A folk model of the mind[1]

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A cultural model is a cognitive schema that is intersubjectively shared by a social group. Such models typically consist of a small number of conceptual objects and their relations to each other. For example, Rumelhart (1980), following Fillmore (1977), describes the schema – and cultural model – of *buying* something as made up of the *purchaser*, the *seller*, the *merchandise*, the *price*, the *sale*, and the *money*. There are several relationships among these parts; there is the interaction between the *purchaser* and the *seller*, which involves the *communication* to the *buyer* of the *price*, perhaps *bargaining*, the *offer to buy*, the *acceptance of sale*, the *transfer* of *ownership* of the *merchandise* and the *money*, and so on. This model is needed to understand not just *buying*, but also such cultural activities and institutions as *lending, renting, leasing, gypping, salesmanship, profit making, stores, ads*, and so on.

Cognitive schemas tend to be composed of a small number of objects – at most seven plus or minus two – because of the constraints of human short-term memory (Miller 1956; Wallace 1961). For example, to judge if some event is an instance of "buying" something, the person making the judgment must decide whether there has been a *purchaser, seller*, some *merchandise* with a *price*, an *offer*, and an *acceptance*, along with the appropriate *transfer*. Since all these criteria must be held in mind simultaneously to make this judgment with any rapidity, the criteria cannot exceed the limits of short-term memory.

The number of objects a person can hold in mind at any one moment is limited, but these objects may themselves be complex schemas (Casson 1983). In the *buying* schema, for example, the part labeled *bargaining* is itself a complex schema that involves a *potential purchaser* and *seller*, an *initial price*, a series of converging *bids* and counter *offers*, and possibly a *final agreement*. Through hierarchical organization, human beings can comprehend a schema containing a very large and complex number of discriminations. The amount of work involved in unpacking a complex cultural schema can be quite surprising.

One consequence of the hierarchical structure of schemas is that certain cultural models have a wide range of application as parts of other models.

The cultural model of *money*, for example, has a wide range of application, serving as a part of many other models. Although it is unlikely that anyone knows all the models of any culture, to have a reasonable understanding of a culture, one must know at least those models that are widely incorporated into other models.

A schema is *intersubjectively shared* when everybody in the group knows the schema, and everybody knows that everyone else knows the schema, and everybody knows that everyone knows that everyone knows the schema (the third "knowing" is necessary because although you and I may both know the money is hidden in the teapot, for example, and I may know that you know (I saw you hide the money there), and you may know that I know (you caught a glimpse of me when I was spying on you as you hid the money), yet because I do not know that you know that I know, I cannot assume that your seeing me look at the teapot would tell you that I was thinking about the money. However, when everybody knows that everybody knows that everybody knows, then anyone's glance toward the teapot is understood by all, including the one giving the glance, as a potential reference to the money.

One result of intersubjective sharing is that interpretations made about the world on the basis of the folk model are treated as if they were obvious facts of the world. The spectators at a baseball game all see that a particular pitch, thrown over the head of the catcher, was obviously a *ball*, and so obviously a ball, that one would have to be blind to miss it. Of course, those people who do not know the game of baseball, seeing only the catcher trying to catch something thrown to him, cannot make such an interpretation and do not experience any such fact.

A second consequence of the intersubjective nature of folk models is that a great deal of information related to the folk model need not be made explicit. For example, in describing a game of baseball in which at the bottom of the ninth the score was tied, the bases were loaded, there were two outs, and the count was two and three, the narrator has only to say that the pitch was so far over the head of the catcher that he couldn't even catch it. People who know baseball do not need to be told the pitch was a ball, the ball gave the batter a walk, the walk forced a run home, the run gave the game to the team at bat, and the game was over. The narrator, speaking to someone who knows baseball, can reasonably assume that what obviously must happen (given the rules of baseball) does not need to be stated.

One cultural model with a wide range of application in American and European culture is the *folk model of the mind*. This model can be called a "folk" model both because it is a statement of the common-sense understandings that people use in ordinary life and because it contrasts with various "specialized" and "scientific" models of the mind (see Keesing this volume). This model is widely incorporated in a variety of other cultural models, such as categories of criminal acts, the classification

system found in ordinary language character terms (D'Andrade 1985), categories of speech acts (D'Andrade & Wish 1985), and the cultural model of *commitment* involved in marriage (Quinn 1982) and so on.

An interesting characteristic of many kinds of cultural models is the quality of awareness of the model displayed by informants. In the case of the model of the mind, for example, most informants do not have an organized view of the entire model. They *use* the model but they cannot produce a reasonable *description* of the model. In this sense, the model is like a well-learned set of procedures one knows how to carry out rather than a body of fact one can recount. This difference corresponds to the distinction made in artificial intelligence circles between "procedural" knowledge, such as knowing how to ride a bicycle, and "declarative" knowledge, such as knowing the history of France (Rumelhart & Norman 1981). However, the folk model of the mind does not seem to be a completely procedural system since informants can partially describe how the model operates when asked questions about specific examples.

One issue raised by the attempt to make explicit the folk model of the mind is the question of the empirical basis – the accuracy – of the model. At one extreme, it might be argued that this folk model of the mind is based on "obvious" facts of human experience. That is, one might argue that people can perceive their internal states and processes just as well as they can perceive trees and birds, and so the folk model is simply a description of what is there – perhaps it could not even be described differently. At the other extreme, one might argue that by their nature, internal states and processes are so difficult to perceive that the folk model has no more relation to reality than has the Azande model of witchcraft. Cross-cultural information about folk models of the mind in other cultures is potentially relevant to a resolution of this problem. Some comparison of the model presented here for American-European ("western") cultures and Lutz's Ifaluk material on ethnopsychology are presented in the last section of this paper. At this point, it is sufficient to note that this folk model cannot appropriately be applied under all circumstances; it generally is not thought to apply to such special conditions as "hypnosis," or to various mental disorders such as "psychosis" and "depression." Indeed, it seems that when the model does not apply to how someone is acting, people consider the person to be in an "abnormal" state. Thus, the model seems to act as a standard for determining "normality."

I have found the work of linguistic philosophers, such as Anscombe, Vendler, and Searle, to be very helpful in developing a description of the western folk model of the mind, although sometimes it is difficult to decide if philosophers are describing how our folk model of the mind *is* or how it *should be* (see, for example, Ryle 1948, who did not like the western folk model of the mind at all). Also, philosophers are willing to criticize a folk model with respect to its internal consistency and its logical compatibility with other models in the same culture – a move anthropology

has yet to make (but see White this volume). Work done by Edwin Hutchins in an unpublished paper on how people generate explanations of ongoing behavior has also been very helpful, although the model developed by Hutchins differs considerably from the model presented here (Hutchins, n.d.).

The initial model appears in the next section. It is followed by a summary of the major propositions of the model and a set of interview questions designed to test these propositions, along with illustrative interview responses. The informants were five college and high school students who had never had courses in psychology. The interview material presented here has been selected on the basis of clarity and explicitness. None of the interview material from the five informants contradicted the model, although some of the material could not be derived from just the model given here. In addition, some material from daily life and from literature that illustrates use of the model is presented.

In the last section of this paper, this folk model is contrasted briefly to the scientific models of the mind found in academic psychology and psychoanalytic theory, and then related to a nonwestern folk model of the mind described by Catherine Lutz, with some concluding speculations about cross-cultural similarities and differences.

The model of the mind

The folk model of the mind is composed of a variety of mental processes and states. These processes and states, as indicated by English verbals, are:

a. *perceptions:*
   i. simple state – see, hear, smell, taste, feel
   ii. achieved state – spot, sight, notice
   iii. simple process – look, observe, watch, listen, touch
b. *belief/knowledge:*
   i. simple state – believe, know, remember, expect, assume, doubt, imagine, suspect, recall
   ii. achieved state – understand, realize, infer, learn, find out, discover, guess, conclude, establish, forget
   iii. simple process – reason, think about
   iv. accomplished process – figure out, plan
c. *feelings/emotions:*
   i. simple state – love, like, fear, hate, blame, approve, pity, sympathize, feel sad, feel happy
   ii. achieved state – forgive, surprise, scare
   iii. simple process – enjoy, be frightened, be angered, be bored, mourn, emote
d. *desires/wishes:*
   i. simple state – want to, desire, like to, feel like, need

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    ii. achieved state – choose, select
    iii. simple process – wish, hope for
e. *intentions:*
    i. simple state – intend to, aim to, mean to, plan to
    ii. achieved state – decide to
f. *resolution, will, or self-control:*
    i. simple state – determined to, resolve to
    ii. achieved state – resolve to
    iii. simple process – force oneself to, make oneself, strive

The distinctions of *state* and *process* and the subdistinctions of *achievement* and *accomplishment* are based on the time schema of the verb (Vendler 1967). When we inquire about a process, we ask, "What are you doing?" and the answer is, "I am looking/thinking/enjoying . . ."; that is, one is carrying out a repetitive set of internal actions. When we inquire about a state, we do not ask what the person is ". . . ing," rather we ask "Do you see/believe/like. . . ?" Outside idiomatic use, we do not say, "I am seeing/believing/liking. . . ." Both the state and process occur in time, but a process is something marked by an *iteration* of some action and thus admits continuous tenses.

In many cases, one can treat the same internal events as either a process or state. "I have been thinking about the tie-up on the freeway" references the process of thinking, whereas "I believe we should avoid the freeway" places oneself in a particular state of belief. This semantic distinction indicates that the folk model has two different ways of regarding the mind – as a collection of "internal states" versus a set of "internal processes." A typical illustration of this distinction is the "sleeping person" example: Whether Joan is awake or asleep, we can say she knows the multiplication table, fears nuclear war, probably intends to go shopping this weekend, and so on. But only if she is awake can we say she is calculating the answer to 11 times 15, worrying about nuclear war, planning to go on a trip, and so on. Thus, the mind is treated both as a *container* that is in various states and conditions, thereby having large number of potentialities simultaneously, and also as a *processor* engaged in carrying out certain operations, thereby being limited to a small number of concurrent actions.

Further, states are linked to processes in that typically someone is in a particular state because some process has or is occurring. Thus, John *sees* Bill because he is *observing* Bill; Sally *believes* Lisa is her friend because she went through the process of *assessing* her relation to Lisa and finally *concluded* she was a real friend; and Roger has been *frightening* his cousin, which is why his cousin *fears* him.

There is another relevant time distinction in English verbs based on the notion that certain processes and states are defined by a climax or terminal point that marks the end of the state or process. When such ter-

Table 5.1. *Characteristics of internal states*

Perception	Belief	Feelings	Desires	Intentions	Resolutions
cause outside mind	cause inside mind	cause inside and outside mind	cause inside and outside mind	cause inside mind	cause inside mind
takes simple objects	takes prop. object	takes either	takes prop. object	takes prop. object	takes prop. object
self usually agent	self usually agent	self usually object	self usually agent	self always agent	self always agent
not controllable	usually controllable	usually not controllable	not controllable	controls itself	control of control
count noun	count noun	mass noun	count or mass	count noun	count noun
have many at once	have one at a time	have many at once	perhaps have many at once	perhaps have many at once	perhaps have many at once

minal points define a state, they are called *achievements*. When they define a process, they are called *accomplishments*. For both achievements and accomplishments, we ask, "How *long did it take* to . . . ." Generally, we do not ask how long a simple state or process takes – we do not say, "How long did it take to believe that . . . ." For the simple states and processes, the event is treated as homogeneous across the entire period through which it occurs. Once one begins the process, one is truly in the process even if it is concluded abruptly. Thus, even if one *thinks* for only an instant, one has *been thinking*. However, no matter how long one has been at it, one does not *realize* something until that very moment when the light dawns (Vendler 1967).

There are a number of ways in which the various processes/states differ from each other. Table 5.1 summarizes a collection of these differences.

In Table 5.1, the *resolution* category is almost indistinguishable from the *intentions* category. In general, what appears to distinguish resolutions from intentions is that resolutions are second-order intentions – intentions to keep certain other intentions despite difficulty and opposing desires.

The first distinction in Table 5.1 involves the concept of cause: the idea that certain events are thought to bring about other events. Except in pathological cases, what one sees, hears, and/or senses is understood to be caused by various events and objects external to the mind. What one knows or believes is usually considered to be a creation from within, a result of the operation of the mind itself. What one feels emotionally is more problematic. Sometimes emotions are treated as something caused – at least in the sense of being "triggered" – by external events ("E.T. is so charming I couldn't help liking him.") At other times, emotions are treated

as internally generated by the person ("Thinking about the game made Charley nervous.") Desires, like emotions, are also seen as both internally and externally caused. Intentions and resolutions, however, are treated as directly caused only from within.

Whether caused from the outside or created inside, according to the folk model one is generally aware of what one perceives, thinks, feels, desires, and intends. Of course, sometimes one can see something and not be fully aware of what one saw, or have some feeling or desire about which one is confused, but these are treated rather like problems that can be resolved by turning one's full attention to the situation.

Perceptions, thoughts, feelings, and so on in verb form vary in the kinds of objects they take. There appear to be two major kinds of objects: *simple* objects and *propositional* objects. Simple objects are objects like "cats" and "disasters" – they are things and events *in* the world, not thoughts *about* the world. Propositional objects, on the other hand, are not "things" – they are "thoughts" or "beliefs," such as the belief that there is likely to be a nuclear holocaust. Perception verbs usually take simple objects – we see John, hear about the war, notice a mistake. However, what one believes or knows, wishes or hopes for, aims to do or resolves to do normally involves some proposition about the world. In philosophy, states such as knowing or intending that take propositional objects are called "intentional states" (Kenny 1963). Stative verbs – that is, simple states and achieved states – of feeling and emotion can take either simple or propositional objects; for example, "Tom fears that Sue lost her wallet" *versus* "William is afraid of lightning." In the first case, it is a propositionalized state of affairs (something imagined or thought) that is the object of Tom's fright; in the second, it is an external physical event that causes William's fear. It seems to be the case that feelings and emotions are sometimes treated in the folk model like perceptions that take simple objects and sometimes like cognitions that take propositional objects.

Emotions also differ from the other internal states in that some emotions do not need an object of any kind: I may feel anxious or sad or happy not about anything, but just in general.

Anscombe (1963) and Searle (1975; 1980) have pointed out that there are different "directions of fit" for various internal states. Perceptions and thoughts should fit the world, that is, should correspond to how the world is. But in the case of desires, intentions, and resolutions, it is the world that someone wants to bring to fit whatever state of affairs is represented.

Perceptions, thoughts, feelings, desires, and intentions also differ in their relation to the self. With verbs of perception, thought, desire, and intention, the self is typically depicted as the active agent rather than the passive experiencer. However, one can say "the thought struck me," or "the urge to have a cigarette overwhelmed me," where the self is treated as something reacting to other parts of the mind. In the case of feelings and emotions, the typical verbal form is for the self to be a passive ex-

periencer. Thus, we say that things bother, frighten, and bore us. Another common form is the use of the verb *feel* (e.g., "She feels happy"), in which the emotion is treated as something that produces a sensation experienced by the self. For many emotions, one can use either agentive or experiential verb forms: to fear versus to be afraid, to hate versus to feel angry, and so on.

Even though the self can be treated as the experiencing object of most internal states, the self is always the agent of intentions. Intentions do not overwhelm us, or bother us – intentions are the very core of the active self. The folk model treats the self as an area of focus that can expand and contract, but the limit of its contraction lies outside the core act of intending.

The self is also portrayed as able or unable to control various mental operations. One cannot directly control what one will perceive: One cannot turn the perception of blue to red or round to square under normal circumstances. Thoughts, on the other hand, are considered to be under control by the self: One can choose what one wishes to think about. However, it is acknowledged that sometimes it is difficult to stop thinking about something, especially if there are strong emotional promptings of some sort. Feelings, like perceptions, are not considered to be under one's direct control. One may be able to modify one's feelings by thinking of one thing rather than another, or by engaging in various activities, but according to the folk model, one cannot will one's self to hate or not to hate, to love or not to love someone, or even to enjoy something (but one can try). The situations seem less clear with respect to desires; but overall, they operate with respect to self-control like emotions: There seems to be no way to make oneself not want something or to want something one has no desire for. With respect to intentions, the idea of self-control is redundant since intentions *are* self-control. In intending to do something, we (our self) decide what we shall do.

An important aspect of emotions is marked in the folk model by the categorization of emotions by mass nouns rather than count nouns. In English, a count noun is something that can be numerically quantified – one can have one house, two houses, and so on. A mass noun, on the other hand, does not have the defined edges that make counting possible – one can have lots of money, sand, or anger, but in ordinary talk one does not have two monies, two sands, or two angers. In poetry, one can say "a grief ago," thus, treating "grief" as something countable; but in most discourse, emotions are usually not treated as discrete, quantifiable things – one feels sad, not the third sadness today. Further, like water and color, emotions can blend together, so that one feels several feelings at the same time. This is not true of propositional thoughts – one can have only one at a time, and even though they can get mixed up, they do not blend. Desires, like feelings, can occur simultaneously, and perhaps in some way can blend, but this seems less clearly worked out in the folk model.

In the folk model of the mind, the different kinds of internal states and processes are organized into a complex causal system, described in the next sections.

ACTIONS AND INTENTIONS

Complex human actions are assumed to be voluntary unless something indicates otherwise. A voluntary action is one in which someone did something to accomplish some goal. Given the question, "Why did John raise his hand?" one can answer, "To get the teacher's attention," if it is understood that raising one's hand is a way of getting a teacher's attention. It is unusual for someone to explain an act simply by saying that the *act* was intended: for example, the sentence "John raised his hand because he intended to" sounds odd unless there was some reason to suppose that John might have raised his hand involuntarily – perhaps because his hands were attached to strings that could be used to pick up his hand. Since in the folk model actions do not occur without intentions, and since, following the Gricean maxims, we do not say what is obvious, normally we do not explain an action by saying it was intended.

Anscombe (1963) has pointed out that intentions may be formed either prior to the act or as the act is being carried out. When one turns the wheel of a car in an emergency to avoid an accident, one *intends* to turn the wheel. The action and intention occur together (See also Searle 1980).

INTENTIONS AND DESIRES

Why do people have one rather than another intention? The normal expectation based on the folk model is that people intend to do those things that they desire/want/need/wish to do. The term *desire* highlights the affective aspect of this state ("He felt no desire for a cigarette"); the term *wish* highlights the conceptual aspect ("He wished that he had told the truth"); the term *need* highlights the physical or emotional necessity of obtaining satisfaction ("He needed a drink in the worst way"); and the term *want* appears to light evenly each of these aspects.

A desire may be directly satisfied by some action (e.g., "Susan kissed John because she wanted to") or the desire may be indirectly satisfied by the action (e.g., "Susan kissed John because she wanted to make Bill jealous"). In this example, we explain why someone did something by attributing some want or wish or desire or need to the actor without explicitly mentioning any intention. The intention can be assumed because it naturally follows from what is desired.

Do people have intentions without any kind of wish, want, need, or desire as their cause? Not normally, but it is recognized that sometimes one does something intentionally without understanding why – without understanding what it could be one wants. "I told him I would go, but I don't know why I did – I certainly don't want to go." This is a puzzling state of affairs since intentions are supposed to be connected to desires. When the actor experiences intentions without wishes, it is as if there was a failure in perception. The connection should be there – why can't I see it?

Sometimes people do things not because they want to, but because they have been coerced. "Bill gave the robber his money because the robber threatened to shoot him if he didn't." The conventional analysis of this situation is that although Bill did not want to hand over his money, he did want to continue living, and his desire to continue living was stronger than his wish to keep his money. Thus, the intended act is still based on a wish, but one that is indirectly rather than directly related to the action.

Are desires really different than intentions? Or, are intentions just very specific desires? According to the folk model, desires and intentions are different things, since I may have a wish to visit China without having formed any intention to visit China. One can have desires about which one intends to do nothing. Intentions are like desires in that both have as their objects desired future states of affairs, but in an intention the decision to act has been made.

Nevertheless, it would sound strange to talk about desires that do not become intentions even when all the conditions required to satisfy the desire are present – if I really want to go to China, and the means were available, and there were no drawbacks to going, would I not act on the wish? According to the folk model, I would if I *really* wanted to go to China. But then it would no longer be just a wish – it would also be my aim, goal, intention, decision, to go to China. According to the folk model, desires naturally become intentions under the right conditions.

Desires also have an emotional component, and, as discussed, the self is often treated as the object acted on by a wish (e.g., "The desire for a cigarette overwhelmed me"), but the self is rarely if ever treated as the object of an intention. A sentence such as "The intention to have a cigarette overwhelmed me" sounds wrong.

There is considerable question in the philosophic literature about whether desires have a unique emotional component. Is there a distinct feeling that is desiring, or is desiring simply the anticipation of some specific feelings, or is it a particular characteristic of certain feelings? If "John wants to see Susan," is there a distinct feeling of wanting involved, or is the wanting just the anticipatory enjoyment of Susan's company, the anticipation of not feeling lonely? The boundaries here do not seem to be clearly marked.

One can answer a question about why someone wants something with a means-end formulation - John wants to see Susan because he wants to give her a present because he wants to impress her because he wants her to go with him to the dance because . . . . At some point in the means-end hierarchy, we come to such ultimate wants as staying alive, being happy, and/or avoiding unpleasant feelings. Are these ultimate wants

based really on feelings of some sort, or are they self-causing? The boundaries here are also not clearly marked.

FEELINGS AND DESIRES

Another answer to the question of why John wants to see Susan is "Because he misses her," or "Because he enjoys her company." In these explanations, a desire is causally related to some feeling or emotion (The term *feeling* is somewhat more general than the term *emotion*. "Pain," for example, is usually not called an "emotion," but it certainly is a feeling.) In general, feelings and emotions are thought to lead to desires. If John gets angry, we will wonder what he will want to do about whatever it is that is making him angry. If John is angry because Bill did not help him when he needed help, John's anger may result in his deciding not to speak to Bill, or in his wanting to telling Bill off, or in his intention to wait to get even with Bill (Lakoff & Kövecses, this volume).

The emotion or feeling behind a desire need not be immediately experienced. John might want to see Susan because he thinks he would enjoy meeting her. Here, the feeling is anticipated. Is the anticipation of a feeling also a feeling (attached to a thought), or is it just a thought? Similarly, John might want to see Susan because he thinks one *ought* to visit old friends. Here, what seems to be anticipated is some feeling of guilt if the act is not done. In these cases, the folk model does not seem to be clear as to whether the anticipation also "carries" feeling.

Feelings generally give rise to desires, but does every feeling give rise to a desire? Can one feel sad or angry or happy without it; leading to any identifiable desire? On this point, intuitions differ. However, we do expect that there will be a relation between the kinds of feelings a person has and the kinds of desires these feelings engender: Feelings of anger, for example, are expected to lead to desires that involve destruction or harm, whereas feelings of love are expected to give rise to desires that involve protection and care.

The connection between feelings and desires does not seem to be as tight as the means-ends relation between intentions and wishes. Within broad constraints, there are many possible desires that can result more or less expectably from the same feeling. One reason the connection between feelings and desires is looser than the connection between desires and intentions is that the means-ends relations are located in different worlds. The means-ends relation between desires and intentions is located in the actor's understanding of the external world. If one wants to acquire a million dollars, certain intentions are reasonable - one might decide to buy a lottery ticket, apply for a job at Brinks, or study the stock market, for example. The constraints here are in the understood causal structure of the world - certain things might lead to acquiring a million dollars; other things would probably not. The assumption of the folk model appears to be that the causal structure of the external world affects a person's understanding of that casual structure - however imperfectly - and thereby affects what intentions will follow from what wants.

In the relation between feelings and desires, however, the causal structure is the mind of the individual. Why did John's anger at Bill lead him not to want to speak to Bill, rather than wanting to tell him off, or wanting to do any one of a number of other things? How will telling Bill off affect his feelings? Will he really feel better? The answer to such questions lies in a causal structure that is John's mind. Someone who does not know John can only make a guess based on the assumption that John reacts the way other people do. John himself may not know the answers to any of these questions.

In general, feelings do not seem to be clearly demarcated in the folk model. There are specific emotions, like love, amusement, irritation, and fright, that give rise to various desires. There also are general sentiments such as liking or enjoying something, or disliking something, or being pleased by something, or being made uncomfortable by something, which are given as explanations for desires (e.g., "He wants to go to the game because he likes to watch football.") How are these sentiments related to specific feelings? Some feelings are thought to be pleasant, others unpleasant - the so-called "hedonistic tone" of the various emotions seems well agreed on. Is the unpleasantness of fright a separate feeling that comes with being frightened, or is it simply a characteristic of fright, along with such other characteristics of fright as high arousal, and anticipations of disaster? If the unpleasantness of fright is just a characteristic of fright and not a separate feeling, how about the enjoyment of listening to music? Is that not a separate feeling? These questions have been much debated in philosophy. (For a review of these issues, see Kenny 1963.)

What seems to be the case with regard to the folk model is that sometimes "pleasure," "enjoyment," "liking," "displeasure," "dislike," "anticipation," and so on, are treated as feelings in their own right and sometimes they are treated as characteristics of other feelings. The equivocation of the folk model on this issue may be due to some innate difficulty that human beings have in perceiving the boundaries of feelings. The amorphous nature of feelings, indicated in the treatment of emotions as mass nouns rather than as count nouns, seems to lead to feelings being conceptualized in contradictory ways. This may be why the folk model is also equivocal with respect to whether wishes involve a unique kind of feeling, whether anticipations are also feelings, and whether there are wishes that are not based on feelings. (On the other hand, our experience of the "amorphous nature" of feelings may be due to the vagueness and ambiguity of the model we use to understand them, not to their actual lack of structure. It would be of psychological interest to know which hypothesis is true.)

One interesting aspect of feelings is that they are thought to cause various involuntary visceral responses - turning pale or flushing, trem-

bling, fainting, sweating, for example – although the degree of individual and situational variation in the manifestation of these responses is considered to be very great.

BELIEFS AND FEELINGS

In the folk model, acts, intentions, desires, and feelings are connected in a simple causal chain. There are no direct feedback loops: Intentions do not lead directly to desires, nor do desires lead directly to feelings. We would not explain Tom's desire to go to Spain by saying it was his intention to visit Europe, nor would we explain Howard's hatred of Wimbledon by saying he wished to avoid seeing tennis matches. However, if reversed, these explanations sound sensible: We explain Tom's intention to go to Spain by saying he wants to visit Europe, and we explain that Howard wishes to avoid Wimbledon by saying he hates tennis.

Beliefs, however, are expected to influence feelings, and feelings are expected to influence beliefs. Here, there is a two-way causal relationship. Someone who believes he or she has lost a friend is likely to feel sad. And someone who is sad is likely to think about the time he or she lost a friend and believe the world is a grimmer place.

Even though there is a two-way causal connection between beliefs and feelings, the path from beliefs to feelings is not conceptualized exactly the same way as the path from feelings to beliefs. Feelings and emotions are considered reactions to the world, mediated by one's understanding of the world. These emotional reactions are treated as innate human tendencies, modified in each case by the particulars of experience and character. The causal connection whereby experience – what one believes has happened – arouses feeling is considered to be strong and immediate.

The effect of feelings and emotions on belief, however, is not considered to be as strong as the effect of belief on feelings. Feelings are portrayed as "coloring" one's thinking, "distorting" one's judgment, "pushing" one to recall certain things, confusing one, for example. The image here seems to be of a force which is a sort of perturbation of the medium. One imagines a swimmer caught in a current.

By itself, just the process of thinking is not considered to have much power to arouse the emotions. "Just thinking" about nice things or bad things may have some emotional effect, but we expect such effects to be small except in pathological cases. It is only in its role as the formulator of what one believes or as the interpreter of perceived events that the process of thinking has major effects on feeling and emotion. Thinking is considered a part of how one comes to believe that things are a certain way, and it is to what is believed to be the case that people respond with emotion.

In some mental states, feeling and belief blend together into a single entity. Thus, "approval" is a state that combines both belief and feeling. One cannot say that someone approves of something but has no feeling about it, or that someone approves of something but has no belief about it. Perhaps one can think something is good in some way without feeling anything, and perhaps one can like something without consideration or thought about it. But if one disapproves of something, one does so because of certain things one thinks and because one feels a certain way.

Like approval and disapproval, wonder and doubt also meld together feeling and belief. Related terms, like *anticipation* (discussed above) and *surprise*, may also be used in the sense of a combined feeling and thought, although the affective component seems weaker here (Vendler 1972).

BELIEFS, DESIRES, AND INTENTIONS

Belief also has a two-way causal relationship with the perception of external objects and events. The major direction of causation runs from perception to belief: Seeing or hearing certain things leads me to believe certain things. I see the car go by, so I know (am justified in my belief) that a car went by, and I realize that traffic is still moving. However, belief is not considered just a reflex of perception. People can believe things to be true that they never experienced, and they can even believe they "saw" things happen that did not happen. Perception is not considered an error-free process in the folk model, and belief is often thought to be one reason for an erroneous perception. For example, if I believe that Jim is a bad person, I may perceive his "bumping" into Tom as a deliberate attack although an unbiased observer would have seen only an accident.

In the folk model, beliefs are also causally related to each other: One belief can give rise to another, inconsistency between different beliefs may bring about various attempts to escape from the dilemma and so on. The general interrelatedness of beliefs is indicated in the folk model concepts of inference, evaluation, and judgment, in which a particular proposition is finally accepted or rejected after searching among other propositions for confirming or disconfirming evidence.

Thus, beliefs are treated in the folk model as having causally complex relations to both feelings and perception. The feedback loops in which belief affects feeling, which, in turn, affects belief, and in which perception affects belief, which then affects perception, give the portrayed machinery of the mind a complexity and flexibility it would not have if the causal chain were depicted as running solely in one direction.

Even though the main line of causation in the folk model runs from perception to belief to feeling to desire to intention to action, belief also has a special direct relation to desire and intention. This relation is based on the fact that the states of intention and desire have propositional or intentional objects – that is, they are directed toward the world through the medium of thought, or through framing propositions. One wishes something or another were the case, and the formulation of something being the case is a thought. To want there to be a better world presupposes the mental formulation of the notion of a "better world."

Since what one can desire, wish for, or want depends on what one can think, thought enters directly into wishes, but not in a causal sense. According to this account, cats can wish to catch birds because they can conceive of catching birds, but it is unlikely that cats wish to have souls because it is unlikely that they can formulate the notion of having a soul. Thus, in the folk model the quality of one's wishes depends on the quality of one's thoughts – evil he who evil thinks.

Intentions are, in this regard, like wishes: Any intention takes as its object a state of affairs formulated in a thought. However, there is a further relation between intentions and thoughts in the folk model, which is expressed in the notion of "planning." For example, suppose one wishes to visit Italy and decides to visit Rome during the coming summer. This intention cannot be carried out without further specification of action, which means planning. Such specifications involve working out what means of travel to take, where and when to make reservations, when to leave, where to stay and so on. Planning consists of thinking out a feasible set of actions to accomplish the intention or goal. Once the plan is made, each of the conceived actions becomes a subgoal or subintention, which itself may require more planning before the initiating intention can be accomplished.

The folk model treatment of desire and intention as states that take propositionally framed objects or states of affairs means that what can be wanted, aimed for, and planned depends on what is known, or believed, or understood. There is a further effect here, and this is that since what is wanted, aimed for, and planned are things thought of, one may "deliberate" about these wants, aims, and plans. These deliberations may, in turn, lead to other feelings, such as guilt or doubt, or other wishes, which may counter the original wish, or may involve various second-order intentional states, such as resolution or indecision. Were this feedback loop, in which one can think about what one feels, desires, and intends, not present in the folk model, there would be no mechanism of self-control in the system, and hence we would have no basis for concepts of responsibility, morality, or conscience.

Even though the normal situation is one in which a person can, through thought, intervene between the wish and the intention so that self-control is possible, according to the folk model there are abnormal situations in which either the wish is so strong or the capacity to think and understand what one is doing is so diminished (perhaps because of drugs, fatigue, strong feelings, etc.) that self-control cannot be expected.

Since what one desires and intends are things about which one has a belief or thought, a thought potentially attached to some desire or intention can trigger that desire or intention. If a set of circumstances lead one to realize that one has a good chance of winning a million dollars, one may suddenly discover that one very strongly desires a million dollars.

Here, the causal relation is of a special kind. Thoughts are not considered to have the power of creating desires or intentions out of nothing, only the potential of "triggering" off a preexisting desire or intention (Searle 1980). The chance of winning a million dollars could not set off a great desire for money if one really did not care about money.

The difference between "creating" and "triggering" appears to center on the contrast between making something that did not exist versus activating something that is already present. The difference is not always clearly marked in the folk model: Sometimes emotions, for example, are treated as things "triggered" by experience, and at other times as things "created" by experience. The difference seems to depend on how the person's natural state is characterized: a tiny annoyance "sets off" the anger of people known to be irritable, although it might take an outrageous event to "make" a mild-tempered person angry.

In sum, in the folk model, the cognitive processes of thinking, understanding, inferring, judging, and so on have extensive feedback relations with all the other kinds of internal states. By itself, the thinking process is considered to have only a small amount of power; but as the process by which beliefs are formed, and as the process through which different internal states interact, thoughts play a central role in the operation of the mind. According to the folk model, if the process of thinking or the capacity to think is badly disturbed, persons cannot be held accountable for their actions – they do not know what they are doing. This central role of thought also has the consequence that mental illness in the folk model is considered to be primarily a loss of cognitive capacity (C. Barlow, unpublished data).

OTHER ASPECTS OF THE MIND

The description just presented does not cover all of the material included in the western folk model of the mind. No analysis has been given, for example, of kinds of ability, such as intelligence, creativity, and perceptiveness, or kinds of strengths, such as will power and stability. (A good start on the analysis of these aspects of the mind is presented in Heider's *Psychology of Interpersonal Relations* 1958.) What is attempted here is the description of the most basic elements of the model, elements needed before further analysis can be carried out. Thus, the concept of *intelligence* for example, assumes that the mind includes a process of thinking, and that people vary in the degree to which they can apply this process to certain kinds of problems to arrive at solutions. However, the specific ideas about intelligence held by Americans go considerably beyond the material presented here. Sternberg, et al. (1981), for example, studied folk concepts of intelligence and found that Americans distinguish three major kinds of intelligence, which might be glossed "knowledge about things," "problem-solving ability," and "social intelligence."

Summary of major propositions and interview material

1. Perceiving, thinking, feeling, wishing, and intending are distinct mental processes.

   The best evidence for this proposition is the existence of the semantically different verbal terms for these internal states and processes. Some of the semantic features of these terms are given in Table 5.1.

2. One is usually conscious of what one perceives, thinks, feels, wishes, and intends to do. However, many internal states and processes are indistinct and hard to delimit.

   Q. Could it be the case that someone sees something and isn't aware of what they see?

   A. Yes. You might see a situation and you think it is one thing and it is really something else.

   Q. Can you see something and not be aware that you're seeing anything at all?

   A. You'd better say it again. You lost me.

   Q. Can you see something and not be aware that you saw it at all?

   A. I don't know how.

   Q. Could someone think something and not be aware they thought it?

   A. Yeah.

   Q. How could that happen?

   A. Because your mind is so cluttered with all kinds of things. I'm not aware of half the stuff I think or things that are embedded in there. They sometimes come up and bother me later and I have to sit there and think about it and try to sort out what's the matter, why I can't do something.

   Q. Could you think something was true, believe it, but not know that you believed it?

   A. No, that sounds silly. Sorry.

   Q. Could you have a real feeling or emotion about something and not be aware you have that feeling?

   A. Yes.

   Q. Could you be angry at somebody and not know it?

   A. Yes. But it might come up later and you would realize it.

   Q. Could you be sad and not know it?

   A. You could be any kind of feeling and not know it.

   Q. Is that the way it usually works?

   A. No. Usually you know how you feel. At least a little.

   Q. Could you wish for something, desire something, and not know you wished for it?

   A. Yes, that is definitely true.

   Q. Can you give me an example of how that would work?

   A. Well, let's say I want to play really well in a concert, but it is so deep down that I don't know I want to play really well, but in fact that gets in my way, that wanting to play really well. I just don't let myself play naturally.

   Q. Could someone intend to do something and not be aware they intend to do it?

   A. I think so.

   Q. You sound a little hesitant. Could you intend to go to France and not realize it?

   A. No, not something concrete like that.

   Q. How about intending to get married to someone but you don't know it.

   A. No, that sounds silly. Maybe you could have a very general intention like intending to do well and not know it. But that would be just like wanting to do well. Not something specific.

   Q. How come you can have specific feelings and not know you have them, but you can't have specific intentions and not know you have them?

   A. I don't know.

3. The process of thinking is controlled by the self in much the same way one controls any action.

   Q. Suppose somebody named John can't keep his mind on his homework. What might account for such a situation?

   A. He's got his mind on something else probably.

   Q. Why might he have his mind on something else?

   A. Because the something else is more appealing or more important at the time.

   Q. What can he do about it?

   A. Well, he could either go do something about the thing he's worried about or thinking about and do his homework, or he could force himself to get it out of his mind and then do his homework.

   Q. How do you force something out of your mind?

   A. You have to relax because you can't do anything about the other situation right then. You just have to relax and put your mind to what you are doing.

   Q. What does he have to do to put his mind to what he is doing?

   A. You have to focus it, you have to look at what you're doing, you have to be completely absorbed in what you're doing. You can't be floating around somewhere else. You can't be sitting apart and watch what you are doing, you have to do it.

4. The process of perception is not controlled by the self except in so far as one can direct one's attention toward or away from something.

   Q. If you don't like something you see, or something that you hear, like loud music, or you don't like what you're tasting, what can you do about it?

   A. You can either ignore it or try to change what you don't like.

   Q. If you were tasting something and didn't like the taste, could you just make it not taste so bad by will power?

   A. No, I don't think you could. I mean if it tastes bad, it just does. You either spit it out or you swallow it.

   Q. How about hypnosis? Could somebody hypnotize you so you would think "Oh, this tastes great."

   A. Yes, you could.

Q. How does that work?

A. I don't know how hypnosis works. Sorry.

5. The process of feeling some emotion about something or desiring something is not directly controlled by the self but can sometimes be manipulated indirectly by changing one's environment or what one thinks about.

Q. Suppose you were afraid of heights and wanted to get rid of this fear. What could you do?

A. If it were me, I'd face it. If I were afraid to do something, I'd just go right through it and face it.

Q. I'm not sure whether you're saying you can make the fear go away or whether going through it makes the fear go away.

A. You go through the fear and the fear dissolves, because you realize it's not so bad as you thought.

Q. Suppose you were angry at someone. What could you do to get rid of the anger?

A. Get mad at them.

Q. How does that work?

A. You either start arguing or start picking on the person.

Q. How does that make the anger go away?

A. Because you are venting your frustration.

Q. Then you don't feel so angry?

A. Not really. It sort of half goes away. But it is still kind of there.

Q. How does picking on the person make the half go away?

A. Because you are mad and all frustrated and it's all inside and you have to vent it somehow. Being nasty at the person you think you are mad at helps you let it out.

6. One does not speak of controlling one's own intentions, since when one intends to do something one is controlling oneself.

Q. How does the sentence "John can't control what he intends to do" sound to you?

A. A little odd. How could John control intent? It doesn't make sense.

7. One can perceive many things at once, feel a number of emotions at the same time, and perhaps desire more than one thing at a time. Feelings can blend together. But one can only think one propositional thought at a time or picture one image at a time.

Q. Is it possible to feel sad and angry at the same time?

A. Yeah.

Q. Is it possible to feel sad, angry, and excited at the same time?

A. Yes, that's easy.

Q. Could someone feel something which was a blend of love and fear?

A. Yeah, I guess so.

Q. Could you think about two different things at the same time, like prime numbers and your favorite colors?

A. Yeah.

Q. You could think two different thoughts at the same time?

A. Yeah, I could think all the prime numbers in red.

Q. Can you blend ideas about things?

A. What do you mean?

Q. Well, you gave an example of prime numbers which are red, right? Put them together in a picture. But could you do it just with thoughts?

A. No. It would be a mix up.

8. In English, the self is typically treated as the object or experiencer of emotions (and also physical sensations). The other mental processes typically treat the self as the subject or agent who does the process, but, except in the case of intentions, it is possible for the self to be the object of all the mental processes.

Q. I'm going to read some sentences and I want to know how they sound to you – tell me which ones sound normal and which ones do not. O.K.?

A. O.K.

Q. "John is often threatened by his feelings."

A. Normal.

Q. "John is often threatened by his thoughts."

A. Normal.

Q. "John is often threatened by his wishes."

A. Yeah.

Q. You sound a little hesitant . . . .

A. Yeah, I was hesitating. Because I guess I think of wishes as desires and if you had said "desires," I would have said "yes" right away.

Q. "John is often threatened by his intentions."

A. That doesn't sound right. I can't make it click.

9. Most things that people do – outside of reflex actions like sneezing – they do because of some intention or goal they have in mind.

Q. When somebody does something, do they usually have an intention in mind?

A. Yes.

Q. Are there some things that people do that they don't have any intention in mind when they do them?

A. Yeah, like sneezing or your heart beating; it just goes on.

Q. Like buying a car?

A. No.

10. Why does someone have certain intentions rather than others? One reason is that some intention is a subgoal considered necessary to reach another, more general goal. Another reason is that one wants or desires something, and that is why one intends to do something – to get what one wants.

Q. Suppose John intends to buy a horse. What might be some explanations for that?

A. He could want a horse, to ride a horse, or might want it for his farm for a work horse. Or he might want it for his kids.

11. Not every desire or wish gives rise to action, or the intention to do something. However, if one has an opportunity to do something, and

there is nothing preventing one from doing it like a conflicting desire or an outside force, and one does not even form an intention to try to do it, then one does not really desire it.

> Q. John says he wants to see *Key Largo*. He had a chance to go, but he didn't take it, although he didn't have any reason not to go. What could explain such a situation?
>
> A. I can understand that. I do it all the time.
>
> Q. What could explain such a situation?
>
> A. You just get obstinate. Even though you want to do something really badly, its like there's this part of you that thinks, "I don't want to do it." Sort of like a mule; it justs sits there and doesn't want to go and fights you – I guess your intentions.
>
> Q. O.K., in that case some part of John didn't want to go. But if there wasn't a counterwish, could it be the case that he just didn't go even though he wanted to?
>
> A. That's like a contradiction. Because that doesn't make too much sense. There would have to be a reason why the person didn't do it if they wanted to do it. There'd have to be some reason like that or just a simple reason like they couldn't do it. It wouldn't be that they just wouldn't do it.

12. One often does things one does not wish to do because one has to, or because it is right, or because other people want one to, or because one is paid. In such cases, one wish prevails over another wish – the wish to stay alive, or be a good person for example. One does something one does not wish to do because there is something else one wishes for even more strongly.

> Q. Last night, John said he didn't want to study, but he did. What could explain such a situation?
>
> A. He probably had to. He probably had classes and things to do. I mean, nobody likes to study. So he made himself – he disciplined himself and did it. It had to be done.
>
> Q. O.K. So he doesn't want to study because that's work, but he wants to study to do something – to pass the course or something. So he has opposing wishes?
>
> A. Exactly.
>
> Q. Why did one wish win over the other?
>
> A. I guess because it was stronger for him.

13. Sometimes – but rarely – one does something without knowing why. That is, one does not know what desire or wish leads to the action.

> Q. John stole Bill's socks. Now he says he doesn't know why he did it. Could John be telling the truth?
>
> A. That's an old line. They're trying to get out of it. They know why they did it deep inside and they are trying to hide from it.
>
> Q. You think they really know?
>
> A. They probably have to really dig to find out.
>
> Q. So they might not be really aware of it when they say it?
>
> A. They're not really aware. Maybe they really believe they don't know why they did it.

14. Is every nonreflex act the result of some wish or desire? Probably, but not surely.

> Q. Can one just do something for no reason at all – nothing intended or wanted?
>
> A. Really no reason at all? I'd say there should be some reason somewhere. Otherwise, it's silly.
>
> Q. Could the reason be trivial?
>
> A. Could be trivial, could be anything. But there should be a reason.

15. Why does someone have certain desires rather than others? Some desires are for things that are needed in order to get something else one desires. Some things are desired because they make one feel good, or one likes them, or they are pleasurable. Some things are desired because one is in some emotional state such as anger or love. Some things are desired because one thinks doing those things is right.

> Q. Why do people want things?
>
> A. They enjoy it, it gives them pleasure.
>
> Q. What are some other reasons?
>
> A. Some sort of honor they would receive. Something that makes them good either in their own eyes or makes them feel they're better in other people's eyes.
>
> Q. Could one be in love and not wish to do anything about it? Not have it give rise to any kind of wish?
>
> A. Not in my movie.
>
> Q. Could you be angry and not have it give rise to some wish to do something?
>
> A. I guess not.
>
> Q. Could one be afraid and not wish to do anything?
>
> A. If you're afraid, you might just want to stay still and be safe and you wouldn't want to do anything.
>
> Q. But then you are trying to be safe, you want to be safe.
>
> A. Yes, so that's wanting something.
>
> Q. Could you be sad and not want to do anything?
>
> A. Yes. You're just all despondent. Just sitting there. I guess that is sort of doing nothing.

16. Most feelings are either pleasant or unpleasant. (Most events give rise to some feelings – so most events are either pleasant or unpleasant.)

> Q. Do people have feelings which are neutral – neither pleasant nor unpleasant?
>
> A. No.
>
> Q. Can you always tell if a feeling is either pleasant or unpleasant?
>
> A. Not at first. Sometimes it's unpleasant at first and then it changes.

17. Feelings and emotions are primarily reactions based on one's understanding of events. But sometimes there is a lack of fit between one's understanding and what one feels – either the amount of feeling is disproportional to the experienced event, or the kind of feeling is incongruous with the nature of the event.

> Q. What are some things that might make a person feel sad?

A. Somebody dies. Or you forget really important things you believe in, and suddenly it comes back to you, it can make you sad because you forgot it and you separated yourself from it.

Q. What about anger?

A. Frustrating kinds of things that you can't do anything about, like work or your boss is always picking on you.

Q. What about fright?

A. Well, anything can make you afraid. I mean, just a scary movie or something like that.

Q. Could you feel sad even though nothing happened?

A. Yes.

Q. Could you feel angry even though nothing happened?

A. No.

Q. Could you feel happy even if nothing happened?

A. Sometimes I read something and I'm happy, or I think about something that makes me happy. Does that count as something happening?

Q. Yes.

A. Well, then "no" for all of them. You can't just sit there and have a feeling.

Q. Could someone feel sad if only a minor thing happened, like seeing a child drop a piece of candy?

A. Sure.

18. What one believes and knows influences how one perceives the world.

Q. Two people watch an argument between a policeman and a taxi driver. One of the watchers says it was almost a fight. The other onlooker says it wasn't serious at all. How could you explain this difference?

A. They have different ideas about what serious is.

Q. Suppose they both mean by serious that there was almost a real fight?

A. Well, if it was obvious one way or the other, I don't know. That's like disagreeing on whether something is blue or red.

Q. Well, suppose it wasn't that obvious?

A. Well, maybe one of the watchers knew the taxi driver, and the other didn't.

19. One can affect one's feelings just by thinking about certain things rather than other things. However, the degree of influence here is weak.

Q. If one wants to change one's feelings, say if one feels sad and wants to feel more cheerful, what can one do?

A. If you're sad and you want to feel cheerful, you can go out and do something constructive or active or something you would feel cheerful about.

Q. Could you just think about something and make yourself feel more cheerful?

A. Yes.

Q. Does that always work?

A. No, sometimes it does.

Q. How come it doesn't always work?

A. Because maybe your sad thing is too hard to get out of your mind by just thinking about something else.

20. What one feels also influences how one thinks. Feelings may sometimes stimulate one to think in certain directions, or block thinking about certain things, or even completely wipe out the ability to think.

Q. If you felt very angry, or very frightened, could it affect how you think?

A. Yes.

Q. Would it make your thinking better or worse or what?

A. Worse. It could affect how you think about a person for the worse so you just see one thing about the person, like if you are very angry. You don't even want to think about the good parts of them.

Q. Is everyone the same about this?

A. I don't know.

21. Sometimes, what one thinks and what one feels fuse together into a single response, as in approving of something, or wondering about something.

Q. Can someone approve of something, yet not have any feelings about it?

A. No. If they approve, they approve, and that's a feeling.

Q. Could they approve of something and not have any thoughts or opinions about it?

A. No, if they approve, they approve. Approve is an opinion and a thought.

22. What one believes is strongly influenced by what one perceives. One believes that what one perceives to have happened actually happened – unless there are special reasons to think one is hallucinating, or led by ambiguity to imagine things.

Q. John thinks that UFOs visit Del Mar, because he said he saw one land at the racetrack. What could account for John's opinion?

A. He has an eye problem or he has a big imagination or maybe he really saw one.

Q. Would it surprise you to know that John was a strong believer in UFOs even before he saw one land at the racetrack?

A. No. He probably looks at UFO pictures in magazines and then thinks he sees one in real life. It could happen.

Q. What could happen?

A. You could imagine it. You could have an image so strong in your mind that you see maybe a plane or just a flash in the sky and suddenly your mind just inserts the whole picture there. That happens to me. When you have something strong, you can see just part of it and your mind sees the whole thing right there.

23. Thoughts are related to each other. Sometimes, one thought leads to another; sometimes one recognizes inconsistency between thoughts; sometimes one can figure out something from other things one knows or believes.

Q. Sometimes someone says they didn't know something at first, but then they figured it out. What do they do when they "figure out" something?

A. That's a hard question. They go over a problem in their mind, and

somewhere there is something that will click. They go over it in their mind, and there's a bunch of little things over here that are just maybe unconnected. And they see the connection. I can't explain it.

24. In order to wish for something, or desire something, or intend to do something, one must be able to conceive of that something.
   Q. Could a goldfish wish to discover the theory of relativity?
   A. I don't know. I doubt it. Because a goldfish isn't developed to the point where they could think thoughts like that.
   Q. Is everything you wish for something you can think of?
   A. Yes.
   Q. Could you wish for something you couldn't think of?
   A. It depends on what you mean by "think of." Maybe you could wish for something you couldn't remember very well. You can't wish for something you can't think about.

25. Thinking about something can trigger a wish or desire if the wish or desire is already there – either one already knew that one had the desire, or one realizes after thinking about it that one has the desire.
   Q. If you just think about eating something good, could it make you want to eat something even if you weren't really hungry?
   A. No, not if you really weren't hungry. But you might stimulate yourself by thinking about something if your were just a little bit hungry to really want to eat a certain thing.

26. Since one is usually aware of what one desires and what one intends to do, one can think about one's desires and intentions, plan things, change one's mind, select the better rather than the worse course of action, and in general control one's self.
   Q. How come people have the ability to control themselves, at least some of the time?
   A. The brain sends a message to the body, like to your finger, and it moves. I don't know how.
   Q. How about self-control, like controlling oneself when one is on a diet. How does somebody keep from having ice cream for dessert?
   A. How can I keep myself from having ice cream tonight? I tell myself – my brain told my other brain that I didn't want it. I mean, I wanted to be thin more than I wanted the taste of ice cream in my mouth.
   Q. So it's like you spoke to yourself?
   A. Yes. My bad half was held in by my good half.

27. If one can't think clearly for any reason, one cannot control one's self very well, and one is not fully responsible for what one does.
   Q. What could account for the fact that there are some people who don't seem to be able to control themselves, even when they want to?
   A. They have psychological problems.
   Q. What does that mean?
   A. That means that there is something bothering them, I think. They are all mixed up. They have problems.
   Q. Could you expect someone to control themselves if they couldn't think clearly?

A. No, not really. If you didn't know what was happening and you didn't know what you were doing, there would be no way to get back.
Q. Should a person like that be punished if they did something wrong?
A. No, it's not their fault if they didn't know what was happening.

The interview data collected so far support the major propositions presented here for the folk model of the mind. It should be understood that these propositions are a theory, not a simple description, of what Americans – and probably most Europeans – believe about the mind. The usefulness and validity of such a theory will not be established on the basis of one person's interviews of several informants, but rather on the results obtained across a range of investigators, informants, and kinds of data.

Some idea about the historical depth of this folk model can be obtained from earlier novels and plays. Even though writers of novels and plays do not usually state the propositions of the folk model of the mind explicitly, they do use the model in constructing character and plot, and they sometimes comment on the reactions of their characters to events in very revealing ways. For example, in *Emma*, a novel by Jane Austen published in 1816, there is a description of Emma's and Emma's father's reaction to the recent marriage of Miss Taylor, who had been Emma's governess and companion (1969:17).

She [Emma] had many acquaintances in the place, for her father was universally civil, but not one of them who could be accepted in lieu of Miss Taylor for even half a day. It was a melancholy change; and Emma could not but sigh over it, and wish for impossible things, till her father awoke, and made it necessary to be cheerful.

The tacitly understood propositions here seem to be that "melancholy" is a natural reaction of the experience of loss, and that "sighing" is a natural expression of such a feeling, and further, that the experience of loss and the resulting sadness create a "wish" for something that will remove the sadness, along with thoughts about this "something." Austen (ibid.: 17) continues:

His spirits required support. He was a nervous man, easily depressed; fond of everybody that he was used to, and hating to part with them; hating change of every kind. Matrimony, as the origin of change, was always disagreeable; and he was by no means yet reconciled to his own daughter's [Emma's sister] marrying, nor could he ever speak of her but with compassion, though it had been entirely a match of affection, when he was now obligated to part with Miss Taylor too; and from his habits of gentle selfishness and of being never able to suppose that other people could feel differently from himself, he was very much disposed to think Miss Taylor had done as sad thing for herself as for them, and would have been a great deal happier if she had spent all the rest of her life at Hartfield. Emma smiled and chatted as cheerfully as she could to keep him from such thoughts; but when tea came, it was impossible for him

not to say exactly as he had said at Dinner: 'Poor Miss Taylor! I wish she were here again. What a pity it is that Mr. Weston ever thought of her!'

Emma's father is also subject to the same emotional reaction to the loss of Miss Taylor, but Austen treats him as a person who is emotionally predisposed to such reactions, so that Miss Taylor's marriage easily "triggers" his response. Because Emma knows her father is like this, she acts cheerful. We "fill in" the needed connections – Emma does not want her father to be unhappy, and believes (or at least hopes) that being "cheerful" will, by creating a happy environment for him, keep away his depression and anxiety, and so this wish of Emma's results in her intentionally acting in a cheerful manner. We also understand that Emma has the strength to keep to her intention despite her own sadness.

Emma's father, on the other hand, lacks strength of character. His feelings and desires influence his thoughts inappropriately; his self-centeredness leads him to think that other people feel the same about events as he does – even when this is obviously not the case – and his feelings and confused understanding lead him to think of his daughter's and Miss Taylor's marriages as unfortunate events even for them. Desires and emotions can, according to the model, influence belief, but they should not. A "strong" person does not let feelings and wishes distort reality, but a weak person is liable to.

Overall, reading Jane Austen and other early English novelists, one is impressed with how little obvious change there is in the folk model of the mind in the past 200 years. But at much greater time depths, the implicit connections that knit together actions and reactions in stories are harder to discern, and it is difficult to tell if the difficulty lies in translation, or in a failure to appreciate the cultural understandings about the meaning of events, or in a change in the model of how the mind works (see, for example, the discussion of Achilles in Friedrich 1977).

Another, more modern example of the use of the folk model of the mind: a 7-year-old child and her mother had the following conversation:

Mother: Rachel, you're making me mad!
Rachel: I didn't mean to make you mad.
Mother: Well, you sure seem to be trying.
Rachel: But I didn't mean to. If I didn't mean to, how could I be trying?

Here, Rachel uses the connection in the folk model between intentions and actions. "Trying" is an action undertaken to bring about a particular intention – what one "means to do." Therefore, if there was no intention on Rachel's part to make her mother mad, by definition she could not have been "trying" to make her mother mad. (This example also illustrates nicely the ability of people – even young people – to reason effectively when using a well-understood cultural model. For a nonwestern example, see Hutchins 1980.)

The folk model and science

It is not possible to contrast the folk model presented here with a single scientific model, since there is no one theory of the mind held by all psychologists. There are, however, certain general trends within academic psychology with which the folk model can be compared. Based on an examination of several popular undergraduate psychology texts, it seems that the current academic vocabulary is a blend of folk terms plus the addition of specialized terms. The typical text contains chapters on vision, audition, taste and touch, cognition and memory, learning, motivation, emotion, intelligence, personality, and mental disorders. The material on vision, audition, taste, and touch is heavily physiological, although various kinds of illusions are discussed in which conscious experience is contradicted by physical facts.

One major disagreement between the folk model and the academic model involves "motivation." Although the term *motivation* has its roots in the folk model, it has come to have a specialized meaning in psychology. Motivation, unlike emotions, desires, and intentions, does not refer primarily to a phenomenological state or process – that is, it is not something primarily defined by the conscious experience of the person. Instead, motivation refers to a condition of deprivation or arousal of the "organism" that is only variably correlated with phenomenological experience. High motivation is likely to result in a person's thinking about the objects that would "satisfy" or "reduce" the motivation, emotional arousal (not necessarily of any specific kind), the experience of desire to do various actions that have led in the past to satisfaction, the formation of relevant intentions, and the carrying out of such actions if given the opportunity. Most psychologists consider motivation to be a real rather than hypothetical state of the person, but not a state that the person is necessarily aware of. The conscious mental states caused by motivational arousal may have some function in directing the final action the person takes, but these conscious mental states are typically considered to be neither necessary nor sufficient conditions for motivational arousal.

The psychoanalytic theorists are also greatly concerned with motivation. Psychoanalytic theorists place more emphasis on motivational conflicts than do academic psychologists and are more interested in how the motivational situation influences thought and feeling through repression, isolation, displacement, denial, sublimation, and other mechanisms of defense. Psychoanalytic theory also differs from the folk theory in that it emphasizes unconscious states. The folk model allows that it is possible for someone to desire something or have some feeling of some kind but not know it, but such conditions are considered atypical. Psychoanalytic theory also distinguishes between two forms of thought – primary process thought and secondary process thought – but the folk model makes no such distinction.

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Even though both the academic and psychoanalytic models modify the folk model, it is clear that these are modifications of an already existing conception of the mind. The general tenor of the academic model is to place emphasis on what can be described physically – hours of deprivation, the neural pathways, peripheral responses and so on – with the hope that the mental states and processes of the folk model will eventually be reduced to a physical science vocabulary and simply ignore those parts of the folk model that cannot now be physically described. For example, until recently, there was a complete avoidance in modern psychology of the term *consciousness* – a process that is difficult to handle within a physical science model. In the past decade, this has begun to change. Sperry (1982:1225), for example, states:

> . . . one of the most important indirect results of the split-brain work is a revised concept of the nature of consciousness and its fundamental relation to brain processing. The key development is a switch from prior non-causal, parallelist views to a new causal, or 'interactionist' interpretation that ascribes to inner experience an integral causal control role in brain function and behavior. . . . The events of inner experience, as emergent properties of brain processes, become themselves explanatory causal constructs in their own right, interacting at their own level with their own laws and dynamics. The whole world of inner experience (the world of the humanities), long rejected by 20th century scientific materialism, thus becomes recognized and included within the domain of science.

Sperry's position does not appear to be the majority position of research psychologists, who continue to carry the hope that the folk model eventually can be completely physicalized without the use of "emergent properties." However, with the rise of modern cognitive psychology, much greater attention has been given to the problem of consciousness, its function, and physical bases (Mandler 1982; Natsoulas 1978).

The situation is quite different with regard to the psychoanalytic model, which considers consciousness, intentions, and the self as things of interest in their own right. However, the conscious mental states and processes are considered to be only a small part of the picture – and not the part where the main action is. Despite the shifts in psychoanalytic thinking from its early days, it has not changed in considering unconscious states and processes to be the center of the causal system.

Thus, even though the academic and psychoanalytic models have their origins in the folk model, both are deeply at variance with the folk model. That is, the folk model treats the conscious mental states as having central causal powers. In the folk model, one does what one does primarily because of what one consciously feels and thinks. The causal center for the academic model is in the various physical states of the organism – in tissue needs, external stimuli, or neural activation. For the psychoanalytic model, the causal center is in unconscious mental states. Given these differences in the location of the casual center of the operations of the mind, the three models are likely to continue to diverge.

The west versus Ifaluk

The American-European folk model also contrasts with the folk models recorded by anthropologists for nonwestern peoples. Recently, Catherine Lutz presented a summary of the ethnopsychological knowledge system of the people of Ifaluk (Lutz 1980; 1982; 1983; 1985; see also this volume). Ifaluk is a small atoll, only one-half square mile in area, located in the Western Caroline Islands of Micronesia. The island was previously studied by Burrows and Spiro (1963). The present population is 430 persons. Most of the islanders are monolingual speakers of a Malayo-Polynesian language. The culture of this small society is distinctive for its strong values on nonaggression, cooperation, and sharing.

The folk model used on Ifaluk contrasts with the model presented here for American-European – or "western" – culture in a variety of ways. However, the general framework of both models is similar. In both models, there seems to be a similar division of internal states into thoughts, feelings, and desires. In the model used on Ifaluk, there is a distinct class of emotion terms, for which a general correspondence to English emotion terms can be found, although the particular blends of affective tone differ from what we find in English. For example, the term *fago* refers to feelings of "compassion," "love," and "sadness"; and although it involves caring about someone, it is also judged by native informants to be semantically similar to words involving loneliness and loss (Lutz 1982). A similar affective blend is found in Samoan for the cognate term *alofa* (Gerber 1975). This particular blend is different from the American English term *love* and its cognates, which do not prototypically involve sadness and loss (but note the sadness of many love songs and stories).

Even though there appears to be an overall similarity between the models in the division of mental states and processes into thoughts, feelings, and wishes, on Ifaluk the distinctions are made much less sharply. The term *nunuwan*, one of the two major terms used to describe mental states (*niferash*, "our insides"), refers to "mental events ranging from what we consider thought to what we consider emotion" (Lutz 1985:47). The meaning of *nunuwan* appears to be somewhat like the special meaning of English of the word *feel* when used in the sense of "to think," as in, "I feel it is likely we will succeed." (As mentioned, several terms in English also blend thought and feeling, such as *approval* and *doubt*.)

The other primary term used on Ifaluk to describe internal states is *tip-* which Lutz translates "will/emotion/desire." When asked the difference between *nunuwan* and *tip-*, people say that the two are very similar. The distinction is that *tip-* has connotations of desire and movement toward

the object: An informant said "Our tip- is what we want, like to chat with someone or to go visit another village" (Lutz 1985:48). It appears that *tip-* always takes a propositional object, unlike *nunuwan*. However, like *nunuwan*, emotion is held to be inherent in the experience of *tip-*. It is likely that intentions are also included within the semantic range of *tip-*, since there appears to be no separate term for intentions as part of "our insides."

In general, it would appear that the people of Ifaluk regard emotional experience as a central feature of the mind and emphasize the affective elements in the experience of both thinking and wishing. Lutz has traced out how the values of nonaggression, cooperation, and sharing are supported by the various conceptions of emotion. For example, one term, *metagu*, glossed "fear/anxiety," which is the feeling that occurs when one must be in the midst of a large group of people, or when one encounters a ghost or a shark, or when someone is justifiably angry with one, is considered a necessary part of socialization. A person who does not experience *metagu* is like a "shameless" person in English – that is, someone who will not have the proper constraints on his or her behavior. A child who does not experience *metagu* is considered to lack a primary inhibitor of misbehavior, and such a deficiency would indicate that parents failed to socialize the child properly – to display *song,* "justifiable anger" at the child's misdeeds, which is thought inevitably to elicit *metagu* in the person to whom the anger is directed (Lutz 1983).

The people of Ifaluk considered feelings to be natural responses to particular events, typically interpersonal situations of various kinds. Such eliciting events are considered a basic part of the definition of the emotion (Lutz 1982). Emotions are also thought to give rise to particular behavior; *fago*, for example, is thought to give rise to talking kindly, giving food, and crying.

In portraying emotions as natural reactions to experience and also as causes of behavior, the folk model of the people of Ifaluk is similar to the western model. However, the model used on Ifaluk appears to give more consideration to the dyadic aspect of emotion, where if A feels emotion X and expresses it, then these actions will cause B to feel emotion Y. Thus, if A feels *song*, B feels *metagu*, whereas if A feels *tang* (frustration/grief), B feels *fago* (Lutz 1982).

The model used on Ifaluk also agrees with the western model in distinguishing between emotions and physical sensations. Lutz (1985:49) states:

> Other aspects of 'our insides,' and ones which are distinguished from both nunuwan and tip-, are the states of hunger (*pechaiy*), pain (*metagi*), and sexual sensations (*mwegiligil*). These latter states are considered to be universal and unlearned human proclivities. Although their occurrence can lead to thoughts and feelings, they are considered an entirely different class of events from the latter. The Ifaluk further distinguish between these three states of physical sensation and the corresponding desires or drive-like states that follow upon the sensations. These include

'wanting food (or a particular food)' (*mwan*), 'wanting pain to end' (gar), and 'horniness' (*pashua*).

In the western model, this distinction between the physical state and the mental state for hunger, pain, and sex is not lexicalized nor does it seem to be a distinction that most people make in ordinary discourse.

The model used on Ifaluk also differs from the present western model in considering the mind to be located primarily in the gut, which includes the stomach and abdominal region. Thus, thoughts, feelings, desires, hunger, pain, and sexual sensations are all experienced in the gut. When people eat well, they say "Our insides are good," which means they have both good physical sensations and good emotions. Loss of appetite is typically regarded as a symptom of either physical or emotional distress. In extreme grief, people say "my gut is ripping," and others advise them not to "hate" their own "gut" (Lutz 1985).

According to the model used on Ifaluk, unpleasant emotions that are not expressed may cause illness. Individuals are advised to "throw out" their feelings in order to avoid illness. At funerals, people are advised to "cry big" in order to avoid illness. Expressing one's feelings (except angry feelings) is considered a sign of maturity and social intelligence as well as a way of staying healthy. Further, one's bad feelings can make other people ill. This is especially likely in the case of a mother and infant. It is said, "It is like the baby knows the 'thoughts/emotions' of its mother and becomes *nguch* 'sick and tired/bored' of the mother" (Lutz 1985:55).

This connection between emotionality and illness is also found in the western folk model: For example, it is thought people who are homesick or sad about the loss of a loved one sometimes "pine away," and that chronic anger can lead to a heart attack. The model used on Ifaluk, however, appears to make the connection between emotions and illness much more generally and explicitly, perhaps reinforced by the attribution of both physical and mental sensations to a location in the gut.

The model used on Ifaluk, like the western model, gives a central role to "thought" in the control of behavior. The concept *bush,* "crazy, incompetent," which is considered the opposite of *repiy,* "social intelligence," is widely used to refer to behavior that is deviant and appears to be due to a failure to perceive the nature of the situation correctly. All infants and children to about the age of 6 are considered *bush*. People we would label as psychotic are called *bush;* on Ifaluk this is manifested by their being unable to work and engaging in inexplicable behaviors, such as shouting or eating without table manners. Lutz reports the case of such a person whose "crazy" behavior consisted of saying repetitively "*my* knife, *my* lighter, *my* basket," etc. On Ifaluk sharing is strongly stressed as proper behavior, and the use of first person singular pronoun is felt to be rude in many contexts – and "crazy" in this one (Lutz 1985).

The ability to think correctly, especially on the part of children, is con-

sidered to be influenced by instruction. Children are given lectures in which a rule of proper behavior is gone over quietly and repeatedly. Lutz (1985:61) states:

> . . . children are believed to obey *when* and *because* they listen and understand language; intention and knowledge become virtually synonymous in this system. It is assumed that correct behavior naturally and inevitably follows from understanding, which should follow from listening. Although the concept of independent will is not absent (this is represented in the concept of tip-,) the greatest stress is placed on the connections between language, listening, understanding, and correct behavior.

Here, the connection between thought and desire found in the western model is reversed. In the western model, if one desires or intends to do what is good, then one must be able to conceive of what is good. In the model used on Ifaluk, if one can and does conceive of what is good, one must do what is good. However, there have been theologians in the western tradition who also argued that if one *truly* understood what was good, one would desire it.

Based on indirect evidence, there appears to be another difference between the model used on Ifaluk and the western model. In his interviews with a psychotic man, Spiro found that his assistants became disgusted with this man's reports of his hallucinations, saying he "talk lie, only talk lie" (Spiro 1950). Based on these reactions, it seems likely that the notion that someone might really see and feel what is not actually there is not part of their model of the mind.

Overall, however, the model used on Ifaluk and the western model seem to have similar frameworks. Thoughts, feelings, and desires are distinguished. Feelings are considered a natural response to experience, not under self-control, and also to have the power to move the person toward action. The emotions are distinguished from physical sensations. Understanding is required for appropriate behavior, and lack of understanding results in loss of control.

On the other hand, there are significant differences between the two models. The one used on Ifaluk fuses thought and feeling with regard to the upper-level term *nunuwan* and apparently does not distinguish desire from intention. In this model, the gut is thought to be the site of feeling and thinking rather than the head. The emotion terms blend affects in somewhat different ways than the western model. The interpersonal role of emotion is more distinctly conceptualized than in the western model, as is the role of emotion in physical illness and the therapeutic use of catharsis. An understanding of hallucinatory experience may be absent from this model. Finally, understanding what is right is treated as a necessary and sufficient condition for doing what is right, rather than being treated as simply a necessary condition.

Based on these two cases, it seems likely that the folk model of the mind will turn out to be like the folk model for colors as described by Berlin and Kay (1969). That is, certain salient areas of the experiential field will be universally recognized, although the degree to which the total field is differentiated and the exact borders and boundaries between areas will vary cross-culturally. However, at this point no simple ordering of basic concepts like the ordering found for color terms has been found for the model of the mind. In some areas, the people of Ifaluk do not make distinctions we do (e.g., the distinction between desire and intention), but in other areas they make more distinctions that we do (e.g., they commonly distinguish between the physical sensations and the emotional desires concerning sex, hunger, and the cessation of pain, but this distinction is rarely made by us).

Speculations about cultural differences and similarities

Logically, it might have been the case that the Ifalukan materials could not even be translated into the western model. Suppose they had an extremely different model of the mind, one that made none of the distinctions made in the western model. Since internal states and processes are private, how could we ever learn anything about their model? However, this is not what we find. The model used by the people of Ifaluk can be translated. How is this possible?

If it were the case that an ethnographer could not learn the model, one would wonder how the children on Ifaluk could learn the model. This raises a more general question: If these models are models of private experience, how are they ever learned, either here or on Ifaluk? Even if everyone's private experience is highly similar, how can someone else's words be matched to anyone else's private experience?

What in fact is the case is that neither model is *only* a model of private experience. Both models use similar external, public events as identifying marks in their definitions of internal states. Thus, thinking is like speech, and speech is public. What are thoughts? One can say that thoughts are like things one says to oneself, or images of what one sees with one's eyes. Feelings are like those sensations that do have public elicitors; we know how to tickle each other. Furthermore, as human beings, we have what appears to be an innate communication system for emotions, signalled by patterns of facial expression (Ekman 1971). Various autonomic responses are also available as public events for the definition of feelings. Feelings are typically aroused by relatively specific external events. To understand what wishes are, we have the public expression of requests and commands: Wanting is the feeling that gives rise to the child's saying "gimme, gimme." Intentions are related to such speech acts as promises and threats; that is, to the accomplishment of events to which one has given a commitment. The tight connection pointed out by Vendler (1972) between speech acts and internal states is not fortuitous; the thesis pre-

sented here is that speech acts are one of the major classes of public events used as identifying marks of internal states and processes.

This cannot be the full answer to how we learn about internal processes, since even though types of speech acts and facial patterns may offer a means of identifying internal events, they do not account for our beliefs about the causal relations among these internal events, such as our belief that we can think what we want to but that we cannot make ourselves feel what we want to, or our belief that desires influence intentions but not the reverse. One answer to this issue is to say that these are universals of experience. Once one has categories such as "feeling" and "thought," identified by their relationship to various public events, one cannot escape noticing that one cannot decide what to feel but one can decide what to think. Such a hypothesis has a ring of plausibility but seems completely untestable.

Finally, one speculates about what generally might account for cultural differences in folk models of the mind. Perhaps differences in the social and interactional conditions of life give differential salience to some of the identifying public marks of internal states. The emphasis on emotional mental states in the model used on Ifaluk would seem to be related to the strong salience of such emotion-linked actions as aggression and sharing in daily life. However, such differences in salience would not explain why there are differences in the conceptualization of causal relations between various mental states, such as the notion that lecturing on what is good causes the hearer to understand what is good thereby causing the hearer to be well behaved. Nor would these differences in the salience of emotion linked actions explain why the people of Ifaluk believe the verbal expression of feelings, especially depressive feelings, keeps one from being made ill by those feelings. It seems likely that some part of this folk model, like most folk models, cannot be explained by variation in current social or ecological factors. Parts of most folk models are legacies from the past, and the information needed to discover whatever causes once operated to create these models is often not obtainable.

Note

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Reasoning and problem solving from presupposed worlds