a change in situation.

Importance

If one accepts the premise that a large vocabulary for a given area indicates that the area is of great import in the culture, it would appear that psychological states are of great import to the EA. Over 2,000 English words are devoted to the emotions alone (Wallace & Carson, 1973). In one simple procedure of asking participants to describe how advertisements might cause people to buy certain products and where using a variety of terms was not even a goal, 20 American participants yielded over 250 different psychological terms (Friestad & Wright, 1995). In keeping with this, EAs pay and assume others pay a great deal of attention to minds. Lewis and Mitchell (1994), in the introduction to their recent edited volume, wrote that "over the past couple of decades there has been an increasing consensus that our [EA] passion for dwelling upon psychological matters forms a central part of the human condition" (p. 1).

The mind's importance is also evident in that intentions, which arise from minds, figure importantly in how EAs view people's actions. Some examples of this are unintentional fouls in sports, charges of manslaughter versus murder, and "I did not mean to" as a means of redemption (Shantz, 1983; Shaver, 1985). Also indicative of the mind's importance is its relation to the self: EAs value knowing themselves and others at a psychological level (the Christian goal to "know thyself" vs. the Buddhist one to "forget the self"). This is reflected in EA psychologists' interest in the self-concept (Neisser, 1993).

Summary

From the available data on the EASSM, the mind is considered to be the seat of mental processes and states, including intention and thereby action. It is equated with the self and is distinct from the body, while being identified with the brain. The mind is a mediator and a subjective processor: How one perceives events is more important than the events themselves. EAs believe that they can and should know minds, and they go so far as to base legal decisions on these estimations of others' intentions.

Other Cultures

Below, I consider variation from this characterization of the EA mind concept. First, two specific cultural views of minds (or the concept that seems closest to mind) are discussed, touching mainly on function and characteristics. Then discussion turns to identity and importance of mind in several cultures.

Two Variations From the Mind Concept

Illongot. Rosaldo (1980) described in great detail the Illongot (a tribe in the Philippines) concept *rinawa*, which is the closest concept in their culture to the EA concept of mind, although its physical identity is with the heart. *Rinawa* "unites concerns for thought and feeling, inner life and social context, violent anger, and such desirable consequences as fertility and health" (p. 26). The first three of these certainly apply to the EA concept of mind, but social context is not highlighted in the EA conceptualization. Furthermore, violent anger would seem to be mindless in the EA view, and fertility and health might be influenced by mind but are not typically seen as central functions of mind.

In addition to its functions being more numerous than those which EA folk psychology applies, *rinawa*'s characteristics are in some ways very different: It can leave the body during sleep, it animates the body while alive, and it gradually leaves over the life course, making it thin in older persons. Even plants have *rinawa*, but processed rice has had its *rinawa* removed. In these senses, *rinawa* seems more like a general life force. The Illongot truly have a different concept of mind in terms of its physical identity, functions, and characteristics, although in some ways it overlaps with the EA concept. Regarding importance, the Illongot concept is also very different in a way that highlights the social context feature noted above. "The importance of heart and feelings in Illongot accounts of action had more to do with general notions of vitality, conflict, and cooperation than with a 'psychologistic' sense of persons" (Rosaldo, 1980, p. 45). What is important for Illongots is not what goes on in the *rinawa* but rather what happens between people. The focus is not on a world of discrete selves containing mental worlds but on relationships.

EA history. The concept of mind has differed even over time in the EA tradition (Olson, 1994). In old English, mind appears to have denoted something closer to what EAs now would call *soul.* The word *psuche* in ancient Greek also translates better as soul (Wilkes, 1988), although it is often translated as mind. The EA sense of mind has, in contrast, lost all connotation of soul. According to Snell (1953), the Greek psyche is the life force that leaves the person (through the mouth, like breath) at death but also exits during loss of consciousness. This seems closer to the Illongot *rinawa* than to the EA concept of mind.

Another characteristic that appears to have changed is the EAs' tendency to view the mind as one entity. For example, one says, "I changed my mind," not "I changed my prefrontal cortex." In contrast, Homeric Greeks used several different words referring to different parts of the mind (foreshadowing modularity). For example, the *thymos* was apparently the generator of motion, whereas the *noos* caused ideas and images (Snell, 1953). Furthermore, as expanded on in Attribution: From Mind to World, ancient Greeks appear not to have thought of the individual mind as the source of all the individual's actions as EAs do (Taylor, 1989). Rather, some human activities were the responsibility of the gods.

Summarizing historical change in the EA concept of mind, one might say that over time, the EA mind has become a unitary concept, has lost much of its spiritual connotation, and has come to have an especially strong (although not exclusively) rational

connotation. Wilkes (1988) placed the burden of this last change on Descartes, claiming that his writing brought EAs to see the mind as a private internal theater, whose main function is thought (see also Taylor, 1989).

Identity

As noted earlier, in EA culture it seems mind is equated with self, is internal, and is generally contrasted with body.

> In our languages of self-understanding, the opposition "inside–outside" plays an important role. We think of our thoughts, ideas, or feelings as being "within" us, while the objects in the world which these mental states bear on are "without." (Taylor, 1989, p. 111)

The person is in a sense split into two main parts, mind and body, and the self goes with the mind in transplant situations.

However, in Japanese this dualistic split is apparently not made. There is no clear, single division between mind and body, and self is not solely identified with mind. Instead, there are several graduations in Japanese words referring to various inclusions of mindful, bodily, and spiritual aspects of oneself (Lebra, 1993). *Kokoro*, sometimes translated as "heart, feeling, spirit, intention, will, mind" is best translated as "the embodied mind" (p. 63), according to Lebra, in part because it has a strong emotional component that is usually not considered part of the more rationalistic EA mind concept. For EAs, minds interpret events and thereby give rise to emotions, but their primary force is in cognition. Rather than being placed with a thinking head, *kokoro* is located in the heart and has strong links to blood and genes. Moving along a continuum from *kokoro* toward ethereal or spiritual selves are the terms *hara*, "the vital center of the body–mind"; "inner state" or *ki*, which "circulates throughout a person's body–mind" (p. 64); and *seishin*, which is even more closely linked to spirit. At the other end of the spectrum, *mi* refers to the body, but it is a body permeated with mind, combining "spirit and body, mentation and sensation, the conscious and unconscious . . . not a fixed entity but a 'relational unity' which emerges out of involvement with other (persons or things)" (p. 65). This is clearly different from the EASSM of the mind, not simply a difference in emphasis. These distinctions fit into an entirely different conceptual landscape.

Variation in Attention and Importance

The next matter of consideration is the amount of attention paid to minds, the internal–agentive aspects of people. One limitation of the evidence in this section is what people are willing to discuss. Although, as seen later, in many cultures people refuse to talk about others' minds, this does not necessarily mean that people in those cultures never think about others' minds. Evidence on that issue is not available. What is available are many reports of a strong sense of minds being very private relative to the EA view of minds and their being less available as a topic for public discourse.

One source of evidence for the importance EAs place on minds is the large and varied vocabulary EAs use to refer to emotions and other mental processes. The Chewong of Peninsu-

lar Malaysia contrast sharply in this regard. Howell (1981, 1984), over the course of 17 months among the Chewong, made concerted efforts to discern all Chewong mental process terms. These efforts brought to light only 5 such terms, translated as *want, want very much, know, forget,* and *miss or remember.* (Note that *think* is not even among them.) In addition, Howell learned of 23 words referring to emotions, traits, and bodily states. These are paltry numbers as compared with over 2,000 English words for emotions alone. Howell (1981) wrote "whereas Western cultures encourage the doctrine 'know thyself' from which we have a rich and varied vocabulary to express our inner states, the Chewong seem to take a contrasting view, namely 'suppress thyself'" (p. 141). It is not that the Chewong are absolute behaviorists: They do have some mental state terms. However, relative to the EA culture, there is certainly much less emphasis on minds.

According to the LeVines (R. A. LeVine, 1984; S. LeVine, 1979), the Gusii prefer to discuss overt behavior, and they avoid talking about intentions and other aspects of mind: "Their habitual mode of expression was to describe actions and events . . . leaving out their personal reactions, opinions, and judgments" (S. LeVine, 1979, p. 358). Even a question like "How are you?" is interpreted to be one about material welfare rather than about psychological state.[3] This is reminiscent of the Soviet peasants interviewed by Luria (1976), who, when asked "What kind of a person are you?" (p. 148), referred to how much clothing they owned.

Privacy of minds, and their sometimes accompanying insignificance, is expressed for many other cultures. Selby (1974, cited in Shweder & Bourne, 1984) explained the Zapotec (from Oaxaca, Mexico) expression, "We see the fact, but do not know what is in the heart" as "they do not have to know what is in the heart, because it isn't defined as being very interesting and it shouldn't have anything to do with human relations" (p. 190). Fajans (1985) described the Baining of Papua New Guinea as having no folk psychology,[4] in that they rarely comment on reasons for actions, even their own. Ochs and Schieffelin (1984) described the Kaluli (Papua New Guinea) as saying that "one cannot know what another thinks and feels" (p. 290). Because of this, they do not fill in children's statements, presuming their intended meanings, as Americans routinely do. For Samoans as well, according to Ochs (1988), minds are unknowable and thus not relevant. Because motives are not important, children in Samoa do not try to get out of trouble by saying, "I did not do it on purpose," as they do in EA culture; instead, they deny having done the deed at all. Paul (1995) claimed for the Himalayan Sherpas "a query . . . about how they attribute intention would yield meager and disappointing results" (p. 19); "they do not, or will not, or cannot talk much in abstract or objective terms about motive or intention in ordinary life" (p. 21). The Bimin-Kuskusmin (Poole, 1985) and the Ommura (Mayer, 1982)—both of Papua New Guinea— and the Kaqchikel Maya (Warren, 1995) are other cultures that are said to view the mind as unknowable and unimportant.

For all these cultures, one would guess that mental states are believed to exist; they are simply not a topic of conversation. By making them a topic of conversation, EAs emphasize them more and prime themselves to consider these states. Also, if another's intent is knowable and discussible, it has a somewhat

different meaning than if it is entirely private. Matters of justice can be decided differently, as indeed they are both in Japanese and in Sherpa courts. There, what counts is coming to an acceptable story, and punishment depends not on intent but on consequences of the act (Hamilton & Sanders, 1992; Paul, 1995). In this sense, intentions are of more and somewhat different import for EAs than for Japanese or Sherpas.

Furthermore, in cultures in which people do not discuss internal states, people are in a position in which internal states must be conceptualized by each person individually. Because there is no cultural dialogue about them on which to build, internal state understanding has to be re-invented anew for and within each person. This could result in possibly much simpler and more individualized understandings of those states.

Implications for the Mindreading Process

The reports just reviewed regarding concepts of mind in other cultures have implications for the mindreading process. If one reads human behavior by recourse to a theory, it is difficult to understand why for some cultures that theory is considered unimportant. Other theories in people's lives, like theories of physics, are certainly open topics for discussion and their import is obvious. Folk psychology should be the same: Everywhere people would be interested in why others behave in certain ways. Their speculations about reasons would at least be acknowledged. Learning more about the meaning of this taboo or de-emphasis and whether others' theories are as elaborate as EA theories would be important to evaluate the validity of the theory theory. There is also support for the theory theory in this evidence. For example, concepts of person that include a soul along with a mind and body appear to be more prevalent in societies in which the external evidence (in the way of more religious emphasis) would supply more of such information.

Simulation theory—the notion that one knows others minds by imagining that one is in their situation—is not entirely consistent with these reports either. For example, why should the Chewong make so few lexical distinctions among mental states? EAs are biologically the same organism and should experience the same mental states; such extreme differences in culturally lexicalized concepts are hard to understand. Furthermore, one wonders how this might effect simulations. Do Chewong simu-

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[3] For both the Chewong and the Gusii, ethnographers discussed what seemed to function in the place of mental state talk. The Chewong have an elaborate system of rules governing behavior; for example, one may never withhold what someone else wants if one has the power to supply it; one must exhibit no overt emotional expression around major life events; and so forth. Such rules may minimize the need to discuss others' mental states. R. A. LeVine pointed to an elaborate, rich, and varied medicine amongst the Gusii. People go often to many different "doctors" to be diagnosed, there are many different diagnoses, and a huge array of medicines are prescribed for treatment. Their "illnesses" include interpersonal problems that could be seen as psychological to EAs, but the source of the patient's problem, like the source of physical illness, is claimed to be a dead ancestor (as is frequent in African cultures; see Fortes, 1987), and the treatment is the same as that for physical illness, generally herbs or sacrifice.

[4] The claim that they have none is probably too extreme, judging by Fajan's own descriptions.

late the same internal states as EAs do or would they, lacking a lexicalized concept for *think*, fail to simulate thinking? In favor of a simulation account, in all the cultures surveyed people appear to acknowledge at least some internal states. If one goes solely by external evidence, failing ever to reference the self, it seems at least some cultures might arrive at behaviorist-type explanations for all behaviors. Simulation provides one explanation for why that extreme case has not been found.

Summary

The EA mind concept may well be culture specific. Other cultures appear to give much more emphasis to souls and seem to have different ideas about the main functions of minds (by including, e.g., health and fertility). Some cultures identify mind with heart more so than with brain, and others do not make the mind–body split. Finally, many cultures do not discuss minds. Cultures that do not discuss mental states either do not overtly explain actions or overtly explain actions as emanating from something besides minds. Alternative ways in which people in different cultures talk about mind–world relations are the topic of the next section.

Attribution: From Mind to World

The EA View

Two aspects of the mind's influence on the world are discussed: that minds are the primary cause of behavior in the EA view and that minds are limited to producing behavior in terms of how they can affect the world.

Minds Produce Behavior

As was mentioned in Mind, intentional action is thought to require a mind and to have its source in minds. For example, most adults claim that a brain (analogous with mind in this context) is needed for simple motor tasks like kicking a ball (Johnson & Wellman, 1982). Malle (1994) found that college students, when asked to explain why someone did something, sharply increased their use of mentalistic (desire and belief) reasons when going from unintentional to intentional behaviors (sweating vs. stealing a pound of peaches). In explaining why advertisements are effective at making people engage in buying, adults tend to resort to psychological explanations, like how the advertisement makes them want the product (Friestad & Wright, 1995).

D'Andrade's (1987) interviewees corroborated this: Complex human actions are assumed to be done to accomplish some mentally specified goal. This view is reflected in philosophy as well, for example, in Anscombe's (1957) observation that desires and intentions have a world to mind direction of fit: The world is altered to fit the representation of the mind. Dretske's (1988) *Explaining Behavior: Reasons in a World of Causes* and Bratman's (1987) *Intentions, Plans, and Practical Reasons* are essentially discussions of mental states and their relation to actions. EA philosophers puzzle over how minds can cause behaviors because EAs generally think they do.

Besides using belief–desire explanations for actions (Malle, 1994), EAs are very likely to use trait explanations (Beavois &

DuBois, 1988; Chiu, Hong, & Dweck, 1997; Gilbert & Jones, 1986; Livesley & Bromley, 1973). For example, if Person B dangerously speeds past Person A on the road, Person A is more likely to infer that Person B is a risk taker across a wide array of situations, and even is interpersonally obnoxious, than that Person B was rushing to the hospital to deliver a baby. This has been referred to as *naive dispositionalism* (Ross & Nisbett, 1991), and it is well documented in the attribution literature. As depicted in Wellman's (1990) diagram (see Figure 2), in the EASSM of folk psychology traits form a backdrop against which beliefs, desires, and other mental processes operate and are importantly linked to behavior.

Limits of Function

In the EASSM, minds (encompassing traits and intentional states) are limited in their scope to affecting the body, which can then change the world. Minds cannot bend forks. In addition, minds cannot act on other minds directly; they can do so only through the sender's body and the recipient's perceptual faculties. In Malle's (1994) study, participants did not make claims such as that the hypothetical person Anne stole peaches because her brother was sending her mental vibes urging that she do so. In EA vernacular, people do sometimes talk of "sending vibes." The actual frequency and content of belief expressed in such phrases would be an interesting topic of study, but such beliefs are not incorporated into the EASSM. Related to this, EAs attribute the source of behaviors to the individual whose body carries them out. One would not say that Anne's brother was temporarily occupying her body, making her steal peaches. As seen later, not all cultures share these limitations in their conceptualization of the powers of the mind.

Other Cultures

Two ways in which other cultures might vary from the EA culture regarding mind to world causation are discussed here. First, behaviors might be attributed to other causes in other cultures; second, for other cultures, minds might not be limited to causing behaviors as they are in the EA culture. Some of these differences are ones of emphasis, whereas others are differences in what is considered possible.

Emphasizing Other Sources of Behavior

Situation causes. As stated earlier, EAs view actions as often attributable to traits of the person (Ross & Nisbett, 1991). Although this attribution pattern is often an error because situations are much more responsible for behaviors than the average EA person is likely to acknowledge, it is part of one's folk theory. Several other cultures have been shown to be much more attendant to situations in discussing the reasons behind others' behaviors. J. Miller (1984) found that adult Hindu Indians tend to attribute behavior to situations, whereas adult Americans tend to attribute behaviors to traits. In one experiment, participants were told stories about various actors, for example, an attorney who left the scene of a motorcycle accident he had caused. Asked to explain the attorney's action, Hindu adults referred

more to his duty to be in court (situation), whereas American adults referred more to his ambitiousness (trait).

The relative preference for situational attribution over trait attribution has also been found for Saudis (Al-Zahrani & Kaplowitz, 1993) and Chinese (Dweck, Chiu, & Hong, 1995a; Morris & Peng, 1994). In one experiment in the latter study, even newspaper accounts of mass murders were found to systematically vary. It is notable that J. Miller (1984) found no such differences in children: Both Hindu Indian and American children tend to make attributions to situations, like the Indian adults. That young American children generally do not discuss people in trait terms is well documented (Shantz, 1983) and has been assumed to be due to their coming to realize something about people. Instead, it appears that the American tendency to attribute behaviors to traits, an important aspect of folk psychological theory, is at least in part a cultural acquisition (Beauvois & Dubois, 1988).

Clearly this is a difference in emphasis, not in possibility. In any of these cases, each culture could probably be pushed to embrace the other's view; probably neither cause is outside of the realm of possibility. Europeans and Americans will behave as situation theorists under some circumstances (Beauvois & Dubois, 1988; Dweck, Chiu, & Hong, 1995b; Elliott & Dweck, 1988), and the same is undoubtedly true of Indians, Chinese, and Saudis regarding trait attributions.

Social causes. Another cultural difference that might be one of emphasis rather than possibility is the degree to which one considers other people to be the cause of one's action. For example, if an Ifaluk person goes into a jealous rage, the person who left her or his valued possessions in plain sight of another is viewed by Ifaluk as being the cause (Lutz, 1985). In EA culture, it seems more likely that the person exhibiting the rage behavior would be seen as responsible because people are primarily in charge of their own behavior. Hamilton and Sanders (1992) provided evidence for this: In assigning responsibility for unfortunate outcomes, Americans do not consider the effect of other people's influence as much as the Japanese do.

For the American Cheyenne, behavior is seen as motivated by relationships more than by individual wills (Straus, 1977). One's actions are generally explained by reference to someone else's actions or to one's relationship with some other ("I hit him because he hit her . . . I drank with him because he is my cousin"; p. 333). Strauss described a social worker's frustration that the Cheyenne do not take responsibility for their actions but instead make excuses. However, Strauss emphasized that these are not excuses to the Cheyenne: They truly are causes. Likewise, Briggs (1970) reported that for the Utku (Northern Territories), actions are explained in terms of other people's desires, not their own. Harre (1981) also wrote that "many travelers have reported the extraordinary degree to which Eskimos seem to be influenced by their fellows. When one weeps, they all weep" (p. 84).

Another slightly different conception of other people as sources of behaviors is stressed by Ochs (1988) regarding Samoans:

> In all kinds of daily activities, Samoans see other people as needing someone else to sympathize with them. Very rarely does a Samoan do something without someone next to her [or him] to provide

recognition of her [or his] actions, attempts, or accomplishments. (p. 199)

Actions are followed with praise, "well done the steering!," which is in turn responded to with "well done the support!" These descriptions converge on allocations of responsibility for actions that emphasize the social more and the individual less than does the EA model. This is probably a matter of emphasis. EAs acknowledge the importance of others in some actions, but it appears that there are notable differences in the stress placed on such influences.

Ethereal causes. The above examples indicate differences in emphasis, with some cultures placing more weight than does the EASSM on situations and on other people as possible sources of action. In other cultures, even more radical ideas than situations are embraced as causes of actions. These stem from different conceptions of reality in which ethereal entities are held to be part of everyday existence.

Ethereal forces were more prominent among the EA's cultural forebears than they are in today's EASSM. One role of the Greek gods was to direct human actions (Olson, 1994; Snell, 1953). According to some, people were not conceived of as ever directing their own acts (Jaynes, 1984). Others, like Taylor (1989), believe that the gods' role was restricted to directing people's unusual acts, infusing them with surges of power. Wilkes (1988) went further and stated that this is the case only for people's most irrational acts. Admittedly, some people within contemporary EA culture would claim that unusual acts (e.g., lifting a car to save a child who is caught under the wheel) are the work of God, but such thinking is not in the social science model of how people explain actions.

Some contemporary cultures also highlight gods' or spirits' roles in human actions. For example, the Newar of Nepal see behavior as being caused by a god rather than by a person's self (Parish, 1991, 1994), although they locate this god within one's own heart rather than externally as did the ancient Greeks. For Tibetan Buddhists, behavior is motivated, not by the mind or rational part of a person (*rigs pa*) but by the *sem* (combining mind with soul, anima, or lifeforce; Paul, 1995). Hence, although the mind is still behind the action, it is a different sort of mind than EAs think of. The Tallensi of Africa, according to Fortes (1987), assign ultimate responsibility for the affairs of their own lives to dead ancestors who are thought to live among them. Although the Tallensi live their lives as though they were in control (Fortes, 1987, p. 202), the final credit for their deeds goes to the ancestors. The Baining appear to accept it as a matter of course that on occasion, ghosts take over one's body and make one do strange things (Fajans, 1985). For the Micronesian Ifaluk as well, behavior can be caused by a spirit entering one's body and taking over (Lutz, 1985). Many more examples of such thinking exist (see Mageo & Howard, 1996, for a few).

It appears, then, that even contemporary cultures converge on extramental sources of behavior that are not considered to be in the realm of possibility in the EASSM described here and depicted in Figures 1 and 2. The EASSM undoubtedly fails to include some EA thought, for example, religious beliefs that great acts were inspired by God or beliefs in witchcraft (Luhrman, 1989), underscoring the point that within culture variability exists as well.

Denying Some Mental States as Causes

In contrast to culling sources of human action that do not appear in the EASSM, other cultures sometimes deny minds' roles when the EASSM would implicate them. As one example, in the EA view, emotions can importantly influence actions (see Figures 1 and 2). An angry person might wave a fist, yell, or seek retribution (Lakoff, 1987). In contrast, Stearns and Stearns (1986) claimed that for Victorians, particularly women, anger was so strongly forbidden that it lost its causal role in their conceptualizations. Rosaldo (1984) described the Ilongots as also failing to involve anger in causal reasoning:

> I recall an incident in which a man whom I had thought to have been frustrated by his "brother's" carelessness in making plans, got drunk and fought with the offender. To me, the deed stood as a clear expression of disruptive feelings hitherto repressed. To the Ilongots, however the fight was seen as nothing more than an unfortunate consequence of drink, which "dissolved" consciousness and in so doing led the fighter to forget bonds with his brother. (p. 144)

Briggs (1970) provided similar descriptions of the Utku. Regarding anger, it is quite possible that what is at issue is moral injunction. Perhaps many people in these cultures know, deep down, that anger incites actions, but there is such a strong moral injunction against acting from anger that the people will not even admit that such a chain of events has occurred. Extreme anger often does lead to irrational behavior. Reflecting the sense that anger is dangerous, for Tahitians it can lead to spirit attack (Levy, 1973). In Bali where there is a high value on emotional control and politeness, even overhearing someone else's angry exchange can cause one physical illness (Wikan, 1989).

In other cases, something besides moral injunction is involved in denying connections between emotion and behavior. For Samoans, emotion is never viewed as a cause of action: "One's actions are seen as evidence of one's feelings rather than as consequences of one's feelings" (Ochs, 1988, p. 146). For example, it is not the case that one feels love, then one gives presents as a consequence. That one gives presents simply goes along with feeling love. Ochs stressed that the meaning of emotion words in Samoan is closely linked to the actions that would accompany them. Children are threatened that they will not be loved if they misbehave, and this is interpreted as "will not be provided for." Emotion and action are part and parcel rather than one following from the other. More interesting, this fits with current functionalist views of emotion (Saarni, Mumme, & Campos, in press). It is also consistent with the reduced emphasis on intention in Samoa. The meaning of an action is its effect, not the actor's intent nor the emotions that led to it.

Implications for the Mindreading Process

For both the theory theory and simulation, it is hard to see how ethereal causes of certain behaviors could be arrived at. Take the act of starting a fire, which an EA would probably ascribe to clumsiness but the Azande might well take to be witchcraft (Evans-Pritchard, 1976). The theory theory holds that human beings are all good scientists, basing their theories on available evidence. Why then would some postulate witches, whereas others from the same evidence postulate internal

causes? Likewise, both cultures should simulate the same internal cause. In support of both theories is the fact that different attribution patterns regarding trait versus situational causes are seen in different cultures. In these cultures, behaviors might really be caused differently (Ross & Nisbett, 1991), with Asians tending to act more from situational pressures and EAs tending to act more from individual inclinations. The two theories diverge with respect to the claim that some emotions, like anger, are not seen to cause actions. The theory theory accounts easily for such evidence: People do not act from anger; therefore, there is no evidence from which to make such assumptions. However, simulations should not differ by culture. When something makes one angry, one should at least desire to act and realize that others who are angry want to act.

Summary

Cultures appear to vary on the basic idea of what causes actions. Whereas the EA attribute actions to the self, including traits and mental states, some cultures see spirits, situations, and other people as more central causes of action. While some of these other causes (situations, other people) are within the realm of possibility but are simply not as emphasized in the EA, others (ethereal causes) result from different notions of reality. As Parish (1994) put it, people live in the world that they imagine. If they imagine spirits are real, then the spirits are a part of their "real world."

Explaining Mental States or Processes

Whereas the prior section concerned how mental states can affect the world, this section concerns how mental states or processes can be affected.

The EA View

What Influences Mental States?

The major way in which the world affects the mind, according to the EASSM of folk psychology, is through perceptions: People see things, hear them, smell them, and so on. These perceptions can then influence people's knowledge, thoughts, emotions, and physiological states (e.g., Davidson, 1980; Dretske, 1981; Fodor, 1984). Hence, Povinelli and Eddy (1996b) wrote that humans "understand that visual perception plays a causal role in creating states of knowledge" (p. 21). In Friestad and Wright's (1995) study on persuasion, participants relayed their belief that consumers' beliefs and desires are influenced by what is seen and heard on television advertisements. Even young children in the EA community have a rudimentary grasp of the relation between perception and knowledge; for example, by age 3, they know that someone who has seen something will know more about it than someone who has not seen it (Pillow, 1989) and that they need to give more information about an object's location when someone did not see it being hidden than when they did (O'Neill, 1996). Although thoughts can be changed by one's own other thoughts, emotions, and so on, the way the world gets into the mind is generally through perception.

Another important aspect of the EASSM concerns how the world influences emotion state. In the EASSM, folk understand-

ing (although debated in the academic realm) is that thinking mediates the relationship between events and people's emotional response to those events. Experimental study shows that EAs believe this fairly early. Seven-year-old children usually realize that a character who wants a Coke will be happy when given a can labeled as *Coke*, even if it does not actually contain Coke (Harris, Johnson, Hutton, Andrews, & Cooke, 1989). As discussed earlier, EAs see mental states as subjective.

Limits of Influence

In the EA view, there are certain limitations regarding what kinds of experiences can influence what aspects of the mind. For example, smelling baguettes does not in general have the effect of making people understand spoken French (unfortunately for the tourists!). In addition, other people cannot change someone's mental state simply by wishing it would change. In one study, Norwegian children did not appear to realize this even at age 6 (Vikan & Clausen, 1993), but as Woolley (in press) asserted "most adults in our culture do not believe that their own thoughts alone may directly cause another individual to feel a certain way or to behave a certain way." In contrast, events can influence emotion but only by way of perception. For example, going to a concert might make one happy, but perceiving music is at the root. A concert that someone did not hear would generally not be thought to affect that person. Another limit on sources of influence is that in the EASSM of the lay view, there is no discussion of ethereal entities influencing minds. In social science accounts of how people represent the world, such entities do not exist; so of course they are not seen as causal influences. All of these matters could be subject to more scrutiny in terms of exactly how frequent deviations actually are, but this does appear to represent aspects of the EASSM as revealed in the literature.

Other Cultures

Other cultures differ from the EA one by expanding the sources of influences on minds. Three additional sources of influence are discussed: unusual acts, ethereal forces, and immanent justice (which sometimes acts by way of specific forces and other times by some mysterious, apparently unanalyzed channel).

Special Acts

In some cultures, one sees radically different ideas regarding how some mental states are caused or altered. Some of these stem from beliefs about specific acts. A case in point is the Maori method for expunging fear. The Maori rid themselves of fear by crawling between the legs of a high-born woman or chief (Smith, 1981). High-born Maori women are thought to carry special energies in their legs, which can remove fear from another person who passes through them (Smith, 1981). Such mechanisms are not supported in the EA view. Reason and knowledge are probably the prevalent EA means to eliminate fears.

Another example of an alternative idea about how to influence a mental state is the means by which the Baining remove *awum-*

buk ("a lassitude that people feel after the departure of visitors"; Fajans, 1985, p. 380): tossing out a dish of water that was left out all night and thereby absorbed the *awumbuk*. Again, an action that an EA would see as completely unrelated to the internal state is seen as affecting it. Whereas for the Maori, an emotion can be removed by special powers; for the Baining, an emotion can be transmuted into what is (at least to EAs) an inanimate substance.

One wonders, in reading of such behaviors, if they are analogous to EAs' "knocking on wood" and other such superstitious behaviors. One cannot know for sure without further study, but against that possibility is that the behaviors fit into a folk psychological framework that supports them, while knocking on wood seems to stand on its own. Maori think of people as composed of energies (Harre, 1981), and it makes sense that one might draw such energies out. The Baining generally externalize what EAs would consider internal, so *awumbuk*, to the Baining, is a heaviness located outside of the person, weighing them down. If one literally thinks of a feeling as outside, why should it not be absorbed in water, just as gases can be absorbed in rocks. In contrast, knocking on wood for luck has little to do with anything else that EAs believe, and there is no causal reason for its effect. However, it is possible also that one could look at the tossing of water or the crawling between legs as ritual acts analogous to Christian communion. For deeply religious people in the EA, such rituals have significance and fit a religious causal framework. Such variation within the EA community has not been adequately explored and is suggestive of the possibility of subcultures within the EA that in some respects more closely resemble other cultures.

Ethereal Forces

For some cultures, spirits can act directly on the mind. Indeed, for many cultures, any disruption of one's internal state is likely to be explained by the powers of spirit forces, for example, among the Balinese (Barth, 1993), Bimin-Kuskusmin (Poole, 1985), Chewong (Howell, 1981), Dinka (Lienhardt, 1961), Ilongots (Rosaldo, 1984), Maori (Smith, 1981), and Tahitians (Levy, 1984). Hardman (1981) described the Lohorung (of Nepal) framework as follows:

> Mental and physical states of individual members are understood primarily in terms of forces outside the individual, such as spirits of the dead, ancestors, primeval beings or the natural world associated with them. Central to the Lohorung conception of the physical and psychological nature of man is the notion that the body is linked to these forces by means of three psychophysical substances, namely, *niwa* [sort of like mind–memory–cognition], *saya* [an ancestral substance], and *lawa* [spirit]. Each one of these is both affected by and can affect a person's relations with the social and the metaphysical world. They are the key notions used to explain and control Lohorung actions and responses, their mental development, behavior, and inner states. (p. 162)

Obviously the framework by which the Lohorung consider influences on the mind is very different from that of the EA. Lohorung might explain feelings of social withdrawal as caused by one's *lawa* having departed, whereas EAs might explain it by reference to a sadness over another event or distraction due

to thinking about a distant matter. A possible cause of psycholog-
ical disruption for the Lohorung is that a dead ancestor is playing
havoc with the disrupted person's *niwa*; EAs would instead
focus on the realm of what is perceptible through the five main
sensory channels.

Perhaps if prompted, Lohorung could explain madness or
social withdrawal in the same terms as EAs do. However, to
say it is possible for someone to access a certain type of explana-
tion when pressed is different from saying that it is what they
commonly do. If pressed, Freudian psychologists might be able
to come up with a behaviorist explanation for someone's behav-
ior, but that is not what they usually do; it is not their emphasis.
The issue is one of use versus availability. The Lohorung use
explanations that EAs do not, and indeed cannot, because the
EAs' set of available explanations for changes in mental states
is smaller than that of the Lohorung.

Immanent Justice

A third way in which the outside world appears to influence
the mind is when one's behaviors come back to one. Many
cultures uphold immanent justice: Murdock (1980) claimed that
in 80% of cultures, illness (mental as well as physical) is seen
as resulting from moral or social transgressions. Indeed, in some
cultures, anyone who suffers from any sort of affliction might
be seen as having done something wrong in the past (karma).
(For several examples of this, see Mageo & Howard, 1996.)

The Cheyenne explain a certain woman's being quick to anger
as being due to her having violated the taboo against looking
out a window at night (Straus, 1977). A trait is caused by what
EAs would see as a completely unrelated behavior. Of the Maori,
Smith (1981) wrote

> they did not consider the emotion of fear to be caused by what we
> would see as a fear-causing event such as a forthcoming battle, but
> rather believed it to be inflicted upon a man by a hostile *atua* [spirit]
> angered by some violation of a . . . rule." (p. 149)

(Recall that they also have an unusual account of how to rid
oneself of fear, an account that makes even more sense in light
of the fear's origin.) This explanation combines spirit forces
with immanent justice, but the moral wrongdoing was what
inspired the spirit.

Oriya (Hindu) adults believe that one's past sins can cause
one to go blind (Shweder & Miller, 1985). A blind widow
interviewed by Candy Shweder exemplified this belief: "I can-
not say which sin I have committed in which life, but I am
suffering now because I have done something wrong in one of
my births" (Shweder & Miller, 1985, p. 44). Abu-Lughod
(1986) related similar thinking among the Egyptian Bedouin.
In the current EASSM, blind or deaf people are not usually
assumed to have caused their state by some otherwise unrelated,
immoral act. But in some other cultures, internal states are
thought to be planted by external forces, often due to some prior
act of the person.

Implications for the Mindreading Process

One issue that arises here is how either simulation or a theory
theory process could arrive at different notions of what a person

is and how people are connected to the world. In terms of
biology, humans are essentially quite similar the world over. If
one learns folk psychology by reading the observable evidence,
it is unclear why the Lohorung would arrive at such different
notions of self than do EAs. Likewise, if one learns psychology
by resorting to one's biological self, then one would expect
notions of the self to be the same in all cultures. Each theoretical
position requires a more careful study of how such different
conceptions could result. Other evidence here supports both
processes, for example, the Baining notion of curing *awumbuk*.
The physical evidence might have first occurred by chance
(someone threw out a dish of water and suddenly felt better).
Then, for the theory theory, evidence would be incorporated.
Once one had such a belief, then the act of tossing out water
might continue to work as a placebo, reinforcing the theory.
Simulation processes might also draw on a chance, first occur-
rence in the culture becoming part of mainstream thought. If
so, then simulation must draw more on sociocultural sources
than has been acknowledged (as in Harris, 1995a); most writing
describes it as a very individualistic process. Researchers need
better accounts of how cultures arrive at ideas like immanent
justice, ethereal forces, and special acts, and they also need
fuller accounts of why such ideas have appeal and exactly what
their prevalence is in their own culture. A recent telephone poll
of 1,018 Americans, reported in *Time* magazine (Van Biena,
1997, p. 73), suggests that about 80% of this cultural group
believes in heaven. Presumably constituent folk psychology-
related beliefs are held as well, but such beliefs have not been
sufficiently probed.

Summary

These different folk psychological accounts all imply a differ-
ent framework for how psychological states and processes can
be influenced. Rather than being triggered by other mental pro-
cesses like perception, mental states are sometimes seen as being
planted, removed, or influenced by special acts, ethereal forces,
or immanent justice. In attributing mental states to other sources,
they expand the circle of possibility beyond those possibilities
acknowledged in the EASSM.

Specific Processes

According to the EA view, the repertoire of the mind includes
many mental states and processes: dreaming, thinking, and so
on. Cultural variability as regards to a few of these (perception,
emotion, and thinking) is discussed below. These particular
mental states or processes were chosen because there are im-
portant data concerning them that was not discussed in the
previous sections. Although these could at times be seen as
fitting into the prior two sections, they are placed here because
they deal more with workings of specific processes than with
the mind in general.

Perception

This section reviews the number of senses lexicalized, how
those senses are ranked, and how they are believed to function,
first for EA and then for other cultures.

The EA View

Several aspects of perception are apparent in the EA view. One is that people have five senses (sight, taste, smell, touch, and hearing), each of which provides different kinds of information. Sight, for example, provides color and form information, whereas hearing provides sound information. An experimental study shows that EA children grasp this by 5 years of age, correctly claiming, for example, that to know a ball was red they would have to see it. Three-year-olds, in contrast, think that one could acquire such information by simply feeling the object (O'Neill, Astington, & Flavell, 1992).

Another aspect of the EA theory of perception is how the various perceptual channels can convey information. Lempers, Flavell, and Flavell (1977) showed that by 2 years of age, children understand a picture must be oriented to the viewer, and Flavell et al. (1991) demonstrated that by age 4 children understand one only sees along straight lines. Yaniv and Shatz (1988) indicated that by age 5, children have quite good command of intensity and proximity thresholds for the various sensory channels. Belief in extrasensory perception was not tested for in this literature, and I think one can safely assume it is not part of the EASSM of the lay theory of perception.

Vision is probably the most prominent sense of the EA. EAs think they can know people best through their eyes ("window of the soul"), and most of their metaphors for understanding are visual ("I see" and "a true visionary"). The literature on children's theories of mind is concerned much more with theories of vision than with any of the other four senses, also suggesting its import. This comes out in theoretical formulations as well. For example, Baron-Cohen (1995) postulated two preliminary mindreading modules, (a) the first of which is concerned with vision, touch, and audition and (b) the second of which is devoted entirely to vision.

Other Cultures

Number of sensory channels. Not all cultures endorse the EA view of five senses. Buddhists consider the mind a sixth sense. Classen (1993) claimed that in premodern Europe, perception was regarded not as a channel through which people receive data but as a mode of communication; therefore, speech was considered a sixth sense. In contrast, for the Hausa of Nigeria, only two senses are linguistically marked. *Gani* refers to sight and sight only; it is not used to denote knowing or understanding. *Ji* refers to hearing, tasting, smelling, touching, feeling in the sense of intuit, and knowing (Ritchie, 1991). Although one can generally tell from context whether something is smelled or tasted, the distinction is not seen as important enough to be marked in the *Hausa* language. Although this is only a linguistic difference, it is the case that language primes concepts. By not linguistically pulling apart smell and taste, one is not marking a conceptual distinction that one probably can make but does not make as often nor as sharply (see The Relation of Language and Thought). These are differences in emphasis because *Hausa* speakers surely can make the distinction. However, it is probably difficult for EAs to make the conceptual leap that makes minds or speech a sixth sense. In the case of speech, this is due to the EA different concept of what a perceptual channel is. In the case of mind, this is probably due to the EA different notion of how minds work.

Operation of the senses. There are important differences in views about how the senses work. In keeping with a view of the senses as communication channels, an early theory of vision was *extramission*, in which a ray emerged from the eye and mingled with objects of perception. Cottrell and Winer (1994) showed that even today, some EA adults hold this theory, but it is not part of the EASSM. The Suya of Brazil have a theory of vision that concerns what enters the eye rather than what emerges from it. Specifically, if one has a "witch thing" enter the eye, one proceeds to see omnisciently; for example, one might see what is happening at distant enemy villages (Seeger, 1981).

The Colombian Desana believe people can hear in an extrasensory way, as when a shaman sends a message by powers of mental concentration (Reichel-Dolmatoff, 1981). One "hears" a message, although it is not heard through publicly available sound waves. In religious thought in the EA, one might also claim to hear a message from God, but this is not part of the EASSM of audition. All three of these examples about how the senses work are not simply differences in emphasis but are clear-cut differences in ideas about how the senses work. They are reminiscent of those expanding the sources of influence on the mind, seen in *What Influences Mental States?*

Ranking the senses. Cultures also vary in terms of how they rank the senses. Vision is predominate in the EA view. Many EA metaphors of understanding are visual ("I see," "the EA view," and "clearly"), and EAs believe that the eyes are the window into true feelings, the soul and the self. In contrast, the Ongee of the South Pacific are said to organize their lives around smell and odors (Pandya, 1987, as cited in Classen, 1993), and even personal identity is wrapped up in the nose. Among the Ongee, one person greets another by asking, literally, "How is your nose?," and one refers to oneself by pointing at the nose. The self is in one's odor, which dissipates during the day but is brought back by one's inner spirit at night; to lose one's odor entirely is to die. The purpose of body paint for the Ongee is not visual but rather to keep one's odor from escaping. The Ommura also give great importance to the nose, seeing it as a barometer of social relations (Mayer, 1982). They have sayings similar to the EA references to "shifty eyes" and "starry eyes," but their sayings refer to the sort of nose one has. One suspects that were the Suya to study the development of social understanding, their most important postulated modules would be concerned with smell.

The Suya of Brazil emphasize hearing: Whereas EAs say "I see," they say "I hear" to mean "I know" or "I understand" (Seeger, 1981). If a Suya knows or has learned something, even a weaving pattern, she or he says, "it is in my ear." EAs can say, "I hear you," but their use of auditory metaphors for comprehension is far less frequent than their use of visual ones. For the Hausa, taste appears to be the most important sense (Ritchie, 1991), and the Desana also pay a great deal more attention to taste in certain domains than do the EA (Classen, 1993).

These different rankings are probably a matter of different emphasis in different cultures, rather than an inability to see things in given ways. It seems that the overall cultural emphasis is on vision but that does not mean EAs do not also at times

prefer smell, taste, or hearing. More interesting, there is some speculation that EAs prioritize vision because in the conditions in which primates evolved, it is logically the most important sense; as evidence to back this assertion, a larger area of the human brain is devoted to vision than to any other sense. However, the cultural variability pointed to here suggests that this ranking is not biologically predetermined.

Summary

There appears to be variation in how the senses are regarded across cultures, in terms of number of senses lexicalized, rank of senses, and constraints on perceptibility. While ranking and lexicalization might influence priming, hence the availability for each of the senses for consideration, ideas about how one can perceive are deeper and more basic. If one can hear in an extrasensory way, different inferences might be made about how one came up with certain bits of information. Despite human bodies seeming to dictate how senses are delineated and how they operate, a fair amount of cultural variation both in emphasis and in ideas about function does exist.

Emotion

There has been a good deal written on emotions across cultures, and I only scratch the surface of that work here, touching on variability in emotion categories, beliefs about sources of emotion, and beliefs about consequences of emotion. Interested readers are referred to (for a few of many examples) Haidt and Keltner (1997), Lutz (1988), Markus and Kitayama (1994), Russell (1991), and Shweder (1995). In this and the following section, rather than present the EASSM view of a number of dimensions and then other cultural takes for each, I present a dimension, then discuss in turn the EASSM view, and then other cultural takes on it.

Emotion Categories

The issue here is whether all cultures acknowledge the same set of emotion states. For example, in discussions of emotions that refer to the EA community, one often reads of a basic set of four to seven emotions, invariably including happiness, sadness, anger, and fear, and perhaps surprise, disgust, and contempt. Further discussions might include a wider array, such as empathy, love, liking, humiliation, respect, and so on. Reviews of the literature (some of which are cited earlier) suggest that EA emotion categories, with the possible exception of the basic ones, are not universal and that there are innumerable ways in which different cultures carve up emotional space. Furthermore, they suggest that this is not simply a lexical issue and that some feelings are not shared across cultures or at least that different cultures stress different emotions. Abundant examples of different emotion concepts are given in the sources cited earlier; I detail just one of these, relevant both to emotion categories and experience, here.

Parish (1991, 1994) and Levy (1984) noted that the Hindu Newar, in Nepal, have an enormous vocabulary lexicalizing many varieties of emotion. One such emotion is *lajya* (pronounced /lud-ja/), which combines what people call shyness,

shame, and embarrassment. Sensitivity to *lajya* makes one a moral and civilized person. It has both feeling and evaluative aspects. It is associated with physiological signs, like blushing and a fast pulse; but it is also something that one has, in the sense that English speakers say one has pride, and that one shows, in the sense of showing loyalty (Menon & Shweder, 1994, reported on the same emotion concept for Hindu Oriyas of India). Lacking *lajya* seems to mean something similar to lacking social sense or integrity. One might have *lajya* because one is poor, makes a mistake, exposes certain body parts, or acts rudely. For example, in covering her face or "ducking" out of a room to avoid contact with certain relatives she is supposed to avoid, a woman is showing *lajya* (Menon & Shweder, 1994). Parish (1991) reported a person saying, "when people say you have no *lajya* you feel *lajya*" (p. 328).

From all this, it sounds as if *lajya* is a negative emotion, associated as it is with shame and humiliation. However, when asked to which other emotion *lajya* is closest, happiness or anger, for Indians of Orissa it is closest to happiness (Menon & Shweder, 1994).

Lajya is a foreign concept to EAs, fitting into an alien folk theory of personhood and behavior. As an interesting note, Abu-Lughod (1986, pp. 103–117) described an emotion experienced by the Bedouin of western Egypt, *hasham*, that sounds quite similar to *lajya*. Like their Hindu counterparts, Bedouin live in an openly hierarchical society in which lower status individuals pay great deference to higher status ones. Perhaps a certain sort of emotional experience arises in such circumstances, but because such circumstances are extremely rare in the EA, they do not identify with, much less lexicalize, the associated feeling.

Lacking or having a given emotion concept probably affects how emotions are experienced, which then reinforces the cultural concept of that emotion. "Our descriptions of experience are in part constitutive of what we experience" (T. Mischel, 1977, p. 6; see also Gopnik, 1993; Markus & Kitayama, 1991; and Schacter & Singer, 1962). Other examples of this concept–experience link are the Utku's lack of anger (Briggs, 1970; because it does not exist in their conceptual system, they do not experience anger as such) and Ifaluk *fago* (the word for *love*, but it is always laced with connotations of compassion and sadness; Ifaluk might feel pity in their love, unlike EAs). Different cultures mark different feeling experiences, which probably in turn mark what are actually felt, which would in turn influence both conceptualization (of major import for the theory theory view) and simulation.

Sources of Emotion

Few studies of adult EA ideas regarding the source of emotion exist (Masters & Carlson, 1984). Those that do exist presume a certain theory about the source of emotion being a perceived event or thought. For example, Izard (1977) showed participants photographs of emotion-expressing faces and asked participants to write about the feelings, thoughts, and actions that would precede this emotional state. Implicit, then, is the idea that feelings, thoughts, and actions precede emotion. As it turns out, adults often refer to thoughts of events preceding emotions (see also Flavell et al., personal communication, May 1996; and Harris et al., 1989).

There are apparently varied ideas about the source of at least some emotions across cultures. Shweder (1994) noted that most other cultures explain feelings with reference to sickness, bewitchment, or suffering. Tahitians often equate sadness with illness (Levy, 1984). Levy (1973) described an incident in which a man is visibly depressed, just after his wife had left him and taken their baby. However, among the Tahitians, he was not seen as being sad over this event but instead was seen as being physically ill.

> He came to my house one day and sat and made small talk for about an hour. Then, with evident embarrassment, he said that he had a question. He said that he had been feeling "not good" and "without energy" and asked me if I had any advice or maybe medicine that would make him feel better. He then said that another thing that bothered him is that his thoughts kept turning back to his [wife] and his child, and he could not seem to do anything about these thoughts; they would not go out of his mind. For [him] the fact that he should be obsessed with his loss seemed apparently to be abnormal and a problem . . . he interpreted his feelings about separation as some vague sort of illness. (pp. 303–304)

Levy gave several other examples of Tahitians reconceptualizing what he took to be sadness as illness. Although sadness for 2 days following a death was taken to be as just that, other instances of sad feelings were taken to be sickness. For example, Tahitians who have moved away from the village where they grew up are not supposed to visit there more than a few days or they will become, not sad, but ill. Stearns and Stearns (1986) described the same for Victorian culture, with anger being often reconceptualized as a symptom of illness. The Toraja (of Indonesia) also associate anger with illness (Hollan, 1996). These examples seem to be not just a difference in emphasis but truly a difference in conceptualization. Issues arise as to whether the concept of a given feeling is the same in two cultures when ideas about its source and cures are radically different.

As an example of explaining emotion as bewitchment, according to the Maori fear is planted by a hostile spirit or *atua* (Smith, 1981). As another example, for the ancient Greeks, Zeus could make one experience feelings of *ate* or insanity (Lloyd-Jones, 1971). Examples relating to explaining emotions with reference to suffering for one's moral transgressions are equivalent to immanent justice affecting the mind, as was discussed in an earlier section. These are all differences more of possibility than of emphasis.

Other differences regarding emotion sources appear to truly be ones of emphasis. In the EA view, emotions can arise from all kinds of events: material, interpersonal, and so on. For some other cultures, such as the Japanese (Markus & Kitayama, 1994), the Minangkabau of West Sumatra (Levenson, Ekman, Heider, & Friesen, 1992), Samoans (Gerber, 1985), and Illongots (Rosaldo, 1980), emotions are said to arise from relationships more so than from events. This affects their location, so that for these cultures emotions exist "out there" with the relationship rather than within the person. In some cases, Samoans do not report experiencing emotions when what EAs would take to be the physiological signs of emotion are clearly present. Gerber observed Samoans as having external signs like flushing as suggestive of changes in internal states, but very few informants would admit these. Levenson et al. found something simi-

lar among the Minangkabau: Electrophysiological signs suggested given emotions, but there was a failure to report them. Perhaps such cases are due to the bodily state apparently arising from making a facial expression rather than in the context of a relationship, where the Minangkabau believe feelings occur. If one fails to conceptualize a situation as possibly eliciting a given feeling, then for such persons the event may not elicit any conscious registering of that feeling.

Consequences of Emotion

Another important issue is what follows from emotions. Two differences are described here: views regarding unexpressed emotions and views about what emotions can cause in the world.

In the EA view, emotions that are not expressed are "bottled up" and are sometimes thought to cause inner "explosions," revealing a hydraulic model of emotion.[5] Among the Ifaluk (Lutz, 1985), however, unexpressed emotions even cause physical illness. People are urged to "cry big" at funerals or else they will get sick later. One should fully express emotions at the appropriate moment and then forget them because another cause of illness is rumination. Although the idea that emotions and illness are linked is not absent from EA medicine (Rodin & Salovey, 1989), this is something of a recent idea and not central in the EA lay conceptualization of emotion. However, considering the EA emergence of this idea, it is probably one of emphasis, not possibility.

A difference in possibility, however, is the belief, held by the Ifaluk (Lutz, 1985) and also the Balinese (Wikan, 1989), that one's emotions can even cause illness in others. For example, for the Ifaluk if one misses one's relatives on another island, one's missing them might make those relatives become ill. This occurs whether the emotion is expressed or not and is clearly different from commonsense EA notions. In the EASSM, it seems one person's emotions cannot cause illness in someone who is remote and unable even to perceive them. Among the EA, the effects of emotions are limited to those who can perceive them, and to perceive another's emotion it must be conveyed through the basic five sensory channels.

Thought

Four considerations regarding how thinking is conceptualized are discussed in this section: thinking as the route to understanding, thought as a stream, thoughts being different from the world, and thought as distinct from feeling.

Thinking as the Means to Understanding

Thinking is the main activity of the mind, its *raison d'être* (Johnson & Wellman, 1982), and a major purpose of thinking is to promote better understanding. When EAs tell people to "use their heads" or that someone "has a good mind," it is with reference to thinking and problem solving, not feeling.

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[5] Exemplifying this cultural view, Saarni (1988, as cited in Flavell & Miller, in press) reported a 13-year-old claiming that someone who repressed his or her feelings would one day "explode, commit suicide, and get emotionally disturbed" (but presumably not in that order!).

This intuition is implicit in Flavell, Green, and Flavell's (1995) studies of children's understanding of thinking. The realization that someone who has a difficult problem to solve proceeds to think about that problem is conceived of as the end point in development.

In contrast, for the Japanese to "understand through the head" (Lebra, 1993, p. 67) is an insult, meaning that one has only a superficial grasp of something. Real understanding takes place at a deeper level. Reflecting this belief is the title of Lewis's (1995) book about Japanese education, *Educating Hearts and Minds*. Although certainly the importance of thinking is not denied, it seems that the Japanese educational system puts more emphasis on feeling and social links than does the American system (Lewis, 1995). Also consistent, Buddhist philosophy, which is very important in Japan, holds that thinking must be done away with for true understanding to arise (Lock, 1981a; Much & Harre, 1994).

However, there is something of the Japanese view in EA culture, in there being a stigma attached to people who are emotionally distant or removed. This is articulated by Lutz (1988), who speculated that in EA cultures people value thought over emotion and emotionality over emotional estrangement. A recent test of this hypothesis suggests Lutz was correct (Dember, Melton, Nguyen, & Howe, 1993). In this experiment, participants rated emotions as "irrational," "inferior," "primitive," "disruptive," "subjective," "fuzzy," and "childlike" relative to cognition. Furthermore, these dimensions were rated as negative relative to the opposite dimensions that characterized cognition, by male and female participants alike. In summary, for the EA thought is emphasized as the means to understanding, whereas for some other cultures feeling is more highly regarded and is thought to be the process that brings one closest to the truth. On this point, there is probably some variation within the EA culture. Although Dember et al.'s results were very strong and did not vary by gender, they were limited to a college sample, and perhaps people seeking higher education put more value on thinking than do others.

Thought as a Stream

The idea that people's thoughts are continuous and streamlike is widely accepted in EA thought, as reflected in Joyce's *Ulysses* and in the writings of William James. Flavell et al. (1995) examined the development of this understanding in children and found that not until the elementary school years do children appreciate that people are continually thinking. However, as Bruner (1995) noted, the idea that thought occurs in a stream is not even universally accepted by academics in the EA culture.

> Dennett (1991) believes that thought is shot full of blank pauses which we fill in. Fodor (1983) believes that the processes that take place inside the thought module are inaccessible to observation altogether. Psychologists of the Würzburg school (such as Ach, 1905) were convinced by their studies that thoughts were imageless. (p. 207)

Flavell et al.'s studies of EA children's concept of thinking seem to be more about children as enculturated beings than about children as objective, unenculturated observers of nature. For such cases, it is likely that culture primes certain ways of thinking about mental processes.

Inner Thought as Distinct From the External World

EA adults appear to be sensitive to thinking as a constructive activity in which an image of reality is built up (Schwanenflugel, Fabricus, Noyes, Bigler, & Alexander, 1994). Likewise, they understand that thinking is selectively guided, mediating input from the external to the internal world (Schwanenflugel, Fabricus, & Alexander, 1994; cf. Griffin & Ross, 1991). Furthermore, thoughts are understood to be different from things in the world (Wellman & Estes, 1986): Minds represent reality. Children appear to realize this by 5 years of age (Moses & Flavell, 1990; Wimmer & Perner, 1983).

As compared with the EA cultures, some other cultures appear to be less attentive to the distinction between thought and world. According to Greenfield and Bruner (1973), for example, "unschooled Wolof children lack Western self-consciousness. They do not distinguish between their own thought or statement about something and the thing itself. Thought and the object of thought seem to be one" (p. 637). It seems impossible that under some conditions, people would not distinguish between, say, a thought of a rock and an actual rock because the distinction is too important for survival. However, it does seem conceivable that some people would be more primed to think about the distinction. As another example, in EA culture people believe that time moves at a constant rate. Although they perceive time to move more rapidly as they get older, most would acknowledge that this is an illusion. Levy (1973) reported that Tahitians do not see it this way. He quoted a Tahitian man:

> Now it is very rapid . . . the month goes very fast. A month is a very short thing. In the old days, people thought it was a very long thing—a month. Now it doesn't take long. We have now a fast epoch. (Do you think they are rapid for everybody here—for children also?) Yes, they are rapid. These days children are very small when they are fourteen years old. In the beginning, in the old days, they were big at fourteen years old. (Why is that?) [he explains that time has speeded up, so children do not have as much time to grow.] (p. 251)

Both that time seems to go faster and that children are not as big as they were when he was small are apparently taken to be objectively correct impressions. Perception is therefore held as reality, so the separation between mind and reality is not as sharp. Levy (1973) gave examples of several other Tahitians reporting this perception that time has literally sped up and that "this is a very fast period" (p. 252).

Cultures that do not ponder minds as much as the EA culture does probably do not draw as sharp a mind–world or thought–reality contrast. It is certainly a matter of emphasis rather than one of possibility. The subjectivity of thinking is not an entirely optional construal because, for survival, one must be able to acknowledge differences between imagined and real situations. When people do not, it is often a case of psychopathology.

Thought as Distinct From Feeling

Although thoughts influence feelings, feelings are seen as different from and as possibly interfering with clean, rational

thought for the EA (D'Andrade, 1995; Dember et al., 1993). Since the time of Descartes (and even Plato), these two aspects of inner experience have been viewed as contradictory, and perhaps EAs have hypercognized (Levy, 1984) the distinction. Several ethnographers claim that the EA thought–feeling boundary is not drawn in all cultures (cf. A. Wierzbicka, personal communication, November 1995). For example, among the Ifaluk, the word *nunuwan* refers both to thoughts and to emotions (Lutz, 1988). Some examples of its use are as follows:

A. said that R. [a pregnant woman] has lots of *nunuwan* because the health aide is leaving on the next ship which is coming and she [R.] *nunuwan* that there will be trouble with the delivery of the baby.

[I was] sitting on the ocean side of the island with T. and after some silence she said, "I have lots of *nunuwan* when I look out over the sea" and then talked about how she doesn't know what she's going to do about adopting out her son who's been promised to a woman on [a distant island].

R. [a woman whose son had just died] asked for L.'s infant in adoption. Although the baby has already been promised to someone else, L. said, "Our *nunuwan* will be good if we give the infant to R." (Lutz, 1985, p. 47)

Poole (1985) made the same point regarding the Bimin-Kuskusmin of Papua New Guinea: Thinking and feeling are not seen as separate processes. Howell (1981) also made this claim in regards to the Chewong as did Roseman (1988, as cited in Russell, 1991) in regards to the Temian.

On the one hand, it seems that in all cultures, people must discriminate the sensory experience aspect of feelings (e.g., a pin prick) from certain types of mental representation, for example, the memory of a pin prick. On the other hand, for some cultures discriminating between feeling sad about an absent relative and thinking about the absent relative are apparently not distinguished. Hence, this appears to be a cultural variation, which is probably a matter of emphasis, with EA culture emphasizing differences between representation and reality and between thinking and feeling, more so than these are emphasized in some other cultures. It is possible that EA forms of schooling, which emphasize abstract, impersonal thought, are largely responsible for these differences. Undergraduates do sometimes write papers about what they feel, and their professors urge them to report instead on what they think. This may reflect variation within the EA community, with highly educated people teasing apart thinking and feeling more so than do less educated ones.

Summary

To summarize, certain aspects of the EA view of thinking differ from those of other cultures. EAs' respect for thinking as a subjective enterprise, their notion that thinking is the road to understanding, and their separation of thought and feeling appear to be optional construals that can receive different degrees of emphasis in different cultures.

Implications for the Mindreading Process

Some of this evidence, like the reconceptualization of sadness as illness, supports both theories. People who are sad are more vulnerable to illness, so the two would be linked both by external evidence and by internal experience. Other evidence, like the idea that emotions are inside versus outside the self, is more difficult to account for. The physical evidence regarding emotional experience is the same, and the simulated experience should be the same in all cultures. The Tahitian's denial that sad events give rise to sadness is also difficult to account for by either process, as is the failure to discriminate thought from feeling. People cannot simply rely on basic physical evidence and arrive at theories about emotion or thought that differ by culture. Nor should simulators arrive at such different construals, unless people are different in these ways; for example, thought is less rational and more feelinglike in some cultures than in others. Culture apparently makes its way into the mindreading process much more than the theories have described.

Summary of the Evidence

Many deviations from the EASSM folk psychology are evident in the ethnographies and experiments reviewed here. Some of these are differences in emphasis, for example, whether behaviors stem more from individual traits, situations, or other people; whether emotions are located in the person or the situation; which sense is most important; how sharply distinguished are thought and feeling; and whether the mind is unitary or modular. Others are differences in possibility, such as whether spirit forces exist and can affect the mind and behavior; whether minds can be omniscient and whether they can affect matter or other minds directly; and whether there are souls and they are free to travel. Not seeming to fit well into either of these categories are differences that stem from radically different conceptual landscapes, like the different aspects of self and mind embraced by the Lohorung, Japanese, and Illongot.

DISCUSSION

The evidence just reviewed points to many cross-cultural differences in theories of mind. These variations are not entirely random but can be clustered into categories, as discussed below. The issues of how such differences might arise and their implications for the mindreading process are revisited, along with speculation on possible universals and directions for further research.

Types of Variation

Four basic types of variation in folk psychological thinking have come to light in this review. These are all of course in the realm of optional construals and can be categorized as attraction to what most EAs would consider magic, unmandated conceptual distinctions, denial of the negative, and varying values. These factors, which are not mutually exclusive, are discussed in turn.

Attraction to Magic

Many of the differences described have to do with cultures varying in the degree to which they accept as real that which EAs would commonly consider magical or fantastic. There are two folk psychology-relevant ways in which an attraction to magic is expressed. One is that human psychology is granted

to entities to which the EASSM would not grant it. For example, in many African cultures, dead people continue to live with their living relatives in some form. They continue to experience the full spectrum of human psychology, like desires and emotions, and are still able to act on the world. The second form of expression is expanding human powers to include features that are not allowed in the EASSM of folk psychology. Examples are assuming people can see or hear in an extrasensory way. Although EAs are certainly not without attraction to magic, it seems muted in EA culture relative to many others. Perhaps as positivist science and its reliance on objective observation dominates a cultural landscape, magical thinking is forced to retreat. However, such thinking certainly is not entirely absent in EA culture, and it would be helpful to know to what degree and among what subsets of the population it exists (see Luhrman, 1989).

Different Conceptual Distinctions

Much of the evidence reviewed here brings to light that some EA folk psychological distinctions are optional. When the available evidence mandates certain distinctions, one expects to see them everywhere. People "carve nature at its joints," as the saying goes. For example, black and white are distinctly different colors, and every culture respects their difference. However, blue and green "bleed" into one another and are not always so sharply discriminated. This appears to be the case for many distinctions relevant to the mind as well.

All cultures deal with the same underlying stuff of human biology, glossed as perceptions, feelings, cognitive states, people, and actions, but they may mark them differently when no specific distinction is mandated. All people surely have thoughts and feelings, but the degree to which these are considered different can vary. In all cultures, most people see, hear, smell, and taste, but it is not required that one always specify through which channel one got some information. For some cultures, this information is unimportant enough that no words have been assigned to it. People might be made up of just a mind and a body; one might add to that a spirit or not even make a sharp mind–body divide. What people are made of is largely an optional construal, perhaps so long as one does not leave internal states, some agency, and at least some link with a body out altogether. Where conceptual distinctions are not mandated by the evidence, one can see variation.

Denial of the Negative

A third class of differences in folk psychologies appears to stem from some cultures denying the negative. In such cases, the alternative construal might not seem like a realistic option, but what is operating is instead strong denial. In reading about Tahiti, one gets the sense that unhappiness is a moral rather than simply an emotional issue. Sadness is bad, and it makes one vulnerable to an attack by evil spirits. Because of this, its existence is denied, perhaps even to oneself. One can make the same case for anger in many societies: It is denied because it can lead to violence and interpersonal harm in the community. The reason others' minds are not discussed in many cultures is perhaps because such a discussion could have negative repercussions

(Paul, 1995). Although such matters can be construed negatively in EA culture, they also have positive sides: People are supposed to know others at a psychological level and are supposed to keep in touch with their feelings and express anger and sadness. Furthermore, there is no fear of evil spirits attacking one for doing these things. In EA culture, even to some extent today, mental illness, depression, and alcoholism are kept under wraps due to their negative connotations. Although few would say alcoholism does not exist at all, its existence might well be denied in particular groups. To varying degrees and for different features of folk psychology, some cultural models apparently function to deny the negative.

Different Values

Finally, for various reasons, different cultures have different values, which lead to differences in folk psychological thought. Although at some level, every culture must acknowledge internal states, some simply do not place as high a value as do EAs on deciphering those states. EAs place high value on knowing minds, on rational thought, and on science, whereas others appear to place higher value than EAs do on privacy of minds, on feeling, and on spirituality. To some cultures smell is more important; to others, vision is.

In summary, differences in folk psychologies can be categorized as some cultures (a) showing different levels of adherence to magic, (b) making different conceptual distinctions, (c) denying what is negative, and (d) ensconcing different values relative to the EA culture. Surely for every culture, there are interesting histories behind all of the variations, which could be traced given the right documentation. Below, I speculate on some possible sources, revisiting some of the sources raised in the introduction.

Sources of Variation Revisited

External Differences Reflecting Internal Ones

Group cohesion, schooling, and the privileging of science over faith are three external differences between the EA and several of the cultures described here that might go some distance toward explaining cultural differences (although they are also reflective of those differences). The first two factors are discussed with reference to individualism; schooling is also discussed with reference to the mind as mediator; and science is discussed with reference to what kinds of entities and forces are believed to exist.

Levels of group cohesion might contribute to differences in folk psychology. In many of the non-EA communities discussed here, people live very close to a small group of others and will probably do so for their entire lives. Paul (1995) suggested that this is one reason some people do not talk about others' mental states: It might disrupt group harmony, which is especially important for a group that will be living out its life together. Group cohesion is also a reason to conceptualize actions as being caused by the collective: If one sees others' acts as being caused by collective influences, it maintains group harmony more so than if it sees others' behavior as caused by individual desires.

Group cohesion probably influences what really causes ac-

tions as well. In collectivist or interdependent (Markus & Kitayama, 1991; Triandis, 1994) cultures, individuals' attitudes are not especially important predictors of behavior because people tend to subsume their desires to externally imposed norms. Ochs (1988) discussed this as well (as have many others): "The emphasis on personal intentions in Western white middle-class society and scholarship is tied to a cultural ideology in which persons are viewed as individuals, who have control over and are responsible for their utterances and actions" (p. 144). These factors suggest possible differences within in the United States. People who remain in the same group for generations might attend more to the collective than do people in more mobile communities.

Another factor that might contribute to differences across cultures is schooling (Greenfield, 1994; Rogoff, 1981). EA schooling might contribute to individualism because in school one is usually judged according to one's own ideas, not the ideas of one's group. Along with promoting individualism, EA schooling might undermine collectivist orientations, for example, by weighing abstract argument over community or family authority. EA emphasis on abstract thinking, in which ideas are removed from their natural context to be considered, discussed, and expounded on, could contribute to subjectivist orientations and to EAs' attention to the mind as mediating events. In contrast, Greenfield (1997) described how she could not get Zinacantecans to discuss the play weaving they did as children until she produced a toy loom. Meaningful conversation about events occurred only in context, not in the abstract. EA-style schooling can be looked at as training in abstraction, and this in itself certainly highlights attention to mind.

Along with promoting individualism and attention to minds as mediators, EA schooling also encourages emphasis on science over faith. If one judges a society by the resources going into particular aspects, the time and resources EA culture pours into science are far greater than those it pours into religion. This is particularly notable in universities, where the many science-related departments enjoy far more generous resources than the (usually single) department of theology. In contrast, when walking through a Sherpa community, one is struck by the omnipresence of evidence attesting to the importance of a spiritual world: prayer wheels at every pass, prayer flags at the gate of every hamlet, and an altar in every home. In Moslem cities and towns, a bell sounds to remind people to kneel and pray several times throughout each day. The EA community (at least its social science arm) chooses to emphasize science where others emphasize faith, perhaps reflecting what share of the EA psychological worlds these aspects take up. Science has not given people evidence for ethereal beings, souls, and so on, and perhaps because of this, there is a de-emphasis on such forces in EA thought, particularly within the academy where scientific thinking is most valued. The external features of group cohesion, schooling, and emphasis on institutions of science over religion might contribute to differences in folk psychology.

Optional Construals

Many aspects of EA folk psychology might be seen as optional construals, not necessitated by reality. Some of these are differences in concepts, where nature leaves open how one

draws categories. EAs divide people into mind and body. But in other cultures, people are *niwa*, *lawa*, and *saya* or *kokoro*, *hara*, *ki*, *mi*, and *seishen*, for example. In others, people are comprised of energies more so than organs, and in yet others, their important part is the nose. Different and seemingly arbitrary decisions like these have ripple effects throughout folk psychology.

Attraction to magic can also be seen as an optional construal and a source of variation. Ideas that the EASSM would classify as magical can be others' reality. One might think that people simply die, or that after death their souls go to heaven, or that after death they stay around, continuing to be involved with the living. One main reason the Gusii do not discuss internal states is that to do so would make them vulnerable to witchcraft (R. A. LeVine, 1984)—a concept that does not exist in the EASSM. Notably, this difference in ontologies is clearly one that exists within EA culture as well but has not received much attention from the social science community. Shirley Maclaine's writings about such matters have been popular, and some EAs pay money to visit psychics and channels and past-lives therapists (see also Luhrman, 1989).

Yet, another optional construal is whether intention is important to evaluate action or whether the action is all that matters. This is related to the idea of there being a private person—a notion possibly traceable to Descartes's theater of the mind. If one operates in a legal system in which intention is important, then it is useful to understand minds. For Samoans, intention is not important in assigning blame; only the actual effect of one's action is considered, so understanding minds is less important. Related to this, once one has a focus on minds, the idea that thoughts mediate reality can flourish.

The importance of the concept of mind for EAs is recurrent in this review. Shweder (1994), in discussing emotion concepts, argued that the contribution of so-called Western thought to (an imaginary) worldwide dialogue is the idea that minds mediate emotions. This insight can be extended across the mental domain (see also Greenfield, 1994). Many other cultures do not appear to appreciate the mind as a mediator in events but understand person–world relations to be much more direct. In this limited sense, adults in other cultures resemble the younger participants in Piaget's (1932) moral reasoning experiments, looking only at how many glasses were broken (the world event) not whether they were broken as a by-product of being good or naughty (the intent). They also resemble Perner's (1991) situation theory in not attending to how mental states intercede between persons and situations. The person is connected to the situation, but the mind is not perceived as an important mediary. Adults in other cultures certainly must realize that people sometimes entertain views that differ from reality, but they may not tend to elevate such understandings to the status that EA adults do. In keeping with this, recall that even within the EA tradition, the concept of mind has over time come to play a more central role. Attention to minds, the idea of a private person, and the notion that minds mediate reality are all optional, and such options are sources of variation.

Implications for the Mindreading Process

This evidence has implications for the process by which people read others' minds. According to the theory theory, people

understand others by recourse to a theory about others' mental states and traits. This theory is developed throughout their lives by examining the physical evidence. For example, after repeated experience with people acting in ways that do not match reality, one comes to realize that others can have false beliefs. However, the evidence presented here points to the importance of including culture as a source of evidence in the theory theory. Once this is acknowledged, it follows that not all cultures share the same theory. The Ancient Greeks believed that gods directed some of their actions, but in the EASSM presented in descriptions of the theory theory (Wellman, 1990), there is no place for such beliefs. EAs conceptualize emotions as leading to anger, but Samoans do not. EAs have certain notions of what the self is and where it is located and what the mind is, which do not correspond to the notions held in other cultures. As Astington (1996) and others have already noted, culture must play into theories of mind (Astington & Olson, 1995; Bruner, 1990; Feldman, 1992; Raver & Leadbeater, 1993; Vinden, 1996).

Wellman (1995; Bartsch & Wellman, 1995) allowed that cultural variation in theories of mind might occur later in development, after a universal theory is arrived at. However, it is not clear why a child would initially ignore aspects of the culture's theory if the child is to learn from culture at all. Certainly children begin picking up other aspects of culture (language, practices) very early, and it makes more sense that they begin learning culture-specific views of mind early as well. Evidence sometimes cited to the contrary (Harris, 1990; Wellman, 1995), suggesting early universal concepts are later replaced by culture-specific ones (Kohlberg, 1966; Mead, 1932), rests on shaky ground (Lillard, 1997). There is no clear reason to suppose that children would initially show privilege to evidence that is universal over evidence that is culture specific in developing an understanding of mind. EAs may well invoke a theory in understanding minds, at least some of the time, but it seems that from the beginning, that is probably a theory that in part reflects culture-specific ideas.

Simulation theory also needs to be revised to better account for cultural variation. How might one possibly simulate that a witch-thing has entered someone's eye and is allowing them to see omnisciently? No one can really see omnisciently; there are basic limits on one's perceptual channels that should exist everywhere, if one really could read others mainly by simulation processes. Likewise, how could some cultures' moral injunctions against anger leading to actions actually cause people not to simulate that anger leads to a desire to act? The actual process by which culture interacts with simulation requires fuller articulation. Harris (1990, 1995a) has done this to some extent, but there is much room for clarification. Perhaps only some aspects of others' mental experience are understood through simulation, such as empathic responses (Eisenberg & Miller, 1987; Goldman, 1995a) but not "cold" cognitive acts like perception and some cases of memory. Furthermore, Harris (1995b) has noted that not all events are understood through simulation. Perhaps omniscient vision is an example of that. Clearer accounts of why some events are understood through simulation and others are not would be helpful.

Possible Universals

Throughout this review, I have pointed out contents of folk psychology portrayed in the theory of mind literature that appear not to hold for other cultures. However, underlying these differences are some bottom-line similarities that might be candidates for universals. Universals might arise because people are biologically predisposed to arrive at them, because of similarities in people that would be noted in all folk psychologies, or (most likely) from some combination of these two reasons. One might look in three places for human universals. First, one might look to the primate literature for innately driven similarities. Presumably, if some facet of mindreading evolved long enough ago to be present in human's nearest ancestors, it should be present in all people. As stated earlier, the current surge of work on theories of mind actually began with Premack and Woodruff's (1978) work with a chimpanzee. More recent work with that species has yielded a picture of chimpanzees as very quick to learn associations and to engage in imitative learning but as having little mentalistic insight, even into such basic factors as the one who sees, knows (Povinelli & Eddy, 1996b; Tomasello, Kruger, & Ratner, 1993).

A second place one might look for human universals is among human infants. This is somewhat problematic. Most of the studies examining human infant's abilities have been conducted with European and American babies. Culture begins to effect humans very early, perhaps even prenatally. For example, researchers know that preterm rocking affects intellectual development (Anisfeld et al., 1993), so in cultures in which babies experience relatively more movement while in utero, intellectual development is conceivably enhanced. It is hard to see how uterine experience could directly effect mindreading capabilities, but there may be indirect effects. Despite this, developmentalists often assume that if an ability is present very early, it is probably innate (Leslie & Keeble, 1987; Spelke, 1991; Wynn, 1992). Although arguments to the effect that early appearance equals innate are problematic, it is reasonable to guess that early appearing abilities are less likely to be culturally specific than later appearing ones when culture has had more time to influence development.

A candidate example is reading intentions, which Meltzoff (1995) has demonstrated may well be present by 18 months of age. In these studies, children watched as an adult tried to do something with a toy but did not succeed. Later, when given the toy, children who had watched the "intention" tended to do with the toy what the adult had been trying to do, whereas children in a control group who had only seen the adult hold the toy did not. Woodward (1997) has obtained evidence suggesting that even 9-month-olds might selectively encode people's intentions, and perhaps infants are "prewired" to perceive human action in terms of intention.

Another development of the first year is the ability to detect direction of gaze (Butterworth, 1994). It is unclear how mentalistic such an ability is, and indeed it is achieved by chimpanzees (Povinelli & Eddy, 1996a). A related but more complex derivative ability is social referencing. By 12 months of age, infants seem to understand that an adult who is focused on a particular object and responding to it with a positive or negative emotion is conveying something positive or negative about that particular object (Baldwin & Moses, 1994; Mumme, Fernald, & Herrera, 1996). The understandings that direction of gaze tells something about focus of attention and that emotional response tells something about that object of focus are acquired early and

are very significant for survival. Indeed, these may even build into language learning, in which infants need to decipher what object an adult is focused on to learn a word (Baldwin & Moses, 1994). These abilities appear early, would be important in any culture, and may not be subject to cultural influence.

A related strategy for seeking universals is to look at young children in a variety of cultures, examining similarities in theories of mind. Unfortunately, very little of these data exist, but what do exist are mostly supportive of the idea that there are some basic universals in folk psychology (Tardiff & Wellman, 1997). Chinese children show an ability to distinguish appearance and reality at about the same age as do American children (Flavell, Zhang, Zou, Dong, & Qi, 1983), and Baka children's ability to understand false beliefs appears at about the same age as does European and American children (Avis & Harris, 1991). Both abilities are thought to tap the understanding that minds represent the world. Perhaps this is a universal development (cf. Vinden, 1996). Likewise in the emotion domain, Borke (1973) found similar patterns of emotion word learning in Chinese and American children. Gardner, Harris, Ohmoto, and Hamazaki (1988) found that Japanese and English children learn the difference between real emotion displays and pretend emotion displays at about the same age. In summary, developments in infants and young children might suggest some universals, although more research is needed.

Third, one might look to folk psychologies in other cultures as sources of evidence for universals, as has been done here. As D. Brown (1991) ably discussed, there are many ways to consider universals in the context of culture. For example, one might refer to statistical universals, in which a trait or complex is more widespread than would be expected by chance, or to conditional universals, which occur when certain conditions exist (Greenberg, 1975). But the concept that is usually referred to by the term *universal* is the definitional one, something that exists in every human culture. Yet, unless one has truly tapped every human society, current and past, one cannot definitively claim universals. However, if something is mandated by biology, like breathing, one can be certain it is universal. Some aspects of psychology probably are so mandated because they are universally experienced and should be relevant to understanding others everywhere, for example, perception, the experience of physiological states like hunger and pain, and the experience of intentional states aimed at alleviating physiological discomfort. In some basic sense, thinking (perhaps combined with feeling) is undoubtedly a universal concept. Finally, the result of perception and inferential thought, namely, knowledge, should also be a universal element in mindreading.

Directions for Future Research

Over the past 15 years, much research has focused on understanding the mind, and much ink has spilled over the process of mindreading. A real drawback in all this research and theorizing is its near-exclusive focus on EA and Northern European cultures. By basing one's conclusions on what is in many ways one broad cultural group, one risks assuming that what is a feature of people is actually a feature of a specific culture. The time is ripe for more studies with infants and children in other cultures. This is certainly a tricky business (Greenfield, 1997),

but if one is to attempt to learn about the human species rather than simply people in a single culture, it is necessary. More systematic studies of adults in other cultures would also be useful. Integrated cross-sectional, cross-cultural designs could provide tremendous insight into the processes of development and enculturation. In doing such work, which should supplement the existing ethnographic evidence, it is essential that research attempt to quantify responses. The assertion that the Sherpas do not give as much weight as do Americans to intention (Paul, 1995), for example, reflects an ethnographer's overall sense; researchers should give carefully constructed, culturally sensitive tests of intent attribution to Sherpas and Americans and compare the results.

In regards to folk psychology within the EA culture, researchers lack sufficient data on people over 5 years old. When they do have adult data, they are sorely lacking in samples of EAs outside of the educated ones they draw from their undergraduate psychology classes. As Cohen et al. (1996) have shown, important variation can exist within a single country and these should be studied with regard to folk psychological thinking. Attraction to magic might be much more prevalent in some corners of people's own culture than the EASSM admits. Hence, normative data on adults and older children from a broad spectrum of EA culture is also needed.

A particularly interesting type of analysis concerns the acquisition of categories in the mental state domain. More careful analyses of the way children acquire words relevant to the mental domain, in terms of cross-cultural regularities and differences, might yield a great deal, as Bartsch and Wellman (1995) have shown for some aspects of early mental state vocabulary. Acquisition of mental state terms poses an especially challenging problem of induction for young children, and detailed analyses of the patterns of that acquisition should be done. In what ways might children have special biases that help them learn mental state terms, as an analogy with Markman's (1989) constraints for learning nouns? Is there an "internal state" bias with regard to people in the same way as there might be a "whole object" bias with regard to nouns? Cross-cultural analyses in this domain might be particularly informative.

Future accounts of both the simulation and the theory theory views of mindreading should address more carefully the issue of cultural variation. Furthermore, one might consider whether in fact both processes operate in any given mindreading event but output different types of results. Perhaps simulation processes lead to emotional responses, whereas theory-driven processes engage in excellent "cold cognition" mindreading.

Conclusion

From the reports reviewed here, there appears to be meaningful variation in the extent to which the mind is a topic for discourse or speculation, in ideas about how the mind operates and the origins of behavior, and in how mental states and processes are conceptualized. Also important, there are similarities; for example, even when ghosts or dead ancestors are postulated, they are often seen as internally motivated actors. Such similarities should be probed and cataloged, but extant differences should not be neglected.

However, as Russell (1991) noted regarding his review of

emotion categories, one's conclusions are only as good as the data on which they are based. Future work must supplement ethnographic reports with procedures yielding better measures of whether and how folk psychologies differ across cultures. In addition, research should aim to specify more fully the range and content of adult EA folk psychological beliefs. Such data will have import, not only for researchers' understanding of the mindreading process and its development but also for their knowledge of the range of possibilities of how human beings make sense of themselves.

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