Cultural models in language and thought
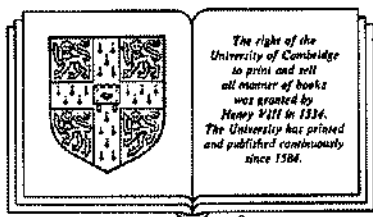
EDITED BY

Dorothy Holland
University of North Carolina, Chapel Hill

Naomi Quinn
Duke University

The papers in this volume, a multidisciplinary collaboration of anthropologists, linguists, and psychologists, explore the way in which cultural knowledge is organized and used in everyday language and understanding. Employing a variety of methods, which rely heavily on linguistic data, the authors offer analyses of domains of knowledge ranging across the physical, social, and psychological worlds, and reveal the crucial importance of tacit, presupposed knowledge in the conduct of everyday life.

Many of the papers included examine American cultural knowledge; others, by anthropologists, provide accounts from very different cultures. Collectively, the authors argue that cultural knowledge is organized in "cultural models" – story-like chains of prototypical events that unfold in simplified worlds – and they explore the nature and role of these models. They demonstrate that cultural knowledge may take either proposition-schematic or image-schematic form, each enabling the performance of different kinds of cognitive tasks. Metaphor and metonymy are shown to have special roles in the construction of cultural models: the former allowing for knowledge to be mapped from known domains of the physical world onto conceptualizations in the social and psychological domains as well as in unknown physical-world domains; the latter providing different types of prototypical events out of which cultural models are constructed. The authors also reveal that some widely applicable cultural models recur nested within other, more special-purpose models, thereby lending cultures their thematicity. Finally, they show that shared models play a critical role in thinking, one that has gone largely unappreciated in recent cognitive science – that is, that of allowing humans to master, remember, and use the vast amount of knowledge required in everyday life.

This innovative collection will appeal widely to anthropologists, linguists, psychologists, philosophers, students of artificial intelligence, and other readers interested in the processes of everyday human understanding.

Cultural models in language and thought

Contents

Preface

This volume represents an interdisciplinary effort that has brought together anthropologists, linguists, and psychologists who study human cognition. In recent years, cognitive scientists from these three fields and others have converged in the study of knowledge, its organization, and its role in language understanding and the performance of other cognitive tasks.

Here, we present a cultural view. We argue that cultural knowledge – shared presuppositions about the world – plays an enormous role in human understanding, a role that must be recognized and incorporated into any successful theory of the organization of human knowledge. As we summarize in the introductory chapter, cultural knowledge appears to be organized in sequences of prototypical events – schemas that we call *cultural models* and that are themselves hierarchically related to other cultural knowledge. This volume, then, is an interdisciplinary investigation of cultural models and the part they play in human language and thought.

Earlier versions of most of the chapters in this volume were assembled and presented at a conference held in May 1983 at the Institute for Advanced Study in Princeton, New Jersey. However, to think of the book as a conference volume would be to fail to appreciate its history, which goes back some time before the Princeton conference. As histories should, this one has a lesson. It tells how, under felicitous circumstances, institutional support can enable scientific collaboration even across disciplinary boundaries.

The developments described in this volume were underway in the late 1970s. One of us, Naomi Quinn, then a member of the Social Science Research Council Committee on Cognitive Research, organized an interdisciplinary workshop under the auspices of that committee to draw together some of the new ideas about culture and cognition. Held in August 1979 in La Jolla, California, under the rubric "The Representation of Cultural Knowledge," that workshop numbered among its participants four of the contributors to the present volume – Roy D'Andrade, Edwin Hutchins, Dorothy Holland, and Naomi Quinn. As a substantive statement about the role of cultural knowledge in the understanding process, the workshop could be fairly characterized as premature. Many of the talks and much of the discussion had a tentative quality. Several of the formal

discussants, deliberately recruited from fields of cognitive science outside of anthropology, made clear their skepticism about that discipline's contribution to cognitive studies. The perspective represented in this volume was incipient at La Jolla, but undeveloped. Yet the workshop was a necessary first step toward defining a common enterprise and setting a theoretical agenda.

Naomi Quinn's involvement in the activities of the SSRC committee enabled her to identify other people outside of her own field who were working toward similar ideas about cultural knowledge. She became better acquainted with the thinking of committee members Eleanor Rosch, a psychologist, and Charles Fillmore, a linguist, whose ideas and observations were to figure importantly in the approach developed in this book. At La Jolla, she met for the first time psychologists Allan Collins and Dedre Gentner and heard a paper on folk models they were presenting at an overlapping conference. At another committee activity that summer in Boulder, Colorado, she met linguist George Lakoff (though not for the first time, he reminded her) and obtained from him a copy of the book in manuscript, *Metaphors We Live By*, which he and Mark Johnson had just completed. Lakoff later invited Quinn to be an observer at his Conference on Cognitive Science, Language, and Imagery funded by the Alfred P. Sloan Foundation and held in Berkeley in the spring of 1981; there, she met Charlotte Linde and other linguists with similar interests.

At neighboring universities, the two of us talked on about our common view of "folk knowledge," which was still crystallizing out of work in cognitive anthropology and related fields of cognitive science. We decided to organize a multidisciplinary symposium for the 80th Annual Meeting of the American Anthropological Association in Washington, D.C., in December 1981. We called it "Folk Theories in Everyday Cognition." The resulting group of participants, and the papers they presented, encouraged our vision.

Contributions by Lutz, Price, Sweetser, and White in this volume began as meeting papers delivered at that symposium; Holland, Hutchins, and Lakoff also participated, giving different papers than those they ultimately presented at the Folk Models conference that culminated in this book. The earlier La Jolla workshop had served as a beginning; the AAA symposium has a somewhat different but equally important role as a dry run for the conference to follow.

Among members of the American Anthropological Association, it is popular to question the intellectual defensibility of meetings sessions, with the limited time constraints they place on paper and discussion length and the peripatetic audiences they attract. These critics overlook the important role of sessions like the one we organized as preliminaries to more ambitious professional activities. Relatively untaxing of organizational and fund-raising effort, the AAA symposium was an opportunity to gauge whether the new ideas about "cultural knowledge," "folk theories," and

"folk models" (which eventually became "cultural models") were sufficiently developed to merit a larger conference. It was also an occasion to experiment with the composition of the group, so that in the end we might identify and include individuals, whatever their disciplines, whose perspectives and enthusiasms matched our own in substantial ways. Finally, it served to orient individual efforts toward production of conference papers. It was shortly after the well-attended AAA symposium, with its high-quality papers, that we decided the time was ripe to seek funding for a full-scale conference.

By then, unable to raise new operating funds, and having already sponsored a series of valuable conferences and workshops, the SSRC Committee on Cognitive Research was soon to be disbanded. The conference proposal we submitted to the Anthropology Program of the National Science Foundation was adapted from one Quinn had earlier drafted as a section of the final, unsuccessful umbrella proposal intended to fund the continuing activities of the SSRC Committee. NSF funded our proposal. Concerned that the grant might not cover all the expenses for this large conference, we applied to the Wenner–Gren Foundation for Anthropological Research for supplementary support. Working in consultation with NSF, Wenner–Gren contributed funds to fly our most distant participant, Roger Keesing, from Australia.

Quinn was a member of the Institute for Advanced Study during the academic year 1982–83, as part of a group of researchers in cognition. Learning that the Institute sometimes hosted conferences, she explored the possibility of holding the conference there. The advantages, in terms of facilities, supporting staff, and location, quickly became evident. We formally proposed to Institute Director Harry Woolf and to Clifford Geertz, the anthropologist on the faculty of the School of Social Science, that they host the conference, and they graciously agreed. Subsequently, the project was granted an additional small amount by the Institute out of Exxon Educational Fund monies at its disposal; these funds allowed us to invite interested "observers" from the Institute and from surrounding universities to conference meals, to interact further with conference participants.

It was clear to us by its close that a promising framework for the investigation of cultural knowledge was emerging at this conference, and that the research that had been reported in the delivered papers was sufficiently developed and interrelated to warrant publication. Scientists working independently along similar lines had been brought together to exchange ideas and to articulate a common approach. We are hopeful that publication of their chapters, with the integrating volume introduction we have provided, will convince other cognitive scientists of the heretofore largely neglected role of cultural presuppositions in human cognition and also demonstrate to other anthropologists the usefulness and promise of a cognitive approach to culture.

We have detailed the history of the efforts that led to this publication to make the point that institutional support of scientific projects such as this one has a cumulative effect not easy to assess in the short term. The book is the product of a lengthy, tentative process of regrouping and exchange, a process realized in several formal gatherings organized according to several different professional formats and made possible by the funding and facilities of an array of different institutions operating with different institutional mandates and designs. They were all indispensable. We hope *Cultural Models in Language and Thought* will testify to the value of such repeated institutional support for organized meetings, large and small.

We are indebted to all these supporting organizations, and to all their individual staff members with whom we worked. We came to appreciate keenly the special competencies that some of these individuals have for making the scientific process work. Lonnie Sherrod, staff associate at the Social Science Research Council, shepherded the Committee on Cognitive Research during most of Quinn's tenure on it and did so with an acute sense of what was happening in that quarter of the social sciences and what could be helped along. Stephen Brush, then the staff associate in the Anthropology Program at NSF who was responsible for oversight of our grant, shared much good advice about how to make an intellectually satisfying conference happen. Mary Wisnovsky, assistant to the director, and Grace Rapp, her assistant in the Office of the Director at the Institute for Advanced Study, are two unforgettable people with a special talent for making a conference happen smoothly and painlessly, even making it fun to give one. The postconference editing task has been lightened enormously by the skilled assistance of Carole Cain and Anne Larme, two anthropology graduate students at the University of North Carolina, Chapel Hill. We thank them all.

D.H.
N.Q.

Contributors

Allan Collins
Bolt, Beranek and Newman, Inc.
10 Moulton Street
Cambridge, MA 02238

Roy D'Andrade
Department of Anthropology
University of California,
   San Diego
La Jolla, CA 92093

Dedre Gentner
Department of Psychology
University of Illinois,
   Urbana-Champaign
Champaign, IL 61801

Dorothy Holland
Department of Anthropology
University of North Carolina,
   Chapel Hill
Chapel Hill, NC 27514

Edwin Hutchins
Institute for Cognitive Science
University of California,
   San Diego
La Jolla, CA 92093

Paul Kay
Department of Linguistics
University of California,
   Berkeley
Berkeley, CA 94720

Roger M. Keesing
Department of Anthropology
Research School of Pacific Studies
Australian National University
P.O.B. 4
Canberra, A.C.T. 2601, Australia

Willett Kempton
Center for Energy and
   Environmental Studies
School of Engineering/Applied Science
Princeton University
Princeton, NJ 08544

Zoltán Kövecses
Department of English
ELTE, Pesti B.u. 1
Budapest, Hungary

George Lakoff
Department of Linguistics
University of California, Berkeley
Berkeley, CA 94720

Charlotte Linde
Structural Semantics
P.O. Box 707
Palo Alto, CA 94302

Catherine Lutz
Department of Anthropology
State University of New York,
   Binghamton
Binghamton, NY 13901

Laurie Price
Multipurpose Arthritis Center
Trailer 16, Building 272H
Medical School
University of North Carolina,
   Chapel Hill
Chapel Hill, NC 27514

Naomi Quinn
Department of Anthropology
Duke University
Durham, NC 27706

Debra Skinner
Department of Anthropology
University of North Carolina,
   Chapel Hill
Chapel Hill, NC 27514

Eve E. Sweetser
Department of Linguistics
University of California, Berkeley
Berkeley, CA 94720

Geoffrey M. White
Institute of Culture and
   Communication
East-West Center
1777 East-West Road
Honolulu, HI 96848

Introduction

1
Culture and cognition[1]

Naomi Quinn & Dorothy Holland

Undeniably, a great deal of order exists in the natural world we experience. However, much of the order we perceive in the world is there only because we put it there. That we impose such order is even more apparent when we consider the social world, in which institutions such as marriage, deeds such as lying, and customs such as dating happen at all because the members of a society presume them to be. D'Andrade (1984a:91) contrasts such culturally constructed things with cultural categories for objects such as stone, tree, and hand, which exist whether or not we invent labels for them. An entity such as marriage, on the other hand, is created by "the social agreement that something counts as that condition" (ibid.) and exists only by virtue of adherence to the rules that constitute it.

Such culturally constituted understandings of the social world point up not only the degree to which people impose order on their world but also the degree to which such orderings are shared by the joint participants in this world, all of whom behave as though marriage, lying, and dating exist. A very large proportion of what we know and believe we derive from these shared models that specify what is in the world and how it works.

The cognitive view of cultural meaning

The enigma of cultural meaning, seemingly both social and psychological in nature, has challenged generations of anthropologists and stimulated the development of several distinctive perspectives (see Keesing 1974 for an early review). Each of these ideational traditions in anthropology has had to address the same question: How are these meaning systems organized? Any convincing answer to this question should be able to account for at least the following properties of culture. It must be able to explain the apparent systematicity of cultural knowledge – the observation, old to anthropology, that each culture is characterized, and distinguished from others, by thoroughgoing, seemingly fundamental themes. Such a theory of culture also ought to explain how we come to master the enormous amount of cultural knowledge that the people of any culture have about the world and demonstrate in their daily negotiations with it (D'Andrade

1981). Moreover, the large base of cultural knowledge we control is not static; somehow, we extend it to our comprehension of particular experiences as we encounter them. Given the uniqueness, sometimes radical and sometimes small, of these myriad daily experiences, cultural meaning systems must be adapted to the contingencies and complexities of everyday life. A theory of the organization of cultural knowledge must explain the generative capacity of culture. The approach in this volume makes progress and offers promise in accounting for all these properties of culture.

The papers in the volume represent a cognitive approach to the question of how cultural knowledge is organized. For nearly three decades, cognitive anthropologists have been pursuing the question of what one needs to know in order to behave as a functioning member of one's society (Goodenough 1957:167). This school of anthropology came to stand for a new view of culture as shared knowledge – not a people's customs and artifacts and oral traditions, but what they must know in order to act as they do, make the things they make, and interpret their experience in the distinctive way they do.

It is this sense of culture that is intended in the title of the present volume: *Cultural models* are presupposed, taken-for-granted models of the world that are widely shared (although not necessarily to the exclusion of other, alternative models) by the members of a society and that play an enormous role in their understanding of that world and their behavior in it. Certainly, anthropologists of other persuasions have arrived at the idea of "folk models" as a way of characterizing the radically different belief systems of nonwestern peoples (e.g., Bohannan 1957; Holy & Stuchlik 1981a). What is new in the present effort is an attempt to specify the cognitive organization of such ideational complexes and to link this organization to what is known about the way human beings think.

Cultural models, talk, and other behavior

In practice, Goodenough's original mandate to investigate the knowledge people need in order to behave in culturally appropriate ways has been translated into a narrower concern for what one needs to know in order to *say* culturally acceptable things about the world. The relation between what people say and what they do has not gone entirely unconsidered by cognitive anthropologists. For example, this concern surfaces in an ongoing tradition of natural decision-making studies of which Geoghegan (1969), Gladwin and Gladwin (1971), Johnson (1974), and Fjellman (1976) are early representatives. In this line of research, behavioral decision models constructed with the help of informants' accounts of how they make decisions are then used to predict their actual choices. (See Nardi 1983 and Mathews in press for recent critiques of this approach from a perspective that would insist on the role of cultural knowledge in framing, not just

making, decisions.) For the most part, however, cognitive anthropologists have specialized in talk.

This definition of the research task – explaining what people need to know in order to say the things they do – is simply taken for granted by the linguists with whom cognitive anthropologists exchange ideas, and it is a conventional research strategy in other branches of cognitive science as well. In artificial intelligence, for example, apart from an occasional robotic *tour de force*, the major methodological and theoretical challenge has been to build computer programs capable of story comprehension and other kinds of linguistic processing. This definition of the task is a legacy of earlier attempts to solve the machine translation problem. Artificial intelligence workers attempting machine translation discovered that language cannot be understood, much less translated, without reference to a great deal of knowledge about the world. The preoccupation of subsequent artificial intelligence research with this problem has captured the interest of cognitive anthropologists similarly concerned with what people have to know in order to use language.

It has been colleagues from the more materialist traditions in anthropology, and indeed from some of the ideationalist traditions within the discipline as well, who have been at pains to point out the limitation of a research program for validating cultural models solely on the basis of linguistic behavior. These anthropologists observe that people do not always do what would seem to be entailed by the cultural beliefs they enunciate (for cognitive anthropologists' own critique of this issue, see Lave et al. 1977; Frake 1977; Clement 1982). Do cultural models, they want to know, influence more than talk, and if so how? Harris (1968) has proposed that cultural beliefs are epiphenomena altogether, reflecting the political economic circumstances that they arise, *post hoc*, to rationalize. From a wholly different perspective, Levi-Strauss (1953) had earlier characterized native models as "home-made" ones, to be treated as repositories of false knowledge. The influence of his view can be gauged by the stance adopted in the work of anthropologist Barbara Ward (1965; 1966). Citing Levi-Strauss, she felt obliged to apologize for her interest in Hong Kong fishermen's native models of society, about which she wrote.

A third, related strain in anthropological thought reflects this same tendency to discount the role, in people's behavior, of the cultural beliefs reflected in their talk. In this formulation, models for talking are separated, analytically, from models for doing. Paralleling Ryle's (1949) distinction between "knowledge how" and "knowledge that," and Geertz's (1966) distinction between "models for" and "models of," Caws (1974) presents an oft-cited argument for a tripartite typology of models (see also Holy & Stuchlik 1981b:19–21). In addition to the scientist's "explanatory model," Caws proposes two types of native models: "representational" and "operational." The former are indigenous models of their world that people can more or less articulate; the latter are indigenous models that guide behavior

in given situations and that tend to be out of awareness. Representational models, from this view, are not necessarily operational nor are the latter necessarily representational; thus, inconsistencies between what people say and what they do need not be cause for puzzlement. Holy (1979) applies this distinction in his attempt to resolve a long-standing debate in social anthropology over the reported disparities between Nuer descriptions of their kinship system and Nuer kinship behavior "on the ground."

Our vision of the role and importance of cultural models is at odds with the views of Harris and Levi-Strauss and that articulated in social anthropology by Caws. We do not assume that cultural models always translate simply and directly into behavior. Indeed, the papers in this collection by Hutchins, Linde, and Price move toward a more precise understanding of the situations in which cultural models are invoked to rationalize and sometimes disguise behavior for other people and for ourselves. Nor do we expect cultural conceptualizations of the world to be the sole determinants of behavior. The work in this volume does suggest, however, that cultural models – which we infer from what people say – do relate to their behavior in complex, powerful ways. We are only beginning to specify the nature of these relations. Keesing is right, in his paper in this volume, to urge that cognitive anthropologists like ourselves take an active role in the emerging interdisciplinary study of "humans-in-societies." By linking meaning to action, cognitive anthropologists could substantiate Keesing's argument that "how humans cognize their worlds constrains and shapes how humans-in-societies reproduce them." We think it is a crucial first step to show, as these studies do, how cultural models frame experience, supplying interpretations of that experience and inferences about it, and goals for action. When interpretation and inference call for action, as discussed by Lutz with regard to the goals embodied in Ifaluk emotion words, and by White with regard to the dual conceptual and pragmatic functions of proverbs, then cultural understandings also define the actor's goals. (See also Jenkins 1981; Nardi 1983; Quinn 1981; Salzman 1981; and White 1985 for complementary views.)

THE RELATION OF TALK TO ACTION AND AWARENESS
Seen as simultaneously interpretative and goal-embodying, cultural knowledge is not productively analyzed into "models of" and "models for," into "representational" and "operational" knowledge. Rather, in our view, underlying cultural models of the same order – and in some cases the same underlying cultural model – are used to perform a variety of different cognitive tasks. Sometimes these cultural models serve to set goals for action, sometimes to plan the attainment of said goals, sometimes to direct the actualization of these goals, sometimes to make sense of the actions and fathom the goals of others, and sometimes to produce verbalizations that may play various parts in all these projects as well as in the subse-

quent interpretation of what has happened. Complexity in the relationship between what people verbalize about what they do and the execution of other, nonverbal activities is inherent in part because speakers so frequently undertake complex tasks with many goals that may or may not include producing a veridical verbal description of what they are about. Just to pose some possibilities in which verbal accounts are decidedly not veridical to the behavior they purport to describe, people may sometimes be concerned, simultaneously, to manage their affairs in a way advantageous to themselves and to present their goals in a favorable light; or to carry out their plans while hiding their true objectives from onlookers. In producing verbalizations, it is not so much that speakers invoke a different order of conceptualization of the activity about which they speak; it is rather that they invoke those cultural understandings pertinent to performing the linguistic part of the overall task at hand – say, in the task of presenting one's actions in a favorable light, a shared model of the good person for whom one wishes to be taken; or, in the task of concealing one's plans, a shared model of plausible intentions with which to detract attention from one's real motives. Even when people are not wholly concealing or misrepresenting their behavior in what they say about it, they are characteristically called on to construct *post hoc* accounts of that behavior that are comprehensible, plausible, justifiable, and socially acceptable to themselves and other audiences, and that require a certain amount of smoothing, patching, and creative amendment to these ends.

Moreover, the multiple cognitive tasks and subtasks required to meet one's varied goals must often be executed simultaneously; the task demands of nonverbal behavior and those of concurrent verbal behavior may diverge, creating a further complexity in the relationship between the two. A waiter bent on getting a good tip, for instance, might be attempting to provide customers with swift, faultless service, silently anticipating their requests before these can be voiced, while at the same time keeping up a line of niceties and flattery. Even such ordinary daily activities as are involved in doing one's job are multifaceted in nature, often requiring verbal expression and other action at once – sometimes in coordination, other times for independent purposes. Again, this is not to agree to the assumption that there exist, in the mind of the individual performing those different cognitive tasks simultaneously, two orders of cultural model. It is simply to acknowledge that these differing tasks draw on a variety of cultural knowledge available for different purposes at different times. Indeed, talk itself involves such complex skills and understandings. As Sweetser (this volume) points out, even a single utterance may have multiple purposes. Her paper on lies and Kay's on hedges in this volume point up this complexity especially well; talk, as they demonstrate, may use much specialized cultural knowledge about linguistic utterances as well as other cultural knowledge about the nonlinguistic world being talked about.

It is also a misleading simplification to imply, as Caws has, that one set of models (those guiding behavior, in his formulation) are out of awareness, whereas another set (those said to guide description) are not. It is no doubt true that some knowledge is more habitually, hence more readily, put into words than other knowledge; that some knowledge but not other knowledge is tidily "packaged" in memory, hence easily retrieved for the telling; and that some knowledge is under conscious and voluntary control whereas other pieces are less available for introspection and articulation. Hutchins, in this volume, provides an instance of the latter case: a case in which inferences attributed by the analyst to the speaker in order to account for her interpretation of a Trobriand myth, appear to be out of the awareness of the speaker herself, Hutchins presumes, because they are so painful as to be repressed.

At another extreme, some linguistic outputs, but by no means most, have the "canned" quality of well-worked and well-rehearsed rationalizations or idealizations. Perhaps ethnographers are especially likely to be proffered such accounts. Much of people's cultural knowledge, however, is likely to be somewhere in between these two extremes of accessibility and inaccessibility – as D'Andrade (this volume) found for the American college students he interviewed about the way the mind works. These interviewees could not provide a comprehensive, well-organized view of the entire cultural model of the mind but could certainly describe how it operates when they were asked questions about specific examples. Models such as this one of the mind, which people use in a variety of tasks such as making inferences and solving problems (for a different example, see Jorion 1978), will be brought into awareness and made available to introspection and articulation to varying degrees depending on the precise demands of those tasks for such introspection or articulation.

Equally, knowledge embodied in cultural formulations that Caws might want to call "representational," cannot easily be distinguished from "operational" models with regard to the function he assigns the latter, of guiding behavior. Well-articulated cultural models of the world may also carry "directive force" (a term borrowed from D'Andrade 1984a). An obvious example, provided by White in this book, is that of proverbs. Proverbs promote enactment of the dictums they contain, White argues, precisely because their formulaic and linguistically economical construction signals cultural wisdom. This claim on wisdom is enhanced by present tense verb forms, which give them a timeless, enduring quality, and by their disallowance of exceptions or hedges, which grants them a seeming universal validity.

Cultural models, then, are not to be understood in either–or terms. That various anthropologists have proposed to sort cultural understanding into a kind for thinking and a kind for doing and to associate talking with the former may reflect more about the mind–body duality in our own

western cultural model of the person than it does about how cultural
knowledge is actually organized.

TALK AS ACTION
Were its only claim to be able to account for what people say, the present
enterprise would still be an important one. The dismissive materialist stance
that cultural models influence little more than talk neglects the pivotal
social function of talk itself. As modern sociolinguistics teaches us, talk
is one of the most important ways in which people negotiate understand-
ing and accomplish social ends. Of course, discourse can be crucial to the
efforts of individuals to create inner meaning for themselves, as illustrated
vividly by Hutchins's analysis, in this book, of a Trobriand woman's at-
tempt to comprehend her own experience in the terms of a familiar myth.
However, these shared cultural understandings also figure large in the crea-
tion of social meaning. In Trobriand litigation, which is the subject of
Hutchins's (1980) recent book, spoken claims and counterclaims are con-
sequential acts.

For the college-age women whom Holland and Skinner describe in this
volume, labeling another woman's fiancé a *nerd* is not just inconsequen-
tial chatter. The illness stories Price collected from poor Ecuadorian city-
dwellers (this volume) reveal the efforts to which people will go in order
to establish public, legitimated accounts of their behavior (see also Early
1982). Lutz (this volume) details a case in which the future course of kin
relations depends on the accepted interpretation of an incident, an inter-
pretation that emerges as the kinspeople involved talk to one another, pro-
posing and negotiating different possible emotional definitions of the event
(see also Frake 1977; Young 1981). Other papers in the collection suggest
how cultural models undergird such varied kinds of talk as negotiations
about the justification for anger, marital disagreements, proverbial and
other advice about the solution to everyday problems, and inquiries into
suspected lies. Such talk, in turn, influences social relations among peo-
ple and the subsequent actions they take toward one another. Talk is itself
a kind of act, and speech acts can have powerful social consequences.

THE DIRECTIVE FORCE OF CULTURAL MODELS
How do cultural models, whether invoked to persuade another or to order
one's own inner experience, motivate behavior? The papers in this collec-
tion reveal differential sources of motivational force: One basis is in the
authority and expertise with which cultural models may be invested,
another in the intrinsic persuasiveness these models themselves have for us.

White's analysis of proverbs, as mentioned, suggests that linguistic
forms can grant a certain amount of persuasiveness to knowledge by
packaging it as "cultural wisdom." Relatedly, Linde shows how explanatory
systems for human behavior that are devised by one group of culturally

designated experts – academic psychologists – have come to provide us with models for making our own life choices. This is so even though neither ordinary people nor the "expert" psychologists themselves agree on a single explanatory system. Cultural understandings would seem to gain force from their identification with expert knowledge and cultural wisdom, in spite of the availability of alternative, equally expert explanatory systems and contradictory, equally wise-sounding admonitions.

Even though expert validation and cultural authority play a role in the persuasiveness of cultural models, explanatory adequacy in the face of our experience can also be compelling. This effect is perhaps best illustrated in the present collection by Kempton's example of an informant who switches from a "valve" theory to a "feedback" theory of home heating in mid-interview, after realizing that the first of these analogies was contradicted by her memory of how an observable heating device actually worked. Kempton shows elsewhere in his paper how acceptance of one or another of these alternative theories has consequences for thermostat settings. Collins and Gentner's paper, on the other hand, cautions against any conclusion that evidence drawn from real-world analogies is automatically compelling, showing as it does that a thinker such as their Subject PC, who relies heavily on analogies to phenomena he has observed or heard about, may shift among these local analogies without checking their consistency – failing to develop a coherent view of evaporation and often giving inaccurate answers.

This tendency of individuals to check their understandings against expert opinion and test them against experience highlights the co-existence of alternative, often conflicting cultural renditions of that world. In the pages of this book, it appears that individuals find it relatively easy to entertain different theories of how the thermostat works and even abandon one theory for another; to combine components of different analogies in their attempted explanations of evaporation; to invoke conflicting proverbial advice for the solution of different problems; and to adopt one or another contradictory folk theory of language depending on which one best fits the linguistic case at hand.

The latter example, of two contradictory folk theories of language, prompts Kay (this volume) to observe that cultural models are not to be thought of as presenting a coherent ontology, a globally consistent whole, in the way that the expert's theory is designed to be. Cultural models are better thought of, in Kay's view, as resources or tools, to be used when suitable and set aside when not. That there is no coherent cultural system of knowledge, only an array of different culturally shared schematizations formulated for the performance of particular cognitive tasks, accounts for the co-existence of the conflicting cultural models encountered in many domains of experience. What is not accounted for, in this view, is the degree of apparent systematicity, best characterized as a thematicity, that does seem to pervade cultural knowledge as a body. In the final section

of this introduction, we argue that this thematic effect arises from the availability of a small number of very general-purpose cultural models that are repeatedly incorporated into other cultural models developed for special purposes. This account of cultural thematicity does not rule out the kind of contradiction arising among variant cultural models that Kay and other volume authors describe.

Some cultural understandings people have, such as the models of mental processes, emotional states, marital commitment, career choice, gender relations, and kinship obligations described in this book, have a different feel from our models of heating devices. The metaphor of conceptual models as tools to be taken up and put down at will does not fit these other cultural models very well. They are compelling in a way that does not depend on what the experts say and often seems highly resistant to revision in the face of apparent contradiction. Largely tacit and unexamined, the models embed a view of "what is" and "what it means" that seems wholly natural – a matter of course. Alternative views are not even recognized, let alone considered. But more than naturalness, these cultural models grant a seeming necessity to how we ourselves live our lives.

How do ideas gain such force? Partially, the answer lies in what we accept as the typical and normal way of life, judging from the lives of our fellows. When we look around us, we find confirmation for our own lives in the beliefs and actions of other people; cultural models that have force for us as individuals are often the historically dominant models of the time. This is so even though such cultural understandings have certainly undergone historical change, often radical, and certainly have contemporary competitors in any given historical moment.

But the force cultural understandings can have is not simply a matter of people's conformity to the dictums popular in their time. In considering the directive force of cultural meaning systems, D'Andrade (1984a:97) returns to the ideas of Melford Spiro (1961), who argued persuasively that much socially required behavior comes to be inherently motivating for individuals, most often because it directly satisfies some culturally defined need (what Spiro called "intrinsic cultural motivation") or sometimes also because it realizes some strongly held cultural norm or value ("internalized cultural motivation," in Spiro's term). As D'Andrade (ibid.:98) summarizes, "through the process of socialization individuals come to find achieving culturally prescribed goals and following cultural directives to be motivationally satisfying, and to find not achieving culturally prescribed goals and not following cultural directives to be anxiety producing." D'Andrade adapts this argument to a cognitivist view of cultural meaning. He suggests that culturally acquired knowledge need not be purely representational, as the term *cultural knowledge* connotes, but may draw on socialized-in motivation as well. This directive force is "experienced by the person as needs or obligations to do something" (ibid.).

Thus, in D'Andrade's (ibid.:98) example, the cultural meaning of suc-

cess for Americans, accomplishment may be rewarding because it is both instrumental in the satisfaction of culturally shaped needs for personal recognition and achievement and an objective that has come to be valued in its own right. Both sources of directive are learned as part of the understanding of success and what it entails. This inner motivation to be successful, along with external sanctions for making a living and providing for one's dependents, and social pressure toward conformity with the image and the life-style that mark success, together and in interaction overdetermine the motivational component of this cultural meaning system. As D'Andrade (ibid.) muses, "perhaps what is surprising is that anyone can resist the directive force of such a system." This complex of meaning and motivation is an American preoccupation even though, for most Americans, what constitutes success in our society is actually unattainable.

In the course of human socialization, directive force seems to become attached to those understandings, such as the meaning of success for Americans, that are most closely bound up with the sense individuals have of themselves and the sense they make out of their lives. Perhaps such understandings, including culturally provided understandings about oneself and one's place in life, organize our knowledge of what D'Andrade (n.d.:23) has described as "highly general conditions which people want to bring about or avoid." Cultural models of self and life organize what are, literally, vital understandings. These understandings – however differently they may be delineated in different cultures – become, again in D'Andrade's (ibid.) words, "the most general source of 'guidance,' 'orientation,' and 'direction' in the system."

Socialization experiences may differ sharply in the degree to which they endow a given cultural model with directive force for an individual. Thus, "where there's a will there's a way," to the degree that this common proverb frames a model of the self as the agent of one's fate, may have special force for individuals whose socialization has led them to think of themselves as the sole or primary agents of their own fate. Other individuals, who learn from a quite different socialization experience that they are relatively powerless and blameless with regard to their own fate, may, like the interviewee quoted in Linde's paper in this volume, find behavioral psychology a particularly persuasive interpretation of their lives.

Consider another example. Just as Americans learn to think of themselves and their lives in terms of success, many American women grow up with the teaching that marriage is the measure of a woman's success in life. If this lesson is amplified, as it was for one of Quinn's interviewees whose mother conveyed to her a personal sense of failure for having been unable to hold on to a husband, then the idea of marital success becomes conceptually powerful in the extreme. Thus, as D'Andrade (n.d.:23) points out, what he calls "lower-level schemas," such as the model of marriage in this example, act as goals only when "recruited" by some more general

"upper-level schema which is currently functioning to 'guide,' 'orient' and 'direct' the flow of action," such as the model of the successful life in this example. Cultural models of all kinds gain directive force when they are recruited, whether in the course of uniquely individual experiences or those more widely shared, by understandings of oneself and one's life.

Consideration of the potential directive force of cultural models brings us to Keesing's concern with the ideological force of some of these models and their use as instruments of ideological hegemony. Social life, as Spiro (1961) saw, depends on the fit between what is socially required and what is individually desired. So, too, the designs of those who would rule society, and those who would benefit from this control over others, depend upon the willingness of the populace to fill its role in these plans. Therefore, states and other agencies promulgate ideology persuading people to do what they otherwise might question or resist doing. In spite of the resources and power that may be brought to such attempts at persuasion, it is not always effective. To be successful, ideologies must appeal to and activate preexisting cultural understandings, which are themselves compelling. Even though ideologues may mold and adapt cultural models to their own devices, and often show a great deal of genius for doing so, they do not create these cultural ideas *de novo*, nor are they able to guarantee the power of any given cultural model to grip us. Specifically, Lewontin et al. (1984:64) observe that to be convincing, an ideology must pose as either legitimate or inevitable. For "if what exists is right, then one ought not to oppose it; if it exists inevitably, one can never oppose it successfully." These ideas about what is right and what is inevitable are largely given by cultural models of the world. The point made by Lewontin et al. leads to a further observation: Among alternative versions of what is legitimate and what is inevitable, a given ideology is most compelling if its rightness engages the sense one has of one's own personal uprightness and worthiness, or if its inevitability engages the view one has of one's own inherent needs and capacities. These matters lie at the heart of our understanding of ourselves and our place in life. They also are largely cultural matters. Perhaps the contribution cognitive anthropology is poised to make (and *poised* may be slightly too optimistic a word) toward the study of "humans-in-society" is this: insight into those conditions under which cultural models are endowed with directive force and hence with ideological potential.

A short history of methodological strategy

The point from which the previous section departed, cognitive anthropology's focus on linguistic phenomena as the behavior to be accounted for, has proved to be a richly productive strategy, as the papers in the present volume illustrate. In the course of the enterprise, it will be seen, the original view of the relationship of language to culture, with which cognitive anthropology set out, has undergone significant modification.

Our cultural understanding of the world is founded on many tacit assumptions. This underlying cultural knowledge is, to use Hutchins's (1980:12) words, "often transparent to those who use it. Once learned, it becomes what one *sees with*, but seldom what one *sees*." This "referential transparency" (ibid.), we note in the previous section, causes cultural knowledge to go unquestioned by its bearer. At the same time, this transparency has posed an absorbing methodological problem for the analyst: how, and from what manner of evidence, to reconstruct the cultural models people use but do not often reflect on or explicitly articulate. The problem has remained central to cognitive anthropology, but approaches to it have changed.

Early efforts sought to describe the semantic structure of lexical domains. If analysts could recover or reconstruct what one needed to know in order to label pieces and portions of the world correctly in the native's own language, it was reasoned, then the resulting model would capture an important part of those people's culturally constructed reality. Such analyses produced the formal taxonomic and paradigmatic descriptions for which the emerging enterprise variously called "ethnoscience," "ethnographic semantics," and "the new ethnography" became known and with which cognitive anthropology, evolved out of these earlier efforts, has been persistently associated long after its practitioners began exploring networks of semantic relations, schemas for decision making, and other alternatives to taxonomic and paradigmatic models (D'Andrade n.d.:19).

The semantic structures recovered in these earliest analyses did provide insight into the organization of some domains of the lexicon. However, the organization of lexicon was soon recognized to offer only limited insight into the organization of cultural knowledge (D'Andrade 1976; D'Andrade et al. 1972; Good & Good 1982; Howe & Scherzer 1975; Lave et al. 1977; Randall 1976; White 1982). Notwithstanding the primacy attributed to referential meaning in the western positivist/empiricist tradition, what one needs to know to label things in the world correctly did not prove to be the most salient part of cultural meaning. Formal semantic analysis did not uncover the cultural models that individuals invoked for the performance of such naturally occurring cognitive tasks as categorizing, reasoning, remembering, problem solving, decision making, and ongoing understanding, but gave only such partial and selective glimpses of those models as had come to be embedded in the lexical structure. In the tradition of formal semantic analysis, special tasks were devised that induced subjects to rely on lexical structure for their performance; as Randall (1976) first pointed out, however, naming and discrimination tasks such as these are infrequently encountered in the ordinary course of life.

Even the "psychologically real" analyses of people's judgments of semantic similarity, which followed on the heels of formal semantic analysis, proved to be of limited insight into the organization of cultural models.

Such analyses revealed that people brought something more in the way of cultural understanding than word knowledge or even "encyclopaedic" knowledge, to use Sperber's (1975:91–94) term, to their improvisations of these unfamiliar sorting tasks. But what this something more was still had to be filled in.

Several papers in this volume represent the culmination of this methodological tradition. Both the paper by White and that by Holland and Skinner show how additional analysis of natural discourse must be introduced to make sense of the results of multidimensional scaling (and by implication other multivariate analyses) of semantic similarity judgments. Holland and Skinner's paper is a particularly telling critique of the tradition in cognitive anthropology that has relied exclusively on the interpretation of such semantic similarity results. Their analysis argues that the items composing the lexical domain of gender labels used by college students are related in an interesting but oblique way to these students' presupposed knowledge of gender relationships. The terms label individuals who violate cultural expectations about the course of normal relationships between males and females. To understand these labels, one must understand the presumed relationship. An interpretation based on labels of gender types alone, then, would be missing the central assumptions of the cultural model. Lutz makes a similar point in her paper about Ifaluk emotion words: The meaning of these words cannot be fully grasped from an analysis of the words alone; one must have an understanding of the Ifaluk ethnotheory of emotion that underlies them.

This is not to argue that semantic similarity-based multidimensional scaling analyses and other such techniques should be discarded. People do sometimes use semantic similarity of terms to accomplish such natural tasks as inferring information about acquaintances (D'Andrade 1965; 1974). Moreover, both White and Holland and Skinner demonstrate the utility of the method of analysis as a preliminary step in recovering cultural models. Elsewhere than this book, D'Andrade (1984b; 1985) has made the same use of these scaling techniques; he shows the considerable advantage of such analysis for sketching in the broad outlines of a large domain of American culture, that of person perception. Such an approach is highly efficient but relatively crude. It necessarily sacrifices depth for scope; description of how particular parts of the model work for rapid identification of key components and orientation of these components relative to one another. Such scope is important because, as is discussed further in the final section of this introduction, cultural models appear to interpenetrate one another, some of general purpose playing a role in many other more special-purpose models. Thus, for example, in this volume, assumptions about relations among thought, intention, and action, which figure in a folk model of the mind argued by D'Andrade to be widely shared by Americans, are shown by White to underlie our model of problem solving. Assumptions about difficulty, effort, and success, which

D'Andrade (1984b) has shown to be part of a shared American model of task performance, play a role in Americans' model of marriage, as described by Quinn (1985, this volume). In Samoan thought, Clement (1982) has found notions of valued social identities to underlie understanding of mental disorders. A sweeping view identifies these interconnections. Thus, a methodological division of labor seems to be emerging. Multivariate analyses of semantic similarity judgments, techniques by which a relatively large quantity of data can be efficiently collected and effectively reduced, are used to sketch in a map of the territory and orient it relative to other domains, while different methods provide the higher resolution needed to explore a given terrain closely.

New approaches to the investigation of cultural models, then, reflect a recognition that the relationship between a model and any regularities in the terminology of semantic domains referenced by this model is likely to be complex and indirect at best. Consequently, there are no mechanical procedures by which the former can be derived from the latter. Now, word meaning and, indeed, all of language are viewed as holding possible clues to the underlying cultural knowledge that enters into linguistic and other behavior. Reconstructing the organization of this cultural knowledge, however, requires kinds of linguistic data richer in such clues than the data provided by naming and sorting tasks, and it requires eclectic exploitation of all possible sources of such data.

The major new data sources that cognitive anthropologists have adapted to the task of reconstructing cultural models, represented in this volume, are two: systematic use of native-speaker's intuitions, and analysis of natural discourse. For many nonanthropologist practitioners of cognitive science, of course, neither method is new. The former is exemplified in the volume papers by Lakoff and Kövecses, by Sweetser, and by Kay, all linguists for whom the method of developing one's analytic model out of one's native-speaker's intuitions, and verifying this model against further intuitions, is a matter of disciplinary canon. Using his own native speaker's intuitions represents a methodological departure, however, for anthropologist D'Andrade, who draws not only on his intuitions about the language of mental processes, but also on a long tradition of introspection about such matters by philosophers.

What all these papers suggest is that the intuitions of native speakers about their language are heavily dependent on the intuitions of these natives as culture-bearers. Sweetser, for example, demonstrates elegantly how our judgment that some speech act is or is not a *lie,* depends on cultural assumptions about the simplified worlds of communication and mutual assistance in which such acts occur. Kay shows that the co-existing, alternative folk theories of language that lie behind the two hedges, *loosely speaking* and *technically,* depend on cultural assumptions about the nature of truth and the authority of experts, respectively.

It is of interest that neither Sweetser, on the one hand, nor D'Andrade

on the other are comfortable with a cultural analysis validated solely
against their native-speaker's intuitions. Sweetser goes on to show that
the model she constructs on the basis of her own introspection and the
accounts of linguistic philosophers can parsimoniously account for ex-
perimental findings of Coleman and Kay (1981), who elicited subject's
judgments as to whether a lie had been told in each of a series of
systematically varied hypothetical cases. D'Andrade demonstrates that in-
terview responses to questions about mental events are explicable in terms
of his model of the mind. These efforts at independent verification of
analyses derived from native speaker's intuition, against the linguistic
responses of other speakers, can be interpreted as attempts to satisfy alter-
native standards of evidence that co-exist in multidisciplinary enterprises
such as the one in which this group of cognitive scientists is joined. This
strategy of building accounts from native speaker's intuitions and then
testing them against other, independent observations can be expected to
become a methodological hallmark of future investigations into cultural
knowledge.

The models developed in other papers rely heavily on another method
likely to become a mainstay of the new enterprise. This is an eclectic kind
of discourse analysis fashioned, as necessary, out of borrowed parts.
An important source of inspiration for this methodological approach has
been Linde, a linguist whose earlier work on discourse types (1978; n.d.)
has influenced most of the anthropologists in the group. Many of these
papers – most explicitly, those of Hutchins, Kempton, Quinn, Collins and
Gentner, and Linde herself – show how the type of discourse Linde calls
explanation can be exploited to reveal the cultural models that underlie
speakers' reasoning. Kempton, for example, infers the underlying folk
theories of home heating devices that informants hold from the metaphors
they use, as Quinn infers from interviewees' metaphors the underlying
propositions they are asserting about marriage. Collins and Gentner are
able to identify a limited number of schemas or "component models" that
recur in their subject's explanations of evaporation. Likewise, Linde un-
covers a small number of recurrent "explanatory systems" identifiable by
characteristic themes in American interviewees' explanations of their oc-
cupational choices, such as the "split self" theme, which is part of the
Freudian explanatory system, and the "non-agency" theme, which is char-
acteristic of the behaviorist explanatory system. Price's paper mines another
discourse type discussed by Linde, *narrative,* in Ecuadorian stories about
illness episodes, to reconstruct cultural understandings about familial roles
from their "traces" in these narratives: what narrators highlight, elaborate,
leave unsaid, mark with counter-examples, and comment on in affective
propositions.

Another powerful influence on several of the anthropologists in this
group has been Hutchins's (1980) book on Trobriand land litigation.
Hutchins demonstrated how explanation in natural discourse could be

decoded to reveal cultural schemas for the propositions on which the argument of the discourse was based. Schemas, in Hutchins's usage, state propositional relations in terms of variable ranges, so that a given schema serves as a "template" from which any number of propositions can be constructed (ibid.:51). Trobriand litigation over land transactions, however, is a special-purpose discourse that uses a limited set of such schemas composed of highly technical information about the specific rights in land that may be transferred as a result of particular prestations. Could his approach be used to discover the schematic structure underlying more general-purpose explanation (Quinn 1982a)? Three papers in this volume, by Lutz, Quinn, and Hutchins himself, would seem to answer "Yes."

Lutz analyzes word definitions, natural instances of word use, and more general propositional statements elicited from interviewees to reveal the "basic level schemas" that enter into the Ifaluk cultural model of emotion and how these schemas concatenate to form statements and inferences about common situations and their associated emotions.

Quinn's analysis identifies stable proposition-schemas and schemas of chained propositions used in reasoning about marriage. As she shows, it is necessary first to decipher the metaphorical speech in which propositions are cast, the referencing of earlier propositions by later ones, and the causal constructions linking one proposition with another, in order to reveal the common underlying schemas in this talk.

Hutchins cracks an even less obvious code, showing that mythic schemas, as disguised representations of their repressed thoughts and fears, enable Trobrianders to reason about their relations to deceased relatives. Key to his interpretation is the identification of the propositional structure of the myth with an analogous structure outside the myth, in a "relevant bit of life."

Thus, although it is fair to say that much of the original ethnoscientific enterprise was driven by a seemingly powerful method – semantic analysis – and constrained by the unforeseen limitations of that method, the same is not true of modern cognitive anthropology. Current efforts are more intent on theory building than on the pursuit of any particular methodology. The theoretical question is: How is cultural knowledge organized? The methodological strategy is to reconstruct the organization of this shared knowledge from what people say about their experience. To this strategy, cognitive anthropology has adapted some of the time-honored methodological approaches of linguistics.

An account of cultural knowledge from artificial intelligence

This volume presents some initial answers to the question: How is cultural knowledge organized? In doing so, it makes a contribution, not to the field of cognitive anthropology alone, but to the multidisciplinary enter-

prise of cognitive science. Cognitive science asks: How is knowledge organized? However, the central role of culture in the organization of this everyday understanding has only recently begun to be appreciated by cognitive scientists. Efforts within artificial intelligence to model understanding by computer confront culture when, as is often the case, the task solution to be modeled depends on preexisting knowledge of the sort human beings draw on so readily.

Robert Abelson (1975:276) has referred to the difficulty of incorporating this knowledge into computer simulations as the "size problem," concluding that "there is too much common sense knowledge of the world in even the humblest normal human head for present computer systems to begin to cope with." Recognizing that most artificial intelligence has avoided the problem either by dealing with very restricted domains, or by modeling very general cognitive mechanisms that work in principle but never operate in actual situations, Abelson himself has attempted, with Roger Schank (1977), to design a more knowledgeable understander. Because theirs is arguably the most thoughtful attempt, from this quarter of cognitive science, to build cultural knowledge into understanding, and because their formulation is widely known to cognitive science audiences, a brief discussion of their work will be useful in order to say why anthropologists find it lacking and to compare it with the approach represented in this volume.

Schank and Abelson (ibid.) begin with the notion of *scripts* as basic building blocks of our everyday understanding. Scripts, derived from daily routine, are standardized sequences of events that fill in our understanding of frequently recurring experiences. The "restaurant script," now famous in cognitive science circles, guides the customer through the series of interchanges required to get a meal at a restaurant – getting seated, ordering, paying, and even sending unacceptable food back to the kitchen or adjusting the size of the tip to reflect the quality of service received. All this is mundane, but undeniably cultural, knowledge. (A strikingly similar approach to cultural knowledge of routinized events has been offered by anthropologist Charles Frake, who provides an analysis of such a routine in another culture; see Frake 1975; 1977.)

The cultural models to be described here bear an intriguing resemblance to Schank and Abelson's scripts. Their enactment is not tied to a concrete physical setting, as is that of the restaurant script. They do, however, have two features that Abelson (1981:3) has singled out to characterize scripts:

> The casual definition of a script is a "stereotyped sequence of events familiar to the individual." Implicit in this definition are two powerful sources of constraint. One is the notion of an event sequence, which implies the causal chaining of enablements and results for physical events and of initiations and reasons for mental events. . . . The other constraint generator comes from ideas of stereotypy and familiarity. That an event

sequence is stereotyped implies the absence of fortuitous events. Also, for
events to be often repeated implies that there is some set of standard in-
dividual and institutional goals which gives rise to the repetition.

The papers in this volume illustrate how our knowledge is organized in
culturally standardized and hence familiar event sequences that tell, for
example, how marriage goes (Quinn); or how anger is engendered, expe-
rienced, and expressed (Lakoff & Kövecses); or under what circumstances
a lie has been told (Sweetser); or what to expect in a relationship between
two young adults of opposite gender (Holland & Skinner); or that wishes
give rise to intentions and intentions to actions (D'Andrade). These
"stories" include prototypical events, prototypical roles for actors, proto-
typical entities, and more. They invoke, in effect, whole worlds in which
things work, actors perform, and events unfold in a simplified and wholly
expectable manner. These events are chained together by shared assump-
tions about causality, both physical and psychological, as Abelson's char-
acterization of scripts suggests. Abelson's casual definition of a script has
much in common with what we here call a "cultural model" (or sometimes,
a "folk model") to capture both its dynamic role in guiding expectations
and actions and its shared possession by the bearers of a culture.

To this point, the account of shared knowledge rendered by Schank
and Abelson is not dissimilar to our own. Beyond scripts, however, the
two accounts begin to diverge. The first difference is one that would strike
any anthropologist. Schank and Abelson are not explicit about the cultural
nature of the knowledge they invoke. They write of "well-developed belief
systems about the world" (ibid.:132); however, they tend to attribute such
belief systems to pan-human experience of how the world works (ibid.:119)
rather than questioning whether some of these belief systems might be
unique to our own culture. Without trying here to settle the big question
of cross-cultural universals in human thought (a question D'Andrade and
Sweetser address in this volume), we assert that many of Schank and
Abelson's examples invoke knowledge peculiar to Americans.

Cultural knowledge is key to the higher-order structures that embody
goals in Schank and Abelson's formulation. As their inventors were the
first to point out, all is not scripts. There is more to understanding than
knowing how get a meal at a restaurant and how to execute the numerous
other scripts and plans for carrying out all our daily objectives. As Schank
and Abelson are led to ask, how do these goals themselves arise? How
are story understanders and other observers of the everyday world able
to assess actors' goals and predict their future goals? Schank and Abelson's
answer is that related goals are bundled together in "themes." These themes
are said to generate actors' goals as well as other people's inferences about
these likely goals. It is possible to make such inferences about the goals
of other people, presumably, because knowledge of themes, no less than
knowledge of scripts, is shared.

Anthropologists found this account at once provocative and unsatisfactory. Themes generate related goals. But how are they related? Schank and Abelson (ibid.) propose three types of theme: "role themes," like WAITRESS or SHERIFF; "interpersonal themes," like MARRIED or LOVER; and "life themes," like SUCCESS or LUXURY LIVING. Each of these labels conjures up to the anthropologist a vast store of cultural knowledge. However, merely naming themes MARRIED or SUCCESS begs the question of how this shared knowledge of being married or achieving success organizes the goals we associate with these respective themes. Perhaps because Schank and Abelson supply examples drawn from their own cultural knowledge, which has a seeming naturalness for them, they take for granted in their theoretical formulation the same complex knowledge that ordinarily goes unquestioned in their everyday lives.

Schank's (1982) more recent reformulation of the theory of scripts is much more sophisticated about how knowledge must be hierarchically organized and continually modified in memory in order to account for such processes as reminding and the generalization of learning. At the same time, however, Schank's newer account more glaringly exposes the inadequacy of a theory of the organization of knowledge that gives an insufficient role to how human beings acquire most of their knowledge, especially their most general understandings. Failing to make a place in his account for knowledge that is culturally shared and transmitted, Schank is left with the awkward supposition that an individual's understanding of the world is accumulated through the painstaking generalization of knowledge from one firsthand experience to another. It is difficult to imagine how people could learn as much as they know, even by the time they reach adulthood, from personal experience alone.

Many of Schank's favorite examples, such as that of learning a different routine for ordering, paying, and eating in fast-food restaurants than that followed in regular restaurants, may represent the kind of detailed knowledge of setting-specific conventions that is, in fact, normally picked up in personal encounter with each new setting. However, others of his examples are less readily assimilated to this model of learning from actual experience. Knowledge of the "societal conventions" (ibid.:98) surrounding the idea of CONTRACT, for instance, is said to be generalized from successive experiences in which services are procured – meals at restaurants, visits to doctors' offices, home visits from plumbers, and the like. It is implausible to suggest that people learn all they need to know about such complex cultural matters as are embedded in CONTRACT or MARRIED or SUCCESS (e.g., that MARRIED has something to do with the other two) solely from successive experiences with actual contractual relations, marriages, and personal successes. Indeed, we know that individuals have sizable expectations about such things before ever experiencing them personally. Moreover, as Schank stresses, what happens to different people and how they respond to these experiences differs; if direct experience were

the only source of knowledge, then each individual's understanding of the world would diverge from that of every other individual. Indeed, this is what Schank is led to conclude: "There is no reason," he notes (ibid.:224), "why structures that are based on experience should bear a relationship to any other person's structures." But of course, even allowing for their unique individual perceptions of the world, people somehow do end up with considerable shared knowledge. To pursue one of Schank's examples, the homeowner who calls a plumber about a leaking pipe and the plumber who comes to replace it can negotiate a contract between them, even though they have never met one another before, grew up in different parts of the country, and have entirely different class and ethnic backgrounds. How this comes to be is left unexplained in Schank's formulation.

The research presented here assumes that individuals are heir to a great deal of knowledge about the world that they do not necessarily draw from firsthand experience. Cultural knowledge is typically acquired to the accompaniment of intermittent advice and occasional correction rather than explicit, detailed instruction; but it is learned from others, in large part from their talk, nonetheless (D'Andrade 1981). This is perhaps most clearly illustrated by highly abstract ideas, such as the theory of relativity, philosophical arguments about the meaning of existence, or cultural conceptualizations of self and group identity, which are transmitted and perpetuated through language and could hardly be learned without it (Holland 1985:406–407). There is perhaps no experience, however concrete or however novel, that is not informed in some way by the culturally transmitted understandings an adult individual brings to that experience.

The work in this book goes on to address the question: How does this received knowledge organize our understanding? Cultural models, as conceived by this volume's authors, play the conceptual role blocked out by "themes" in Schank and Abelson's original formulation. Cultural models frame our understanding of how the world works, including our inferences about what other animate beings are up to, and, importantly, our decisions about what we ourselves will do. With Lutz (this volume), we want to claim that many of our most common and paramount goals are incorporated into cultural understandings and learned as part of this heritage.

An account of cultural models from prototype theory

Our view of cultural models has obvious connection to ideas about *prototypes*, which have figured importantly in cognitive scientists' recent discussions of knowledge representation. Event sequences played out in "simplified worlds" (Sweetser's term, this volume) appear to serve as prototypes for understanding real-world experience. The notion that schematic structures, or *schemas* of some kind, systematically organize how experience is understood, has wide acceptance in cognitive science, including cognitive anthropology (Casson 1983). That prototypes (e.g., the most representa-

tive members of a category) might serve as schemas for categories of things, is an appealing implication of Rosch's experimental research on categorization (fully reviewed in Rosch 1977; as Rosch stressed in a 1978 assessment of this work, however, the identification of prototype effects is not to be mistaken for a theory of mental representation accounting for these effects). Anthropologists are perhaps more familiar with the prototype notion from its original application to color categories in the work of Paul Kay and his associates (Berlin & Kay 1969; Kay & McDaniel 1978). The extension of the notion from its earliest application to color and such physical objects as birds and furniture, to prototypical event sequences, has reached anthropology through linguistics.

Linguists first came to see the necessity of incorporating cultural knowledge into their accounts of word use. Perhaps the single most-cited example of a folk model, at the conference from which this volume grew, was the analysis of *bachelor* provided by linguist Charles Fillmore (1975; 1982). Fillmore had argued that traditional "checklist" definitions of words such as *bachelor* were inadequate. In the checklist view, a bachelor is a man who has never been married (Katz & Fodor 1963:189–190). However, as Fillmore pointed out, this definition utterly fails to explain why we do not consider, for example, the Pope to be a bachelor, or a wolf-boy grown to maturity in the jungle. (Or, we might be tempted to add if we were linguists, a male victim of brain damage who has been in a coma since childhood.)

This critique of the traditional linguistic approach to word definition parallels anthropologists' dissatisfaction with componential analysis of lexical sets discussed in an earlier section: Both accounts appear to leave out a crucial part of what speakers have to know in order to use a word or a system of terminology. The alternative Fillmore proposed is that the word *bachelor* "frames," in his term, a simplified world in which prototypical events unfold: Men marry at a certain age; marriages last for life; and in such a world, a bachelor is a man who stays unmarried beyond the usual age, thereby becoming eminently marriageable. (Fillmore might have noted that the bachelor's female counterpart, the spinster, suffers a different fate.) Here is an example of a folk model presumed by a single word.

A similar analysis, of the word *orphan*, has been offered by the linguist Ronald Langacre (1979). Quinn (1982b) has argued that a cultural model of difficult enterprises underlies the polysemous meanings of the word *commitment*, as this word is used in reference to marriage. Fillmore has elsewhere (1977) suggested that a set of related verbs from the domain of commerce can be understood as elements in "the scene of the commercial event," which is activated by use of one of these words, such as *buy* or *pay*. Several of the volume papers emerge directly from this linguistic tradition, an approach Fillmore has labeled "frame semantics." Sweetser's analysis of *lie* is perhaps the most sustained linguistic analysis of the

simplified world required to explain use of a single word. Kay's reconstruction of the folk theories about language and speech that inform use of *loosely speaking* and *technically* extends this tradition to the analysis of hedges. The paper by Lakoff and Kövecses can be viewed as extending the same linguistic approach to another feature of language, metaphor. They show that American English metaphors for *anger* are structured in terms of an implicit cultural model of human physiology and emotion, which they delineate.

Understandably, linguists are most concerned with the important implications of underlying cultural models for their theories of word definition, metaphor, polysemy, hedging, and other linguistic phenomena (but see Lakoff 1984). Anthropologists tend to orient their analyses in the opposite direction, treating linguistic usages as clues to the underlying cultural model and working toward a more satisfactory theory of culture and its role in such nonlinguistic tasks as reasoning (Hutchins 1980; and the papers by Hutchins, by Lutz, and by Quinn in this volume), problem solving (Kempton this volume; White this volume), and evaluating the behavior of others (D'Andrade 1985; Holland & Skinner this volume; Price this volume). However, the different questions that draw linguists and anthropologists should not obscure the common insight that brought together this particular group of linguists and anthropologists in the first place: that culturally shared knowledge is organized into prototypical event sequences enacted in simplified worlds. That much of such cultural knowledge is presumed by language use is as significant a realization to anthropologists as to linguists. For the latter, these cultural models promise the key to linguistic usage; for the former, linguistic usage provides the best available data for reconstruction of cultural models.

The forms cultural knowledge can take

How is the knowledge embodied in cultural models brought to the various cognitive tasks that require this knowledge? Lakoff (1984) offers some extremely helpful starting suggestions about types of cognitive models, observations that are as applicable to the culturally shared cognitive models described in this volume as to the more idiosyncratic cognitive models individuals devise.

PROPOSITION-SCHEMAS AND IMAGE-SCHEMAS

Lakoff (ibid.:10) makes a useful distinction between what he calls *propositional models* and *image-schematic models*. Consonant with the work of Hutchins (1980), which demonstrates the utility of a notion of culturally shared schemas for propositions and sets of linked propositions, we adopt the term *proposition-schema* to refer to Lakoff's "propositional model," and for parallel syntax, *image-schema* to refer to Lakoff's "image-schematic model." Image-schemas and proposition-schemas, then, are two

alternative forms in which knowledge may be cast. (Since a cultural model may be recast in one or the other type of schema, or may use the two in combination, it seems clearest to reserve the term *model*, in the present discussion, for the entirety of a prototypical event sequence embedded in a simplified world and to talk about "schemas" as reconceptualizations of given cultural models, or components of such models, for particular cognitive purposes. The reader should beware, however, of the differing and conflicting uses of *model* in related literature, including some papers in this volume; as is typical of new theoretical endeavors, this one has not yet gotten its terminology under control.[2]). Indeed, we argue, proposition-schemas and image-schemas seem suited to different kinds of cognitive tasks.

In the present volume, various papers illustrate proposition-schemas, with D'Andrade's describing perhaps the most complex set of related proposition-schemas, those of Lutz and Quinn showing how fixed schemas of related propositions may be used in reasoning, and that of White showing how the proposition-schemas underlying proverbs may be invoked for problem-solving. Proposition-schemas specify concepts and the relations which hold among them (Hutchins 1980:51; Lakoff 1984:10). As Quinn points out for reasoning about marriage, in the discourse type Linde calls *explanation,* the causal assumptions connecting proposition to proposition are often dropped out, making these connections seem "empty." In fact, the reasoner, and any listener who shares the same knowledge, can fill in the missing information as necessary for clarification. The capability, afforded by proposition-schemas, of dropping out this detailed knowledge allows speakers to present relatively lengthy arguments and arrive at their conclusions with reasonable economy. Much more generally, the stable, culturally shared proposition-schemas available for instantiating such causal chains not only facilitate the task of communicating familiar inferences about the world but also allow these inferences to be made swiftly and accurately in the first place.

This is an implication of the ability shown by Quinn's American interviewee, Lutz's Ifaluk informants, and the Trobriand litigants in Hutchins's (1980) study alike to work readily through relatively complex reasoning sequences. It is brought home in a study by D'Andrade (1982), who demonstrates the dramatic improvement in American university students' performance of a reasoning task requiring a complex contrapositive inference, when abstract logical values are replaced with familiar concrete relationships such as that between rain and wet roofs. Presumably, that causal relation, like the relation Americans recognize between marital difficulties and impending divorce, and that the Ifaluk recognize between the emotion of *ker* and subsequent misbehavior, is inferred from a readily available proposition-schema. Further, Lutz suggests, the structure of proposition-schemas may enable children to learn the content of cultural models in stages, first mastering abbreviated versions of proposition-schemas – or

"chunks" in Hutchins's (1980:115–116) terminology – in which interven-
ing links in a complex chain of causality are omitted and only later
understood.

Image-schemas lend themselves to quite different uses. Lakoff (1981)
regards image-schemas as gestalts just as visual images are. However, they
are much more schematic than what we ordinarily think of as visual im-
agery, and they may contain not just visual components but also kin-
aesthetic information of all kinds. The examples he provides – "Our
knowledge about baseball pitches includes a trajectory schema. Our
knowledge about candles includes a long, thin object schema" (Lakoff
1984:10) – make clear that image-schemas convey knowledge of physical
phenomena, such as shape and motion.

In the present volume, Lakoff and Kövecses provide an example – of
anger conceptualized image-schematically in terms of hot liquid in a con-
tainer. Kempton's informants provide another: For some of these people,
the "valve" theorists, home thermostats are imagined as faucet-like devices;
for others, the "feedback" theorists, as on–off switches. The labels Collins
and Gentner give to the various "component models" (our "image-
schemas") on which their subjects draw to imagine how evaporation
works – the "sand–grain" model, the "random–speed" model, the "heat-
threshold" model, the "rocketship" model, the "container" model, the
"crowded room" model, and so forth – graphically convey the image-
schematic nature of these components that subjects combine into a runable
model of the process by which molecules might be conceived to behave
in the water at the outset of evaporation, escape from the water into the
air, behave in the air, return to the water, change from liquid to vapor,
and vice versa.

Two of these studies suggest strongly, if they do not demonstrate con-
clusively, that image-schemas are actually being used to perform the
cognitive task that is verbally described for the investigator, rather than
just being used to construct the verbal account of that task (a cognitive
task in its own right, but a different one). The reports Kempton's infor-
mants give of their thermostat adjustment habits agree with his predic-
tions, based on which of the two image-schemas household residents are
using. Collins and Gentner compare the content of subjects' verbal pro-
tocols to the adequacy of their explanations for mundane observations,
such as why you can see your breath on a cold day. The answers given
by the two subjects illustrate two divergent tendencies, which seem to
reflect the greater success of the first subject in reasoning from image-
schemas. The second subject was able to give fewer correct answers and
often fell into inconsistencies. From his protocols this appears to be
because, unlike the first subject, he had not established a stable set of
image-schemas with which to work through the hypothesized evaporation
process and against which to check his reasoning for inconsistencies.
Rather, he invoked a different component model for every answer and

relied frequently instead on isolated analogies to different phenomena he happened to have seen or heard about.

More extensive evidence that image-schemas indeed enter into the performance of a task comes from Gentner and Gentner (1983). They argue that subjects use one of two different analogies for explaining electricity. This study shows convincingly that choice of analogy has consequences for reasoning: Subjects using each characteristically make different kinds of mistakes. The nature of these mistakes would seem to favor the interpretation that subjects are reasoning from image-schemas of the physical-world analogy they use. For example, subjects who adopt the "teeming crowd" model of electricity are predictably better able to understand the difference between parallel and serial resistors, which they view as gates. These people correctly respond that parallel resistors (viewed as two side-by-side gates) give more current than a single resistor; serial resistors (viewed as two consecutive gates) less. An image-schematic interpretation would argue that such subjects gain an advantage by being able to manipulate these "gates" mentally and visualize how electricity, like a racing crowd, might make its way through them. Subjects who use the "flowing fluid" model, on the other hand, typically err in their explanations of parallel and serial resistors, viewing resistors as impediments to the passage of a fluid. These latter people conclude that both combinations of resistors constitute double obstacles and thus that both result in less current.

Image-schemas seem well-adapted to thinking about not only physical relations but logical ones as well, when that logic is amenable to reconceptualization in spatial terms. Johnson-Laird and Steedman (1978), for instance, have argued that subjects solve difficult syllogisms by conjuring up Venn-diagram-like schematic relationships among groups of imaginary entities and then consulting these mental diagrams to read off the overlap between groups. Image-schemas would seem to permit the scanning and manipulation required by certain kinds of complex reasoning.

THE ROLE OF METAPHOR IN SUPPLYING IMAGE-SCHEMAS

Lakoff (1984:10) goes on to argue that metaphor plays an important role in cognitive modeling, mapping proposition-schemas and image-schemas in given domains onto corresponding structures in other domains. Such mappings have a characteristic direction, as Lakoff and Johnson (1980:56-68) observed: Metaphors appear to introduce information from physical-world source domains into target domains in the nonphysical world. Why this should be so has not been made entirely clear. Lakoff and Johnson (ibid.:57, 61-62) sometimes seem to be suggesting that the concepts metaphors introduce are more readily understandable because they are grounded in our bodily interaction with the physical environment. However, Holland (1982:292-293; see also Butters 1981) points out that this is demonstrably not the case for Lakoff and Johnson's prime example, the metaphor ARGUMENT IS WAR. Lakoff and Johnson assert that

we understand war more readily because of its basis in our evolutionary
history as human animals, equipped for physical conflict. Holland
responds that our understanding of modern war, far from resting on a
conception of primal physical combat, is just as culturally given as our
notions about argument; and argument is the more directly apprehended
experience for most Americans.

We suggest, rather, that the advantage of metaphors from the physical
world rests on the nature of physical experience itself, and the manner
in which physical properties and relations are apprehensible to human be-
ings: – a view that Lakoff and Johnson (1980:58, 60–61) at other points
seem to be developing. The present discussion about the role of image-
schemas in understanding allows us to be more precise. Image-schemas
are constructed out of physical properties and relations, and the advan-
tage of metaphors drawn from domains of the physical world is that these
source domains provide the material for image-schemas. Metaphor is im-
portant to understanding, then, because it enables image-schematic
thought. Thus, it does not really matter whether WAR is grounded in ac-
tual experience or genetic memory of physical combat, or known indirectly
from depictions of such combat. What makes it a useful metaphor for
ARGUMENT is that, unlike the latter, war is largely culturally defined
for us in terms of physical space – battlegrounds, battle lines, routes
of retreat, demilitarized zones, and so forth – occupied by physical
occurrences – troop advances, cross-fire, body counts, and so forth. The
metaphor allows the largely intangible social dynamics of argument to be
reconceptualized in the image-schematic terms provided by the tangible
events of war.

The result of any such mapping, from physical experience in the source
domain to social or psychological experience in the target domain, is that
elements, properties, and relations that could not be conceptualized in
image-schematic form without the metaphor can now be so expressed in
the terms provided by the metaphor. Such a result is achieved, for exam-
ple, by the metaphor of anger as a hot fluid in a container, which can
be envisioned as boiling, producing steam, rising, and exerting pressure
on its container, which, as a consequence, can be imagined to explode.
Similarly, the image-schema of marriage as an entity allows it to be con-
ceptualized as a manufactured object more or less well constructed and
hence more or less likely to fall apart; and the image-schema of a prob-
lem as a protrusion on the landscape allows it to be reduced, conceptu-
ally, from the size of a mountain to the more realistic, and hence sur-
mountable, size of a molehill. Like other image-schemas, metaphorically
derived image-schemas are gestalts that make multiple relations more im-
mediately apprehensible. These gestalts can then be scanned to arrive at
entailments among related elements and manipulated to simulate what
would be entailed under different conditions.

In their paper, Collins and Gentner decompose the process by which

novices – struggling to explain a physical phenomenon, evaporation, about which they have probably never before been asked – generate their explanations by analogy and the image-schemas it provides. The subjects manipulate image-schemas, or as these authors put it, "run mental models", to simulate what might happen under various conditions.

Collins and Gentner argue convincingly that subjects perform mental simulations in new domains by partitioning the system they are trying to understand (here, evaporation) into a set of component processes. Then models (in our terms, image-schemas) can be mapped analogically onto each component process from some known domain. For example, sometimes subjects use a "heat-threshold" model of the process of molecular escape from the water to the air; this model (incorrectly, as it happens) has molecules popping out of the water like popcorn when they reach a certain temperature. Collins and Gentner show, then, how analogies are used to supply image-schemas that can be set into imaginary motion and mentally observed in action. Interestingly, they provide an example of the importation of image-schemas from physical-world source domains to a target domain that is also in the physical world but that cannot be conceptualized image-schematically in its own terms, because its physics is unknown to the subject and unavailable for direct observation. (That they choose to call these mappings "analogies" rather than "metaphors" may simply be that mappings from one physical-world domain to another are less typical of what we have learned to treat as metaphor than mappings from a domain of physical experience to a domain of nonphysical experience.) Just as do intangible social and psychological experiences, this unknown and invisible physical phenomenon requires translation for image-schematic conceptualization.

Given this special role of well-understood physical-world domains in providing image-schematic representation for other domains of experience, then these authors' description of how people run mental models of an unknown physical process constructed from their knowledge of other physical processes takes on a special significance. Perhaps because subjects are aware that there exists a well-specified scientific account of evaporation, one they perhaps should know, they are willing to work harder at the attempt to produce an explicit and coherent explanation of it than, say, D'Andrade's (this volume) interviewees, who are not attempting to approximate an accepted "scientific" account of mental processes. Close analysis of the full, extended responses given by subjects as they think through explanations for this relatively complex and unfamiliar physical phenomenon is a strategy that allows Collins and Gentner to describe the reasoning process in fine detail. Their paper reveals the ability of mental models research from psychology to specify a cognitive process, reasoning from image-schemas, which may prove central to linguistic and anthropological accounts of cultural models in all domains of experience. Here is a crucial link between two lines of research.

Many of the papers in this volume illustrate Lakoff and Johnson's (1980) claim that ongoing understanding often relies on the rich mapping potential of metaphor. However, Quinn's paper and that of Lakoff and Kövecses suggest that metaphors are extended, not willy-nilly from any domain to any other, but in closely structured ways (see also Holland 1982:293–294). A multiplicity of metaphors for marriage or for anger or for types of men (Holland & Skinner 1985) fall into a handful of classes. What appears to constrain these metaphors to these classes is the underlying cultural model in the domain to which they are mapped: The classes from which speakers select metaphors they consider to be appropriate are those that capture aspects of the simplified world and the prototypical events unfolding in this world, constituted by the cultural model. Chosen metaphors not only highlight particular features of the cultural model; as we discuss, they also point to entailments among these elements. Thus, one husband's metaphor of marriage as a "do-it-yourself project" at once suggests for him the durable quality of something made in this manner – "it was very strong because it was made as we went along" – and implies, additionally, the craft and care and effort that must go into such a thing to make it well. Speakers often favor just such metaphors, which allow two or more related elements of the source domain to be mapped onto a corresponding set of related elements in the cultural model (Quinn 1985) and a comment on that relation to be made. At the same time, other metaphors that fail to reflect, or even contradict, aspects of the cultural model in the target domain to which they are mapped are likely to be rejected. Quinn (ibid.) gives an anecdotal example in which marriage was likened to an ice-cream cone that could be eaten up fast or licked slowly to make it last longer – a metaphor in such clear violation of our understanding of marriage as an enduring relationship that it bothered and offended members of the wedding at which it was voiced.

THE ROLE OF METONYMY IN STRUCTURING CULTURAL MODELS

In Lakoff's (1984) formulation, metaphor does not exhaust the possible devices for structuring our understanding; metonymy has a central role to play. A *metaphoric model* maps structures from one domain to another; what Lakoff terms a *metonymic model* structures a domain in terms of one of its elements. Something is gained by this substitution of part of a category for the category as a whole: the former "is either easier to understand, easier to process, easier to recognize, or more immediately useful for the given purpose in the given context" (ibid.:12). Thus, for example, the social world in which some men are bachelors is structured, not by our full knowledge of the many possible courses men's lives may take, but by what Lakoff calls a *typical example* of a male life course. This life course, treated as canonical for men, provides the presupposed world within which *bachelor* is an applicable term.

Typicality is not the only metonymic relation that may hold between a domain and some element in this domain. Again, the papers in this volume provide examples of several types of metonymic model treated by Lakoff (ibid.:12–15). Just as there exists in our minds, against the backdrop of a typical male life course, a stereotype of the sort of man who would deviate from this course to remain a bachelor (ibid.:21), so Holland and Skinner's data argue that their interviewees, conceptualizing interactions between college men and women in terms of how such a relationship typically proceeds, understand individuals who violate the expectations engendered by this canonical relationship in terms of (largely) negative *social stereotypes*. These social stereotypes of various kinds of inept and exploitative men are quite different from interviewees' notions of the (proto)typical man. Price discusses how knowledge about social roles is embedded in *salient examples*, remembered illness episodes that are used to characterize appropriate social role behavior both by exhibiting instances of that behavior and, more dramatically, by elaborating counterexamples. The proposition-schemas about marriage that Quinn enumerates exemplify another type of metonymy – *ideals*. Even though Americans might agree that most marriages are difficult, they would probably not agree that most marriages are enduring. This proposition-schema, that MARRIAGE IS ENDURING, derives not from any notion of the statistically dominant pattern, but from an ideal of the successful marital enterprise. Just as a successful marriage is enduring, a happy marriage is mutually beneficial, and a real marriage is lived jointly (Quinn 1985). Finally – in an example that constitutes an addition to Lakoff's list of metonymic types – Hutchins shows that a myth can be understood as a *symbolic reformulation* of events in life, a culturally given yet disguised representation that serves as a defense mechanism against realization of painful and unacceptable sentiments.

Lakoff's discussion gives us a better sense of why cultural models have the prototypical nature they do: They are constructed out of various types of metonymy. In his words, (1984:11),

> Prototype effects are superficial phenomena. They arise when some subcategory or member or submodel is used (often for some limited and immediate purpose) to comprehend the category as a whole.

In either proposition-schematic or image-schematic form, by way of metaphor or not, cultural models draw on a variety of types of idealized events, actors and other physical entities in these events, and relations among these, all of which are available to our understanding of ordinary experience: the typical, the stereotypical, the salient in memory, the mythic, the ideal successful, the ideal happy, and so on. Just as Fillmore has pointed out that simplified worlds provide the context of our understanding, Lakoff has drawn our attention to the fact that these presupposed

worlds are simplified in different ways and that the different types of simplification put our understanding in different perspective.

Any given cultural model may be constructed out of several types of metonymy. We have seen, for example, that the American cultural model of marriage, depending on the metonym in focus, allows propositions about the ideal successful marriage, the ideal happy marriage, and what can be considered a "real" marriage, as well as what the typical marriage is like. All of these ideas are part of the cultural understanding of marriage. Moreover, as is discussed in the final section, the several metonymic types can stand in causal relation to one another, such prototypical causal links yielding the relatively complex chains of event sequences that characterize cultural models. These complexities are constructed out of simple metonymies.

Our discussion of the prototypical nature of cultural models applies equally to our models of these models. Linde (this volume) discusses the interaction between the models of culturally designated "experts," or scientists, and the models of the "folk." Folk models of the world incorporate expert knowledge, as Linde's analysis of life stories shows. Conversely, as suggested by Kay's (this volume) observation that each of the two folk theories of language he identifies has its counterpart in an academic linguistic theory, the former penetrate the latter. As analysts, we cannot expect our "explanatory models" of cultural models, to adopt Caws's (1974) term for them, to be of a wholly different order than the cultural models we seek to explain. Simplification, by means of metonymy, is a feature of both. Nonetheless, by constantly questioning how cultural knowledge is organized, we aspire to a kind of analysis that can be successively improved to capture the native model and the tasks, explanatory and otherwise, to which it is brought by the native user. Not only do we hope to recognize and make explicit the cultural assumptions in our own analytic models, we also hope to minimize the kind of distortion of other people's cultural models that Keesing (this volume) cautions against, that arises from a too-facile reading of metaphysical theories of the world out of formulaic ways of talking.

Cultural models and human cognitive requirements

Given the observation that cultural models are composed of prototypical event sequence set in simplified worlds, we can begin to say something more about the organization of such models and the properties that make them readily learned and shared. In the simplified worlds of cultural models, complicating factors and possible variations are suppressed. In the world of Fillmore's bachelor, males are either old enough to marry or not; and if of marriageable age, they are either already married or yet unmarried – there are no problematic thrice-married divorcés, Sweetser (this volume) points out. As we have seen, the papers in the present volume

provide many additional examples of presupposed worlds defined by such simplifying assumptions. In Americans' folk model of the institution, MARRIAGE IS ENDURING; in the folk model of communication that informs our understanding of lying, INFORMATION IS HELPFUL; in our cultural model of the mind, WISHES GIVE RISE TO INTENTIONS; in Americans' model of the emotion of anger, AN OFFENSE TO A PERSON CAUSES ANGER IN THAT PERSON; in the different world of Ifaluk emotion theory, JUSTIFIABLE ANGER IS CAUSE FOR SUICIDE.

Even further, these worlds are ordered and simplified by implicit presuppositions about how such propositions may be linked one to another. In the Ifaluk model of emotion (described in more elegant notation by Lutz, this volume) because MISBEHAVIOR IN ONE PERSON LEADS TO JUSTIFIABLE ANGER IN ANOTHER, and because JUSTIFIABLE ANGER CAN LEAD THE ANGRY PERSON TO REPRIMAND THE PERSON WHO MISBEHAVED, and because A REPRIMAND CAUSES FEAR AND ANXIETY IN ITS RECIPIENT, then it follows that JUSTIFIABLE ANGER IN ONE PERSON OVER ANOTHER'S MISBEHAVIOR PRODUCES FEAR AND ANXIETY IN THE OTHER. In our own culture (Lakoff & Kövecses, this volume), because AN OFFENSE TO A PERSON PRODUCES ANGER IN THAT PERSON, and because RETRIBUTION CANCELS AN OFFENSE, then predictably, ANGER DISAPPEARS WHEN RETRIBUTION IS EXACTED. The predictable sequence of events, played out in the simplified world of the cultural model, allows that world to be characterized not only by proposition-schemas but also in terms of a smaller number of more complex schemas that specify sets of such propositions and the causal relations in which they stand to one another. It is these "causal chainings," to use Abelson's phrase quoted in an earlier section, that give the events occurring in cultural models their quality of unfolding stories. What we need to learn and remember and communicate about the world is vastly reduced by being packaged in such units.

Further, these models articulate with one another in a modular fashion. As D'Andrade (this volume) makes explicit, a given schema may serve as a piece of another schema. D'Andrade uses Fillmore's example of the commercial transaction to make this clear. To know whether BUYING is taking place, one must invoke the other terms of the relationship to judge whether PURCHASER, SELLER, MERCHANDISE, PRICE, OFFER, ACCEPTANCE, and TRANSFER are involved. Each of these components, in turn, is constituted by a complex schema; but one need not know details of each event such as how the price was actually set or whether it was fair, to know that a sale has taken place. The significance of this latter point, D'Andrade argues, is that this hierarchical organization of cultural knowledge is adapted to the requirements of human short-term memory. To perform any particular cognitive task, such as judging whether

something has been sold by one person to another, an individual need invoke and hold in mind only a small set of criteria – a number not exceeding the limits of short-term memory storage.

The nestedness of cultural models one within another lends a further, far-reaching economy to cultural knowledge. This hierarchical structure in which models of wide applicability recur as elements of models in many domains of experience has implications for long-term memory as well. These general-purpose models considerably reduce the total amount of cultural knowledge to be mastered. A component model such as BARGAINING – a possible way in which price can be set – presupposes and draws on the BUYING schema within which it is nested. In the same way, nested within the cultural model of anger that Lakoff and Kövecses describe is a more widely applicable cultural model of exchange and balance in human affairs; this more general model includes a schema that yields the proposition RETRIBUTION CANCELS AN OFFENSE. In Quinn's model of American marriage, the proposition-schema, MARRIAGE IS MUTUALLY BENEFICIAL, makes sense in terms of the more widely applicable schema for social relationships, VOLUNTARY RELATIONSHIPS ARE MUTUALLY BENEFICIAL; and, since marriage is distinctive among voluntary relationships in that THE BENEFITS OF MARRIAGE ARE FULFILLMENT OF NEEDS, the knowledge that MARRIAGE IS MUTUALLY BENEFICIAL can be filled in by a further model, of need fulfillment, general to our understanding of the self.

Reliance on general-purpose models for filling in knowledge is perhaps even more striking in the case described by Collins and Gentner, in which subjects were called on to answer questions on a subject – evaporation – about which they were untutored in the scientific model and had available no ready-made common-sense theory. In this situation, the interviewees fell back on their understanding of other physical phenomena and attempted to apply very general principles such as that of a heat threshold or that of molecular attraction drawn from their models of these other phenomena.

Clearly, complex proposition-schemas such as those for bargaining, retributive justice, mutual benefit, need fulfillment, and molecular attraction have application across multiple domains of our experience. The capability of such general-purpose cultural models for filling in the details of other cultural models creates a further simplification. This was demonstrated by Quinn's (this volume) interviewee, who was able to reason about the benefits, difficulty, and enduringness of marriage without having to explain the implicit theory of need fulfillment she knows she shares with her addressee. A great deal can be taken for granted.

Parenthetically, it is just these cultural models of wider applicability, serving as modular components of many other models, that give a culture its distinctiveness. As D'Andrade points out in his volume paper, understanding a culture depends on knowledge of at least these widely

incorporated models. Anthropologists have long attempted to capture the distinctiveness of one culture from another in concepts such as that of "cultural themes," or "cultural belief systems," or differing "world views." However, such accounts have typically failed to specify the range of domains in which a given theme, alleged to be central to a culture, applies. Nor have they been able to explicate how such central premises articulate with particular domains of knowledge in which they figure (Clement 1976). The theory of cultural models under construction here promises to identify pervasive cultural premises and to reveal the structural linkages between these premises and the more circumscribed models specific to emotion, problem solving, the mind, gender relations, and the myriad other topics of cultural knowledge.

The account emerging from this volume, then, is one in which cultural understanding is organized into units smaller and simpler in construction and fewer in number than might have been supposed. It is an account that offers a beginning solution to Abelson's "size problem," the problem of how we can learn and use as much knowledge as human beings do. The prototypical scenarios unfolded in the simplified worlds of cultural models, the nestedness of these presupposed models one within another, and the applicability of certain of these models to multiple domains all go far to explain how individuals can learn culture and communicate it to others, so that many come to share the same understandings.

Notes

1. This introduction has benefited immensely from the long, careful readings and comments given an earlier draft by Roy D'Andrade, Edwin Hutchins, Paul Kay, Richard Shweder, and Geoffrey White, as well as from the briefer but telling reactions of Ronald Casson, Susan Hirsch, Alice Ingerson, John Ogbu, and Laurie Price. There are points on which each of these people would still disagree with us. On other points, years of talk with Roy and Ed have sometimes made it difficult to know where our ideas end and theirs begin. Both of them have contributed to our thinking about numerous matters.
2. Also variant in these papers is the plural form of *schema*. The editors recommended to the authors that all adopt a regularized plural, "schemas," in place of the Latin plural, "schemata," which is grammatically correct but awkward for many English speakers. There is precedent for both variants in the cognitive science literature. However, one author, Paul Kay, argued that technically, "schemas" was improper usage. We have honored his wish to use the longer form in his paper.

References

Abelson, R.
1975. Concepts for representing mundane reality in plans. *In* Representation and Understanding: Studies in Cognitive Science, D. G. Bobrow and A. Collins, eds. New York: Academic Press. Pp. 273–309.

1981. Constraint, construal, and cognitive science. *In* Proceedings of the Third
    Annual Conference of the Cognitive Science Society. Berkeley: University
    of California. Pp. 1–9.
Berlin, B. and P. Kay
    1969. Basic Color Terms: Their Universality and Evolution. Berkeley: Univer-
    sity of California Press.
Bohannan, P.
    1957. Justice and Judgment among the Tiv. London: Oxford University Press.
Butters, R.
    1981. Do "conceptual metaphors" really exist? Southeastern Conference on
    Linguistics Bulletin 5(3):108–117.
Casson, R.
    1983. Schemata in cognitive anthropology. Annual Review of Anthropology
    12:429–462.
Caws, P.
    1974. Operational, representational, and explanatory models. American An-
    thropologist 76(1):1–11.
Clement, D. H.
    1976. Cognitive anthropology and applied problems in education. *In* Do Ap-
    plied Anthropologists Apply Anthropology? M. Angrosino, ed. Athens, Ga:
    University of Georgia Press. Pp. 53–71.
    1982. Samoan folk knowledge of mental disorders. *In* Cultural Conceptions
    of Mental Health and Therapy, A. J. Marsella and G. White, eds. Dordrecht,
    Holland: D. Reidel Publishing Company. Pp. 193–215.
Coleman, L. and P. Kay
    1981. Prototype semantics: The English verb *lie*. Language 57(1):26–44.
D'Andrade, R.
    1965. Trait psychology and componential analysis. American Anthropologist
    67(5,2):215–228.
    1974. Memory and the assessment of behavior. *In* Measurement in the Social
    Sciences, H. Blalock, ed. Chicago: Aldine-Atherton. Pp. 159–186.
    1976. A propositional analysis of U.S. American beliefs about illness. *In* Mean-
    ing in Anthropology, K. H. Basso and H. A. Selby, eds. Albuquerque: Uni-
    versity of New Mexico Press. Pp. 155–180.
    1981. The cultural part of cognition. Cognitive Science 5(3):179–195.
    1982. Reason versus logic. Paper presented at symposium, The Ecology of Cogni-
    tion: Biological, Cultural, and Historical Perspectives, April, Greensboro,
    N.C.
    1984a. Cultural meaning systems. *In* Culture Theory: Essays on Mind, Self,
    and Emotion, R. Shweder and R. LeVine, eds. Cambridge, England: Cam-
    bridge University Press. Pp. 88–119.
    1984b. Cultural models and person perception. Washington, D.C.: Progress
    Report to the Anthropology Program, National Science Foundation.
    1985. Character terms and cultural models. *In* New Directions in Cognitive An-
    thropology, J. Dougherty, ed. Urbana: University of Illinois Press. Pp.
    321–343.
    n.d. Culture and personality: A false dichotomy. Unpublished manuscript, De-
    partment of Anthropology, University of California, San Diego.
D'Andrade, R., N. Quinn, S. B. Nerlove, and A. K. Romney
    1972. Categories of disease in American-English and Mexican-Spanish. *In* Multi-
    dimensional Scaling, Theory and Applications in the Behavioral Sciences, Vol.
    2: Applications, A. K. Romney, R. N. Shepard, and S. B. Nerlove, eds. New
    York: Seminar Press. Pp. 9–54.

Early, E. A.
   1982. The logic of well being: Therapeutic narratives of Cairo. Social Science
      and Medicine 16(4):1491–1498.
Fillmore, C.
   1975. An alternative to checklist theories of meaning. In Proceedings of the
      First Annual Meeting of the Berkeley Linguistics Society, C. Cogen, H.
      Thompson, G. Thurgood, K. Whistler, and J. Wright, eds. Berkeley: Uni-
      versity of California. Pp. 123–131.
   1977. Topics in lexical semantics. In Current Issues in Linguistic Theory,
      R. W. Cole, ed. Bloomington: Indiana University Press. Pp. 76–138.
   1982. Towards a descriptive framework for spatial deixis. In Speech, Place, and
      Action, R. J. Jarvella and W. Klein, eds. New York: John Wiley and Sons.
      Pp. 31–59.
Fjellman, S.
   1976. Talking about talking about residence: An Akamba case. American Ethnol-
      ogist 3(4):671–682.
Frake, C. O.
   1975. How to enter a Yakan house. In Sociocultural Dimensions of Language
      Use, M. Sanches and B. Blount, eds. New York: Academic Press. Pp. 25–
      40.
   1977. Plying frames can be dangerous: Some reflections on methodology in cog-
      nitive anthropology. Quarterly Newsletter of the Institute for Comparative
      Human Development 1(3):1–7.
Geertz, C.
   1966. Religion as a cultural system. In Anthropological Approaches to the Study
      of Religion, M. Banton, ed. A.S.A. Monographs 3. London: Tavistock
      Publications. Pp. 1–46.
Gentner, D. and D. R. Gentner
   1983. Flowing waters or teeming crowds: Mental models of electricity. In Men-
      tal Models, D. Gentner, and A. L. Stevens, eds. Hillsdale, N.J.: Lawrence
      Erlbaum Associates. Pp. 99–129.
Geoghegan, W.
   1969. Decision-making and residence on Tagtabon Island. Language–Behavior
      Research Laboratory Working Paper No. 17. Berkeley: University of
      California.
Gladwin, H. and C. Gladwin
   1971. Estimating market conditions and profit expectations of fish sellers in
      Cape Coast, Ghana. In Studies in Economic Anthropology, G. Dalton, ed.
      Anthropological Studies No. 7. Washington, D.C.: American Anthropological
      Association. Pp. 122–142.
Good, B. J. and M.-J. D. Good
   1982. Toward a meaning-centered analysis of popular illness categories: 'Fright-
      illness' and 'heart distress' in Iran. In Cultural Conceptions of Mental Health
      and Therapy, A. Marsella and G. White, eds. Dordrecht, Holland: D. Reidel
      Publishing Company. Pp. 141–166.
Goodenough, W. H.
   1957. Cultural anthropology and linguistics. In Report of the Seventh Annual
      Round Table Meeting in Linguistics and Language Study, P. Garvin, ed.
      Monograph Series on Language and Linguistics, No. 9. Washington, D.C.:
      Georgetown University. Pp. 167–173.
Harris, M.
   1968. The Rise of Anthropological Theory. New York: Thomas Y. Crowell
      Company.

Holland, D.
    1982. Conventional metaphors in human thought and language. Review arti-
        cle, Metaphors We Live By, by G. Lakoff and M. Johnson. Reviews in
        Anthropology 9(3):287-297.
    1985. From situation to impression: How Americans get to know themselves
        and one another. In Directions in Cognitive Anthropology, J. Dougherty,
        ed. Urbana: University of Illinois Press. Pp. 389-411.
Holland, D. and D. Skinner
    1985. The meaning of metaphors in gender stereotyping. North Carolina Work-
        ing Papers in Culture and Cognition No. 3. Durham, N.C.: Duke University
        Department of Anthropology.
Holy, L.
    1979. Segmentary lineage structure and its existential status. In Segmentary
        Lineage Systems Reconsidered, L. Holy, ed. Queen's University Papers in
        Social Anthropology 4. Belfast: Queen's University. Pp. 1-22.
Holy, L. and M. Stuchlik
    1981a. The Structure of Folk Models. A.S.A. Monographs 20. New York:
        Academic Press.
    1981b. The structure of folk models. In The Structure of Folk Models, L. Holy
        and M. Stuchlik, eds. A.S.A. Monographs 20. New York: Academic Press.
        Pp. 1-35.
Howe, J. and J. Scherzer
    1975. Take and tell: A practical classification from the San Blas Cuna. American
        Ethnologist 2(3):435-460.
Hutchins, E.
    1980. Culture and Inference: A Trobriand Case Study. Cambridge, Mass.: Har-
        vard University Press.
Jenkins, R.
    1981. Thinking and doing: Towards a model of cognitive practice. In The Struc-
        ture of Folk Models, L. Holy and M. Stuchlik, eds. A.S.A. Monographs 20.
        New York: Academic Press. Pp. 93-119.
Johnson, A.
    1974. Ethnoecology and planting practices in a swidden agricultural system.
        American Ethnologist 1(1):87-101.
Johnson-Laird, P. and M. Steedman
    1978. The psychology of syllogisms. Cognitive Psychology 10(1):64-99.
Jorion, P.
    1978. Marks and rabbit furs: Location and sharing of grounds in coastal fishing.
        Peasant Studies 7(2):86-100.
Katz, J. and J. Fodor
    1963. The structure of a semantic theory. Language 39(2):170-210.
Kay, P. and C. McDaniel
    1978. The linguistic significance of the meanings of basic color terms. Language
        54(3):610-646.
Keesing, R. M.
    1974. Theories of culture. Annual Review of Anthropology 3:73-97.
Lakoff, G.
    1981. Introductory remarks. Paper presented at conference, Cognitive Science,
        Language, and Imagery, May, Berkeley, California.
    1984. Classifiers as a reflection of mind: A cognitive model approach to proto-
        type theory. Berkeley Cognitive Science Report No. 19. Berkeley: University
        of California Institute of Human Learning.
Lakoff, G. and M. Johnson
    1980. Metaphors We Live By. Chicago: University of Chicago Press.

Langacker, R. W.
  1979. Grammar as image. Paper presented at conference, Neurolinguistics and
  Cognition, Program in Cognitive Science, March, University of California,
  San Diego.
Lave, J., A. Stepick, and L. Sailer
  1977. Extending the scope of formal analysis. American Ethnologist 4(2):321–
  339.
Levi-Strauss, C.
  1953. Social structure. In Anthropology Today, A. L. Kroeber, ed. Chicago:
  University of Chicago Press.
Lewontin, R. C., S. Rose, and L. J. Kamin
  1984. Not in Our Genes: Biology, Ideology, and Human Nature. New York:
  Pantheon Books.
Linde, C.
  1978. The organization of discourse. Ch. 4 in Style and Variables in English,
  T. Shopen and J. M. Williams, eds. Cambridge, Mass.: Winthrop Publishers.
  Pp. 84–114.
  n.d. The creation of coherence in life stories. Unpublished manuscript in
  preparation, Structural Semantics, Palo Alto.
Mathews, H.
  (in press). Predicting decision outcomes: Have we put the cart before the horse
  in anthropological studies of decision making? Human Organization.
Nardi, B.
  1983. Goals in reproductive decision making. American Ethnologist 10(4):
  697–715.
Quinn, N.
  1981. Marriage is a do-it-yourself project: The organization of marital goals.
  In Proceedings of the Third Annual Conference of the Cognitive Science Soci-
  ety, Berkeley: University of California. Pp. 31–40.
  1982a. Cognitive anthropology comes of age in the Trobriands. Review article,
  Culture and Inference: A Trobriand Case Study, by E. Hutchins. Reviews
  in Anthropology 9(3):299–311.
  1982b. "Commitment" in American marriage: A cultural analysis. American
  Ethnologist 9(4):775–798.
  1985. American marriage through metaphors: A cultural analysis. North Carolina
  Working Papers in Culture and Cognition No. 1. Durham, N.C.: Duke Uni-
  versity Department of Anthropology.
Randall, R.
  1976. How tall is a taxonomic tree? Some evidence for dwarfism. American
  Ethnologist 3(3):543–553.
Rosch, E.
  1977. Human categorization. In Studies in Cross-cultural Psychology, Vol. 1,
  N. Warren, ed. London: Academic Press. Pp. 3–49.
  1978. Principles of categorization. In Cognition and Categorization, E. Rosch
  and B. Lloyd, eds. Hillsdale, N.J.: Lawrence Erlbaum Associates. Pp. 27–48.
Ryle, G.
  1949. The Concept of Mind. London: Hutchinson House.
Salzman, P. C.
  1981. Culture as enhabilmentis. In The Structure of Folk Models, L. Holy and
  M. Stuchlik, eds. A.S.A. Monographs 20. New York: Academic Press. Pp.
  233–257.
Schank, R.
  1982. Dynamic Memory: A Theory of Reminding and Learning in Computers
  and People. Cambridge, England: Cambridge University Press.

Schank, R. and R. Abelson
  1977. Scripts, Plans, Goals and Understanding: An Inquiry into Human Knowledge Structures. Hillsdale, N.J.: Lawrence Erlbaum Associates.
Sperber, D.
  1975. Rethinking Symbolism. Cambridge, England: Cambridge University Press. (First published in 1974 as Le Symbolisme en Général.)
Spiro, M.
  1961. Social systems, personality, and functional analysis. In Studying Personality Cross-Culturally, B. Kaplan, ed. New York: Harper and Row Publishers. Pp. 93–127.
Ward, B. E.
  1965. Varieties of the conscious model: The fishermen of South China. In The Relevance of Models for Social Anthropology, M. Banton, ed. A.S.A. Monographs 1. London: Tavistock Publications. Pp. 113–137.
  1966. Sociological self-awareness: Some uses of the conscious models. Man 1(2):201–215.
White, G.
  1982. The ethnographic study of cultural knowledge of 'mental disorder.' In Cultural Conceptions of Mental Health and Therapy, A. J. Marsella and G. White, eds. Dordrecht, Holland: D. Reidel Publishing Company. Pp. 69–97.
  1985. Premises and purposes in a Solomon Island ethnopsychology. In Person, Self and Experience: Exploring Pacific Ethnopsychologies, G. White and J. Kirkpatrick, eds. Berkeley: University of California Press. Pp. 328–366.
Young, A.
  1981. Rational men and the explanatory model approach. Culture, Medicine and Psychiatry 6(1):57–73.

PART I
Presupposed worlds, language, and discourse

2

The definition of lie

AN EXAMINATION OF THE FOLK MODELS
UNDERLYING A SEMANTIC PROTOTYPE[1]

Eve E. Sweetser

This paper investigates how the semantic structure of one English word
depends on, and reflects, our models of relevant areas of experience. As
a linguist, my original concern was with the problems posed by the word
lie for traditional semantic theories; but these problems led inexorably to
the cultural models of informational exchange that motivate the existence
of a semantic entity meaning *lie*.[2] I begin by posing the semantic problem
and go on to the cultural solution.

George Lakoff (1972), Fillmore (1977), and Coleman and Kay (1981)
have argued against traditional generative and structuralist "checklists"
of semantic features that constitute necessary and sufficient conditions
for set-membership in the category denoted by a word. Lexical categories
can have better or worse members, or *partial* members.[3] Kay and
McDaniel (1978) have shown that color categories lack necessary and suf-
ficient conditions; *red* is a gradient quality whose category-boundaries
are best described by fuzzy set theory rather than by traditional set theory.
Checklist feature-definitions, which do not allow for color's being "sorta
red," must be replaced by a theory capable of dealing with fuzzy set-
membership. Prototype semantics views word-meaning as determined by
a central or prototypical application, rather than a category-boundaries.
Clear definitions can thus be given for words with fuzzy boundaries of
application. We define the best instance of a word's use, and expect real-
world cases to fit this best example more or less, rather than perfectly or
not at all.

Coleman and Kay (1981) show that prototype theory is needed to ex-
plain the usage of the verb *lie*.[4] As is natural in prototype semantics (but
not in traditional set-membership semantics), lying is a matter of more
or less. Clear central cases of lies occur when all of Coleman and Kay's
proposed conditions are fulfilled; namely, (a) speaker believes statement
is false; (b) speaker intends to deceive hearer by making the statement;
and (c) the statement is false in fact. Conversely, a statement fulfilling
none of a–c is a clear nonlie. But when only one or two of a–c hold,
speakers are frequently confused and find it difficult to categorize an ac-
tion as lie or nonlie. Further, these conditions (unlike checklist-features)

differ in weight, (a) being strongest and (c) weakest in influencing speakers' categorization of acts as lies.

Prototype semantics has been attentive to the grounding of language in the speaker's world. Kay and McDaniel found physical perceptual reasons for color-term universals; Rosch (1978) and Mervis and Rosch (1981) demonstrate that linguistic categories depend on general human category-formation abilities. Fillmore (1977) discusses some ways in which the *social* world shapes word-meaning. *Bachelor* is a classic difficult case: Why is it difficult to say whether the Pope, or a thrice-married divorcé, can be called a bachelor? The answer, Fillmore says, is that *bachelor* depends on a simplified world-view in which people are marriageable at a certain age, mostly marry at that age, and stay married to the same spouse. In this simplified world, a bachelor is simply any unmarried male past marriageable age; *outside* the simplified world, the word *bachelor* just does not apply. *Bachelor* necessarily evokes a prototypical schema of marriage within our cultural model of a life-history.

I argue that like *bachelor*, *lie* is inherently grounded in a simplified or prototypical schema of certain areas of human experience. This, I suggest, is why Coleman and Kay found that *lie* needs a prototype definition. Basing my analysis on their experimental findings, I motivate those findings by relating them to work on discourse pragmatics and conversational postulates. It is necessary to examine folk understandings of knowledge, evidence, and proof; our cultural model of language (or at least of lying) cannot be analyzed independently of beliefs about information. I hope to show that *lie* has a simpler definition than thas been thought, in a more complex context; since the cultural-model context for a definition of *lie* is independently necessary, our analysis is simplified overall.

A cultural model of language

Is there a simplified "prototypical" speech-act world, as there is a simplified marriage history? Although such a world has not been examined in detail, Kay (1983) suggests that the word *technically* evokes a "folk theory" of language use that assumes that experts are the arbiters of correct word-use. Grice's (1975) conversational maxims, and Searle's (1969) felicity-conditions, are constraints on the appropriateness of utterances – speakers are assumed to follow these rules in the default situation.

Kay's folk theories, Grice's maxims, and Searle's felicity-conditions all describe parts of our cultural understanding of discourse-interaction. Grice's "Be as informative as necessary," for example, is a maxim of which speakers are conscious; one can criticize an interlocutor for informational insufficiency. But informational content is irrelevant to a speech activity such as joke-telling. Robin Lakoff's (1973) work on politeness rules and Goffman's (1974) work on frame semantics show that conversation often has its primary purposes at the level of social interaction; making someone

happy, or negotiating the interaction–frame, may be a more important goal than informativeness. The maxim of informationality is thus binding precisely to the degree that we consider ourselves to be operating in a simplified world in which discourse is informational, so that the default purpose of an utterance is *not* joking, politeness, or frame–bargaining. Our covert discourse–purposes are only made possible by a cultural model that establishes our overt purpose as informational; frame–bargaining, and most indirect speech, depend on having "direct" speech say something else.

I sketch some relevant aspects of our folk understanding of informational language-use and then use this cultural model to explain the meaning of *lie* as presented by Coleman and Kay. First, let us posit two basic principles as parts of our model of general social interaction rather than of our specific model of speech acts. These principles, which are assumed to operate in the default case (like Gricean maxims), are (1) Try to help, not harm and (2) Knowledge is beneficial. Together, the two principles yield the result that giving knowledge (since it is beneficial) is part of a general goal of helping others. Thus, in cases in which (2) is true, (1) translates at least partly as (3) Try to inform others.

The rules just proposed constitute the cultural motivation for a folk understanding of language as informational. Before going on to a folk theory of knowledge and information, one issue needs clarification: the status of these cultural models, or folk theories. What does it mean to say that language is assumed to be informational in the "default" case? I do not mean that purely informational discourse is statistically more common than, or acquisitionally prior to, other kinds of discourse; indeed, it would be hard to separate discourse modes cleanly, since one utterance may have multiple purposes. However, the informational mode is the "direct" mode on which indirect speech is parasitic; and it may be viewed as more basic in the sense that all discourse involves the conveyance of information (if only about a speaker's intentional state), whereas not all discourse participates in all of the other purposes of language use. Our cultural model presents this "basic" discourse-mode, which is a vehicle for other modes, as being *in its pure form* the unmarked mode, the *norm*.

Unlike maxims and conditions, this cultural model does not constitute rules of language use, but rather beliefs about what we do when we use language. These beliefs in turn make general social rules applicable to the domain of discourse: Grice's maxim of informationality is the manifestation of a general "Help not harm" maxim, in a simplified (folk-model) world in which information is always helpful. Now, on to our cultural model of information.

A folk theory of information and evidence

Any truth-conditional semantics assumes that we can "know" the propositional content of "true" statements; this begs the vexed question of what

knowledge is. I intend to pass over the philosophers' view of knowledge and instead examine our cultural idea of what *counts* as knowledge, since this is what underlies our understanding of lies and truths in discourse.

Clearly, we do not imagine that all our beliefs can be proven logically. Nonetheless, we consider our beliefs sufficiently justified, and we are not really worried that their truth is not known from logical proof (few of "us" speakers know formal logic) or personal experience. Evaluation of evidence is thus frequently an important issue: "knowledge" is not so much a relationship between a "fact" (= true proposition) and a knower as a socially agreed-on evidential status given by a knower to a proposition.

Rappaport (1976) demonstrates just how "social" the difference between *statement* and *truth*, between *belief* and *knowledge*, really is. He observes that a normative standard of truthfulness in informational exchange is essential to ensure that our belief-system (and our social existence) is not constantly undermined by distrust of new input. (Actual statistical likelihood of a random statement's truth is irrelevant to this norm.) He argues that a central function of liturgy and ritual is to transform a statement or belief into accepted, universal truth – that is, into something that can be unconditionally believed and treated as reliable.

Rappaport is mainly concerned with social "facts," not with such falsifiable information as "Ed is in Ohio." But let's remember that knowledge has many socially acceptable ("valid") sources – and that we do not in fact tidily separate messy socially based knowledge from clean falsifiable facts. We know promises can get broken – yet certain ritual aspects of oaths and promises still make us treat them as extratrustworthy, maintaining our social norm of truthfulness. Or, take a modern scholar who "knows" Marx's or Adam Smith's economic teachings – this "knowledge" may seem to a cynic as faith-based as religious belief, but that does not prevent a whole community of social scientists from acting on it as fact. Hard scientific knowledge and evidence often turn out to be as paradigm-dependent as social-science argumentation. What is crucial is not whether scientists always have objectively true hypotheses, but that any society agrees on a range of socially acceptable methods of justifying belief; without such agreement, intellectual cooperation would be impossible.

What counts as evidence or authority is thus a cultural question. In reply to a college student's scoffs at a medieval philosopher who appealed to classical authority, I once heard a professor ask how the student "knew" what Walter Cronkite had told him. Many natural languages formally mark with evidential markers the difference between direct and indirect (linguistically or logically mediated) experience, and/or between various sensory modalities as sources of a statement's information. Some priority or preference seems to be given universally to both direct experience (especially visual) and culturally accepted ("universal") truths. But failing these best sources of universal truth or personal experience, we trust some

input more than others; and we constantly make (nonlogical) deductions based on our observations of correlations in the world. We do not bother to distinguish these generally trustworthy deductions from "fact" except when observed correlations break down and deductions fail.

Whatever our rules of practical everyday inference are like, we trust them, in the default case. Thus, belief is normally taken as having adequate justification, and hence as equivalent to knowledge, which would entail truth. Gordon (1974) demonstrates the close, complex relationship of belief and knowledge in our cultural understanding; he shows that, in adult as well as child use, factivity of verbs such as *know* is not fixed, especially if the person said to "know" is not the speaker. A theory of knowledge as a cultural status given to certain beliefs is more compatible with this flexibility than is a theory of knowledge as a link between an objective fact and a person's mind.

In our cultural model of knowledge, the default case is thus for belief to entail justification and hence truth. Conversely, untruth will entail lack of evidence and impossibility of belief. Let us combine these entailments with the informational model of language. I start with a norm-establishing "meta-maxim":

> (0) People normally obey rules (this is the default case).

Our general cooperative rule is:

> (1) *Rule:* Try to help, not harm.

Combined with a belief such as (2), we can instantiate (1) as a Gricean conversational rule of informativeness, as in (3):

> (2) Knowledge is beneficial, helpful. (*Corollary:* Misinformation is harmful.)
> (3) *Rule:* Give knowledge (inform others); do not misinform.

Our model of knowledge and information gives us the following proof of (6) from (4) and (5):

> (4) Beliefs have adequate justification.
> (5) Adequately justified beliefs are knowledge (= are true).
> (6) ∴ Beliefs are true (are knowledge).

(6) allows us to reinterpret our helpfulness–rule (3) yet *again:*

> (7) *Rule:* Say what you believe (since belief = knowledge); do not say what you do not believe (this = misinformation).

The hearer, in this cultural model, is presumed ready to believe the speaker; why refuse help from a speaker who is assumed to be not only helpful but also well-informed (having well-justified beliefs)? Putting together the whole chain of entailments, we reach the startling conclusion that (in the simplified world of our cultural model) the speaker's saying something entails the truth of the thing said:

    (a) S said X.

    (b) S believes X. (a) plus (7) and the meta-maxim)

    (c) ∴ X is true. (b) plus (6))

Logically (outside our model), or statistically, this conclusion is rubbish. But as a folk model of language by which we all operate from day to day, it makes good sense – in fact, it seems doubtful that we could ever live our lives questioning the truth of every statement presented to us. We question truth if we fear that our simplified discourse-world is too far from reality: when our source might be ill-informed (a broken link between belief and justification), naïve (breaking the entailment between justification/evidence and truth), or might want to deceive us (invalidating our assumption that folks are out to help, and so wish to inform correctly). Note that even in these cases, the usual cultural model is in effect: We know our interlocutor *expects* us to take what is said as an instance of information-giving. But in general, we take people's word.

    The next section examines cases in which we should not take someone's word; we now look at lying in the simplified discourse-setting established by our cultural understanding of linguistic exchange as informational.

Prevarication in a simplified world

Coleman and Kay proposed three components of a prototype-definition of *lie:*

1. Speaker believes statement to be false.
2. Speaker said it with intent to deceive.
3. The statement is false in fact.

Now, in the simplified world we have outlined, any one of these conditions would entail the others. In particular, if we assume both a folk model of evidence in which a speaker's belief constitutes evidence of truth and a model of discourse as informational (intending to be believed), then we find that a factually false statement must be known to be false by the speaker, and (if made) must be intended to induce (false) belief and thus to deceive. The reasoning runs as follows:

> *Premise:* X is false.
> So S did not believe X, since beliefs are true.
>
> Therefore S intended to misinform, since we know that in order to inform one says only what one believes.

Further, assuming that even *un*informative speakers do not randomly discuss areas in which they have no beliefs (people act *purposefully*), we can go beyond "S did not believe X" to assert "S believed X to be false." We do not premise the meta-maxim that S is obeying the rules, since S's obedience to the Cooperative Principle is precisely what we are trying to prove or disprove.

Figure 2.1 gives a taxonomy of speech settings; the box on the right encloses the idealized informational–discourse world. *Lie* must be defined within this restricted world; outside of this world, the word lacks application. Only within this world can the hearer properly link utterance with informativeness, sincerity, and factual truth. The feature [+ Truth Value Relevant] on the tree indicates that the informational–exchange view of language is in effect; when truth value is relevant, knowledge is beneficial
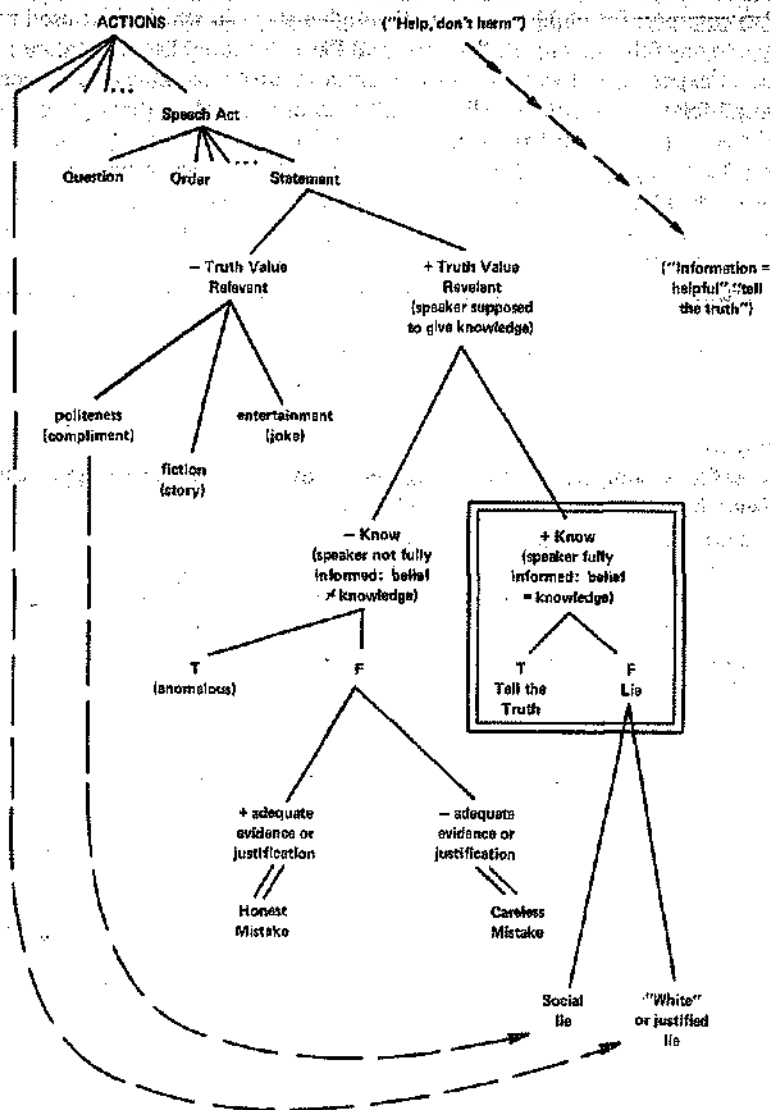

Figure 2.1. A taxonomy of speech settings

and informing helpful. [+ Know] indicates that our folk theory of knowledge and evidence is in effect; when belief is justified and hence true, the speaker can be assumed to have knowledge about what is said.

Thus, we can define *lie* as a false statement, if we assume the statement occurs in a prototypical (informational) speech setting. This definition is elegant and would also help explain why native speakers tend to define *lie* as a false statement. Not only is this the first definition given "out of the blue" by many speakers, but it is (according to Piaget (1932)), also common for children to pass through a stage in which *lie* is used to denote any false statement. Wimmer and Perner's (unpublished data) more recent experimental work shows that children up to age nine class "good faith" false statements and lies as alike, even when they themselves are tricked into being the "good faith" false informer. Four-year-olds understand sabotage (physical manipulation to obstruct a precondition of an opponent's goal) well; but five-year-olds are only starting to understand manipulation of an opponent's belief-system. The social motivations of such manipulation entail an understanding of the speech setting as social interaction. Children only come to differentiate lies from other falsehoods as they learn the sociocultural background of speaking and acquire the folk theories that are a backdrop to the more restricted adult use of *lie* as a false statement made in a certain world.[5]

A fascinating parallel to child usage is found in Gulliver's explanation of lying to the Houynhnms. His definition, "saying the thing which is not," is perfectly comprehensible to him, but proves incomprehensible to the Houynhnms, precisely because (as Gulliver says) they have little experience of deception in any area; they lack the sociocultural background that makes a falsehood a lie. Adult English speakers (like Gulliver) have a complex set of possible discourse-worlds (cf. Figure 2.1); it is not strange that in one setting (+ Truth Value Relevant, − Know) a false statement should be called a *mistake*, whereas in another setting (+ Truth Value Relevant, + Know) a false statement is a *lie*.

Thus, the simple definition of *lie* as a false statement is natural given an understanding of our cultural model of knowledge and discourse. The taxonomy of speech settings in Figure 2.1 also motivates the order of Coleman and Kay's three features. First, it is clear why factual falsity is the least important feature. Outside of the prototypical (informational) speech environment, falsehood is not particularly connected with lying (we shall see that *lie*'s *moral* status also depends on this setting; for now, suffice it that we experience a false statement differently when factors like truth-relevance vary). In a sense, *lie* is closer to *tell the truth* than to *joke*, although jokes are often factually false.

Coleman and Kay's most important feature, the speaker's belief that the statement is false, corresponds to my +/− Know branching: Given that a statement *is* false (*another* Coleman/Kay feature), the speaker's correct belief in its falsity merely constitutes full and correct information (the

informational part of our simplified cultural model of discourse). Being the first tree-branching above the box enclosing the simplified world, this feature is most important in speakers' judgments as to whether we are in that world (and hence whether the term *lie* applies). The next tree-branching, $+/-$ Truth Value Relevant, corresponds to Coleman and Kay's "intent to deceive"; a falsehood can only intend to deceive if truth value is assumed to be relevant (information = beneficial) — not if we are joking or story-telling. This branching is above the $+/-$ Know branching and farther from the break between the simplified world and other worlds – so it is a less important feature in a definition that crucially depends on that break.

Coleman and Kay's least important feature is the definitional one: factual falsity. In the environment of their experiment, which actively stretched speakers' consideration beyond the prototypical informational setting, falsehood does not distinguish lies as a unified class. Within the simplified world, however, truth value criterially distinguishes between the two possible kinds of speech act – hence falsehood becomes the defining characteristic of *lie*, and native speakers reasonably cite it as such.

Thomason (1983) (who also tries to ground Coleman and Kay's analysis in the speech setting) adds two more features to the semantic prototype of *lie*: "unjustifiability of belief" and "reprehensibleness of motive." However, he himself remarks that unjustified belief in the truth of X directly conflicts with "speaker believes X is false," which he retains; how could both be part of the meaning of *lie?* Under my analysis, the general maxims enjoining us to inform will also condemn misinformation, even if not deliberate. Thus, unjustified statements will automatically be judged as *like* lies in some ways (without changing our definition of *lie* = false statement in prototypical informative setting). Mere unjustified (sincere) belief does not, however, greatly contribute to my actual *classification* of even a *false* statement as a lie. Furthermore, if "unjustified belief" were part of a definition of *lie*, then even *true*, sincere, unjustified statements would have to be considered lies to some degree: not a promising result of an admittedly self-contradictory definition of *lie*. The informationality maxims give a more general, coherent explanation of any perceived likeness between lies and unjustified statements. We shall see that Thomason's proposed feature of reprehensibility also follows from a more general understanding of informational exchange and is superfluous to a definition of *lie*.

Notice how rules and maxims change form as they change setting: The general "Help don't harm" is manifested as "Inform others" in the setting in which information/truth is the most relevant beneficial factor. In the domain of politeness, the same general supermaxim is manifested as R. Lakoff's (1973) politeness rules. This model agrees, I think, with our experience: Both information and politeness are considered good and helpful (in their contexts), although in fact the two may conflict when we are unsure which setting takes priority.

A lie, then, is a false statement made in a simplified informational-exchange setting. All rules enjoining veracity are in effect, and the speaker is a fully knowledgeable imparter of information to a credulous hearer. *Lie* has a simple definition within a matrix of cultural models that are independently necessary. The prototype seems to be in the context, rather than in the definition itself. Speakers have difficulty judging whether an action is a lie when they are not sure the action's setting sufficiently matches the prototypical setting specified by the cultural model of informational exchange.[6] The next section fits a larger sector of English vocabulary into the cultural model we have outlined; I then go on to motivate our moral condemnation of lying in terms of our cultural models as well.

Less simplified worlds, less simple words

English has words for false nonlies, or palliated/justified lies. These words mark deviations from the simplified world of the cultural model; thus, examining the deviations may elucidate the model. Common terms include *white lie, social lie, exaggeration, oversimplification, tall tale, fiction, fib,* and *(honest* or *careless) mistake,* some of which appear in Figure 2.1.

First, as stressed in the previous section, a lie is not committed if truth is irrelevant. Thus *jokes, kidding,* and *leg-pullings,* which exist in a world where humor rather than information is the basic goal, are outside the informational model and cannot be considered lies. Of course, every culture also has a model for humor, and humorous discourse (like all speech) uses some aspects of the informational model. When we cannot decide which model predominates in a given situation, we ask the common (and intelligible) question, *"How* serious was that remark?" Seriousness characterizes contexts, not statements; the same remark may be serious or not, depending on context. Since interlocutors constantly negotiate context (including the predominance of informational or humorous goals), one may ask about a statement's seriousness, meaning the speaker's perception of its micro-discourse context.

Tall tales, fiction, and *fantasy,* when not referring to literature, palliate falsehoods by looking at them as literary, rather than as prototypically informational. The discourse in question is looked at more as a story (with a goal of artistic entertainment) than as facts with relevant truth values. Grandpa's *tall tales* of fifty-foot snowfalls in his childhood are fun and harmless. Similar claims in a history book, however, would be *mistakes,* to say the least. Tall tales of huge fish I caught are *lies* if we are still on the fishing trip and I convince you there is fish for dinner when there is not. I personally only use *fantasy* and *fiction* to refer to literature (or to internal, unspoken fantasizing). When *fantasy* refers to a false statement, however, it seems not only to mean a more artistic story than the truth, but also to include an element of *self*-deception that further palliates the offense of deceiving others. Any departure from the prototypical infor-

mational setting, such as weakened truth–value relevance (literary, not informative goals) or less complete control of facts by the speaker, can make the difference between our judging a falsehood as a lie (within the simplified informational world) or as something else (in some other world), such as a tall tale.

Mistakes are cases in which, without speakers' knowledge, the normal chain of entailment from belief to truth breaks down. Both speaker and hearer think they are in the simplified world delineated by cultural models of knowledge and evidence, but there is an unknown deviation. For an *honest mistake*, in particular, the entailment between belief and evidence *does* hold: The speaker has normally sufficient reason to believe what was said. *Carelessness* is charged if the broken entailment is between belief and evidence – the speaker should have realized the evidence was insufficient, but failed to. Speakers are responsible for evaluating evidence, so we blame irresponsibility where we would not blame an honest mistake. In either case, however, we assume that the rules *ought* to hold: *Mistake* marks a *disruption* of our simplified informational world's assumptions, rather than an agreed-on *suspension* (in favor of other goals), as in the case of *joke*. *Lie*, on the other hand, denotes a wrong moral choice, with no disruption or suspension of the informational model.

As further indication that speech acts are subcases of actions (rather than some separate, parallel category), note that the same word *mistake* denotes both an unintentional falsehood and a wrong turn taken, or a typo. Ideally, we should be able to justify *any* act, speech or otherwise; the graver the consequences, the higher the standards for justification. But blameless wrong choices do occur; and if we did our best with available information and resources, unintentional harm can be forgiven. The category *mistake* is a recognition of human frailty as an allowable out.

In *exaggerations, oversimplifications, understatements,* and other *distortions,* the informational–exchange rules are more or less consciously bent, rather than suspended or disrupted. Such cases do not strictly follow the dictates of our cultural model; we feel we are being less informational (less truthful) than we might be, hence less helpful. But distortions are not necessarily in direct opposition to truth; they may indicate a subjective personal reaction better than the strict truth could, and hence be truthful at another level. Or, it may be more informational for an expert to oversimplify than to fail totally to communicate with a nonexpert. Many such distortions are indisputably literally false. Whether we judge them as lies depends on (1) whether the setting is prototypically informational and (2) if so, whether they advance or obstruct the informational goals of interaction.

White lies and *social lies* are generally like lies, but they occur in settings in which information might harm rather than help. They are still called lies: even nonreprehensible, deliberate misinformation counts as a lie. In these cases, the entailments of speaker's knowledge, evidence, and

intent to be believed (seriousness) still hold; likewise the supermaxim "Help don't harm" holds; but the usual helpfulness of truth cannot be assumed.

For a social lie, the politeness maxims have superseded the injunction to truthfulness. Truth is seen as more harmful to the social situation than minor misinformation would be. In the case of white lies, truth might harm in some other, sometimes more direct, way: Some people would call it a white lie to tell a dying person whatever he or she needs to hear to die in peace. Some speakers would also call a (less altruistic) lie told in self-defense a white lie if it helped them and hurt nobody else. As with politeness, self-defense is clearly only supposed to be allowed to supersede the informational mode if the consequences of the resulting deception are small. The compounds *white lie* and *social lie* show in their two elements the conflicting worlds in which the actions take place (it is a lie as an informational utterance, but it is *also* a social utterance). Figure 2.1 puts them under more than one heading to show this dual categorization.[7]

There are lies which most people would think justified by some higher good achieved but which would not be called white lies, since their informational consequences are too major (however moral) for us to diminish their status as lies. I would think it moral to lie to the Gestapo about the location of a Jew, but I would call that an unqualified lie. The informational paradigm is fully, even saliently, in effect in this instance – it is only that we feel our uncooperativeness to be justified.

Last and least, a *fib* is a small or inconsequential lie, and thus a palliated offense, since the seriousness of an offense of lying is a function of its harmful consequences. However, a fib is nonetheless an offense (though minor) in that it is considered to have at most only a selfish and unimportant reason for overriding the usual motivations for veracity.

This brings us to the question of the importance of a falsehood or a deception. As Coleman and Kay observe, we can only judge major versus minor deviations from the truth in terms of human consequences. They contrast an error in the millions column of a city's population (a deception) with an error in the ones column (no deception, because it has no serious consequences). It is clearly only felt allowable to override the truth-is-beneficial maxim when the truth-violation could have no negative consequences as serious as the negative results of truthfulness. A social lie cannot be justified as polite (hence helpful) if it gravely and harmfully misinforms. When truth is more important than politeness, the informational mode cannot be overridden. This merely repeats that our judgement of a lie depends on the extent to which the relevant cultural models are in effect.

Knowledge as power: the morality of lying

The cultural models relevant to lying also help explain the generally accepted reprehensibility of lies. Coleman and Kay, noting that a lie is no

more or less a lie because of reprehensible motives on the speaker's part (consider my Gestapo example as a case of a real lie with good motives), decide that such motives are typical rather than prototypical of lying. That is, lies tend in the real world to be selfishly motivated, just as real surgeons currently tend to be male; but one cannot claim that maleness is in any way part of the *meaning* of *surgeon*.

Placed in the framework of cultural models of discourse and information, the variable reprehensibility of lies follows naturally. To the extent that information really is beneficial at a higher level, and false information harmful, a lie will harm. General social judgements will condemn deliberate harmful actions.

Thomason (1983) disagrees that lies are typically reprehensibly motivated; he suggests that social lies are the most common sort of lie and are nonreprehensible. I differ with him; social lies are rarely altruistic, though their element of selfishness may not be deeply harmful; and their statistical predominance is unprovable, as a valid survey is surely impossible in this domain. Coleman and Kay correctly reflect a folk understanding that deceit usually profits the deceiver, to the listener's detriment. Thomason's wish to include reprehensibility in the prototype of *lie* shows that he shares this folk belief in a deep connection between deceit and harmfulness.

This deep judgment of falsehoods as *inherently* harmful goes beyond what we can so far predict from cultural models examined; our informational-exchange model would ask us to condemn falsehood only *when*, in fact, truth is beneficial and misinformation harmful, so that the simplified world is in effect. I now turn to an examination of the cultural links between information and power, in order to explain why a stigma of immorality attaches to even well-intentioned prevarication. Let us first examine what we do in making an "ordinary" informational statement, true or false.

R. Lakoff's (1973) Rules of Politeness, now recognized as a necessary part of our understanding of speech acts, are:

1. Don't impose. (*Formality*)
2. Give options. (*Hesitancy*)
3. Make interlocutor feel good; be friendly. (*Equality/Camaraderie*)

Lakoff says (2) explains why a direct command is less polite than an indirect command with the surface form of a request or of a query about the hearer's willingness or ability to do the task. Indirect forms give the hearer options besides obedience or disobedience; the hearer can negatively answer a query about ability without having to refuse compliance directly. Alternatively, indirectness allows compliance without implicit acceptance of the felicity-conditions of a command and recognition of the speaker's authority. Hedged commands avoid assuming ungranted authority over an addressee. Without details of the motivation, Lakoff also says that

the same factors make it more polite to qualify assertions with "I guess" or "sorta." This seems a puzzle at first: Why should it be more polite to guess than to assert, or to make a hedged assertion rather than an unhedged one? Statements have so many purposes that the issue is messier than for commands, but the answer (as Lakoff at least implicitly noticed) is that a statement *does* something to the hearer, just like other speech acts. It pushes at the hearer's belief–system. An informative speaker requires a hearer ready and willing to believe, or information cannot be imparted. This cooperative hearer grants the speaker a good deal of power to push around certain aspects of his or her belief system.[3]

English reflects the equation of knowledge with power, in the uses of a group of hedges that mark the evidential status of statements. Some examples of evidentiality–hedges are: *to the best of my knowledge; so far as I know; if I'm not mistaken; as far as I can tell; for all I know; as I understand it; my best guess is; speaking conservatively; at a conservative estimate; to put it mildly; beyond question.*

The literal use of these hedges is to limit the speaker's normal responsibility for the truth of assertions. An assertion has the precondition (Searle 1969) that the speaker be able to provide evidence for its truth. Or, in terms of our cultural models of information and evidence, in an informational setting a hearer knows that a cooperative speaker will only state justified beliefs. However, even reliable-looking evidence can turn out to be insufficient. Evidentiality–hedges allow the hearer access to the evidence–evaluation and thus transfer some of the speaker's evaluative responsibility to the hearer. They avoid potential charges of carelessness or irresponsibility by not allowing the hearer to over- or undervalue the evidence supporting the hedged assertion. (Cf. Baker 1975 on some related hedges that signal and excuse potential discourse violations.)

G. Lakoff points out (personal communication) that responsibility-transfer goes even further. Not only can we qualify a statement's evidential status, but we can also evade personal responsibility for the original (prequalification) statement. For example:

to the best of *our current knowledge*

to the extent to which this phenomenon *is understood at all*

so far as *can be judged from work to date*

according to the *current consensus in the field*

This last set of hedges makes criticism or disagreement difficult; whereas if the speaker had simply evidentially qualified his or her personal evaluation, the hearer could easily disagree (though not accuse the speaker of irresponsibility or prevarication). At the opposite end of the spectrum, hedges such as *speaking conservatively* commit a speaker to an assertion's high evidential status (another example is *all the evidence points to the conclusion that*). Evidentiality–hedges, then, allow the speaker to modify

the normal degree of responsibility for a statement's truth by qualifying its evidential status. Unqualified statements presumably take on a default level of responsibility, varying with context.

However, evidentiality-hedges have another function besides the meta-linguistic evaluation usage just described; they also function as pragmatic deference-markers. However sure a student may be of one of the following assertions, he or she might have *social* motivation to mark uncertainty with an evidentiality-hedge:

> But, Professor Murray, *as far as I can tell,* this parallels Andrews' example, which suggests another interpretation.

> Professor Jones, *if I'm not mistaken,* haven't Smith's recent results made the Atomic Charm hypothesis look dubious?

When social authority is low, the right to push people's belief systems is correspondingly low. Especially if our hearer may be unwilling to listen and change opinions, we have to be socially careful; we have no more authority to command belief changes than any other action against the will of our interlocutor.

Evidentiality-hedges thus hedge both kinds of authority that underlie an assertion: informational authority (evidence) and social authority (we cannot as readily command belief-systems of people higher on the social scale). This is a natural pairing, considering our understanding of asser-tion as manipulation of belief systems. In a prototypical informational exchange, the hearer is as ignorant and credulous as the speaker is knowl-edgeable and ready to inform. Who has the upper hand in such an ex-change – the knowing and manipulative speaker, or the ignorant and passive learner? Teaching (a relatively one-way exchange, at least in early stages) has aspects of authority even without a surrounding institutional power-structure. To a lesser degree, any assertion has the same inherent power structure.

In further support of this analysis, note that a person with both kinds of authority can lay aside *either* kind with an appropriate evidentiality-hedge. A professor who wants to get a point out of a student rather than giving the answer may thus lay aside *both* aspects of authority, in a state-ment like:

> But *as I understand it,* semantics is the study of meaning – so how does it strongly depend on spelling, Mr. Smith?

Too many such hedges from the professor would sound sarcastic, since it is insincere to deny the existence of one's power position while leaving its broader social presence unchanged.

As further evidence that speakers link assertion with (a) request for belief and (b) assumption of an authority position, consider the follow-ing hedges:

> *(Please) believe me: . . .*
> *I don't ask anyone to believe this,* but . . .
> *I can't expect you to believe me,* but . . .

These hedges mark unreasonable belief-requests, tacitly assuming that an ordinary belief-request is just a matter of course. *I can't expect you to believe me* needs to be stated, even though our normal right to such an expectation passes unnoticed and unstated.

Phrases like the *strength* of an assertion, or the *authority* for a statement, are not random. Both social and informational authority structure our discourse world, and the strength of an assertion depends on both. If either kind of authority is extremely strong, it may overcome opposition from the other: An undergraduate who is *very* sure of a fact may correct a department chair, and a dean may feel freer than a student to speculate, having more social protection from contradiction.

Thus, our cultural model of information as power motivates evidentiality's relationships with politeness and authority. Incidentally, Grice's (1975) maxims are often cited as barring assertions that are obvious or well known to the hearer because they are useless and uninformative. However, I have not seen it overtly said that obvious statements are also often *insulting*. Their rudeness cannot be deduced from their uninformativeness but follows directly from viewing them as unwarranted assumptions of informational authority ("I know better than you").[9] This view may help explain the Coleman example (P. Kay, personal communication) "Crete is sort of an island," where *sort of* appears to hedge neither the choice of the word *island* nor the precision of the truth-value, but the *act* of asserting is weakened to avoid rudeness.

Conversely, Jef Verschueren (personal communication) points out to me that the idea of informational authority gives added motivation (besides Lakoff's rules) for seeing questions about ability or willingness as politer than direct commands. Question form has the inherent courtesy of giving the addressee a presumed informational authority. It is no huge politeness to assume an individual is the best authority on his or her own wishes and abilities. The contrary assumption, however, is *ipso facto* particularly counter to the rules of politeness, unless either camaraderie or unusual social authority overrides politeness. A direct command thus indicates presumed unconcern for whether the addressee *has* opinions, let alone what they are – and in a domain in which that person is the evident authority (i.e., his or her own internal state).

Verschueren also drew my attention to the contrast between an indirect but less polite "The window's open" (in a rude tone, to hearer who sees the window) and a direct but more polite request or command "(Please) close the window." Here I feel, the chosen mode of indirectness is more insulting than a direct command – the statement implies either (1) that the hearer is so unaware of the obvious that the assumption of informa-

tional authority is warranted OR (2) even greater social authority than
a command; the hearer is expected not only to obey, but also to deduce
and meet the speaker's wishes before they are stated (the *hearer does not*
seem to mind the open window).[10] For me, the politeness–contrast re-
verses (as expected) if "The window's open" is said courteously, to a per-
son who somehow (mental absorption? a physical barrier?) just has not
noticed but might reasonably share the speaker's concern. These examples
demonstrate the complex interplay between informational and social au-
thority in determining politeness.

From the preceding discussion, lying emerges as serious authority-
abuse. Authority relations structure the prototypical informational ex-
change, the setting in which *lie* is defined. As we get further from the
simplified world in which the credulous hearer depends on the speaker
for some crucial information, truth becomes less relevant and falsehood
less reprehensible. In the simplified world, however, (barring major reversal
of social authority and morality judgments, as in the Gestapo example),
falsehood constitutes a deliberate use of authority to harm someone in
a weaker, dependent informational position. We thus naturally judge it
as immoral, barring exceptional extenuating circumstances.

As salient examples of our view of lying as authority-abuse, let me cite
the anger of patients lied to by doctors, or of children systematically lied
to by adults (e.g., about sex). Doctors in particular derive much of their
authority from large amounts of knowledge that is not otherwise acces-
sible to patients. By refusing information or misinforming, they can con-
trol important decisions for patients. To a lesser degree, any possessor
of information can influence or control less knowledgeable hearers. To
the extent that we feel people should control themselves, lying is immoral
because it undermines the potential for self-determination.[11] This deep
identification of lying with power abuse may explain why for some peo-
ple all lies retain some reprehensibility, however good the motive.

Deception and lying

Lies are only a subclass of deception. Any deception, in that it induces
false beliefs in a credulous hearer, is a culpable abuse of informational
authority and naturally liable to the same moral charges leveled at a lie.
But oddly enough, speakers often feel less immoral if they manage to
deceive rather than to lie straight out. Victims conversely feel that such
a deception is a dirtier trick; they cannot complain of being lied to and
resent the deceiver's legal loophole.

There thus seems to be a further folk belief that literal truth and *real*
truth (honest information-transmission) are prototypically connected. A
literally true statement thus retains vestigial legality (if not morality), even
if it misleads, whereas a deliberate factually false statement retains some
stigma of reprehensibility, even with strong moral justification. Folklore

gives magical power to literal truth, and a common folk theory is that law also emphasizes literal truth rather than informativeness (I do not know about modern perjury laws). Some people would find lying to the Gestapo immoral; yet most of them would think it laudable to *mislead* villains, saving an innocent victim. In any case, complete dissociation between literal and "real" truth, or between the latter and morality, is regarded as highly atypical.

A common way to mislead is to imply, but not overtly state, the false proposition to be communicated. The overt statement and the false proposition are often linked by Gricean conversational implicature; the utterance is irrelevant or insufficient in context, unless the hearer also assumes the unspoken falsehood. In such cases, the speaker *could* without self-contradiction go on to cancel the deceitful implicature. Taking a case from Coleman and Kay: "Mary, have you seen Valentino lately?" Mary: "Valentino's been sick with mononucleosis all week." Mary *could* go on, "But I've visited him twice." Part of people's disagreement about the morality of misleading (and about whether it constitutes *lying*) may be genuine disagreement about the degree to which a conversational implicature constitutes a "statement" and hence makes the speaker responsible for having said it. As Thomason says, some speakers are so sure the implicature was present that they include it in a restatement: "Mary said *No*, Valentino had been sick."

The plot thickens as the implicatures become more closely bound to the linguistic form. Such implicatures seem to me to be closer to statements than Mary's implicature about Valentino. Thus, I would predict that an utterance such as "*Some* of my students cut class," (used when not one showed up) would impress speakers as closer to a prototypical lie than Mary's statement.

An even more difficult case is that of *presupposed* falsehoods. How close to lies are statements such as "He's *only* a sophomore, *but* he got into that course," used of a student at a two-year college where sophomores are the most privileged students, and said to deceive the hearer about the nature of the college or the course? I personally rate these examples high. I hope in the future to investigate what constitutes "stating," as well as what constitutes lying. Our cultural model of representation is essential to our understanding of misrepresentation.

Cross-cultural parallels

Anthropologists interested in cultural models, or linguists interested in culturally framed semantics, now ask "How universal or culture-bound are the cultural models we have just examined?" I have used English data (like Coleman and Kay); studies of French (Piaget) and German (Wimmer and Perner, above) child language agree with each other and are highly compatible with my proposed analysis of the English verb *lie*. These

linguistic communities also share the accompanying moral judgements of
lying, probably due to shared understanding of power structures and in-
formational exchange. However, a first glance at more distant cultures
shows a startling degree of surface variance as to the morality of misleading
or lying. Ochs Keenan (1976) discusses the frequency (and acceptability)
of vague or misleading answers to questions in a small Malagasy-speaking
community. Gilsenan (1976) states that successful lying is a major positive
status–source for males in a Lebanese Arabic-speaking community. In what
respects do these groups differ from English speakers?

My answer is that, on examination, these cultures differ from ours much
less than the isolated statements above might indicate. At least, the dif-
ferences are not in their understanding of informational exchange,
evidence, or abuse of informational power.

Ochs Keenan's Malagasy community, while agreeing with English
speakers that information-giving is cooperative and useful, has a different
idea of when a hearer has a *right* to such cooperation. Europeans or Amer-
icans might think of their own contrast between "free goods" (any stranger
gets a reply to "What time is it?") and other facts (e.g., one's age, or mid-
dle name) that need a reason to be told. Malagasy speakers place an even
higher power–value on information than do English speakers (news is rare
in small communities) and naturally hoard precious and powerful knowl-
edge; questioners cannot expect as broad a spectrum of free goods in such
a society, and day-to-day informational demands have less right to ex-
pect compliance. Malagasy speakers are not uncooperative when refus-
ing information could seriously harm (e.g., if asked "Where's the doctor?"
by an injured person). Our classic informational-exchange setting is just
not in place as often as in an English-speaking community; since Malagasy
speakers all know this, their equivocations do not manipulate unsuspect-
ing addressees. The Malagasy community shares basic cultural models of
information and truth with English speakers, but evokes them under dif-
ferent circumstances.

We might note here that lying to enemies is often culturally accepted.
Many English speakers think such lies less immoral than lies to trusting
friends, who are "owed" more sincerity (Coleman and Kay cite speakers
who, extending this scale, said Mary did not "owe" John the truth about
Valentino, as they were not engaged). In some cultures, lying may be for-
bidden primarily *within* the group; but such a culture does not lack our
judgment of lies as harmful. Rather, their rule about who should not be
harmed is different.

Gilsenan's Lebanese village is an even more complex case. He states
that this community thinks lying immoral, probably for the same reasons
we do. Community members caught lying lose status and *honor*. How-
ever, certain restricted kinds of undetected lies told by adult males can
be extremely status–productive.

First, verbal self-presentation is highly competitive for Lebanese men,

so false (or unfalsifiable) boasts are profitable, though detection causes corresponding status-loss. Conventional verbal competition gives noninformational aspects to Lebanese boasts (though not as formalized as, e.g., Turkish, or urban black American, boys' boasting or insults). English speakers might lie competitively in other areas, and less conventionally; but the Lebanese view of lying is not in serious conflict with our own.

The second way a Lebanese man can gain status by lying is to lead another man "up the garden path" and subsequently reveal the deception. He must avoid detection, or it may be difficult to prove he did not mean to deceive permanently. A "garden path" is crucially *not* real lying, since it achieves its goal only by eventual truth-revelation. Thus, such deceptions do not show a different idea of *lying* from ours; but why do these play-lies give status?

Gilsenan explains that *discernment* is a major source of prestige for Lebanese men: A reputation for telling truth from falsehood is valued especially in religious leaders, but also in any adult male. He tells of a visiting religious leader who upstaged the village religious leader (a man with a long-built reputation for discernment, even omniscience). A village man, resenting the intruder, perpetrated and then publicly revealed a successful minor hoax on him; he left, discredited. Lebanese "garden-path" lies are usually less important, but do cause real status - gain or loss - unlike American April-fools or leg-pulling.

Lebanese society evidently has conventionalized competitive uses of informational power; men overtly gain power by forcing false beliefs on others or by seeing through false claims (exposing the author as nonauthoritative, dishonorable, or simply unsuccessful at one-upping). Serious use of this power by lying would be immoral, but one can conventionally display power without using it - as a martial arts victor does not kill but shows that he has overcome his opponent and *could* kill. A martial arts victor's status need not indicate corresponding cultural approval of actual killing or assault; nor should status given by "garden paths" be taken as indicating general social approval of lying.

Very different cultures emerge from this discussion as possessing saliently similar understandings both of lying and of the general power and morality dimensions of informational exchange. This similarity presumably stems from universal aspects of human communication. Where cultures differ appears to be in *delimitation* of basic "informational exchange" settings and in *conventional use* of the relevant power parameters. Folk models of knowledge and informativeness (and the corresponding semantic domains) may universally involve strong shared elements.

Conclusions

A lie is simply a false statement - but cultural models of information, discourse, and power supply a rich context that makes the use of *lie* much

more complex than this simple definition indicates. Definitions of morally, informationally, or otherwise deviant speech acts follow readily from a definition of a simplified "default" speech world. The cultural models in question not only underlie a whole sector of our vocabulary but also motivate our social and moral judgments in these areas; they further appear to have strong shared elements cross-culturally.

Cultural models underlying linguistic systems are a fairly new area of analysis, though a few people were ahead of the rest of us (Becker 1975 is a good example). However, collaboration among linguists, anthropologists, and other social scientists in this area looks increasingly fruitful. My own preference for this approach stems from both its intuitive plausibility (ethnographers, if not grammarians, have long known that word-meanings are interrelated with cultural models) and its explanation of a long-term paradox facing semantic analysts. Word-meaning has orderly aspects that make us feel that it *ought* to be simply formalizable; yet we all know from bitter experience how readily the complexities of meaning elude reductionistic formal analysis. If the analyst's intuitive feeling that definitions are simple is right, then perhaps much of the fuzziness and complexity lies in the context of meaning, rather than in the meaning itself. A better understanding of cultural models (aided by research such as that represented in this volume) is important to lexical semantics: Words do not mean in a vacuum, any more than people do.

This paper leaves many unresolved problems. It is insufficient to discuss *one* cultural model or folk theory of speech (here, our default model of literal discourse as informational) as if it were largely independent of all the other models relevant to verbal interaction. Our folk understanding of knowledge also needs more investigation. On the linguistic front, in which cases can we expect the fuzziness of fuzzy semantics to be ultimately locatable in the sociophysical world (or in our perception of it), or in the fit between the world and a cultural model; and in which cases, if any, can we expect inherently fuzzy semantics? This last question can be answered only as we learn more about the relationship between linguistic and social (even metaphorical) categorization. Just now, I must be content with showing that a simpler semantics of *lie* follows from an analysis of the cultural models relevant to prevarication.

Notes

1. Only members of the Berkeley linguistic community will understand how much this work owes to their ideas and support. However, my intellectual debt to my advisors, Charles Fillmore and George Lakoff, should be evident. Linda Coleman and Paul Kay, original inspirers of this project, were patient and intelligent critics throughout. I have also benefited from the insightful comments of Susan Ervin-Tripp, Orin Gensler, David Gordon, John Gumperz, Dorothy Holland, Mark Johnson, Naomi Quinn, John Searle, Neil Thomason, Jef Verschueren, Jeanne Van Oosten, and the participants in the Princeton

Conference on Folk Models. An earlier version of the paper was presented in the symposium *Folk Theories in Everyday Cognition*, organized by Holland and Quinn for the 80th Annual Meeting of the American Anthropological Association, 1981.

2. The term *folk theory*, which I originally used throughout, emphasizes the nonexpert status of such a theory or model; *cultural model*, which I am now adopting, stresses the fact that our cultural framework models the world for us. I have retained the word *folk* in contexts where I find it particularly useful.

3. For a recent and complete survey of work on linguistic categorization, see G. Lakoff (in press).

4. Coleman and Kay presented subjects with a series of short fictional scenarios, asking the subjects to judge in each case (1) whether a lie had been told in the interaction described and (2) how sure the subject felt about this judgment. The actions described in the scenarios varied independently with respect to deceptiveness, factual falsity of statements made, and speaker's belief of the content of the statements.

5. Susan Ervin-Tripp has suggested to me that young children are simply "behaviorists," judging acts by result, not by intent. Before children can state their intentions, they are bound to get rewarded and punished behavioristically. Four- to nine-year-olds are certainly not insensitive to intentions but may remain behaviorists enough to class lies with other false statements.

6. Paul Kay has brought to my attention a playful usage that seems odd in the context of either a feature *or* a prototype analysis of *lie:* "Do you know, I thought I told the truth the other day, but it turns out I lied to you: I'm so sorry." This usage seems to me parasitical on serious usage in that the speaker jokingly attributes to a past speech act his or her *current* mental knowledge-space (in Fauconnier's [1985] sense of *mental space*). Since past acts are not actually judged in the light of subsequently gained knowledge, we find this amusing.

7. Lakoff (in press) comments that *social lie* and similar collocations pose problems for the theory of complex categories. A prototypical social lie is not necessarily a prototypical lie. Without proposing a new theory of complex categories, I feel it is clear that *social lie* is not an intersection of the categories *lie* and *social act*. Rather, it is viewed simultaneously (and perhaps somewhat contradictorily) as a member of two categories that we do not usually understand as interacting at all.

8. Social rights and responsibilities are reciprocally arranged: If the Speaker has the right (authority) to say *X*, then the Hearer has a duty to believe it. If *H* has a special right to hear (to know) *X*, beyond the general right to information, then *S* has a correspondingly more important duty to tell *X* to *H*.

9. Paul Kay has suggested to me that the rudeness of telling someone what they already know is best compared to the rudeness of giving an unnecessary or redundant gift. However, such gifts are only rude *if* they imply an unwarranted power-assumption. If I give you a paperback you own a copy of, I'm only rude if I thereby (unjustifiably) purported to extend your literary horizons; but if I pay for your bus ticket (which you are presumed capable of buying), then I'm rude unless you asked for help with change. All valuable resources, like information, confer power on their owners.

10. Forman (n.d.), in a (somewhat astonishingly) still unpublished paper, "Informing, Reminding, and Displaying," elucidates the informational uses of apparently noninformative statements; he would categorize this as an example of *informative reminding*.

11. Bok (1979) provides a treatment of the social issues involved in lying and decep-

tion. One case she analyzes is that of a woman who was the only likely kidney donor for her daughter and overtly willing. Perceiving severe repressed fears in her, doctors falsely told her that she was not physically compatible enough with her daughter to be a good donor. This deception robbed her of the chance to confront her fears and make her own decision about giving the kidney. Bok also notes that deception is less frightening if we ourselves have authorized the deceivers and are aware of their tactics. Unmarked traffic control cars voted into use by the community are less threatening than if the police use them without citizens' input.

References

Baker, C.
   1975. This is just a first approximation but. . . . *In* Papers from the Eleventh Regional Meeting of the Chicago Linguistic Society. Chicago: Chicago Linguistics Society. Pp. 37–47.
Becker, A.
   1975. A linguistic image of nature: The Burmese numerative classifier system. Linguistics 1975 (165):109–121.
Bok, S.
   1979. Lying: A Moral Choice in Public and Private Life. New York: Pantheon Books.
Coleman, L. and P. Kay
   1981. Prototype semantics: The English verb 'lie.' Language 57(1):26–44.
Fauconnier, G.
   1985. Mental Spaces. Cambridge, Mass.: M.I.T. Press.
Fillmore, C. J.
   1977. Topics in lexical semantics. *In* Current Issues in Linguistic Theory, R. Cole, ed. Bloomington: University of Indiana Press. Pp. 76–138.
Forman, D.
   n.d. Informing, reminding, and displaying. Unpublished manuscript, Department of Linguistics, University of California, Berkeley.
Gilsenan, M.
   1976. Lying, honor, and contradiction. *In* Transaction and Meaning: Directions in the Anthropology of Exchange and Symbolic Behavior, A.S.A. Essays in Social Anthropology, Vol. 1, B. Kapferer, ed. Philadelphia: Institute for the Study of Human Issues. Pp. 191–219.
Goffman, E.
   1974. Frame Analysis: An Essay in the Organization of Experience. New York: Harper and Row, Publishers.
Gordon, D. P.
   1974. A developmental study of the semantics of factivity in the verbs 'know,' 'think,' and 'remember.' Ph.D. dissertation, University of Michigan. (Published as Natural Language Studies, No. 15. Ann Arbor: University of Michigan Phonetics Laboratory.)
Grice, H. P.
   1975. Logic and conversation. *In* Syntax and Semantics, Vol. 3, Speech Acts, P. Cole and J. Morgan, eds. New York: Academic Press. Pp. 113–127.
Kay, P.
   1983. Linguistic competence and folk theories of language: Two English hedges. *In* Proceedings of the Ninth Annual Meeting of the Berkeley Linguistics Society. Berkeley: University of California. Pp. 128–137.

Kay, P. and C. McDaniel
    1978. The Linguistic Significance of the Meanings of Basic Color Terms.
    Language 54(3):610-646.
Lakoff, G.
    1972. Hedges: A study in meaning criteria and the logic of fuzzy concepts. *In*
    Papers from the Eighth Regional Meeting of the Chicago Linguistic Society.
    Chicago. Pp. 183-228. (Reprinted in Journal of Philosophical Logic 2:458-
    508, 1973.)
Lakoff, G.
    In press. Women, Fire, and Dangerous Things: What Categories Reveal about
    the Mind. Chicago: University of Chicago Press.
Lakoff, R.
    1973. The logic of politeness: Or minding your P's and Q's. *In* Papers from
    the Ninth Regional Meeting of the Chicago Linguistic Society. Chicago:
    Chicago Linguistic Society. Pp. 292-305.
Mervis, C. and E. Rosch
    1981. Categorization of natural objects. Annual Review of Psychology 32:89-
    115.
Ochs Keenan, E.
    1976. On the universality of conversational implicatures. Language in Society
    5(1):67-80.
Piaget, J.
    1932. The Moral Judgement of the Child. M. Gabain, trans. New York: Har-
    court Brace.
Rappaport, R. A.
    1976. Liturgies and lies. *In* International Yearbook for the Sociology of
    Knowledge and Religion, Vol. 10, G. Dux, ed. Freiburg, Germany:
    Westdeutscher Verlag. Pp. 75-104.
Rosch, E.
    1978. Principles of categorization. *In* Cognition and Categorization, E. Rosch
    and B. Lloyd, eds. Hillsdale, N.J.: Lawrence Erlbaum Associates. Pp. 27-48.
Searle, J.
    1969. Speech Acts. Cambridge, England: Cambridge University Press.
Thomason, N. R.
    1983. Why we have the concept of 'lie' that we do. Unpublished Ph.D. disserta-
    tion. University of Oregon.

3
Linguistic competence and folk theories of language
TWO ENGLISH HEDGES[1]

Paul Kay

In the ordinary sense in which we say that words like *chair* and *table* are ABOUT furniture, hedges are words about language and speech. There is nothing remarkable in this; language is part of our environment, and we have words about most things in our environment. The linguistically interesting aspect of hedges is that, although they are about language, they are not exactly used to talk about language as we would say that *chair* and *table* are used to talk about furniture or, for example, *gerund* and *entailment* are used to talk about language. When we use a word like *chair* or *table* or *gerund* or *entailment*, chairs, tables, gerunds, and entailments do not become *ipso facto* part of what is said. With hedges it is different; when we use a hedge like *loosely speaking,* the notion of "loose speech" which this expression invokes becomes part of the combinatorial semantics of the sentence and utterance in which it occurs. A familiar (if probably vacuous) combinatorial semantic rule is

> (SR)   If adjective *a* denotes class *A* and noun *n* denotes class *N*, then the denotation of the expression *an* is the intersection of the classes *A* and *N*.

I wish to claim that the notion of "loose speech" is part of the combinatorial semantics of sentences containing the expression *loosely speaking* in the same way in which the notion of class intersection is claimed by proponents of (SR) to be part of the combinatorial semantics of an expression like *red chair*.

A hedged sentence, when uttered, often contains a comment on itself or on its utterance or on some part thereof. For example, when someone says, *Loosely speaking France is hexagonal,* part of what they have uttered is a certain kind of comment on the locution *France is hexagonal.* In this sort of metalinguistic comment, the words that are the subject of the comment occur both in their familiar role as part of the linguistic stream and in a theoretically unfamiliar role as part of the world the utterance is about. Such metalinguistic reference seems unaccounted for (and perhaps unaccountable for) in standard theories of semantics that are based on a context-free, recursive definition of truth for sentences, and in which linguistic

objects and world objects (or objects in a model) belong to disjoint realms. The problem, I believe, goes beyond that of indexicality as usually conceived, and although it would be interesting to investigate in detail the relation between the kinds of facts to be discussed here and discussions of indexicality within model theoretic semantics (e.g., Kaplan 1977), that comparison will not be attempted. The omission might be justified by appeal to limitations of space, but such a plea would be less than candid, as I suspect that the phenomena I will describe constitute a principled set of exceptions to any theory of natural language meaning that makes a rigorous separation between truth conditional meaning for linguistic types (i.e., sentences), normally called *semantics,* and other aspects of meaning, frequently called *pragmatics* (see, for example, Gazdar 1979:2f). The latter claim would, to be sure, require considerable clarification before a demonstration could be begun. In this chapter I must content myself with presenting a few facts and some timid empirical generalizations.

The principal conceptual tool I will employ for stating these empirical generalizations will be that of *folk theory.* The term is borrowed from anthropology. In describing the system of knowledge and belief of another culture, an anthropologist speaks of that culture's folk theory of botany, the emotions, language, and so on. Anthropologists discover such folk theories by analysis of the use of words in the native language. The guiding idea is the familiar one that any natural lexicon implies a tacit, structured conceptualization of the stuff that the words of that lexicon are about. What the words we shall be concerned with here are about is language and speech, and the folk theory we shall be looking for is the tacit and mostly unconscious theory of language and speech we invoke when we employ certain parts of the lexicon of English.

The present essay is thus in the first instance lexicographical. But we will see that in the domain of hedges, lexicography is inseparable from combinatorial semantics because the schemata or folk theories that constitute the semantic content of the hedges as lexical items serve as combinatorial structures for putting together the meaning of the sentences in which the hedges occur. Hence, world knowledge about language – what I have called folk theories of language – may at times be part of knowledge OF language.

Knowledge of a language, linguistic competence, is commonly distinguished from knowledge of the world. Linguists do not generally consider it a matter of interest that the language we are competent in is also in our world and therefore a thing of which we have world knowledge, that is, a folk theory. Certainly linguists do not often ask whether world knowledge of language bears some special relation, that other sorts of world knowledge do not bear, to the knowledge that constitutes linguistic competence. Perhaps the question is not posed because the answer is considered obvious, namely No. The facts to be considered below suggest, however, that the folk theory of language presupposed by various hedges

should be interpreted both as world knowledge ABOUT language and as knowledge OF language – i.e., as part of linguistic competence.

The data to be considered in this chapter concern two hedges, *loosely speaking* and *technically*. The concept *folk theory* will figure in the analysis of the meaning of each of these expressions. The comparison of the two analyses will reveal a not altogether obvious difference between the folk theories that constitute our tacit knowledge of the world (as realized in word meanings) and consciously formulated theories: folk theories, like conscious theories, answer to a requirement of local consistency but, unlike conscious theories, folk theories answer to no requirement for global consistency.

Loosely speaking

The hedge *loosely speaking* may be employed in the service of a variety of semantic and/or pragmatic functions which, from a traditional point of view, appear disconcertingly diverse. Let us consider some of the possible semantic–pragmatic roles of *loosely speaking* in the response of Anthropologist A to Layman L in the following dialogue.

(1) L: Where did the first human beings live?
    A: Loosely speaking the first human beings lived in Kenya.

First, believing the evolutionary process to be inherently gradual, A may consider the expression *the first human being* to be semantically ill-formed and hence devoid of the capacity for nonvacuous reference. If A had this problem, believing that *the first human being* could not possibly refer to anything, he might reply more fully

(2) A: Strictly speaking, one can't really talk about "the first human beings," but loosely speaking, the first human beings . . .

Secondly (and alternatively), A may think that *the first human beings* is a normal referring expression, but not the one that picks out exactly the entity about which he wishes to assert *lived in Kenya*. For example, A may consider it important to distinguish in this context *the first human beings* and *the first human beings known to science*. If this were A's reason for hedging with *loosely speaking*, his fuller answer might be along the lines

(3) A: Strictly speaking, we can only talk of the first human population known to science, but loosely speaking, the first human beings . . .

A's problem may be not with *the first human beings* but rather with *in Kenya*. A third motivation for *loosely speaking* could then be that A considers the unhedged sentence *The first human beings lived in Kenya* to have a reading which presupposes the modern nation of Kenya to have existed at the time the first human beings were alive. Such fastidious pedantry might motivate a longer reply along the lines

(4) *A:* Loosely speaking, in Kenya; strictly speaking, in the place now called Kenya.

Fourthly, and perhaps most typically, *A* may think that the unhedged sentence *The first human beings lived in Kenya* oversimplifies or otherwise distorts the pertinent facts, but is nonetheless the best he can do given the exigencies of the conversational situation. Sometimes the demands of Gricean Quantity (Say no more than necessary) and Manner (Be brief) require a sacrifice in Quality (Tell the truth). In our present example, the relevant facts might involve sites not only in Kenya but also in Uganda and Tanzania, fossils of uncertain relation to each other, and so on. *Loosely speaking* can be and probably often is used to apologize for this sort of deficiency in Quality, induced by the demands of Quantity and Manner. The fuller version of *A*'s reply could be something like

(5) *A:* Loosely speaking in Kenya. Strictly speaking, we are dealing here with a complex situation involving sites mainly in Kenya, but also in Tanzania and Uganda, and with a set of fossils which may not all represent the same species . . .

Examples (2–5) illustrate four distinct kinds of "loose speech" that the hedge *loosely speaking* may reflect in (1): (i) the use of an incoherent description in an act of reference (2); (ii) the use of a coherent but "wrong" description in an act of reference (3); (iii) the utterance of a sentence that (the speaker feels) permits an unintended interpretation that contains a false presupposition (4); and (iv) the utterance of a sentence that is defective in Gricean Quality, that is, in truth (5).

What, then, does *loosely speaking* mean? George Lakoff (1972) gives the example

(6) (a) A whale is a fish. (FALSE)
    (b) Loosely speaking, a whale is a fish. (TRUE)

and argues that the semantic function of *loosely speaking* is that of a predicate modifier which, through selection of certain features of meaning internal to the intension of a category word like *fish,* maps it into another category-type intension. But we see that this cannot be correct, since in (1) *loosely speaking* does a variety of things that have nothing to do with the modification of a category word. Furthermore, it may do several of these things simultaneously: in uttering his part of (1), *A* might be bothered by any combination of the factors discussed in connection with (2–5) [except of course those combinations containing both (2) and (3), since these happen to be mutually exclusive]. Thus the semantic scope of *loosely speaking* must be at least as broad as the entire sentence it accompanies, for example, in (6)(b) the sentence *A whale is a fish.* Since presence or absence of *loosely speaking* in a sentence such as (6) may affect our judgment of its truth, the classical view holds that *loosely speaking* must make a contribution to the semantics of the SENTENCE in which

it occurs. Since the scope of *loosely speaking* must be at least as broad as the whole sentence it accompanies, its scope must be that whole sentence, and one is tempted to conclude that the semantics of *loosely speaking* is a function from sentence intensions to sentence intensions – that is, from the set of worlds in which whales are fish (the null set in some theories) to the set of worlds that are like this one with respect to the fishiness of whales. But nothing of this sort can be right because, as we saw in connection with (2), *loosely speaking* sometimes functions to comment directly on the FORM of the sentence it accompanies.

Moreover, when (6)(a) is changed to (6)(b) by the addition of *loosely speaking* the reason that our judgment changes from false to true is not that a false proposition P (= *A whale is a fish*) has been changed into some true proposition P'. Rather, we abstain from judging (6)(b) false because we understand (6)(b) both to assert the sentence *A whale is a fish* and to express a reservation regarding the adequacy of that assertion. If the dimension of adequacy is taken to be that of truth (tightness of "word-to-world fit") as seems to be the relevant dimension in the case of (6)(b), then we have no trouble accepting a judgment of true. In the general case, however, the dimension of adequacy directly addressed by the hedge *loosely speaking* need not be that of truth: the loose speech referred to may involve laxness in obedience to the rules of language, as in (2) and perhaps (3) or even looseness with respect to stylistic canons, as in (4). Of the four examples, (2-5), only (5) directly concerns truth, and even in this case, we do not experience (1) as expressing some proposition P', which is distinct from but closely related to *The first human beings lived in Kenya,* and which is exactly true.

The empirical claim about *loosely speaking* that I have attempted to develop may be summarized as follows:

(7)   For any sentence S of the form *loosely speaking P,* where P is a declarative sentence, an utterance of S constitutes two acts:
       (i) an act of asserting P,
       (ii) an act of warning that (i) is in some way a deviant (loose) act of assertion.

Probably the most typical way for an assertion to be deviant is in terms of Quality, but, as we have seen, an assertion may have other kinds of defects about which *loosely speaking* warns.

If (7) is even approximately correct, expressions such as *loosely speaking* present an interesting challenge to current formal theories of semantics and pragmatics. If *loosely speaking* means what (7) says it means, this is surely its literal meaning (not figurative, ironic, *et cetera*). Although (7) specifies the literal meaning of *loosely speaking,* (7) does not consist of a specification of truth conditions of either S or P, but rather expresses a warning to the addressee that he should be wary in his acceptance of the assertion of P. If (7) is correct, literal meaning and truth conditions cannot always be the same thing, not even almost the same thing.

It is not obvious how the meaning of an expression like *loosely speaking* is to be captured in a theory of the generally accepted kind, where the truth conditional meaning of a sentence is established in terms of a possible world semantics independent of pragmatic considerations, and no feedback from pragmatic reasoning to literal meaning is countenanced. But even supposing that with sufficient ingenuity we could develop an account of *loosely speaking* within this kind of framework, it is not clear that we should wish to do so. If we look at the different kinds of semantic-pragmatic functions that may be accomplished by *loosely speaking* [illustrated, though by no means exhausted, in (2–5)], we find that they constitute, from the traditional view, a disparate collection. Another way to view the same matter is to notice – as the reader may already have done – that (7)(ii) is stated far too broadly. *Loosely speaking* doesn't point to just any kind of deviance in an act of asserting. For example, acts of assertion that deviate because they contain uninterpretable indexicals or because they fail to answer a question just posed are not examples of "loose speech."

(8)   (a) Jack and John were running and $\left\{ \begin{array}{c} \text{*}loosely\ speaking\ he \\ one\ of\ them \end{array} \right\}$ fell down.

　　(b) A: When did Mary get her car tuned up?
　　　　B: *Loosely speaking, because the engine was knocking.

I have spoken informally of the various kinds of "loose" speech represented by examples (2–5), and in this informal usage I think lies the key to the semantic unity of the expression *loosely speaking*. I suggest that what enables us to speak informally about "loose" speech in connection with all of these examples is what constitutes the actual semantic unity of the expression *loosely speaking*. In every utterance of a sentence like (1), the linguistic act of asserting that the first human beings lived in Kenya is talked ABOUT (in the same familiar sense in which we say that in the utterance of a sentence like *Trout eat flies* trout are talked about). That is, when we say *Loosely speaking P* we bring to bear part of our world knowledge of what it is to assert something, or, as I would prefer to say, we bring to bear part of our folk theory of language and speech – the part that concerns assertion. We have knowledge, beliefs and schematizations of language and speech just as we have knowledge, beliefs and schematizations of everything else in our experience. When we use a hedge like *loosely speaking* in an utterance we use it to talk about some other part of that same utterance, and so at one level we use our world knowledge of language and speech in the same way we use our world knowledge about zoology when we employ the word *trout* or *fly*. *Loosely speaking* interprets the utterance in which it occurs as a world object according to a particular folk theory of utterance, which is part of our larger folk theory of language and speech.

To speak loosely is to assert something not quite true. Typically, loose speech is speech that would be true in a world slightly different from the

one we are describing, but in some cases we characterize our speech as loose if it fails to achieve precise truth because of some defect in its construction. Expert theories of language and speech normally make a strict distinction between locutions that don't (quite) state propositions and locutions that state propositions that aren't (quite) true; but not all parts of our unconscious folk theory of language and speech insists on this distinction; *loosely speaking* appears to invoke such an area of the folk theory.

Technically

Technically, used as a hedge, has a meaning that may be roughly glossed "as stipulated by those persons in whom Society has vested the right to so stipulate." Thus when we say, *Technically, a whale is a mammal,* we appeal to the fact that systematic biologists have decreed that, whatever we common folk may say, whales are mammals. One line of evidence for this analysis of *technically* comes from pairs of synonyms – or near synonyms – of which only one member belongs to an authoritative jargon; in such pairs only the member from the jargon takes the hedge *technically.*

(9)   (a) Technically, that's a rodent. (order *Rodentia*)
      (b) *Technically, that's a varmint.

(10) (a) Technically, that's an insect. (order *Insecta*)
      (b) *Technically, that's a bug.

The (b) versions may be heard as attempts at humor, precisely because the words *varmint* and *bug* not only belong to no technical jargon, but, on the contrary, are markedly colloquial.

Further, if we hear a sentence like

(11) Technically, street lights are health hazards.

our reaction is to wonder WHO has decreed that street lights are health hazards and BY WHAT AUTHORITY. If we learn that the Surgeon General of the United States has done so, even if we reject his arguments and therefore question the wisdom of the stipulation, we cannot legitimately deny the claim expressed in (11). If, on the other hand, we learn that an individual genius has proclaimed street lights to be health hazards on grounds we consider impeccable, we will surely agree that street lights are in fact health hazards, but we may well deplore that the claim expressed in (11) is not the case.

Lakoff (1972) attributes to Eleanor Rosch a revealing example similar to the following,

(12) Technically, a TV set is a piece of furniture.

pointing out that the sentence can have different truth values in different contexts, if there exist in society two distinct bodies with the authority to make such stipulations about TV sets and furniture. For example, mov-

ing companies might designate TV sets as furniture, while the insurance industry excludes TV sets from furniture.

Given this account of the meaning of *technically*, we may ask whether *technically* displays the two properties of hedges, previously discussed, that provide problems for standard formal semantics. These, it will be recalled, are (a) that the lexical meaning of a hedge may become one of the organizing schemata of the combinatorial semantics of the sentence in which the hedge occurs, and (b) that a hedged sentence may contain a metalinguistic comment regarding the way in which a word or phrase of the sentence is being used in that sentence.

Regarding property (a), if we sketch the logical structure of (12) in terms of our intuitive account of *technically*, we get something with the rough structure of (13), in which we find that the effect of the word *technically* is not confined to a single element but is distributed throughout the quantificational and predicational structure of the sentence.

(13)   There is an *x* such that Society has authorized *x* to stipulate the meaning of *TV set*, and Society has authorized *x* to stipulate the meaning of *furniture*, and *x* has stipulated the former to be included in the latter.

The precise wording of (13) is not intended to be taken literally; the point of (13) is just that most of the "logical syntax" of (12) comes from the word *technically*. The lexical meaning of *technically* provides the structural skeleton of the meaning of sentences, like (12), in which it occurs. In this respect, *technically* acts like "logical" words (e.g., *all, and, not*) are supposed to act. But we noted that *technically* is a substantive, world-knowledge-embodying word; in fact it is precisely by virtue of the folk theory it embodies regarding language, society, and the social division of linguistic labor that *technically* achieves its organizing function in sentence like (12). Semantics and mere lexicography find themselves confounded.

That *technically* displays property (b) – regarding metalinguistic comments in which the linguistic item(s) MENTIONED are simultaneously USED as regular linguistic counters – is not apparent from the examples so far given (9–12). One reason for this is that since the target words (e.g., *TV set* and *furniture* in (12)) appear with the generic indefinite article, the examples conduce to a straightforward interpretation in which these words are mentioned, but not also used. Consider, however, the following.

(14)   The movers have come for your furniture, which technically includes TV sets.

Here the word *furniture* is both used and mentioned: *furniture* is used in the ordinary way as the lexical head of a definite noun phrase, *your furniture*, to pick out a set of world objects; *furniture* is simultaneously mentioned as the topic of a metalinguistic comment, which informs us that, by stipulation of relevant authorities, the extension of *furniture* includes TV sets.

Comparison of loosely speaking and technically

In the case of each of the two hedges considered, I have sought to explain both its lexical meaning and its combinatorial semantic function in terms of an implicit folk theory of language and speech. The discussion of *loosely speaking* hinged on the notion of truth, implicitly defined in terms of a metatheory in which there is a linguistic system disjoint from the world whose elements (words, sentences) may be combined to represent objects and states of affairs in the world via the meanings or intensions of those elements. The sentence *Snow is white* is true . . . . This general schematization of language is familiar as an informal sketch of the basic intuitions that lie behind the formidable accomplishments of that tradition of semantic theorizing descended from Frege via Tarski to the modern proponents of model theory, including in particular the various versions most relevant to linguists arising from the work of Richard Montague. In this framework, words may refer to or represent world objects because the former have intensions that may be matched by the actual properties of the latter.

This conscious theory of language, and particularly of reference, has recently been opposed by the baptismal-causal theory of Kripke (1972) and Putnam (1975). The reader may have noticed that in discussing the meaning of *technically,* I had recourse to Putnam's phrase "the division of linguistic labor" (1975:145ff). The part of the folk theory of language which *technically* invokes seems in its main lines to agree with the theory of Kripke and Putnam, especially Putnam's version. On this view, a word refers, not via an intension it contains, but on account of someone having once stipulated that henceforth this word shall designate some ostensively presented thing or thing-type. Putnam's idea that we have unconscious recourse, in using a word like *gold,* to the notion of some expert or official who has the right and the knowledge to diagnose real world gold in a presented sample is especially close to the account I have given above of that aspect of the folk theory of language which underlies the use of *technically.*

Thus when we use *loosely speaking,* we are taking a Fregean view of language and, moreover, because of property (a), we are organizing the semantics of our utterance in accord with Fregean notions. On the other hand, when we use the hedge *technically,* we are taking a Putnamian view of language and are organizing the semantics of our utterance along Putnamian lines. If a natural language like English has a formal semantics that employs logical schemata such as conjunction, negation, etc., to compose the meaning of a sentence from the meaning of its parts, then we must number among that same array of structure-composing schemata such substantive folk beliefs about language as those implicitly underlying the explicit theories of reference associated with scholars like Frege

and Putnam. These are the combinatorial semantic schemata invoked by *loosely speaking* and *technically* respectively.

Folk theories

I have written throughout this chapter in terms of a single folk theory of language and latterly pointed out that this "theory" differs from conscious theories in that it is not internally consistent. I could as easily have written that English encodes a variety of different folk theories of language. The distinction would have been merely terminological and the same conclusions would have been reached. There are two points here: the first is that a folk theory does not present a globally consistent whole the way a conscious, expert theory does. This should surprise no one, since it is precisely the conscious reflection characteristic of expert theorizing that is generally considered to produce its global coherence. The second point is that folk theories are not "believed" in the way conscious theories are but are used or presupposed as the occasion of thought or communication demands. The penetration of these folk theories of language into the semantic structure of language, via hedges, appears to present several challenges to the generally accepted framework of much current semantic theory.

Notes

1. Reprinted with permission of the Berkeley Linguistics Society from the *Proceedings of the Ninth Annual Meeting* (Berkeley 1983).
2. The present paper is based on a much longer work on hedges which is still in progress but part of which has been made semi-public in a typescript ms. (Kay, n.d.) of which the subtitle was "hedges revisited." The word *revisited* referred to the well known paper of George Lakoff (1972). In Kay (n.d.) I discuss in detail Lakoff's approach to hedges and my own agreements with and divergences from that approach; space does not permit a recapitulation of that discussion here. Also in that (n.d.) paper there are references to personal communication and advice from many people whose contributions cannot be recited here, although all have helped shape my view of the subject. I must acknowledge, however, a very general intellectual debt to Charles Fillmore and George Lakoff.

References

Gazdar, G.
  1979. Pragmatics. New York: Academic Press.
Kaplan, D.
  1977. "Dthat." *In* Syntax and Semantics, Vol. 9, Pragmatics, Peter Cole, ed. New York: Academic Press. Pp. 221–44.
Kay, P.
  n.d. The role of cognitive schemata in word meaning: Hedges revisited. Unpublished manuscript, Department of Linguistics, University of California, Berkeley.

Kripke, S.
    1972. Naming and necessity. *In* Semantics of Natural Language, D. Davidson
        and G. Harman, eds. Dordrecht, Holland: D. Reidel Publishing Company.
        Pp. 253–355.
Lakoff, G.
    1972. Hedges: a study in meaning criteria and the logic of fuzzy concepts. *In*
        Papers from the Eighth Regional Meeting, Chicago Linguistic Society.
        Chicago: Chicago Linguistic Society. Pp. 183–228. (Reprinted in Journal of
        Philosophical Logic 2:458–508, 1973).
Putnam, H.
    1975. The meaning of meaning. *In* Mind, Language and Reality. Cambridge,
        England: Cambridge University Press. Pp. 215–271.

4

Prestige and intimacy

THE CULTURAL MODELS BEHIND AMERICANS' TALK ABOUT GENDER TYPES[1]

Dorothy Holland & Debra Skinner

"... I can't believe we're talking about this!"

Margaret, an informant in a study of college-age women, said this in the midst of a "talking diary" interview. Earlier, the interviewer had limited herself to questions that a friend or new acquaintance might ask: What's been happening since I talked to you last? How are your classes going? Who is this Alice that you're talking about? When did you join volleyball club? Then, at a point in the interview, Margaret began to describe a skit about "jocks," "frat guys," "Susie Sororities," and other campus types. For a time, Margaret answered the interviewer's questions about the different types and how they could be identified and then interrupted herself:

Margaret: ... I can't believe we're talking about this!
Interviewer: Why?
Margaret: I don't know. You just don't sit around talking about it that much with anybody. It's just kind of there.
Interviewer: So it's not the sort of thing you'd sit around in your dorm room and talk about to your roommates?
Margaret: No, you allude to it more than anything else.
Interviewer: What do you mean, allude?
Margaret: You know, little things, like, "Oh, you're wearing your add-a-beads today." Things like that.
Interviewer: And that's all you have to say?
Margaret: Yeah, it's understood.

As might be expected, our participant–observation and interview data from a group of college-age Americans shows such types to be a conventional way of talking about other people. One hears words like *jock* or *hunk* or *freak* in conversations about who John so-and-so is, what he's like, what he's likely to do, and why he treated Mary or whomever the way he did. One also hears arguments about whether specific individuals can be described accurately as a "chauvinist" or whatever category has been proposed and sometimes, caricatures of men in general — as in Margaret's skit — couched in these terms. Names like *jerk* and *bitch* are also popularly used as insults and others like *honey* and *sweetheart* appear in compliments and endearments.

A striking aspect of this talk about other people is that a great deal of knowledge about gender-marked types is taken for granted. Women assume, for example, that telling another woman, "He's an asshole," will be taken as advice to avoid the male approaching them in a bar. They assume that other women know why calling a "jock" an "ass" to his face would be a risky thing to do or why referring to someone as a "hick" is relevant to a description of him as insensitive.[2]

Margaret and our other informants know implicitly what a number of scholars from a variety of disciplines (e.g., Agar 1980; Labov & Fanshel 1977; Rice 1980; Schank & Abelson 1977) have labored to make explicit; namely, with members of one's own cultural group, descriptions are constructed in conventional ways according to unspoken expectations and implicit common knowledge. The hearer is expected to infer missing information cued only by the information that is included and by the genre in which the information is presented. Margaret was chagrined by the interviewer's ignorance of types of men and women, knowledge that she, Margaret, had taken for granted in describing her skit to the interviewer. Not only was she startled by the interviewer's questions, but she also found them difficult to answer. It was hard work to make the information explicit.

Our purpose in this paper is to describe the understandings of male/female relations that Margaret and the other American women in our study take for granted when they converse with one another. We refer to this body of shared implicit knowledge about gender-marked types and about ways to talk about these types as a *cultural model*. Focusing on the manner in which these cultural models of gender are grasped by individuals, we are also interested in how this knowledge of gender types is mentally represented. Does Margaret simply know a list of definitions of *jock* and *frat guy* and other types of males and females, for example, or is her understanding organized in some other way?

A partial account of what women know about the types of males they talk about

STUDY A

In the first set of interviews we collected – the Study A-1 interviews – female informants were asked to list types of males. Male informants were asked to list types of females. Next, they were asked to describe the different types and to tell when someone might use such a term. Those 42 interviews revealed what is easily corroborated by listening to everyday conversation: Americans have an extremely rich vocabulary for talking about males and females. There are hundreds of terms for males and hundreds of terms for females. Furthermore, the vocabulary is colorful. Many of the words are derived by metaphorical extension from the domain of animals, the domain of foods, the domain of objects, occupations, or by

metonymic construction. New names are easy to make up and, as *turkey,* *libber,* and *feminist,* indicate, easily assimilated into common cultural knowledge (Holland & Davidson 1983; Holland & Skinner 1985).

An obvious way to present this American cultural knowledge of gender types is simply to list and describe or define all of these different kinds of males and females. We could even present the definitions in an economic fashion as in the ethnoscience tradition (see, for example, Tyler 1969 or Spradley 1972) by organizing and presenting the terms according to their taxonomic and paradigmatic relations. Tempting though this "dictionary definition" solution might seem, a decade of developments in cognitive anthropology, linguistics, and psychology suggests that this ethnosemantic approach cannot adequately describe how individuals organize their knowledge about gender types. As D'Andrade and associates have demonstrated, dictionary definitions often omit the very attributes of the topic that people think are the most important (D'Andrade et al. 1972). Studies of person and social types, in particular, show that what is important to people about these types is not what one must ascertain about persons to accurately classify them but rather what one must know in order to know how to behave toward them (Burton & Romney 1975; Harding & Clement 1980; White 1980).[3] For Ixil-Maya speakers discussed in Harding and Clement, for example, the important things about social roles are associated wealth, local affiliations, and their relationship to the civic-ceremonial complexes[4] – attributes that might not be included in dictionary-type definitions of the roles (see also Keesing 1979).

Rejecting dictinary-type definitions as a means of describing the cultural model of gender, we turned first to the "cognitive-structure" approach used in the Burton and Romney, Harding and Clement, and White studies. In the Study A–2, interviews informants were asked to do more systematically and more comprehensively what they do on a limited scale in conversation: They were asked to compare and contrast types of males and types of females according to whatever criteria they considered important. If we could find out the bases for comparison and contrast, then we would have an idea of the implicit propositions about gender types that organize women's thinking about men, and vice versa.

From the Study A–1 interviews, we selected 41 male types and 41 female types.[5] We wrote each subtype on a card and asked the respondents to sort the 41 types according to similarity and then to describe the similarities they saw among the types they had put into each pile. The reasons they gave for their sortings were recorded verbatim.

Important characteristics of gender-types.   In the Study A–2 interviews, the respondents were allowed to compare and contrast the types according to whatever criteria seemed important to them. In most studies of gender stereotypes, the respondents are not allowed as much freedom; they are given a list of personality traits such as rational, warm, nurturant,

and independent and asked to say which traits are characteristic of males, which of females (Rosenkrantz et al. 1968; Spence, Helmreich, & Stapp 1975). If we had been willing to assume that the cultural model of gender is organized according to personality traits, we could have asked respondents to tell us which traits are associated with which types. However, since our Study A-1 interviews showed no exclusive emphasis on personality traits, and since more general studies (e.g., Bromley 1977) show that other characteristics of persons are considered important, we wanted to give respondents freedom to emphasize whatever aspects they considered important. (See Holland & Davidson 1983 for more discussion of the difference between most gender stereotype research and our own.) As it turned out, a variety of characteristics were described, as the following examples show:[6]

1341 [*jock*] a male who is impressed by his own physical prowess – like a matinee idol . . . a physically attractive or physically impressive athlete. People also use it [*jock*] to indicate a physically able and mentally deficient male

0931 [*chauvinist pig*] a guy who believes women are inferior

0131 [*dude, athlete, jock, macho, stud, hunk, Don Juan, playboy, egotist, frattybagger*][7] guys that think they are real cool, woman-pleaser types, conceited type people

0831 [*turkey, nerd, jerk, prick*] all derogatory; terribly insecure

2231 [*wimp, sissy, homosexual, queer, gay, hippie*] they all seem queer. Seem like terms for homosexual except *hippie* doesn't fit. They're all strange, socially unacceptable. They're all fags.

0631 [*man, guy, fellow, gentleman, boyfriend, fiance, lover, sweetheart*] they connote a more positive image . . . the most positive image of all the cards. They connote a kind of "boy back home": a more traditional role of a male as I think of it ideally.

Personality traits are mentioned frequently. Also mentioned are comments on looks, on specific attitudes, on the kind of a date the type makes, on sexual preference, and on many other specific mannerisms and background characteristics.

Our next task was to identify any themes or dimensions that underlay the multifaceted descriptions we had been given. We used a procedure that translates the measures of similarity from the sorting into a visual display. In the visual display that was created by a technique called multidimensional scaling, types that were often sorted together by the respondents were placed close together; types that were seldom sorted together were placed far apart.[8] This multidimensional scaling procedure was used to produce Figure 4.1, which indicates how male types were sorted by females, and Figure 4.2, which indicates how female types were sorted by male respondents.

Multidimensional scaling is primarily an aid to visualizing the patterns of comparison and contrast. It is also useful as a basis for estimating the

TYPES OF MEN

Emphasizes/Exploits
Male/Female Differences

X Mecho (.09)
Hunk (.04) X   X Jock (.02)
                X Don Juan (.06)
        X Athlete (−.01)   Stud/Playboy
    X Dude (−.01)   X X (.11) / (.09)
               X
            Frattyboager (−.11)   X X Chauvinist/Hustler (−.05)/(.02)
      Buck (.10) X
Brain (−.08) X   X Egoist (−.04)
     Cowboy (−.07)
                  X   X Bastard (−.12)
                                                X Prick (−.13)
                         Pimp (−.07)
                                        X Jerk (−.23)
         X Skinhead (−.19)   X Punk (.15)
                          X Dog (−.14)   X Nerd (−.22)
         X   Redneck (−.14)
      Hassle (−.10)

X Lover (−.07)   X Wimp (.06)
  X Fiance (−.10)   X Queer (.56)   X Turkey (−.20)
X   X Sissy (.41)
  X Sweetheart (−.03)
X Boyfriend (−.09)   X Gay/Homosexual
                                  (.63)/(.63)

        X Bachelor (−.08)

    X Gentleman (−.12)

   X Man (−.06)

         Boy (−.03)
            X
X
Guy/Fellow (−.09)/(−.08)

Doesn't Stress
Male/Female Differences

Effective/Likable
[Endearments]

Ineffective/Unlikable
[Insults]

Figure 4.1. Three-dimensional representation of male social types (Stress = .147)

82

TYPES OF WOMEN

Likable
[Endearments]

Low Status Possessions
[Insults]

High-Status Possessions

Overdemanding/Unlikable
[Insults]

X Sweetheart (−.04)
X Girlfriend (−.09)
X Lover (−.12)
X Honey (.10)
X Babe (.31)
X Princess (.01)
X Girl (−.23)
X Woman (−.24)
X Old Lady (−.16)
X Lady (−.17)
X Cute Girl (.15)
X Fox/Doll (.42)/(.33)
X Dish (.45)
X Down to Earth Girl (−.19)
X Libber (−.19)
X Chick (.33)
X Southern Woman (−.24)
X Belle (−.17)
X Broad (.06)
X Carolina Coed (−.12)
X Blonde (.08)
X Prude (−.11)
X Amazon (−.20)
X Teaser (.22)
X Cunt (.19)
X Prickteaser (.10)
X Dumb Blonde (−.16)
X Airhead (−.15)
X Whore (.18)
X Slut (.16)
X Easy Lay (.18)
X Dyke (−.18)
Bitch (−.13)
X Strumpet (.63)
X Scag (−.21)
X Nag (−.10)
X Dog (−.18)
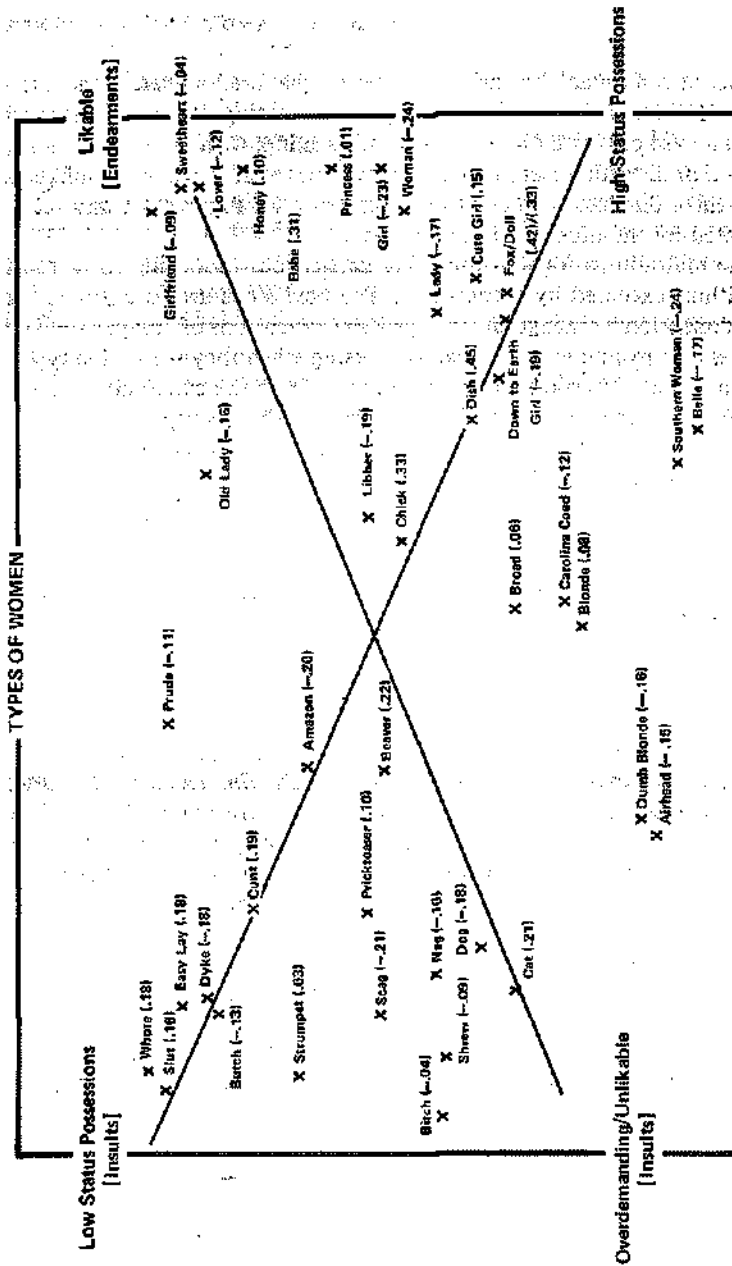X Shrew (−.09)
Bitch (−.04)
X
X Cat (.21)

Figure 4.2. Three-dimensional representation of female social types (Stress = .138)

83

number of conceptual dimensions of contrast that predominate in the sorts. For both the female and the male types, the sorting data were distorted if we allowed only two dimensions for the scaling; with three dimensions, the level of distortion measured as *stress* was acceptable. Thus, both figures show three dimensions. (The third dimension on Figures 4.1 and 4.2 is indicated by the numbers in parentheses.)

The multidimensional scalings are carried out according to a set of algorithms executed by a computer. The next steps are to examine the multidimensional scalings and interpret the dimensions of comparison and contrast the respondents seemed to be using when they sorted the types. To make these interpretations, we analyzed both the explanations given by the respondents in the A-2 interviews and the descriptions from the A-1 interviews. These data led us to the conclusion that females type males according to whether they are:

1. likely to use their position or attractiveness to females for selfish purposes,
2. ineffectual and unlikable, and/or
3. unusual in their sexual appetites

Chauvinists, playboys, and *jocks,* for example, are seen as types who use their social position as males or their attractiveness to women for selfish purposes; *guys, fellows, boys,* and *gays,* in contrast, are seen as being unlikely to try to capitalize on these advantages. *Jerks, nerds,* and *turkeys* are inept and unattractive, whereas *boyfriends, financees, sweethearts,* and, to a lesser extent, *guys* and *fellows,* are attractive and effective. The sexual appetites of *gays* and to a lesser extent *playboys,* are out of the ordinary and an important aspect of their lives. For *nerds* and *skinheads,* the opposite is true; sexuality is not a particularly notable aspect of their behavior. What we are arguing from the cognitive–structure analysis is that women focus on and organize their thinking about male types according to these three aspects of male characteristics and behavior.

Males do not compare and contrast females on the same three bases just described, although there are some complementary aspects. Males compared female types according to their:

1. prestige as a (sexual) possession/companion
2. tendency to be overdemanding and engulfing
3. sexiness

Bitches and *scags,* for example, are types that are overdemanding; *girlfriends* and *sweethearts* and, to a lesser extent, *women,* are supportive and helpful. *Foxes* and *whores* are sexually enticing; *prudes* and *dykes* are sexually repelling. *Foxes* and *dolls* are high-status sexual companions, whereas *whores* and *easy lays* are low status. These characteristics are important to males about females.

Summing to this point: Study A has provided partial information on

the cultural models of gender types for our samples. As a cognitive entity, a cultural model may be defined as learned mental representations of some aspect of the world – in this case, gender types. These mental representations or schemas actively guide attention to components of the world and provide inferences about these components and their various states and form a framework for remembering, reconstructing, and describing experiences. (For a related conceptualization of *schema*, see, for example, Neisser 1976 or Rice 1980.)

Study A provided the broad outlines of the characteristics that females are guided to look for in types of males, and vice versa. These models tell females what to pay attention to about new males they meet, what to be on guard about in males they already know, and what questions to ask about newly identified types of males.

Limitations. On the basis of Study A, we felt we had correctly grasped the characteristics of male and female types that were important to the respondents. We also felt that based on what we had learned about these important characteristics and what we had learned about the conventions for naming types, we could correctly predict how the respondents would react to types we had not included in the interviews and even how they would be likely to react to names of newly identified types. Using a method such as Burton's (1972), we could have undertaken a validation of our interpretations and predictions; however, we were concerned about certain limitations of our approach and decided instead to examine another source of data.[9]

The type of analysis we had done – cognitive–structure analysis – did not adequately present the total amount of information we had learned from the interviews. Cognitive–structure analysis is predicated on the idea of underlying "dimensions of meaning" as the organizing structure for the set of terms – in this case, gender types. The question of how these dimensions are mentally grasped by informants has received little explicit attention in the literature (see D'Andrade 1976 for an exception), but the implication is that the dimensions or characteristics of importance can be described accurately as single attributes or features of meaning.

We had difficulty in finding and, as is discernible from the labels affixed to Figures 4.1 and 4.2, did not manage to isolate in every case, a single attribute or descriptor that seemed to capture the sense of the "characteristic" the respondents were talking about as the basis for their comparisons of the different types of males and females. Even when we did use two attributes or a descriptive phrase, we found it was not clear from our descriptions how women integrated "ineffective" and "unlikable" as co-occurring characteristics, for example, or why "exploitation of male/female differences" should not also be coupled with "unlikable." Furthermore, we realized that our descriptions of the characteristics as simple attributes were also limited because these attributes did not offer any

insight into the affect our respondents displayed when they discussed the different types. There was information from the interviews that illuminated these questions, but clearly that information was not being effectively conveyed by the cognitive–structure analysis that presented the "characteristics" as though they were simple attributes. A more accurate way of describing the "characteristics" had to be found.

A SECOND LOOK AT STUDY A

We returned to the A–1 and the A–2 interviews to find out how the respondents had communicated a sense of what *jocks* or *wimps* or *broads* are like. We reread the 460 or so descriptions of individual types in the A–1 interviews and the 250 or so explanations for the groupings of types in the A–2 inerviews.

In both sets of interviews, the descriptions were strikingly similar and included a variety of information. Some descriptions were limited to single descriptors reminiscent of the attribute-like features we had first looked for to describe the "dimensions" from the multidimensional scaling. These single descriptors often had to do with character, mood, or personality:

> 0231 [*sissy*] a male who is effeminate
> 0431 [*bastard*] a male who is mean
> 0331 [*turkey, nerd, jerk, frattybagger*] these are people who are just plain stupid
> 1031 [*stud*] a guy who is horny

Other single-focus descriptions contrasted with these in that they depicted not the type's inner state, but rather his acts or behavior:

> 0731 [*hustler*] a male who takes advantage of a person
> 0931 [*pussy*] a guy who doesn't stand up for what he believes in or who is a coward
> 0931 [*pimp*] a man who prostitutes women

Another large set of the descriptions were unlike the ones just quoted in that they included more than one type of information. They contained information about the type's inner state *and* information about his behavior *and* other information, such as females' reactions to him.

> 0431 [*boy, dude, dog, wimp, hippie, turkey, punk, nerd, jerk, prick, skinhead*] these are losers – all the names that you call really queer dates. They're usually immature or ugly, or think they're cool, but aren't at all. They try to impress girls, but actually make fools of themselves.
> 2231 [*redneck, dog, turkey, punk, nerd, jerk, skinhead, cowboy, brain*] I think of little 98-pound weaklings – jerks. They're all ugly little jerks that you'd never want to be seen with, or never want to talk to. You cannot get rid of them.
> 1131 [*couchwarmer*] a guy who is too cheap to take you out so he takes you to his home all the time.

0431 [*lover, athlete, jock, macho, stud, egotist, bastard, hunk, Don Juan,* *playboy*] these are the typical jock-type, good looking but they know it. Can get any type of girl they want because girls usually go for them. They're popular.

0331 [*Don Juan, playboy*] implies someone who likes to play around women are attracted to them but they don't set up a serious relationship.

0331 [*ladies' man*] a friendly man who is deceitful. Ladies' man and macho man are variations on the same theme – one tends to have larger biceps.

1331 [*boyfriend, fiancé, lover, sweetheart*] these are all subtitles of what we would call the man who is showing the romantic side of a man in relation to a woman.

0431 [*sissy, homosexual, queer, gay*] they're the type you find in my dancing class. They're just all gay, pretty unmasculine, talk with a lisp.

The respondents were clearly not limiting their thinking to a single characteristic of the male types they were describing. In order to convey their sense of the social types, they were providing, it might be surmised, the outlines of a social drama, or sometimes, a scene from the drama. In the scenes – which are sometimes described as though they were being visualized – the male type plays a role in an encounter or a relationship with another person, usually a female. He is her date or perhaps her friend or her would-be lover. His style of playing the role is different from how an ordinary male would play the role. In the descriptions, the unusual aspects of his style are communicated by an account of his actions or a description of his intentions, personality traits, or beliefs, He is friendly, but deceitful; he thinks he is cool, but actually makes a fool of himself. Sometimes, we also are told the female's reactions to such males (e.g., "women are attracted to them," or "they can get any girl they want").[10]

The recognition that the respondents were constructing their descriptions of gender types from social scenes or perhaps scenarios made it clear why trying to describe the characteristics of the types as single attributes was a difficult and perhaps impossible task. In trying to represent the information conveyed to us by the respondents as single attributes, we had undertaken the task of describing a gestalt of social information and action in a few words. Although the multidimensional scaling had assisted us in our identification of the key behaviors and characteristics of the different types, it did not help us in the identification and description of the taken-for-granted social world in which these characteristics are significant.

The realization that the respondents were thinking of the types in terms of social dramas rather than single attributes prompted further study. The aim of Studies B and C – analyses of two other sets of data – was to uncover premises about the social worlds associated with the scenarios: What makes types such as *jocks* or *wimps* so special that they are labeled as different from ordinary males? What were the respondents assuming about

normal relations between males and females that made these types stand
out?

Besides the implications of our reanalysis of Study A, the work of
linguist Fillmore also encouraged us to pursue the examination of this
taken-for-granted world of male/female relations. We noted a similarity
between the kinds of *scenes* that Fillmore (1975:124) argues are associated
with linguistic frames and the descriptions given us by the respondents.
Fillmore has presented his proposed *frame semantics* by elucidating the
meaning of words such as *orphan* and *widow*. He (1975:129; 1982:34) has
argued that the meaning of *bachelor*, for example, is integrally related
to a conceptualization of a social world in which such things as bachelors
exist. *Bachelor* cannot simply be defined as an unmarried male, for the
role of *bachelor* is not relevant to all the social worlds in which unmar-
ried males are found. Is Pope John Paul II a bachelor? Is a trice-married,
presently divorced man a bachelor? Fillmore says that the category of
bachelor is not relevant to these cases because the worlds of the Pope and
the trice-married, divorced man deviate from the conceptualization we
have of the social world in which bachelors exist.

A complete analysis of the type suggested by Fillmore is given by
Sweetser (this volume) for the word *lie*. She shows that the meaning of
lie is not detachable from a conceptualized social world in which commu-
nication between individuals follows a culturally standardized, normative
pattern. In this simplified world, the telling of false information has cer-
tain consequences, such as harm to the recipient of the lie, and thus is
clearly a reprehensible act. Perhaps, we reasoned, the exploitation of
male/female differences has particular poignancy to the women in our
sample because of the implications of exploitation in the simplified world
in which *Don Juans, machos, hunks,* and *chauvinists* are relevant char-
acters. Perhaps females attach importance to ineffectiveness and insensi-
tivity in males because this characteristic poses a difficult problem for what
is taken for granted to be the normal course of male/female relationships.

STUDIES B AND C
Studies B and C were conducted in the same locale as Study A with the
same age population two years after the completion of Study A. Studies
B and C consisted of participant-observation research and tape-recorded
one-to two-hour interviews. The 23 informants of Study B and the 10 in-
formants of Study C were each interviewed an average of 8 and 5 times,
respectively. The participation–observation research was useful because
it revealed the extent to which the same kind of talk about males and
females that occurred in the interviews was also occurring in the everyday
activities of the informants.

The Study B interviews primarily consisted of "talking diary" interviews
in which the informant was asked to describe what had been happening
to her since the interviewer had last seen her. In the course of these inter-

views, which took place over a year-long period, the respondents frequently
talked about encounters and relationships with males. As suggested by
the excerpt from the interview with Margaret at the beginning of the paper,
the "talking diary" interviewers tended to stay within the bounds of ques-
tions the women were accustomed to answering and talking about with
their peers.

The Study C interviews provided a more out-of-the-ordinary task for
the informants. They were asked to tell about their first and then subse-
quent memories of someone, usually someone with whom they had had
a relatively long relationship. After they had told about the memories as
they wished, the interviewer asked in-depth questions about their impres-
sions of and reasoning about the individual, often requiring the informant
to make explicit information or beliefs about males and females that she
would have otherwise taken for granted.

In searching through these interviews for relevant passages, we looked
for passages in which the gender of the other was of explicit significance
to the informant's reasoning about the other person. Any passage which
included reference to the gender-marked social types that had been iden-
tified in Study A-1 was automatically consulted. Our guiding questions
were: What do our informants assume about ordinary relationships be-
tween males and females? and What are the taken-for-granted worlds in
which these male and female types interact? As it turned out, this taken-
for-granted world is a world of prestige and intimacy gained and lost.

The taken-for-granted world of male/female relationships

In the taken-for-granted world of male/female relations, from the perspec-
tive of the women in our study, a male earns the admiration and affec-
tion of a female by treating her well. Intimacy is a result of this process.
The female allows herself to become emotionally closer, perhaps as a
friend, perhaps as a lover, perhaps as a fiancée, to those attractive males
who make a sufficient effort to win her affection. Besides closeness and
intimacy, the process of forming a relationship also has to do with prestige.
When a male is attracted to a female and tries to earn her affection by
good treatment, her attractiveness is validated and she gains prestige in
her social group. For his part, the male gains prestige among his peers
when he receives admiration and affection from and gains intimacy with
females.

Normally, prestigious males are attracted to and establish close rela-
tionships with prestigious females, and vice versa. Sometimes, however,
a male can succeed in winning the affection of a female whose prestige
is higher than his own. However, the more attractive she is, the more he
must compensate for his lack of prestige by spectacular efforts to treat
her well. Correspondingly, females sometimes do form close relationships
with males who have higher prestige than they do. When the male is more

attractive or has higher prestige than the female, she often must compensate by giving her affection to him without his doing anything to earn it.

Several aspects of this world can be illustrated by interpretations that informants made of their experiences with males. It should be noted that although the interpretations included in the following sections pertain primarily to romantic relationships, our data indicate that friendships between a male and a female are interpreted in terms of the same taken-for-granted world.

THE INGENIOUS BEAU

Karla had an "official boyfriend," Christopher.[11] Meanwhile, another guy, Alex, was doing things like showing up at her door with the gift of an egg, dyed purple. For a visit to listen to records, he appeared dressed in a costume befitting the punk-rock genre, a costume he had creatively assembled from castaway clothes and a dead carnation. What meaning could this bizarre behavior have? Karla interpreted it as an effort to win her affection:

Karla: . . . if you want to get down to brass tacks, the main crux of the problem [with the relationship with Christopher] right now is this new guy. Because I must say he fascinates me, he fascinates me more than anyone I've ever known and furthermore he's making the most interesting efforts to get me.

Alex was treating Karla well. Being well treated by a male means being shown special considerations and courtesies; having one's values, desires, and feelings taken seriously; and being appreciated for one's qualities and accomplishments. Some other examples of such treatment besides the creative efforts of Alex included things, in Karla's eyes, like wearing a jacket on a casual date and being pampered when one is feeling sick.

Another informant, Diana, gives additional examples in a life history interview. She begins by talking about how attractive females want to date attractive males and then switches to the kind of treatment she expects from males.

Interviewer: How about dates . . . any more to add on dates? What was important to you?
Diana: Well, if you were fairly nice looking you wanted to date a good looking guy, I mean, that was probably all part of our ego, we wanted to have the best looking date or things like that . . . of course you wanted to be attractive to them [males] you know. Like I said, you wanted them to think that you were pretty . . . .
Interviewer: Did you want them to think anything else?
Diana: Of course you wanted them to think you had a good personality, that you weren't just beauty and no brains. But it was important to me for someone to respect my values and most of my friends were the same. Of course, there's, in every community there's a few girls that don't have such strict moral values, but we wanted to make sure that the guys that we went out with did respect that or we wouldn't go out with them any more. All my friends were about the

same in that respect; we wanted our dates to respect us and treat us like ladies, not like one of the fellows.

Interviewer: What would constitute being treated like a lady?

Diana: Well not only respecting our moral values, but to me, at least, maybe it was because I was in the role of the female where you were old-fashioned and so on, but it was important for them to open the door for me, seat me if we went out to eat, to open car doors for me, just common courtesy that a lot of times you don't even think about.

KARLA THE GERM

Bad treatment is being ignored, being unappreciated or scorned, and being treated like an object rather than a person. In describing her relationship with Christopher, Karla recounted a phase of their relationship in which she became disgruntled with how Christopher was treating her. The situation came to a crisis when she returned to school after a holiday and promptly came down with a bad case of the flu. Instead of being solicitous, Christopher tried to avoid her:

Karla: Well I was . . . feeling so horrible that night about nine o'clock that I put on my pajamas and went to bed, and Christopher comes by at 9:30 to see me. And he says, "What are you doing in bed?" Well [when I told him], he just kind of like turned pale. And I thought that it would be nice, very nice of him [*laughs*] to sort of well, you know, bring me a little chicken soup, tell me to have a nice day, send me a little card. I really wanted that, but instead he just, . . . he wasn't exactly rude, but he sort of got out of the room as fast as he could cause he's so scared he'd get it, and I can understand that, his practice schedule, he plays with a university group, if he got sick it would screw him up a lot, but I don't like being treated like I have germs, whether I have them or not. . . .

Later that week, Christopher took her to a play even though he was still afraid of catching the flu from her:

He didn't say this, but he went out with me anyway, but he was just kind of like on edge all night long because of that and I think that's why he started making some nasty remarks. . . . So that made me angry and that's why we had our big fight. . . .

Interviewer: How did uh, why did you . . .

Karla: I said, "Why, how dare you treat me like a germ?" And he asked me to explain this, so I did and I told him that I had not had a good time that evening [*laughs*] and, I said that, well . . . it was earlier in the evening in the restaurant that he had made the nasty comment about my family. I said, "Christopher, how can you sit there and say something like that, and act like your family and your family's background is so much better than mine when this very evening, Christopher, you have behaved with no class whatsoever?" . . .

Karla interpreted Christopher's behavior as bad treatment, treatment that suggested that she was nothing more than an object – a germ. She thought that he had overestimated his own attractiveness or prestige rela-

tive to hers and that he had no right to expect her affection if he continued to treat her in a condescending manner. Eventually, she let him know she was angry.

Although Karla changed her interpretation after another talk with Christopher, she initially took his behavior as meaning that he considered his prestige to be higher than hers. In subsequent passages, she described how she responded by challenging and bringing about a change in his definition of their relative positions. Evidence of the negotiation about relative prestige or attractiveness and its significance is also evident in the following passage.

THE UPPER HAND

> "I just don't want him to get the upper hand on me. . . ."

Karen is describing a guy she has just started to date. She has been talking about the times he calls for dates and how much he likes her. She goes on to explain that she has not been completely straightforward with him:

Karen: . . . I just don't want him to get the upper hand on me, you know. Like I play games with him . . .
Interviewer: Could you give an example?

In response to this question, Karen discusses in a very oblique way how northerners' (Hal, the new guy that she is dating, is a northerner) morals are different from those of southerners (Karen is from North Carolina). She describes northerners' sexual morals as being more "open and carefree."

Interviewer: When you said that part about you didn't want him to get the upper hand, could you talk a little more about that?
Karen: I didn't want him to think that I was really crazy about him and that he could just use me, you know, maybe if he knew I'd want to go out with him and stuff like that. So that's why I just sort of let him, in fact I was trying to get it with him, you know, get the upper hand with him, but it didn't work. He's the same way, you know.
Interviewer: How did you try to do that and why didn't it work?
Karen: Well, you know, I'd tell him – he'd say something about going out and I'd say, "Well just . . . we probably will, but it's a little early right now." I'd do stuff like that, and he'd ask me, he asked me if I had, um, well the first night he asked me if I had a boyfriend back home and I didn't say anything, and he says, "Well, I figured you did." And, I said, "Well . . ."; I didn't say anything, you know. I just told him that I dated a couple of guys, you know. I didn't tell him if I still saw them or not, you know.

She goes on to explain other ways in which she tries to give Hal the impression or allows him to infer that she has other boyfriends, including such subterfuges as sometimes leaving the dorm when she thinks he is going to call.

Here, Karen has read a lot into Hal's pattern of calling and asking her out and making overtures to her. She has interpreted his behavior as a preliminary move in a negotiation in which she and he work out whether his prestige or attractiveness is higher than, equal to, or lower than hers. If she appears to have an active social life, then her prestige as an attractive female is in evidence and he will not be able to treat her badly by taking her for granted and not calling when he says he will or, perhaps, although she does not directly say this, expecting her to become sexually intimate faster than she would choose to. If, on the other hand, his prestige is high, as evidenced by the fact that she finds him extremely attractive, then he will be able to exploit her and treat her badly if he wants to. She would rather that her prestige be seen as higher than his so she acts to bring about that interpretation.

Women judge whether their friends' relationships make sense in terms of the treatment they receive from males. Whether bad treatment is understandable to other women comes up a number of times in our data. From the cultural model, a female may form a relationship with a very attractive male even though he treats her badly. An example of the application of this idea comes from Diana. Diana has been having a number of run-ins with Donny, her boyfriend, who attends a university in a nearby city. Their calls often end in recriminations and tears on Diana's part. Her friends on the hall constantly point out to her that Donny is being mean, that he's just a "jerk." Diana's reply to them can be summarized in her words: "It must be love." She implies that she finds him so attractive that she is willing to sacrifice good treatment for the sake of being around him. Her friends are not convinced. They think he's not worth the trouble he causes Diana; he does not seem all that attractive to them.

Problematic males

These stories describe experiences that the informants interpret according to a set of assumptions about normative relationships between males and females. In the taken-for-granted world constituted by these assumptions, arrogance in a male has special implications and getting involved with an "asshole" has predictable consequences. Arrogance, as elaborated below, has implications for a male's assessment of his own status relative to that of the females around him; the ineffectiveness or insensitivity of an *asshole* is problematic because of the way he is likely to treat females. This taken-for-granted world, in other words, provides the background against which several basic types of males pose a special challenge or problem for females. These types were foreshadowed by the dimensions identified in the multidimensional scaling. The problematic males are those who are arrogant and use their position or attractiveness as males for their own selfish purposes in interactions with females, are insensitive and unlikable, and have unusual sexual appetites.

ARROGANT AND SELFISH MALES

From our informants' interpretations, males who think they are "God's gift to the earth," "who think that anyone without a penis doesn't exist," "who are arrogant and out for themselves," and "who are good looking, but know it" are problematic because they are likely to assume that they do not have to earn a female's admiration and affection and intimacy; they are likely to expect these things from females simply on the basis of their looks or other claims to high prestige.[13] They are likely to be able to exploit their attractiveness and prestige for their own selfish purposes, treating females in a bad or demeaning manner, and not suffer for their behavior. Examples of how informants see these *jocks* and other types are provided by the data.

Annette and Sam. In one of her interviews, Karen told about an encounter she summarized as follows:

> *Karen:* A friend of mine [Annette] invited us, invited several of us to a party at a dorm. And, she told us that there'd be . . . , a couple of people there that she really liked a lot, guys, that is . . . well, they're on the basketball team, you know, big jocks and stuff like that, you know, and . . . when we got there, um, the main one she wanted to see . . . I mean, he just, he didn't even hardly acknowledge her presence. He practically didn't even speak to her. . . . And, it just sort of messed up the whole party – mainly for her, and because of that, it messed it up for all of us.

The remainder of the interview was devoted to questions about this episode:

> *Interviewer:* What were your expectations when you went to the party?
> *Karen:* . . . I expected to meet a couple of the players, and . . . I expected, you know, some real nice guys. And I thought that well, they'd be real glad to see her, and you know, just real friendly and everything. And, but, they, they didn't.
> *Interviewer:* What . . . how did they act when they came? I guess there were two of them that came at different times.
> *Karen:* Yeah. One of them [Robert] was real nice to her and glad to see her and all, you know. That wasn't the main one she wanted to see, the one she wanted to see [Sam] acted real stuck-up, you know, as if she wasn't even there.
> *Interviewer:* Oh, how did he do that?
> *Karen:* He, he ignored her. And, I mean, he saw her several times . . . she'd be standing practically beside him, and he wouldn't say anything . . . this other girl came and he just talked to her practically the rest of the night.

Later, the interviewer asks Karen why she thinks Sam acted as he did:

> *Karen:* I don't know if he was, if he, if, I don't know if maybe she just had it in her head that he liked her, or if he was just, if he didn't want her around, and he was just trying to talk to this other girl or something. But he did act, he acted sort of too good for her, you know?

The interviewer asked for more detail about why Sam acted as he did:

Karen: ... maybe because he was a big jock on campus or something, that he thought, that, you know, she was just an average girl, and he was too good for her, or something. But, um, I didn't look at him that way until he walked – you know, he walked in, and then he just sort of carried himself like, you know, everybody's looking at me. And, I didn't like that at all about him. And, um, he, he was just, it just seemed like he was standing there waiting for people to come and talk to him, you know. Instead of him acknowledging anybody else. ...

Karen talked about how upset Annette was and said she thought perhaps if Annette could talk to some other guy, she would feel better.

Interviewer: What? Why would that make her feel better?

Karen: Um, uh, she probably, I don't know, I guess just to boost her confidence back up, or to make her feel like she's really somebody. Instead of what he, I mean he made her feel like she wasn't even alive. ...

Annette continued to be upset about the incident, and Karen explained that Annette was trying to reason out why Sam acted as he did:

Interviewer: What were some of the ways she reasoned it out?

Karen: Um, well, she thought at first maybe because he was with that girl, he didn't want to talk to anybody else. And, but then, he was talking to other girls that were walking by, and um, then she was thinking, maybe he was mad at her, but she didn't know why, you know, she was just thinking of different stuff like that.

Interviewer: Did you think of any things like that too?

Karen: Uh, not really, I, I, it's gonna sound terrible. I thought, well he just didn't want to, didn't want to see her at all, cause he just didn't, I don't know, what I thought was that, he was like I said before, he was some big jock on campus, you know, and he just wanted the real, um, just certain girls around him, you know.

Interviewer: What ... what kinds?

Karen: Real pretty, you know, real – (I think Annette's pretty, too) – and he just, you know, to make him look that much more better, you know. That's what I was thinking, after I, after I saw what he was doing to her.

Interviewer: Why would, why do you think that he would want that, would want these girls?

Karen: I guess to help his image, you know, make him look that much more better.

In Karen's interpretation, Annette is treated badly. Her presence is not even acknowledged by Sam. The situation is an embarrassing one because Annette has revealed her attraction to Sam yet he has ignored her; she has been shown to be less attractive or of lower prestige than Sam. She's just an average girl.

In Karen's eyes, Sam's attractiveness is diminished. She says, "I didn't

think he was attractive anymore." Her inclination is to demean him, to label him as a lower status male, an unattractive type:

Karen: ... I wanted to tell him, he, you know, what he did to her, you know, that he was acting like an ass.

She does not call him an "ass," however, because she did not think Annette would have wanted her to and because he was around a group of people and she did not want to "make a fool" of herself either. Obviously, other people, such as the woman he was talking with, did not think Sam was an ass.

Another part of this story contrasts Sam with Robert. Attractive males do not necessarily exploit their attractiveness for their own ends; they are not necessarily demeaning to females who have less prestige than they do. Robert was nice. He treated Annette very well and even went out of his way for Annette's friend, whom he had just met:

Karen: Oh, I like him [Robert] a lot, yeah. Cause he, cause he made her laugh and, he was just, so, he was real nice to all of us. And, um, well, one of my friends wanted a beer, you know, but there was this real long line, so he just walks right up. He takes a cup and goes and breaks in front of everybody, you know, and gets it and brings it. He takes a cup and goes back to her, you know. That really impressed me, there, cause he didn't know her, he didn't have to do that. You know. And um, that's just the type of guy he was, you know, just real friendly and nice to everybody.

Robert was attractive and he treated Annette, his friend, in a way that earned her affection and admiration (and Karen's, too). Even though he was attractive and did not have to do things for Annette, he did. The difference between him and Sam, as Karen interpreted it, was that Robert just wanted to have a good time whereas Sam wanted to make himself look better.

Not only was Sam guilty of demeaning Annette, he, in Karen's interpretation, was also using females to further his own ends. He was not sincerely trying to earn their affection and admiration and giving them good treatment in return. He was simply using them to get what he wanted – in the case of the party, increased evidence of his own attractiveness:

Karen: ... you know it's just like they're [guys like Sam] they're out for themselves, you know, just to make, "I just want to be seen." You know, it's like they're just using the girl or something. ...

INEFFECTIVE AND UNLIKABLE MALES

In contrast to males who are problematic because they are attractive but prone to treat women badly, there is a second type whose labels are used as insults. Karen, for example, fantasized insulting Sam by telling him he was acting like an "ass." Diana's friends claimed Donny was acting like a "jerk." *Jerks, nerds, turkeys,* and *asses,* among others (see Figure 4.1)

constitute this second type of problematic male. These males are both unattractive and insensitive and thus unlikely to receive a female's admiration and affection. Lacking sensitivity to what females want, these low-prestige males are neither attractive to women nor are they effective at pleasing females and thereby earning their affection. Two accounts from the data illustrate interpretations of experience in which this type of male plays a part.

Patty and the hick. Patty was asked to describe someone whom she knew from her work. She picked Erve, a colleague, at the school in which she teaches. As a potential friend, she found Erve wanting:

> *Patty:* . . . And I mostly don't care for him very much. Part of it is the fact that he's a real Okie kind of person, in a derogatory sense, and I mean it that way, he's a real hick. . . .

Patty goes on to list many things she dislikes about Erve, including his lack of a sense of humor, the strange things he says in the middle of conversations, the way he usurped the position of the coach, the tactless way he deals with the students; his disruption of the faculty lunches by his topics and styles of conversation, the fact that he asked her her age but did not tell his, and so forth. Furthermore, he did not seem to realize that she disliked him:

> *Patty:* . . . and the other thing that now tops it off is for some reason he's decided I'm his friend and he will come and talk to me, and there's a period of the day, it's usually about twenty minutes of three . . . when everybody fades out and you can get something done, and he will come in there if he hasn't got anything to do and he will talk a blue streak, and I feel resentment about that. And I'm a passive-aggressive person so I never say anything. I just sit there and feel, and he's not long on sensitivity, so he never picks up the vibrations . . . I disagree with just about everything I seem to have noticed about him.

At a later point in the interview, Patty further elaborates the idea that Erve is oblivious to her desires and feelings:

> *Patty:* . . . But in an annoying situation, I will put up with the situation rather than make waves. However, to someone who knows me, the air is absolutely thick with unharmonious vibrations.
> *Interviewer:* And he doesn't?
> *Patty:* No, he does not pick up on those things at all. There are people who will receive such feelings and ignore them and there are people who do not receive, and he is a nonreceiver.

In describing his lack of attention to her feelings, she reiterated a situation in which she had complained to him about his treatment of a student and he had simply made a joke of her statement as though he did not understand she was angry:

Patty: . . . I was really peeved. I did it quite pleasantly, but anyone with a grain
of sensitivity would have noticed that I was peeved. Carl [another teacher] knew
that I was peeved; Alice [the principal] knew that I was annoyed and they heard
me say the words in the same tone of voice that this guy did.

Erve, in short, is remarkable in his lack of sensitivity.

Patty also points out in the interview that Erve has a lower-class style
about him, is "uncivilized," and has very parochial tastes in many aspects
of life. Her comments, plus those of other informants and respondents
in Study A, suggest that lower-class males are thought to be insensitive
to females and therefore are not likely to treat a female well. Upper-class
males are more likely to know how to respond to a female and thus are
more likely to be able to earn the admiration and affection of females.
Other sources of insensitivity are stupidity and meanness of character.

Rachel and Edward. The main problem with the kinds of males who
get classified as "jerks" and "nerds" and so forth is that they are often
obnoxious. They are so insensitive that they cannot even tell they are un-
attractive to the female and so they often act as if the relationship were
a closer one than what the female wants. Erve, for example, apparently
could not sense Patty's negative opinion of him. He would come to her
room and talk to her for long periods of time despite the fact that she
did not want to talk to him. Another example of a male persevering in
trying to get closer to a female is given by Rachel in her description of
a painful and frustrating weekend with Edward.

Rachel had been friends with Edward for many years. They had been
planning to go on a weekend camping trip with two other friends. At the
last minute, Edward casually phoned Rachel to tell her that the other
friends had decided not to go and that he and Rachel should stay at his
university instead of going to the mountains. Rachel was annoyed. She
did not want to be alone with him for such a long time. However, because
it was too late to arrange anything else and because she really wanted to
go somewhere, she went to see him. The entire weekend turned out to
be a frustrating struggle over the closeness of their relationship, with
Edward indicating he wanted them to be closer and Rachel indicating she
wanted the relationship to be less close. This struggle had been going on
for quite a while:

Rachel: . . . several periods during our relationship he's wanted to get closer than
I wanted to get. I don't know, he's a really great guy and I feel real close to
him, deep down, but personality-wise, we just have a lot of conflicts, and I don't
know, he requires a lot of patience from me. To be around him I have to kind
of say, "Okay. You're going to be around Edward, really put yourself down
on his level." And he really needs me, as a friend, I feel like, and he tells me
that. So I'm just not as enthusiastic about our relationship as he is. Lately, he's
just, he's been, every time we've been together, which is several times a month,
he'll bring up this stuff about, you know, he just can't help the way he feels

and he can't stand it anymore, blah, blah, and I've told him how I felt, I can't change my feelings and I'm really tired of talking about it. . . .

Rachel's assessment of Edward is that he speaks in a "hicky way" and is not "attractive to the opposite sex." His ideas have not developed much beyond what they were many years ago when they first became friends:

Rachel: . . . he seems very immature to me now. Sometimes I feel like he must have been dropped on his head when he was a baby, I mean, he's really slow sometimes.

That Rachel does not feel attracted to Edward is a problem in the face of his efforts to win her affection:

Interviewer: How does it make you feel that he wants the relationship to be closer, whatever?

Rachel: It makes me feel real sad because I don't feel that way at all, and I know how much it means to him and there's really nothing that can be done about the situation, so it hurts me that he feels that way and it seems kind of like a hopeless situation right now, because he really can't get along too well right now without our friendship, but it's painful for him to have the friendship too. It also repulses me too because I can't stand the sight of us being more than friends. I'm just not attracted to him, and [then there's] our personality differences, it just never entered my mind at all.

Despite his efforts to treat her well, Rachel is not attracted to Edward, and because of his perseverance in his attempts to get closer, she becomes irritated by his lack of acceptance of her feelings. Although he cares for her and does things for her, he is not attractive enough or sensitive enough for her to want a closer relationship with him. Rachel attributes his disregard of her negative feelings to his family background and possibly his fundamentalist religious upbringing. She says he may have gotten the mistaken idea that males can earn a female's closeness, or at least that he can win hers, simply by dint of will power. Not only was Edward's attractiveness not sufficient for how close he wanted the relationship to be, but he also had the problem of not being able to accept that he was pursuing a lost cause. This made him even more unattractive in Rachel's eyes because she found his overtures obnoxious and irritating.

Erve and Edward are problematic types for two reasons: (1) they are not very attractive or likable, and (2) they are also handicapped by a lack of awareness or lack of character to the point that they are, in some situations, at least, unable to tell what a female would like. For the more insensitive types of unattractive males who cannot tell what a female wants, there is little chance of earning an attractive female's affection, admiration, and intimacy by treating her well.

Unattractive, insensitive males would not be a problem if they understood their situation and acted on that understanding, but they are often so "out of it" that they fail to understand their position. They act as though

they are attractive and capable of earning a female's admiration and affection. They hang around females who are more attractive than they are and are obnoxious because the female has to "put them off."

In both Study B and Study C, we found cases in which such names as *jerk, ass, asshole,* and *creep* were used as insults. In Study A, as well, respondents often indicated that these were insulting and derogatory names. It is now clear why this is the case: These names refer to types who are neither attractive nor adept at treating females well. They refer to men who are on the bottom of the prestige ranking; they are the least likely of males to earn females' admiration and affection. Their insensitivity makes them treat females as poorly as *jocks, Don Juans* and *egotists* are likely to do, but they do not have the redeeming quality of these latter types of being attractive in some way. Their prestige is especially low because they do not even know when they are disliked. They make "fools" of themselves by pursuing attractive females who are not at all interested in them. This factor of prestige is why Karen could not call Sam an "ass" and not look like a fool herself. By calling Sam an "ass," Karen would have been indicating that his prestige was low and that therefore it was unlikely he could earn the admiration of a female. Clearly, Sam did not have this problem. Not only was he known as a "big jock on campus," he was also at the party with a female.

MALES WHO HAVE (UNUSUAL) SEXUAL APPETITES

From the Study B interviews, we know that talking about the sexual aspects of one's current relationships is an indication of intimacy or closeness. Most of our informants did not feel close enough to us to discuss sex and sexuality in their own personal relationships. The ones who did discuss these topics in the interviews had moments of embarrassment, and even the very articulate ones had difficulty in finding words to describe their interpretations. Where sex and sexuality are talked about on a more impersonal level as a topic of conversation or as a target for joking, however, the informants were less reticent. The "horny" and "oversexed" person, for example, was caricatured even in our presence for comic effect.

Because of the informants' reticence and difficulty in talking about the aspects of their relationships that had to do with sex and sexuality, we have only a few in-depth accounts that present information relevant to informants' views on types of males who are problematic because they are sexually unusual or extraordinary. Because of this limitation, we include only one of the few relevant stories plus list a set of assumptions that have been pieced together from the data:

1. Males have a natural desire for sexual intimacy with females, and vice versa.
2. Besides desiring sexual intimacy for its own sake, males also want to demonstrate their sexuality.
3. It is the female's prerogative to decide the extent of sexual intimacy she has with a male.

4. As with affection, admiration, and other forms of intimacy, females
   are more prone to choose to be sexually intimate with a male if they
   find him attractive.

Males who have unusual sexual appetites are those who prefer to have
intimacy with other males. Also unusual are heterosexual males who have
an unnaturally high level of desire and/or a strong need to demonstrate
their sexuality. These males are problematic in terms of the presupposed
world of male/female relations because both types are likely to provide
little prestige or intimacy to females. Homosexual males focus on males
and, although they can be friends with females, they are not suitable
romantic partners for females. They are, in fact, competitors for other
males. Sexually aggressive heterosexual males are even more problematic.
They are prone to treat females in an uncaring manner because sex or their
sexuality is of foremost importance to them, not the female and her con-
cerns. They may become overly focused on sex and disregard aspects of
the female that are important to her own self-identity. Or, the attractive
ones may take advantage of their attractiveness, accepting intimacy from
a woman with no intent to treat her well. Or, they may make overtures
that cause her to have to make decisions about intimacy before she is ready.
Karla, for example, in describing a "pass" a man made at her on their
second date, recounts how she assessed what she considered to be a fast
invitation to intimacy:

Karla: I guess for about two weeks there, I was looking around for a surrogate
for my old boyfriend. And [after this incident] I started looking on him as some-
body who would be more of a challenge, someone who'd be kind of fun to play
with because I realized this attitude which would lead him to ask me that sort
of question on the second date would also make him rather interesting to deal
with, and so I was not put off from dating him at all, I just realized that I'd
have to be rather clever about it.

As Karla interprets it, males who have a strong sex drive or a high need
to prove their sexuality are more of a challenge than males who do not.
Relating to them is riskier because the pace is faster and more difficult
to control than is the case in a normal relationship. Also, there is greater
risk of being treated badly.

Summary of the cultural model of gender types

For American women, at least the ones in our samples, there is a stan-
dard, taken-for-granted way in which close male/female relationships –
both romantic and friendship – come about. The male demonstrates his
appreciation of the female's personal qualities and accomplishments by
concerning himself with her needs and wants, and she, in turn, acts on
her attraction to him by permitting a close, intimate relationship and by
openly expressing her admiration and affection for him.

In the prototypical relationship, the two parties are equally attractive

and equally attracted to one another. However, if the discrepancy in relative attractiveness is not too great, adjustments are possible. A relatively unattractive male can compensate for his lesser standing by making extraordinary efforts to treat the woman well and make her happy. A relatively unattractive female can compensate by scaling down her expectations of good treatment. When sufficient compensation is not in evidence or when the more attractive partner seems to be the one who is compensating, the relationship does not make sense and people say to one another: What does he see in her? or, Why does she put up with him?

Don Juans, turkeys, gays, and other types of males are singled out and talked about in relation to this taken-for-granted world of male/female relationships. These types have characteristics that lead them to cause problems for women. Attractive, popular males who are arrogant or self-centered, for example, take advantage of their attractiveness to women to gain affection and intimacy without intending to enact the friendship or romantic relationship that would normally follow mutual attraction in the taken-for-granted world. They treat the woman badly, which puts her in an uncomfortable position (like that of Annette) of being shown to be less attractive than the male. The woman has revealed her affection and admiration for the male with nothing to show in return.

In contrast to *Don Juan, jock,* or *chauvinist* types, there are the *jerks* and *nerds,* who are not adept at pleasing a female. Unattractive males of this type, the "losers," are particularly problematic because they often pursue a female who is more attractive than they are. Since they are not only unattractive but also inept at earning her affection by treating her well, they are engaged in a futile pursuit. Yet they hang around, impervious to her disinterest and unaware that she is more attractive than they. Eventually, they become obnoxious.

Sexually different males also create anomalies in the taken-for-granted world of male/female relationships. Both homosexual males and males who are heterosexual but overly focused on sexual activity render the meaning and value of physical or sexual intimacy between males and females problematic. Homosexual males do not want intimacy with females and therefore cannot be romantic partners for females. Relationships are a priori arrested at the level of friendship. Males who are overly sexually aggressive, on the other hand, force females to a decision about intimacy before the relationship has progressed very far. They are also unlikely to carry through with the relationship because for them there is less involvement with the female as an individual, a person.

Discussion

Two questions were posed at the beginning of the paper: What do Americans leave unspoken when they talk about gender types? and How is this implicit knowledge mentally organized? The preceding section sum-

marizes the implicit knowledge that the women in our samples take for granted about male/female relationships and about types of males who are likely to cause a relationship to go awry. Here, we outline the implications of our research for the cognitive organization of knowledge about gender types. The final section of the paper discusses the questions of the susceptibility of the cultural model to change and its likely distribution in the American population.

THE COGNITIVE ORGANIZATION OF CULTURAL KNOWLEDGE ABOUT GENDER TYPES

Our studies indicate that individual Americans understand talk about *jerks, wimps, he-men, chicks, broads,* and their behavior by thinking of these characters in relation to a taken-for-granted relationship between males and females. In the prototypical sequence of events described in detail in the previous section, a male and a female are attracted to one another and develop a close relationship in which they become friends and/or romantic/sexual partners. Cognitively associated with this taken-for-granted course of male/female relationships are scenarios of disruption in which one or another of the participants causes the relationship to abort or go awry. Most gender-marked types, it turns out, are types who cause such disruptions.

This organization of knowledge according to prototypic events and scenarios is not what we had originally anticipated. At the start of our study, as explained, we rejected the hypothesis that knowledge about gender types is cognitively organized as a list of definitions of *fox, doll, scag,* and so forth. We turned instead to an analysis of the cognitive structure or similarity structure of the set of types. Researchers customarily assume that this type of analysis, which is usually carried out with the aid of multidimensional scaling, identifies key attributes of a domain (e.g., gender types) and that these key attributes organize and orient people's thinking about the domain. Such an analysis presumes that knowledge about gender types is basically organized according to a set of attributes.

Our studies indicated, however, that such an approach was of limited utility for gender types. When the people in our sample were asked which types were similar, they did not perform this task by explicitly focusing on important attributes of the types. Rather, they related the types to a set of scenarios in which the prototypical male/female relationship is disrupted. We found, in other words, that respondents compared types of males and females according to their fit to scenarios. Furthermore, in order to explicate the scenarios, we found it necessary to consult additional data, from which we inferred the underlying taken-for-granted world of male/female relationships. The multidimensional scaling did assist us in identifying an important aspect of the cultural model, namely, the groupings of problematic types of males and females. Cognitive-structure analysis did not, however, provide us with a means of or a motiva-

tion for presenting the scenarios that seemed to be an integral part of our respondents' thinking about these different gender types. Nor did it provide us with the information about the taken-for-granted world we needed to understand the scenarios and their emotional poignancy. Nor did it prepare us for the description of scenes that respondents sometimes seemed to picture as a means of capturing the nature of the type.

Without knowledge of the scenarios, we would have been at a loss to explain why respondents thought some terms for gender types could be used as insults whereas others could not. The multidimensional scaling approach offered no indication why calling a male a "Don Juan" or a "playboy" or a "jock" or some other type who is likely to take advantage of a woman is usually not considered to be insulting whereas calling someone a "creep," a "turkey," a "jerk," or some other type of ineffectual male is. We had to learn more about the taken-for-granted world of male/female relationships to know that even though males who use their attractiveness to exploit women may be avoided because they are dangerous, they are not as low in prestige as males who are unlikable and ineffective. Males of the latter category are unattractive. A woman who refers to a male as an "asshole" is indicating that he is unattractive relative to herself. She is indicating that she finds him "beneath her." The same is not necessarily the case for a woman who refers to a male as a "Don Juan." She is not necessarily insulting him. Although she may avoid him for fear that he will take advantage of her, she is attesting to his attractiveness, and, in fact, may be admitting that he is more attractive than she is.

In a similar vein, the present analysis illuminates rather than obscures, as does cognitive–structure analysis, the implications of categorizing someone according to a gender type. As Boltanski and Thevenot (1983) have pointed out, social–classification systems are different from nonsocial classification systems because, in applying them, one is also classifying oneself. In typing a male, a female is typing others and herself. This reflexive quality of categorization by gender type is both explained by the cultural model and apparent from the scenarios that include both the male and the female. Relationships between males and females reflect on both parties because of the assumptions in the cultural model that attractive males will choose to be with attractive females, and vice versa, and that attractive females can expect better treatment from males than can less attractive females. To classify a male is to make claims about the male and implicitly about oneself and about other women who have a close relationship with him. In calling Donny a "jerk," the women on Diana's hall were doing more than saying something about Donny. They were saying that they would not put up with his behavior and that they would not be associated with him. Classifications reveal one's standards and sensitivities and therefore one's assessment of one's own attractiveness and claims to prestige.

In short, we argue that the cognitive organization of gender knowledge is insufficiently illuminated by an approach such as cognitive–structure

analysis, which assumes that there is a set of key dimensions or attributes onto which sets of similar gender types are mapped. Our informants associate type names with a prototypic male/female relationship and with scenarios of interactions that they sometimes seem to visualize, not just attributes, as would be expected from cognitive-structure analysis. Furthermore, although people do know important attributes of the different gender types and can say which types are similar and which dissimilar, they also know more – a lot more. They have knowledge of a taken-for-granted world to which these types are relevant and thus they know how the various attributes are interrelated. They know not only that some gender names are insulting but also the basis for and the emotional intensity of the insult. Similarly, they appreciate the reflexivity of categorizing other people by these terms. It is possible that a neophyte (perhaps a child, an anthropologist, or a freshman) begins to learn gender types by memorizing what a cognitive-structure analysis reveals – similar types and their important attributes – but it is also likely that the neophyte would eventually infer the more fundamental parts of the cultural model. She would form an idea of the normal or prototypical course of male/female relationships and come to see the named gender types as actors in this prototypical world. She would go beyond the limited organization of knowledge revealed by the cognitive-structure analysis.

INERTIA OF THE CULTURAL MODEL

If our argument is valid and the cultural model does organize the extensive amount of knowledge that we claim it does, then the difficulties of radically altering the model become apparent. The world posited by this cultural model is simply taken for granted as the world to which new experiences are relevant. Not only are new males seen as participants in this world, but they are also seen as possible variations on the small number of problematic types already identified. Gathering information on each new male or female one meets is unnecessary; one need check for only a small number of characteristics. However, the price of this cognitive economy is a bit of rigidity in interpreting the world and a certain slowness in recognizing or learning new models.

Cognitive constraints are important forces for the inertia of the cultural model; even more important are the constraints that derive from the social nature of the model. Verbal descriptions of individuals as gender types are understood by listeners in light of the cultural model. Comments such as "Wearing your add-a-beads, eh?," are heard against the backdrop of the extensive implicit knowledge organized by the cultural model. Even new names for new types are interpreted according to this model; one guesses what the type is like – extensive explanation is unnecessary (Holland & Skinner 1985). The shared cultural model vastly facilitates communication; experiences can be rapidly communicated to other people if described according to the conventions of the cultural model. Again, however, economy has a price. It is easy to communicate about the familiar but

difficult to communicate about the unfamiliar. Even though it is certainly possible and perhaps even easy for some individuals to think up or recognize new gender types, communicating a concept of a truly new, radically different type of male or female to other people is a formidable task. Talk about types, new or old, is assumed to be talk that can be interpreted according to the cultural model. Even if the individual manages to think "outside" the cultural model (which may in fact happen quite frequently), he or she still will face considerable difficulty in communicating the alternative models to other people. Because it provides the backdrop for interpreting and the conventions for talking about experiences, the cultural model is a social entity not easily altered by a single individual.

Along these lines, one wonders if truly radical changes can be made in the model by the mere introduction of a new type, such as a *feminist*, or, as the men in our samples labeled the type, a "libber." Elaborating or introducing a new type is a relatively mild attack since the bedrock of the model, the taken-for-granted, prototypic relationship of males and females is, at best, challenged only indirectly and the new type is easily distorted to fit the existing model. Because the conventions for talking about females and males as types are so much an integral part of the cultural model described here, it is likely that totally new ways of talking about or describing or representing male/female relations may be an easier means through which to introduce new models of these relations. The essays of feminist social scientists, for example, or more likely the self-analysis talk learned in therapy could provide the new discourse genre.

THE DISTRIBUTION OF THE CULTURAL MODEL ACROSS SOCIAL
SPACE AND HISTORICAL TIME

The samples consulted in this study can tell us little about the distribution of alternative cultural models of gender over time and across social groups in the United States. The samples were predominantly composed of respondents who are white, southern, and middle class. Furthermore, most of the Study B and Study C data come from women who are young and unmarried.

Young, unmarried women attending universities such as those where our studies were conducted are usually participants in a social system that is closer to what Coleman (1961) and others such as Schwartz (1972) and Eisenhart and Holland (1983) have associated with adolescence or youth than it is to adult society. This youth society emphasizes social identities based on gender and, to a lesser extent, social class. Much of youth culture is devoted to the elaboration of gender relationships and gender types (see Davidson 1984 and Holland & Eisenhart 1981 for further detail on the peer groups of the women in our samples). The importance of gender-marked social types such as those described in this paper, in other words, may be a function of the age of the group studied.

Similarly, the dynamics of attractiveness and intimacy posited by the

cultural model may be particularly stressed in youth as opposed to adult culture. Once the women in our samples have married and had children and/or permanently joined the labor force, they perhaps will learn a different perspective on male behavior. A male's potential behavior in and contribution to a household economy and family relationships or his behavior in the workplace may become more important to these women than the male's potential for providing intimacy and proof of one's attractiveness as a woman. Yet, we are reluctant to assume that the cultural model of gender has no currency in the thinking and talking of participants in adult society. Our interviews with an albeit limited sample of older women suggest that the cultural model continues to be important in the interpretation of experiences that occur in the formation of friendship and (extramarital) romantic relationships with males and in the interpretation of certain relationships in the workplace. Males who systematically treat female co-workers differently from male co-workers are interpreted according to the cultural model described here.

Perhaps even more intriguing than the question of the distribution of the cultural model across age groups is its relevance to our samples' male counterparts. The cultural model of gender described may be "role-centric." Unlike scientific models, which are supposedly constructed from a detached perspective, the cultural model provides for the interpretation of males from the point of view of the female in a (potential) male/female relationship. It is also the case that when the women in our samples talk extensively about particular males, they are usually talking to other women. For these reasons, it might be expected that males' cultural models of gender could differ from that of the females and that males' models tend to take the perspective of the male in the relationship. Unfortunately, we lack in-depth interviews from the males and so have been restricted in our description of the males' perspective. The data from males in the Study A interviews do suggest, however, that males share with females a concern for attractiveness and intimacy although from a different vantage point. Complementary to females' concern about good treatment, for example, males are sensitive to their vulnerability to the demands of females; they worry about becoming involved with a female who is too demanding, too "bitchy."

FUNDAMENTALS OF SOCIAL CATEGORIZATION

In our study, we ignored the question of alternative models of gender that may exist in different age, class, ethnic, and regional groups in the United States because we were concerned with a prior question; namely: How do individuals cognitively grasp the cultural models that inform their talk about gender types? Our work is an answer, from the perspective of cognitive anthropology, to the question of which aspects of the cultural model of gender are fundamental, basic, and stable versus which aspects are superficial and likely to be transient. In general, the process of identi-

fying a cultural model involves determining fundamental versus surface elements of the complex of beliefs and knowledge (see also Clement 1982). The distinction between fundamental and surface elements of a belief system, is, of course, a necessary precursor to meaningful cross-(sub)cultural comparison.

Because of the limited availability of comparable research on social types, it is unwise to anticipate future generalizations about the cognitive fundamentals of cultural models of social types. Recognizing the perils, however, we would speculate that the organization of cultural knowledge will be similar for other social types, at least in American culture, to what we have found in the case of gender. We suspect that the implicit knowledge that informs the talk of other subgroups about gender types and the talk of all groups about other social types such as types of children, or types of hospital patients, or general role terms as described in Burton and Romney (1975) and in Harding and Clement (1980), may all conform to the pattern we have noted in the American cultural model of gender types. We suspect that the type names refer either to roles (e.g., *boyfriend, fiancé, bachelor, date*) in the taken-for-granted world or, more likely, to styles of enacting these roles (e.g., *Don Juan, jerk, wimp*) that disrupt the prototypical course of the relationship to which they are relevant.[13] On the other hand, we seriously doubt that the content of the prototypic relationship and therefore the problematic social types will be the same from one culture to another.

Notes

2. Because the samples in Studies B and C (described below) included only two males, the paper focuses on women's perspectives of men.
3. Holland's pre-1982 publications are under the name of Clement.
4. The Ixil have suffered serious hardship and decimation in the recent and currently on-going government reprisals in Guatemala. As a result, the cultural and social systems of the Ixil have changed considerably since these data were collected (B. N. Colby, personal communication).

5. We selected types that were mentioned frequently. Otherwise, we attempted to include a wide range of types.

6. The codes indicate the following: The first two digits are unique identifiers for each respondent. The third digit refers to age, with code "3" indicating 18 to 25 year-olds. Codes "4" and above are older. A code of "1" in the fourth digit indicates a female respondent.

   The respondents for the A-1 interviews included 13 females aged 18 to 25 and 13 females who were 40 or older. The corresponding figures for the male respondents were 8 and 8, respectively. For the second interview, all the respondents, 16 males and 26 females, were all between the ages of 18 and 25. All the respondents were residing in North Carolina at the time of the interview. The implications of the sample limitations are discussed below.

7. In the A-1 interviews, respondents described one gender type at a time. In the A-2 interviews, the sorting interviews, they described the grouping of types they had formed.

8. From the sorting data, we calculated similarity measures among all pairs of items using the formula suggested by Burton (1975). These similarities measures were then analyzed using a nonmetric multidimensional scaling program developed by Kruskal (1964a; 1964b) as modified by Naplor.

9. Since completing the present paper, we have tested our ability to predict reactions to types not included in our A-2 interviews and to types whose names we created. Our predictions, which were based on the cultural model described in this paper and on conventions we had noted in the names for the types, were largely borne out (Holland & Skinner 1985).

10. In some cases, the description is not about the type of person to which the term refers, but rather is about a type of person who would use such a term or the kind of situation in which the term would be used:

    1231 [*buck, macho, stud, chauvinist, egotist, bastard, prick, hunk, Don Juan, playboy*] what a female chauvinist pig would think of males – stereotypical attitudes.

    (cm Case 6 in Fillmore 1982:34)

    Another example of this kind of assessment was given by a local professional who looked over the names collected in Study A-1. He said his clients would be disdainful of the terms we had been given for homosexuals. He summarized their opinion in a retort, "Only a wimp would call a fag, a 'gay.'"

11. All names are pseudonyms. Furthermore, a few details from the passages have been changed to protect the anonymity of the informants.

12. In the campus cultures of the two universities where these studies were carried out, one big source of prestige for males is participation in athletics, particularly on the University varsity squads.

13. Marilyn Strathern's (personal communication 1984) observations of the Hagen of New Guinea must be noted as a possible counterexample. Hagen males talk about females as gender-marked types, but they do so in the context of exchange and transaction, not in the context of interpreting problematic behavior in a cross-gender interpersonal situation.

References

Agar, M.
1980. Stories, background knowledge and themes: Problems in the analysis of life history narrative. American Ethnologist 7(2):223–240.

Boltanski, L. and L. Thevenot
   1983. Finding one's way in social space: A study based on games. Social Science
      Information 22(4/5):631–680.
Bromley, D. B.
   1977. Personality Description in Ordinary Language. New York: John Wiley
      and Sons.
Burton, M.
   1972. Semantic dimensions of occupation names. In Multidimensional Scaling:
      Theory and Applications in the Behavioral Sciences, Vol. 2, Applications,
      A. K. Romney, R. N. Shepard, and S. B. Nerlove, eds. New York: Seminar
      Press. Pp. 55–71.
   1975. Dissimilarity measures for unconstrained sorting data. Multivariate
      Behavioral Research 10(4):409–423.
Burton, M. and A. K. Romney
   1975. A multidimensional representation of role terms. American Ethnologist
      2(3):397–407.
Clement, D.
   1982. Samoan cultural knowledge of mental disorders. In Cultural Conceptions
      of Mental Health and Therapy, A. J. Marsella and G. M. White, eds.
      Dordrecht, Holland: D. Reidel Publishing Company. Pp. 193–215.
Coleman, J.
   1961. The Adolescent Society. New York: Free Press.
D'Andrade, R. G.
   1976. A propositional analysis of U.S. American beliefs about illness. In Mean-
      ings in Anthropology, K. H. Basso and H. A. Selby, eds. Albuquerque:
      University of New Mexico Press. Pp. 155–180.
D'Andrade, R. G., N. R. Quinn, S. B. Nerlove, and A. K. Romney
   1972. Categories of disease in American-English and Mexican-Spanish. In
      Multidimensional Scaling: Theory and Applications in the Behavioral Sci-
      ences, Vol. 2, Applications, A. K. Romney, R. N. Shepard, and S. B. Nerlove,
      eds. New York: Seminar Press. Pp. 9–54.
Davidson, D.
   1984. Transmission of gender-specific knowledge in women's peer groups. Un-
      published master's thesis. University of North Carolina, Chapel Hill.
Eisenhart, M. and D. Holland
   1983. Learning gender from peers: The role of peer groups in the cultural trans-
      mission of gender. Human Organization 42(4):321–332.
Fillmore, C. J.
   1975. An alternative to checklist theories of meaning. In Proceedings of the
      First Annual Meeting of the Berkeley Linguistics Society, C. Cogen, H.
      Thompson, G. Thurgood, K. Whistler and J. Wright, eds. Berkeley: Univer-
      sity of California. Pp. 123–131.
   1982. Towards a descriptive framework for spatial deixis. In Speech, Place, and
      Action, R. J. Jarvella and W. Klein, eds. New York: John Wiley and Sons.
Harding, J. and D. Clement
   1980. Regularities in the continuity and change of role structures: The Ixil Maya.
      In Predicting Sociocultural Change, S. Abbott and J. van Willigen, eds.
      Athens, Ga.: University of Georgia Press. Pp. 5–26.
Holland, D. and D. Davidson
   1983. Themes in American cultural models of gender. Social Science Newsletter
      68(3):49–60.
Holland, D. and M. Eisenhart
   1981. Women's peer groups and choice of career. Final report to National In-
      stitute of Education, Washington, D.C.

Holland, D. and D. Skinner
  1985. The meaning of metaphors in gender stereotyping. North Carolina Working Papers in Culture and Cognition No. 3. Durham, N.C.: Duke University Department of Anthropology.
Keesing, R.
  1979. Linguistic knowledge and cultural knowledge: Some doubts and speculations. American Anthropologist 81(1):14-37.
Kruskal, J. B.
  1964a. Multidimensional scaling by optimizing goodness of fit to nonmetric hypotheses. Psychometrika 29:1-27.
  1964b. Nonmetric multidimensional scaling: A numerical method. Psychometrika 29:115-129.
Labov, W. and D. Fanshel
  1977. Therapeutic Discourse: Psychotherapy as Conversation. New York: Academic Press.
Neisser, U.
  1976. Cognition and Reality. San Francisco: W. H. Freeman and Company.
Rice, G. E.
  1980. On cultural schemata. American Ethnologist 7(1):152-172.
Rosenkrantz, P., S. R. Vogel, H. Bee, I. K. Broverman, and D. M. Broverman
  1968. Sex-role stereotypes and self concepts in college students. Journal of Consulting and Clinical Psychology 32:287-295.
Schank, R. and R. Abelson
  1977. Scripts, Plans, Goals and Understanding: An Inquiry into Human Knowledge Structures. Hillsdale, N.J.: Lawrence Erlbaum Associates.
Schwartz, G.
  1972. Youth culture: An anthropological approach. Addison-Wesley Module in Anthropology, No. 17. Reading, Mass.: Addison-Wesley Publishing Company.
Spence, J. T., R. Helmreich, and J. Stapp
  1975. Ratings of self and peers on sex role attributes and their relation to self-esteem and conceptions of masculinity and femininity. Journal of Personality and Social Psychology 32:29-39.
Spradley, J., ed.
  1972. Culture and Cognition: Rules, Maps, and Plans. San Francisco: Chandler Publishing Company.
Tyler, S. A., ed.
  1969. Cognitive Anthropology. New York: Holt, Rinehart and Winston.
White, G.
  1980. Conceptual universals in interpersonal language. American Anthropologist 82(4):759-781.

5
A folk model of the mind[1]

Roy D'Andrade

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

    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 bound-
aries 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 explana-
tions, a desire is causally related to some feeling or emotion (The term
feeling is somewhat more general than the term *emotion.* "Pain," for ex-
ample, 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 ex-
perienced. John might want to see Susan because he thinks he would en-
joy 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 per-
son 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 in-
volve 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 feel-
ings and desires is looser than the connection between desires and inten-
tions 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 lot-
tery ticket, apply for a job at Brinks, or study the stock market, for ex-
ample. 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 understand-

ing 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 be-
cause 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 ex-
ternal 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 percep-
tion 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 ex-
plicitly, 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.

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 noncausal, 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 dif-

ferences 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 *nu-nuwan*, 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 under-
> stand 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 be-
tween 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 distin-
guished. Feelings are considered a natural response to experience, not under
self-control, and also to have the power to move the person toward ac-
tion. The emotions are distinguished from physical sensations. Understand-
ing 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 cathar-
sis. 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

References

Austen, J.
    1969. Emma. London: Collins. (First published 1816.)
Anscombe, G.
    1963. Intention. Ithaca, N.Y.: Cornell University Press.

Berlin, B. and P. Kay
  1969. Basic Color Terms: Their Universality and Evolution. Berkeley: University of California Press.
Burrows, E. and M. Spiro
  1963. An Atoll Culture: Ethnography of Ifaluk in the Central Carolines. New Haven, Conn.: H.R.A.F. Press.
Casson, R.
  1983. Schemata in cognitive anthropology. Annual Review of Anthropology 12:429–462.
D'Andrade, R. G.
  1985. Character terms and cultural models. In Directions in Cognitive Anthropology, J. Dougherty, ed. Urbana: University of Illinois Press. Pp. 321–344.
D'Andrade, R. G. and M. Wish
  1985. Speech act theory in quantitative research on interpersonal behavior. Discourse Processes 8:229–259.
Ekman, P.
  1971. Universals and cultural differences in facial expressions of emotion. In Nebraska Symposium on Motivation Series, J. K. Cole, ed. Lincoln: University of Nebraska Press. Pp. 207–283.
Fillmore, C.
  1977. Topics in lexical semantics. In Current Issues in Linguistic Theory, R. W. Cole, ed. Bloomington: Indiana University Press. Pp. 76–138.
Friedrich, P.
  1977. Sanity and the myth of honor: The problem of Achilles. Ethos 5(3): 281–305.
Gerber, E.
  1975. The cultural patterning of emotions in Samoa. Unpublished Ph.D. dissertation. University of California, San Diego.
Heider, F.
  1958. The Psychology of Interpersonal Relations. New York: John Wiley and Sons.
Hutchins, E.
  1980. Culture and Inference. Cambridge, Mass.: Harvard University Press.
  n.d. An analysis of interpretations of on-going behavior. Unpublished manuscript, Department of Anthropology, University of California, San Diego.
Kenny, A.
  1963. Action, Emotion, and Will. London: Routledge and Kegan Paul.
Lutz, C.
  1980. Emotion words and emotional development on Ifaluk atoll. Unpublished Ph.D. dissertation. Harvard University.
  1982. The domain of emotion words on Ifaluk. American Ethnologist 9:113–128.
  1983. Parental goals, ethnopsychology, and the development of emotional meaning. Ethos 11(4):246–262.
  1985. Ethnopsychology compared to what? Explaining behavior and consciousness among the Ifaluk. In Person, Self, and Experience: Exploring Pacific Ethnopsychologies, G. White and J. Kirkpatrick, eds. Berkeley: University of California Press. Pp. 35–79.
Mandler, G.
  1982. Mind and Body. New York: W. W. Norton and Company.
Miller, G.
  1956. The magical number seven, plus or minus two: Some limits on our ability to process information. Psychological Review 63:81–97.
Natsoulas, T.
  1978. Consciousness. American Psychologist 33(10):906–914.

Quinn, N.
   1982. "Commitment" in American marriage: A cultural analysis. American
      Ethnologist 9(4):775-798.
Rumelhart, D.
   1980. Schemata: The building blocks of cognition. *In* Theoretical Issues in
      Reading Comprehension; Perspectives from Cognitive Psychology, Linguistics,
      Artificial Intelligence and Education, R. Spiro, B. Bruce, and W. Brewer,
      eds. Hillsdale, N.J.: Lawrence Erlbaum Associates. Pp. 33-58.
Rumelhart, D. and D. Norman
   1981. Analogical processes in learning. *In* Cognitive Skills and Their Acquisi-
      tion, J. Anderson, ed. Hillsdale, N.J.: Lawrence Erlbaum Associates. Pp.
      335-359.
Ryle, G.
   1948. The Concept of Mind. London: Hutchinson House.
Searle, J.
   1975. A taxonomy of illocutionary acts. *In* Language, Mind, and Knowledge,
      Minnesota Studies in the Philosophy of Science, Vol. 7, K. Gunderson, ed.
      Minneapolis: University of Minneapolis Press. Pp. 344-369.
   1980. The intentionality of intention and action. Cognitive Science 4:47-70.
Spiro, M. A.
   1950. A psychotic personality in the South Seas. Psychiatry 13(2):189-204.
Sperry, R.
   1982. Some effects of disconnecting the cerebral hemispheres. Science
      217:1223-1226.
Sternberg, R., B. Conway, J. Ketron, and M. Bernstein
   1981. People's conceptions of intelligence. Journal of Personality and Social
      Psychology 41(1):37-55.
Wallace, A.
   1961. On being just complicated enough. Proceedings of the National Academy
      of Sciences 47:458-464.
Vendler, Z.
   1967. Linguistics in Philosophy. Ithaca, N.Y.: Cornell University Press.
   1972. Res Cognitans: An Essay in Rational Psychology. Ithaca, N.Y.: Cornell
      University Press.

PART II
Reasoning and problem solving from presupposed worlds

6

Proverbs and cultural models

AN AMERICAN PSYCHOLOGY OF PROBLEM SOLVING[1]

Geoffrey M. White

Proverbs are generally regarded as repositories of folk wisdom. As stylized sayings that presume to represent the commonsensical in everyday life, they are a topic of special interest for this volume's focus on cultural models. The dictionary defines a proverb as "a short, pithy saying in frequent and widespread use, expressing a well-known truth or fact." Attention to just what "well-known truths" are, in fact, expressed by proverbs and how, cognitively and linguistically, they obtain their particular brand of meaning may provide some insight into the organization of cultural models that underlie them.

Proverbs are especially interesting because, like much of ordinary language, they accomplish both conceptual and pragmatic work (see Briggs 1985). On the one hand, proverbs offer succinct ("pithy") descriptions of events. A familiar expression such as "It only takes one bad apple to spoil the barrel" brings a number of salient and well-known propositions about people and social life to bear on a particular person or situation. In doing so, this proverb provides an interpretation of specific actions or events in terms of a general, shared model. But proverbial sayings amount to more than economical descriptions. They are essentially concerned with morality, with evaluating and shaping courses of action and thus are frequently used in contexts of legal and moral argumentation (see, for example, Messenger 1959; Salamone 1976). In the proverb just quoted, the evaluative claim is explicit: one bad apple threatening to corrupt other, good apples. In other sayings, evaluative implications may rest just beneath the surface, such as "You can't judge a book by its cover." In this saying, a prior evaluation (either good or bad) is corrected by reminding the listener of our assumptions about distinctions between appearances and reality.

Whether explicit or implicit, the evaluative assertions expressed in proverbs lend them directive force as recommendations for a desired course of action. The saying about bad apples ruining good ones may imply that some action should be taken to spare the threatened good apples, even though the overt form of the saying is that of a simple description of a state of affairs. This form of "indirect directive" is typical of many prov-

erbs that overtly take the form of descriptions but that have the effect of suggestions, recommendations, or commands and the like.

Since the conceptual and pragmatic functions of proverbs are also handled routinely by ordinary language, why do so many languages and cultures around the world have a recognizable class of proverbial sayings?[2] I suggest that the answer lies partly in their peculiar form of indirection and partly in their communicative effectiveness. As compact expressions of important cultural knowledge, proverbs combine a cognitive economy of reasoning with pragmatic force aimed at influencing other people. To understand why proverbs rather than less formulaic language are used, it is useful to ask, 'What is the speaker trying to *do* with proverbs?' rather than simply 'What is he or she trying to *say*?' To do so, one might examine the situations in which proverbs are invoked to have some social effect, such as Hausa marital quarrels (Salamone 1976) or Yoruba child rearing (Arewa & Dundes 1964), where focused observation might record repeated uses of proverbs in particular contexts. However, understanding the social uses of proverbs also requires knowing something about the interpretive work done by both speaker and listener.

This paper is concerned primarily with the conceptual processes that underlie proverb meaning rather than with questions of social usage. The analysis is based on the assumption that certain key understandings make up a kind of kernel of proverb meaning, even though such meaning may be shifted or elaborated in particular contexts of use. The fact that proverbs represent generalized knowledge, applied to the interpretation of particular events, suggests that they may tell us something about enduring cultural models of experience. Dyer (1983) has noted that the abstract advice encoded in familiar sayings or "adages" plays an important role in understanding stories. Narrative comprehension frequently proceeds by using existing knowledge structures to process new information and draw inferences about the social and moral implications of what is said; in other words, to get the point. A closer examination of proverbial understanding as a cognitive process, then, may illuminate the organization of global knowledge structures.

Interlocutors comprehend proverb meaning through a process of inference that allows them to link the saying with prior understandings and to fill in unstated propositions. Even though this is so in much of natural discourse, proverbial sayings tend to be particularly figurative, partial, and indirect. To understand what is said when a proverb is uttered requires going beyond the utterance itself by using underlying assumptions to draw appropriate implications. So, for example, understanding a statement like "It only takes one bad apple to spoil the barrel" involves both a translation of metaphorical imagery as well as a cultural theory of moral corruption.

The fact that certain proverbs are frequently used suggests that they express key understandings about everyday life. If so, proverbs may pro-

vide a source of insight into cultural models in particular areas of common experience. This paper pursues this idea by examining a set of American English proverbs that may all be used in a similar way: to give advice to someone in a problematic situation, broadly conceived. By selecting sayings that can be used to counsel someone dealing with a personal quandary, the analysis focuses on certain American understandings about persons, problems, and purposeful behavior.

Proverbial understanding

Before looking more closely at proverbs of problem solving, it is necessary to consider briefly the linguistic and conceptual processes that enter into proverb meaning. Certain aspects of the linguistic form of proverbial sayings mark them as distinctive from other types of ordinary language, lending them their particular aura of veracity. For example, by using verb forms not qualified or marked by number or tense, proverbs acquire a timeless, enduring quality, seemingly not subject to the vicissitudes of circumstances or change. And, by using such quantifiers as *all*, *every*, and *no*, proverbs do not allow exceptions or hedges. Thus, one finds "Time heals *all* wounds" rather than, say, "Time heals *some* wounds," which would hardly provide a comforting bit of advice. Allowing exceptions or hedges would deny proverbs their claim to universal validity. Some proverbs also draw on hyperbole as a device for underscoring the obvious, commonsensical quality of an assertion. Thus, we have "Rome wasn't built in a day" rather than, say, "Rome wasn't built in six months" or, perhaps, "Salem village wasn't built in a day."

Perhaps the most characteristic feature of proverbs is their extensive use of metaphorical imagery to conceptualize and express social messages. It is significant that most proverbs are overtly metaphorical in their composition (but there are exceptions, such as "Where there's a will, there's a way"). The fact that most proverbs are constructed in this way suggests an important complementarity of function between the conceptual role of metaphor and the pragmatic uses of proverbs. If one views metaphor as a device for expressing abstract concepts in terms of other concepts more closely grounded in physical experience, then metaphorical imagery would seem to be an excellent vehicle for proverbial sayings that seek to express propositions taken to be self-evident on the basis of shared experience and that can thus be used to give advice, make recommendations, and so forth. When seen in this light, proverbs appear as a special case of the more general process of metaphorical understanding. As described by Lakoff and Johnson (1980:115):

> . . . metaphor pervades our normal conceptual system. Because so many
> of the concepts that are important to us are either abstract or not clearly
> delineated in our experience (the emotions, ideas, time, etc.), we need to

get a grasp on them by means of other concepts that we understand in clearer terms (spatial orientation, objects, etc.). This need leads to metaphorical definition in our conceptual system.

Lakoff and Johnson speak of metaphorical understanding as a way of interpreting abstract and loosely structured experiences by conceptualizing them in terms of other, more concrete and clearly formulated types of experience. Although neither type of experience is more "basic," the latter is more closely grounded in the physical realm of the body and environment.

Carbonell and Minton (n.d.) and others have described metaphorical understanding as a process of common-sense reasoning. They suggest that simile, analogy, and metaphor are all based on the same type of cognitive process (analogical reasoning) used to interpret new situations in terms of other, previously encountered and understood situations. The essential process in this type of reasoning is one of *mapping* aspects of a previously known and well-delineated ("source") domain to a newer and less well structured ("target") domain (see Collins & Gentner, and Lakoff & Kövecses, this volume).

This model of metaphor may also be extended to the process of proverbial understanding. As noted, most proverbs assert their truths about social and moral matters by linking features of social situations to other, more mundane domains with widely known and clearly defined conceptual entailments. Indeed, this is such an inherent part of proverbial understanding that some published collections of proverbs organize their contents in terms of types of source domain, such as "animals," "natural environment," "food," "fishing," "travel," and the like (see Brown 1970; Schultz 1980).[2]

A key question in models of analogical reasoning is 'How are mappings between domains constructed?' or, 'How are the relevant cross-domain similarities identified?' The ultimate answers to these questions will have to draw from pragmatic and contextual information not yet dealt with in cognitive theories of metaphor. However, for many metaphors in frequent use, the mapping is well known and hence does not have to be reconstructed each time any metaphor is used. This notion of "frozen" metaphors applies well to proverbs, which are among the most formulaic and standardized types of metaphorical usage. The fact that people are readily able to paraphrase proverbs out of context, to render their meanings in nonmetaphorical language without reference to particular denotata or instances of usage, strongly indicates the "frozen" quality of proverbial inference and the important role of prior cultural models in their interpretation.

Noting the prepackaged association of abstract, social meanings with concrete metaphors gives only a partial picture of the process of reasoning underlying proverb meanings. Proverbs are also used to pick out and communicate salient aspects of a social situation in terms of prior knowl-

edge about similar situations. As in the use of metaphor generally, uncertain or ambiguous events can thus be understood and evaluated in terms of existing models of social experience. However, unlike the process of metaphorical understanding, most of the "action" in the process of proverbial understanding is concerned with drawing out behavioral and evaluative implications, with distilling a particular interpretation of a situation, rather than with constructing a mapping to link source domain with target domain. Thus, understanding what is meant by the assertion "The squeaky wheel gets the grease" does not concern interpreting the notion of "squeaky wheel" in terms of vocal assertiveness so much as making the inference that if such behavior leads to positive outcomes (getting "grease"), it is worth pursuing.

Proverbs function as effective communicative devices because they set up the listener to draw such practical inferences by expressing one or more key propositions embedded in a cultural model with known entailments. By instantiating certain elements of an existing model, other, related propositions are invoked through inference. In this way, the proverb user is able to formulate and communicate a point of view without verbally articulating all of its elements. Behavioral directives need not be stated overtly since any listener with common sense will draw the appropriate conclusions, given the premises asserted and/or implied by the proverb. At the same time, its metaphorical form brings those conclusions into sharper focus by formulating them in a domain in which propositions and their behavioral entailments are more tightly and obviously connected.

The interpretation of proverbs may be viewed as an interactive construction in which the speaker (1) perceives and evaluates a social situation in terms of an abstract cultural model, (2) articulates that point of view in a proverb expressing one or more interlinked propositions, which is then (3) interpreted by the listener, who expands on those propositions by locating them in the relevant cultural model and drawing appropriate inferences. Just what inferences are drawn will depend on the context of use, the abstract propositions expressed by a particular proverb, and the cultural model(s) in which they participate. Insofar as proverbial inference follows from the instantiation of pieces of a knowledge structure, proverbs offer a window onto the organization of generalized models of experience. The analysis in the next section examines the way informants interpret proverbs pertaining to human action and problem solving. By asking, 'What does one need to know or assume in order to interpret the meaning of a proverb?' one may begin to identify some of the key propositions and inferences that enter into the ethnopsychology of American problem solving.

An ethnopsychology of problem solving

My interest in proverbs began in the context of research on common sense reasoning about personal (social, psychological) problems. In the course

of an earlier study of the ways different cultural groups explain and deal
with adjustment problems (White 1982), we noticed that informants oc-
casionally used idiomatic and proverbial sayings such as "Time heals all
wounds" to formulate their views of problems and how to deal with them.
It then occurred to us that there are a substantial number of common
sayings that express culturally constituted understandings about how to
respond to problematic circumstances. Guided by this assumption, we
decided to survey the range of well-known sayings that, in our judgment,
could be used as advice in dealing with a problematic situation. We then
set out to examine these sayings more closely to see what kinds of con-
ceptualizations they embody.

The notion of "personal problem" here is simply that of any type of
everyday quandary or adversity that is of some social or psychological
significance for the person or persons involved. Hence, cultural knowledge
about such problems is general rather than specific; it pertains to the nature
of persons and their relation to the world through thought and action.
Sayings such as "Every cloud has a silver lining" are widely known and
used because they may be applied to a wide range of activities and situa-
tions, rather than to one specific domain of experience. The understand-
ings that underlie such proverbs make up some of the most basic premises
of American ethnopsychology. These understandings are quite different
from the sort of conceptualizations studied by cognitive psychologists
doing research on problem solving, in particular on "task environments,"
where problems and solutions are well specified in the form of winning
games, solving puzzles, or proving theorems (see, for example, Newell &
Simon 1972). The common-sense reasoning about problems expressed in
proverbs is primarily concerned with person–problem relations rather than
problem–solution algorithms. As such, they draw on a rich body of knowl-
edge about persons and social action. Sayings such as "The grass is always
greener on the other side of the fence" represent conceptualizations of prob-
lem situations with an implicit agenda about how to evaluate and respond
to them. In probing the meanings of proverbs such as this, the following
analysis is led into a consideration of the ethnopsychological understand-
ings required to interpret them.

METHODS

Assuming that certain proverbs pertain to the way people respond to every-
day problems, we began by selecting a number of proverbs that could be
used in roughly the same way: to give advice to someone dealing with a
personal dilemma or quandary. By using this general context as a frame,
we were able to select a set of proverbs that could be compared in order
to draw out common or contrasting themes in cultural knowledge about
persons and problems.

The approach taken here draws on both elicited data obtained from
informants as well as the investigator's (and reader's) intuitive knowledge

of proverb meanings. This strategy combines several types of formal and nonformal data that are constrained in different ways and that thus shed light on proverb meanings from different angles.

Although proverbs may seem to be simple, direct, and obvious when used in context, many appear more complex, indirect, and ambiguous when considered in light of the unspoken assumptions and contextual information that give them their meaning. It thus becomes interesting to ask a number of informants to paraphrase proverbs in order to see how they render their meanings in less metaphorical language and the extent to which they agree in doing so. We did this by selecting a set of 11 proverbs and asking 17 informants to explicate them. The resulting paraphrases carve out a range of possible interpretations for each proverb and point to similarities and differences in meaning among them.

To pursue the hypothesis that the proverbs we selected derive their meaning from a common underlying ethnopsychology, we next asked our informants to look for similarities among the sayings and to sort them into groups. We also asked informants to state briefly their rationale for grouping certain proverbs as similar, thus forcing the kind of abstract speculation in which we ourselves were engaged in interpreting proverb meanings.

Because the paraphrases and rationales given for grouping proverbs together are quite varied and complex, it is useful to examine the *overall* pattern of similarities among the sayings in order to identify those judged most similar or different. I have used multidimensional scaling as a way of graphically representing this pattern of proverb similarities in a visual model. We may then look more closely at the paraphrases and the rationales given for grouping proverbs together in order to reconstruct the conceptual basis for judging similarities among them.

SOME PROVERBIAL SAYINGS

In searching for candidate sayings, we discovered that it is quite difficult simply to retrieve proverbs from memory at will. They resist introspective recall. However, given the right set of circumstances, the appropriate proverb seems almost to leap to mind.[4] Our approach was to draw up a list of problem-solving proverbs by searching through published collections of English proverbs (Collins 1959; Ridout & Witting 1967; Stevenson 1948; Wilson 1970; see also Simpson 1982) and to supplement that list using ourselves and acquaintances as informants. Based on the criteria that a proverb be widely known, frequently used, and pertain (at least potentially) to personal adversity, we selected the 11 sayings listed in Table 6.1. This corpus is not intended to be either exhaustive or representative of the full range of American sayings about problem solving. The only claim is that the statements in Table 6.1 are a subset of sayings relevant to the ways Americans construe responses to problematic circumstances.

What can be said about these proverbs at first glance? As expected,

Table 6.1. *Eleven American English proverbial sayings*

1. Every cloud has a silver lining.
2. God helps those who help themselves.
3. The grass is always greener on the other side of the fence.
4. There's no use crying over spilt milk.
5. Where there's a will there's a way.
6. Necessity is the mother of invention.
7. Rome wasn't built in a day.
8. The squeaky wheel gets the grease.
9. You can't have your cake and eat it too.
10. Don't make a mountain out of a mole hill.
11. Time heals all wounds.

most of them are phrased in figurative language. With the possible exception of two of those listed ("God helps those who help themselves" and "Where there's a will there's a way"), all are overtly metaphorical. Common objects and events such as clouds, green grass, spilt milk, squeaky wheels, and eating cake are used to characterize problem situations in terms of more immediate, physical imagery. Although diverse, these images represent several more general types of metaphor: notions of mechanics and construction (squeaky wheels, building Rome), food (cake, milk), and visual imagery (green grass, silver linings).

The proverbs listed were chosen because they say something about relations between a person and a problem or goal. They presuppose a discrepancy between the state of the world and the state of the person (intentions, desires, actions and the like). Each saying evaluates the likelihood of achieving a goal or changing a problematic situation, and, in so doing, carries an implied recommendation about the appropriate response that will bring person and world back into alignment, creating a better fit between personal outlook and worldly circumstances. As a preview of the following analysis, note that the proverbs in Table 6.1 span at least two distinct types of recommended response: those encouraging an active attempt at changing the world (e.g., "The squeaky wheel gets the grease") and those calling for adjustment of the person (e.g., "There's no use crying over spilt milk").

PSYCHOLOGICAL INFERENCE

In order for these proverbs to carry implications for appropriate action, they require certain background assumptions about human psychology and action (see Kirkpatrick & White 1985). They acquire their meaning against a backdrop of cultural understandings about the organization of perception, feeling, and thought that mediate the interrelation of person and world. By drawing on a cultural model of the person, informants make

specific inferences about the actions that follow from proverbial asser-
tions about a problem/goal, or a person's perception of it. The analysis
of proverb interpretation developed here indicates that certain elements
of the American cultural model of the mind described by D'Andrade (this
volume) and other notions about personal action described by Heider
(1958) and Hutchins (n.d.) underlie proverb meanings. In particular, D'An-
drade's assertion that "the main line of causation in the cultural model"
runs from perception through thought and feeling to intention and ac-
tion captures much of the structure of reasoning in these proverbs about
personal processes that mediate the fit between person and world.

Despite considerable variability in the specific propositions asserted by
different proverbs in Table 6.1, they draw on similar understandings about
human psychology and action to obtain their full meaning and force. Some
of these understandings surface in the paraphrases and judgments of
similarity, such that inferences about feelings and intentions are made
explicit as informants seek to articulate proverb meanings. These data,
discussed below, indicate that proverbial reasoning involves an inferen-
tial process that moves from (1) an assertion about some aspect of the
person or problem, to (2) an expansion of its psychological implications
based on a cultural model of the person, to (3) inferences about an ap-
propriate response or course of action. A consideration of how informants
paraphrase proverb meanings illustrates these different facets or levels of
proverbial reasoning.

Seventeen native speakers of English, all students at the University of
Hawaii, were asked to paraphrase each of the 11 proverbs in Table 6.1.
The proverbs were presented written on $3'' \times 5''$ index cards, one to a
card. Informants were asked first to look at all the proverbs and ask ques-
tions about any that were unfamiliar. Except for three people who said
they did not know "The squeaky wheel gets the grease," all of the prov-
erbs were well known. Once having reviewed the set of 11 sayings, infor-
mants were asked to paraphrase each one by briefly writing out its mean-
ing in plain language.

The 17 distinct paraphrasings obtained in this way represent a range
of interpretations that capture several levels of inference associated with
each proverb. Depending on the particular proverb, the paraphrases span
all or some of the levels of proverbial reasoning outlined: (1) description
of the problem situation, (2) its psychological implications, and (3) a
recommended response or course of action. It appears that the paraphrases
are mostly pitched at levels (1) and (2), whereas the more abstract
judgments of similarity tend to be made on the basis of (3), the implied
recommendation, as seen in the following section.

This type of variation in the level at which explications of the same
proverb may be phrased is illustrated by examining all of the paraphrases
given for a single proverb. The saying "The grass is always greener on
the other side of the fence" provides a particularly good example of varia-

tion in paraphrases that reflect the structure of proverbial reasoning. Because this saying is less explicit about the relations between the state of the person and the problem situation than some of the other proverbs (for example, "Where there's a will there's a way"), it requires the listener to make inferences in order to draw implications for behavior (there is no use trying to move to the other side of the fence) from its basic proposition about the perception of a problem or goal (it only *appears* better on the other side of the fence).

Like the proverbs "Every cloud has a silver lining" and "Don't make a mountain out of a mole hill," the saying about grass being greener on the other side of the fence uses the notion of visual perception as a metaphor for thought. By asserting that a person has misperceived a problem or goal (has not *seen* the silver lining; has mistaken a mole hill for a mountain; has the illusion of grass being greener than it really is), these proverbs are in fact saying that a person's judgment or thinking about the problem/goal is flawed. In this way, the metaphor does its work of taking a potentially complex and ambiguous process (such as faulty reasoning) and describing it in terms of events that are more clearly delineated and accessible to public demonstration (such as determining what things look like). As might be expected, then, the greatest number of paraphrases of the proverb "The grass is always greener on the other side of the fence" focus on the act of misjudgment or misperception, saying that things either "seem better," "look better," or "appear more attractive" on the other side of the fence. Some informants extend the metaphor of sight into their paraphrase:

1. Other people's situation sometimes *look* better than they actually are.
2. Things *look* better with other people.
3. Things *appear* to be more attractive or better when you are not involved.
4. No matter what one has, he can always *see* something better he doesn't have if he *looks* for it.
5. People tend to *focus* on their own problems and on their neighbor's assets.

Other informants simply assert that things "seem better":

6. Things which are unobtainable always *seem better*.
7. That which you cannot have always *seems better*.
8. Our own condition always *seems bleaker* than what others have.
9. Someone else's things will *seem nicer* than yours not because they are better, just because they aren't yours.
10. Once we make choices, the choice not taken always *seems better*.
11. *Fantasy* of what we have or have not.

The paraphrases listed here all speak directly to the person's perception of problems or goals. In other words, they say something about the relation between person and problem situation that approximates the proposition asserted in the proverb itself. Other informants, however, chose

to paraphrase the proverb's meaning by going beyond the information given in the proverb to say what such a situation would imply about the person's feelings and desires. Specifically, six informants rendered the meaning of the proverb by noting that people who continually see people or things elsewhere as better will not be *satisfied, content, or happy;* they will be *envious.*

12. One is rarely *satisfied* with what one has.
13. The common *dissatisfaction* one has with one's own state of affairs.
14. One is never *satisfied* with what one possesses or situation in which one is in.
15. *Contentment* is seldom achieved.
16. You will always be *envious* of what the other person has – used in a situation where someone is *never happy.*
17. It won't help to be *envious;* the other person's blessings may only look that way to you.

By drawing on a cultural model of the person that links certain kinds of perceptions or thoughts with specific feelings and desires, people are readily able to characterize the emotional state of a person for whom "the grass is always greener on the other side of the fence." The direction of inference here, from perception of situation to emotion is consistent with the general direction of inference in American ethnopsychology (D'Andrade, this volume) and in Ifalukian knowledge about the situational antecedents of emotion (Lutz, this volume):

PERCEPTION/THOUGHT ====> FEELING/DESIRE

However, note that feelings such as "satisfaction," "contentment," or "envy" point beyond emotional responses to things a person may want, "possess," or "achieve." In other words, they are also about goals and desires. When seen as desires (which, in D'Andrade's scheme, mediate feelings and intentions), it becomes more apparent that our informants' psychological inferences play an important role in reasoning about the intentions and actions expected to follow from a particular problem, perceived in a certain way.

These inferences about the feelings or desires of someone who sees greener grass on the other side of the fence imply, in turn, certain kinds of intentions and actions that follow from dissatisfaction. It is these further implications for behavior, also derived from an underlying ethnopsychology, that give these proverbs their directive force as sources of advice about a recommended course of action. Although informants did not, in general, refer directly to these behavioral implications when they paraphrased the proverbs, they did frequently point to this level of proverb meaning when stating reasons for similarity among them, as seen below. These different levels of meaning, then, extend the underlying chain

of inference further in the direction postulated by D'Andrade to link perception and feeling with intention and action:

PERCEPTION/THOUGHT ======> FEELING/DESIRE
                        ======> INTENTION/ACTION

This type of inference chain gives an indication of one way by which people draw behavioral implications from statements about a problem situation. When depicted in this way, the course of reasoning underlying some of the proverbs in Table 6.1 resembles quite closely Hutchins's (n.d.) description of American common-sense reasoning about behavior. In his analysis, ordinary interpretations of action move backward from behavior to the attribution of intentions to inferences about some background problem that gives rise to those intentions:

BEHAVIOR ======> INTENTION ======> PROBLEM

If we postulate that a person's perception of some event as a problem (PROBLEM) leads to a desire (WANT) for change and ultimately to an attempt (TRY) to bring about change, it is possible to see how a proverb that questions perception can have implications for action. Proverbs asserting that a person's perception of a problem is flawed (such as "Every cloud has a silver lining," "Don't make a mountain out of a mole hill," and "The grass is always greener on the other side of the fence") discourage emotions and actions aimed at changing the situation by negating the premise that it is in fact a problem at all (~ PROBLEM):

~ PROBLEM ======> ~ WANT ======> ~ TRY
PERCEPTION/THOUGHT ======> FEELING/DESIRE
                        ======> INTENTION/ACTION

By asking what must be assumed in order to understand the behavioral implications of the remaining sayings, it is possible to identify a small number of ethnopsychological inferences that link a proverb's overt assertion with its implied recommendation for action.

Two of the remaining proverbs that are similar in meaning to those mentioned and were judged so by our informants ("You can't have your cake and eat it too" and "There's no use crying over spilt milk") also have the effect of discouraging attempts to change a problem situation. In these examples, however, the effect is achieved through a different course of reasoning. By asserting that a situation cannot be changed, these sayings imply that further attempts to do so are futile. They appear to draw on the underlying belief that, for a person to try to reach a goal or change a problematic situation, he or she must believe it is possible to do so.

Here again the proverbs rely on a basic element of American ethnopsychology for their intended meaning. In his analysis of "naïve psychology," Heider (1958) observed that ordinary explanations of behavior and predictions of successful outcomes generally infer both ability

(CAN) and effort (TRY) in addition to desire (WANT) as ingredients in purposeful action. As many subsequent writers in attribution research have noted (e.g., Schmidt & D'Addamio 1973), the negation of any of these elements will affect inferences about the probability of success. Thus, by negating ability (~CAN), these proverbs imply that one will not TRY to change a problem situation:

$$\sim CAN \implies \sim TRY$$

Informants' paraphrases of these two proverbs indicate that they do, in fact, rely on some such notion of inability. More than one-third of the informants (6 and 7, respectively) used the expression *cannot* in describing their meanings. In the case of "spilt milk," most informants point out that one cannot change something that is in the past; whereas "having one's cake and eating it too" is a matter of one choice's excluding another. By denying the possibility of attaining some desired end, both of these sayings discourage active striving.

Another significant subset of proverbs in Table 6.1 appears to rely on the same underlying belief that an active attempt (TRY) to do or change something presupposes belief in ability (CAN). However, rather than negating the possibility of changing a situation, sayings such as "God helps those who help themselves," "The squeaky wheel gets the grease," "Necessity is the mother of invention," and "Where there's a will there's a way" all assert that some goal *is* within reach, that a certain desired outcome *is* possible. By affirming the actor's ability (CAN), these sayings have the opposite effect of those just described. They lead to a recommendation for an active attempt (TRY) at goal attainment or problem resolution:

$$CAN \implies TRY$$

Most paraphrases of these sayings refer to the possibility of doing or getting something, given some antecedent condition. In addition, a significant proportion of the paraphrases for several of the sayings include ethnopsychological inferences about the person. For example, in the case of "Necessity is the mother of invention," 5 informants made reference to either "ingenuity" or "creativity" in times of need. And, in explicating "God helps those who help themselves," 7 people mentioned variously "initiative," "self-reliance," "responsibility," or "independence." And, in the saying "Where there's a will there's a way," which makes overt reference to a psychological disposition ("will"), nearly all informants mentioned an internal state of desire ("desire" ($N = 4$), "want" ($N = 4$), "determination" ($N = 3$), "perseverance" ($N = 2$), "motivation" ($N = 2$), or "believe that you can" $N = 1$).

I have ordered this discussion of informants' paraphrases of the 11 sayings listed in Table 6.1 according to the sayings' implications for action. However, the paraphrases themselves do not make frequent reference to the recommendations for action implicit in all of them. The relevance of

such implicit recommendations for proverb meanings is evident in the uses to which these sayings are put in everyday interaction. A brief examination of informants' judgments about similarities among the proverbs, and their reasons for them, indicates that these effects are recognized and can be articulated.

IMPLICATIONS FOR ACTION

After paraphrasing each proverb (written one to a card), the 17 students were asked to group them into piles of any size according to similarity in meaning. Informants were also asked to write brief reasons for the groupings they created.

The sorting data were analyzed by first computing an overall measure of similarity for all pairs of proverbs, taking into account the number of informants who placed each pair together in the same pile, and the size of the pile in each case (see Burton 1975). The resulting matrix of similarity scores among all pairs of proverbs can be represented in visual form using multidimensional scaling (MDS) (Kruskal et al. 1977). MDS depicts similarities among the proverbs in terms of spatial distance, such that sayings judged more similar to one another in meaning are placed closer to one another in the spatial mapping.[5] The MDS model of judged similarities among the 11 proverbs is depicted in Figure 6.1.

The configuration in Figure 6.1 aids in the interpretation of proverb meanings by directing attention to groups of proverbs that informants judged as similar. I do not assume that the horizontal and vertical axes underlying the MDS model will necessarily reflect dimensions of meaning common to all of the proverbs.[6] However, the most notable characteristic of the configuration is the overall right–left distribution of proverbs along the horizontal axis. Six sayings are arrayed vertically on the right and four along the left, with "Rome wasn't built in a day" occupying a more intermediate position. The diagram locates "The grass is always greener . . . ," "You can't have your cake . . . ," "Every cloud has . . . ," "Don't make a mountain . . . ," "There's no use crying . . . ," and "Time heals . . ." in opposition to "The squeaky wheel . . . ," "God helps . . . ," "Necessity is the mother of . . . ," and "Where there's a will . . . ." This arrangement indicates that in the sorting task few people grouped the proverbs on one side of the diagram together with those on the other and reflects the contrasting recommendations for action embedded in these proverbs. The proverbs on the left encourage some kind of goal-oriented action; those on the right recommend against such striving. Or, put another way, the proverbs on the right encourage adjustment of the person rather than the situation. If this interpretation is correct, the horizontal dimension captures the divergent inferences about whether to TRY to change a problem situation.

The reasons stated by informants who sorted the proverbs along these lines give some support to this interpretation. Consider first the kinds of

(3) GRASS IS GREENER

(9) CAN'T HAVE YOUR CAKE

(8) SQUEAKY WHEEL

(2) HELP THEMSELVES

(1) SILVER LINING

(10) MOUNTAIN/MOLE HILL

(6) MOTHER OF INVENTION

(5) WHERE THERE'S A WILL

(4) SPILT MILK

(11) TIME HEALS
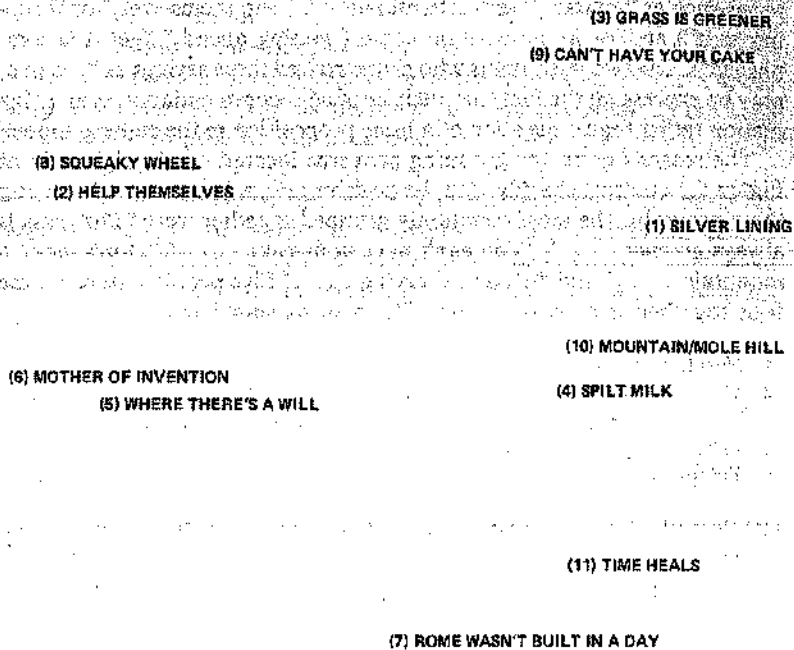
(7) ROME WASN'T BUILT IN A DAY

Figure 6.1. Two-dimensional model of similarities among 11 American proverbs (Stress = .092)

rationale given by those who grouped together the proverbs "The squeaky wheel . . . ," "God helps . . . ," "Necessity is the mother . . . ," and "Where there's a will . . . ." Seven informants (out of the total of 17) placed these 4 proverbs together as a set or a subset of a larger group. The reasons given for their similarity are:

1. These give positive suggestions.
2. Positive reaction.
3. These tell you to go out and do something.
4. These are exhorting one to help themselves, they are motivators.
5. It's those people who initiate some solution that get it accomplished.
6. These imply the value of self-help, keeping at it, plugging away.
7. Concerned with self-determination and getting ahead.

Notice that a number of the informants articulate the rationale for their grouping by pointing to the proverbs' performative value. These sayings are said to be similar because they variously "suggest," "tell," or "exhort" one to take a particular course of action. In describing their meanings in this way, these informants are referring to the force of the inference about TRYING, analyzed above as an implicit recommendation. Other people simply describe the recommended goal-seeking behavior itself (in

terms such as "initiate," "self-determination," "help themselves," or "keeping at it") and/or its positive outcome ("getting ahead," "get it accomplished"). The two informants who characterized these sayings as "positive" may be expressing the fact that their implied recommendation is an affirmation rather than a negation of a basic proposition in the cultural model.

The reasons given for grouping proverbs located on the right side of Figure 6.1 contrast sharply with the positive rationales just listed. Among these proverbs, the most commonly grouped together were "The grass is always greener . . . ," "You can't have your cake . . . ," "Don't make a mountain . . . ," and "It's no use crying . . . ." Five people grouped these four together as a set or subset. The reasons stated were:

1. Negative reaction.
2. These are no-nos. "Don't . . ." may not be said but is implied.
3. These are telling one to quit looking at things from a negative perspective.
4. These all imply acceptance of your situation.
5. Things take care of themselves; individuals must adapt to the situation.

The directive force of the proverbs is again made explicit by some of the informants who note that they take a command form by implying "Don't" or by "telling" someone to do something. The proverbial implication *not* to do something is noted by informants who describe them as "negative" or "no–nos." Rather than attempting to change the situation, individuals must variously "accept" or "adapt" and the like.

A number of informants made finer discriminations in their sortings of the proverbs located on the right side of Figure 6.1. Inspection of the diagram shows that the two proverbs "The grass is always greener . . ." and "You can't have your cake . . ." were judged quite similar to each other, as were "Don't make a mountain . . ." and "It's no use crying . . ." Five people grouped just the former two proverbs together and gave the following reasons for their judgments:

1. Sayings counsel one that he should be *happy* where he is.
2. These comment on the fact that people are not usually *content* with what they have.
3. Both for people who *want more* than they have.
4. Point out a human tendency toward *dissatisfaction*.
5. You'd say these to people who *moan and groan* too much.

It is apparent that, at this lower level of specificity, the reasons for placing just two similar proverbs together draw on ethnopsychological inferences about the state of the person, just as did the paraphrasings discussed earlier. Since "The grass is always greener . . ." is one of the two proverbs in this grouping, it is not surprising that informants refer to some of the same feelings or desires mentioned previously: "dissatisfaction," not "content" or "happy." These are emotions associated with desires that, for one reason or another, cannot be fulfilled.

The reasons given for grouping the two proverbs "The grass is always greener . . ." and "You can't have your cake . . ." indicate that some informants perform the sorting task more on the basis of an inference about the state of the person (e.g. the person is "not content") than on the basis of the specific proposition expressed metaphorically by the proverb (either that the goal is not realistic, in the case of the former, or that it cannot be reached, in the case of the latter). The ethnopsychological basis for judgments of similarity among the proverbs is also evident in the reasons given by the six informants who placed together the proverbs "Don't make a mountain . . ." and "It's no use crying . . . ," distinct from "The grass is always greener" and "You can't have your cake":

1. These would be said to complaining or *depressed* individuals.
2. Both directed toward someone who's *feeling sorry* for themselves in one way or another.
3. These remind us not to be too *concerned* with little problems as they will pass.
4. Advising getting things in perspective.
5. These are negative – tell you not to do something. Don't *make* something more *serious* than it is.
6. Negative proverbs with a reprimanding attitude used to *comfort.*

In addition to noting the directive force of these proverbs with terms like "advising," "telling," "reminding," or "reprimanding," and characterizing them as "negative," several reasons again refer to the emotional state of the person. However, these emotion attributions differ somewhat from those described earlier. Terms such as "depressed," "feeling sorry," and "too concerned" have a different tenor than do "dissatisfaction" or "discontent." The difference between these two sets of emotions follows from a distinction between seeking goals that cannot be had, on the one hand, and coping with present difficulties, on the other. Here again, the basis for informants' judgments of similarity among the proverbs rely more on inferences about emotional responses than on the specific propositions about perception of a problem (~ PROBLEM) or ability to change a situation or reach a goal (~ CAN).

The proverbs "Time heals all wounds" and "Rome wasn't built in a day" are also shown in Figure 6.1 to have been judged somewhat similar to one another. Insofar as they are generally aligned on the right side of the MDS diagram, they may be seen to advise adjustment of the person rather than an attempt to change the situation. The saying "Rome isn't built in a day" is more ambiguous in this respect since it advises patience in the short term, but persistence over the long term. Perhaps for this reason it is located in a more intermediate position on the horizontal dimension in Figure 6.1. Both sayings pertain to the perception of time. They seek to resolve a discrepancy between person and situation by adjusting the person's perspective on time: In the long run, things will get better; in the long run, goals will be attained. The reasons given by four informants

who grouped these two sayings together refer to this perspective on time, as well as to the personal response (patience) that may be inferred from a lengthening of time perspective:

1. Both insinuate that things take time.
2. Things will be better, spirit inducers.
3. These are a reminder to be *patient,* things take time.
4. Counsel *patience.*

The reasons given for judging certain proverbs as similar are stated at different levels of inference, just as the paraphrases reflect different parts of the reasoning process used to interpret proverbs. This ability of informants to describe different aspects of the interpretive process may account for the considerable diversity found in the paraphrasing and sorting data. Because the task of grouping proverbs together requires a greater level of generality than simple paraphrasing, informants appear to have based their judgments more on the proverbs' implications for action than on the specific propositions that conceptualize a problem situation. Thus, some based their judgments of similarity on the basic opposition of an active attempt at change versus adjustment of the person. Others appear to have made judgments of similarity based on inferences about the specific emotional responses that mediate a certain kind of situation and the implied recommendation for adjustment. I have argued that both kinds of judgment are based on inferences about human psychology and action drawn from an underlying cultural model of the person. It is through a process of ethnopsychological reasoning that people link descriptions of a problem situation with recommendations for an appropriate response.

Conclusion

Proverbs appeal to reason. In particular, they appeal to common-sense reasoning based on cultural models of experience. Each proverb examined here represents a point of view, a way of looking at problems and persons that, because of our shared knowledge about such things, carries certain inevitable implications for action. By characterizing a problem situation in a certain way, as a matter of spilt milk or squeaky wheels, proverbs interpret that situation by identifying it as an instance of a more general model. Instantiation of part of an existing knowledge structure (such as the proposition that a certain event has been misperceived as a problem) then creates the basis for further inferences about emotion and action.

The inferential structure of proverb meanings – from problem description through psychological inference to implication for action – reflects the pragmatic work done by proverbs. Indeed, it seems likely that these peculiar bits of formulaic language are widely used precisely because they carry directive force.[7] As indirect directives, they are strategic linguistic devices for evaluating and shaping the course of social experience through appeals to common sense. The fact that proverbs are recognized as ex-

pressions of common sense or folk wisdom is indicative of their frequent use in attempting to clarify uncertainty.

An appeal to folk wisdom is a useful way of attempting to resolve personal conflict or ambivalence. The sayings examined here all attempt to lift a person out of a personal quandary or, in the terms of cognitive problem-solving, a "blocked condition," by suggesting a point of view that resolves a discrepancy between person and worldly circumstances (cf. Hutchins & Levin 1981). They introduce a new perspective by variously altering one's perception of time, of the problem, or of one's ability to do something about it. Once located in the framework of an underlying ethnopsychology, each type of assertion carries specific implications for emotion and action. Analysis of the processes of inference underlying proverb interpretation reveals the operation of specific cultural understandings about persons and action that have been identified previously by other students of American ethnopsychology (D'Andrade, this volume; Heider 1958; Hutchins n.d.; Schmidt & D'Addamio 1973).

It is a reassuring affirmation of the flexibility of language and culture that even this small corpus of proverbs represents contradictory ways of construing problem situations. The contrast between sayings such as "Where there's a will there's a way" and "You can't have your cake and eat it too" indicates that cultural models provide alternative (and sometimes mutually inconsistent) ways of interpreting experience. In this instance, these two sayings rely on the same ethnopsychology, which asserts that purposeful action typically presupposes belief in the ability to do or achieve something. One saying provides a way of affirming ability and recommending positive action; the other can be used to negate ability and discourage an active response. Such diverse, and even contradictory, devices for conceptualizing experience suggest that American proverbs and cultural models are readily adapted to a wide variety of purposes and occasions.

The attempt here to analyze proverbs through several types of interpretive data, including paraphrasing and similarity judgments, has been aimed at teasing out specific propositions and inferences that contribute to proverb meanings. This approach would be augmented by additional, complementary types of data, such as examples of discourse obtained through interviewing or natural observation. Alternatively, more structured, experimental elicitation could be devised to test the accuracy of the model sketched here. Both types of data would supplement, and probably correct, the account rendered here. But then, "You can't have your cake and eat it too." Or is it, "Where there's a will there's a way"?

Notes

1. This paper has profited from the contributions of a group of graduate students at the East-West Center who worked together with the author in collecting and analyzing the data discussed here. Jonathan Gurish, Joyce Kahane, and

Russell Young made especially important contributions but should not be held responsible for the arguments made here. I would also like to thank Paul Kay, and Lynn Thomas, as well as Willett Kempton and other participants in the Princeton Conference on Folk Models, especially the organizers, Dorothy Holland and Naomi Quinn, for helpful comments on an earlier version of this paper. The paper was first presented in a symposium organized by Holland and Quinn for the 80th Annual Meeting of the American Anthropological Association, entitled Folk Theories in Everyday Cognition.

2. In American English, proverbs appear to represent one end of a continuum of linguistic forms that vary in their degree of standardization and formalization, with no sharp distinction between them and other types of idiomatic or colloquial expressions. In contrast, Chinese language sayings form several distinct types, including two written forms, one of which is distinguishable by its four-character composition.

3. An important question for future research concerns the extent to which the relation between specific types of source domain and target domain are arbitrary, or sometimes associated with particular types of conceptualization. Thus, proverbs about human temperament frequently draw from the domain of animals (For example, "Curiosity killed the cat," "You can't teach an old dog new tricks," and "You can lead a horse to water, but you can't make him drink"), and those concerned with events beyond human control frequently use environmental imagery (such as "It never rains but it pours" and "The calm comes before the storm").

4. The fact that proverbs are difficult to recall from memory without an eliciting context or situation raises questions about the form in which they are stored in memory. It is clear that proverbs themselves are not stored in a distinct or bounded domain. There is no taxonomy of wise sayings. Rather, they are tied to cultural knowledge about types of situation or action–scenario. Such knowledge may be actively generated or assembled in the course of understanding specific events. Each proverb condenses a set of interlinked propositions that have general relevance for social life and can be used recurrently to intepret a range of events. This view of proverbs resembles Schank's (1980) reformulation of the notion of "script" as a reconstructive process that relies on various generalized sources of information called "Memory Organization Packets" (MOPs). These memory structures are the generalizations and abstractions from experience that are used to make predictions about future events, just as proverbs are used to make recommendations about a course of action.

5. MDS will represent a set of similarity scores in terms of any number of dimensions. In general, the investigator selects the MDS solution that most accurately displays the similarities while using the least number of dimensions. Analysis of our proverb-sorting data with MDS indicates that these data may be adequately represented in two dimensions ("stress" = .092).

6. Even in semantic domains where word meanings may be meaningfully scaled in relation to a few bipolar oppositions, such as adjectivelike terms used to describe personal traits (see White 1980), MDS will not provide much help in discovering the meanings of dimensions produced by complex inferential processes. For example, in their chapter for this volume, Holland and Skinner clearly show that a scaling model of terms for gender types gives few clues about informants' knowledge of male/female interactions that produced that model. In using MDS to represent relations among proverbs, there is even less reason to expect the dimensions of a scaling model to have specific semantic significance. The inferential processes that underlie proverb meanings are unlikely to map directly onto a few bipolar dimensions. There would have to be some components of meaning pertinent to all of the proverbs for the

MDS axes to have significance as dimensions of meaning. As seen in the foregoing discussion, most of the propositions and inferences that contribute to proverb meanings are relevant to only a subset of the sayings in Table 6.1. Except for the fundamental contrast in their implied recommendations for action (the opposition between sayings that encourage action and those that encourage adjustment, reflected in the horizontal dimension of Figure 6.1), there do not appear to be any components of meaning common to all sayings in the corpus.

7. The explanation for why proverbs are used rather than other kinds of ordinary language, or why they are used on certain occasions and not others, requires recourse to social and contextual information not discussed in this paper. The fact that proverbs are used at all may carry implicit social meaning concerning the nature of the relationship between speaker and listener. For example, some participants in the Folk Models conference argued that the use of proverbs such as those in Table 6.1 frequently indicates a bid for dominance in interaction.

References

Arewa, E. O. and A. Dundes
  1964. Proverbs and the ethnography of speaking folklore. American Anthropologist 66(6,2):70–85.
Briggs, C. L.
  1985. The pragmatics of proverb performances in New Mexican Spanish. American Anthropologist 87(4):793–810.
Brown, R. L.
  1970. A Book of Proverbs. New York: Taplinger Publishing Company.
Burton, M.
  1975. Dissimilarity measures for unconstrained sorting data. Multivariate Behavioral Research 10:409–423.
Carbonell, J. G. and S. Minton
  n.d. Metaphor and common-sense reasoning. Paper presented at conference, Folk Models, May, Institute for Advanced Study, Princeton, N.J.
Collins, V. H.
  1959. A Book of English Proverbs with Origins and Explanations. London: Longmans.
Dyer, M. G.
  1983. Understanding stories through morals and remindings. *In* Proceedings of the Eighth International Joint Conference on Artificial Intelligence. Pp. 75–77.
Heider, F.
  1958. The Psychology of Interpersonal Relations. New York: John Wiley and Sons.
Hutchins, E.
  n.d. An analysis of interpretations of on-going behavior. Unpublished Manuscript, Department of Anthropology, University of California, San Diego.
Hutchins, E. and J. Levin
  1981. Point of view in problem solving. Center for Human Information Processing Technical Report #105. San Diego: University of California.
Kirkpatrick, J. and G. M. White
  1985. Exploring ethnopsychologies. *In* Person, Self and Experience: Exploring Pacific Ethnopsychologies. G. M. White and J. Kirkpatrick, eds. Berkeley: University of California Press, Pp. 3–32.

Kruskal, J., F. Young and J. Seery
     1977. How to Use KYST-2, A Very Flexible Program to do Multidimensional
          Scaling and Unfolding. Murray Hill, N.J.: Bell Laboratories.
Lakoff, G. and M. Johnson
     1980. Metaphors We Live By. Chicago: University of Chicago Press.
Messenger, J. C.
     1959. The role of proverbs in a Nigerian judicial system. Southwestern Journal
          of Anthropology 15:64–73.
Newell, A. and H. Simon
     1972. Human Problem Solving. Englewood Cliffs, N.J.: Prentice-Hall.
Ridout, R. and C. Witting
     1967. English Proverbs Explained. London: Heinemann.
Salamone, F. A.
     1976. The arrow and the bird: Proverbs in the solution of Hausa conjugal-
          conflicts. Journal of Anthropological Research 32:358–371.
Schank, R. C.
     1980. Language and memory. Cognitive Science 4:243–284.
Schmidt, C. and J. D'Addamio
     1973. A model of the common-sense theory of intention and personal causa-
          tion. In Proceedings of the Third International Conference on Artificial In-
          telligence. Stanford: Stanford University. Pp. 465–471.
Schultz, E.
     1980. Samoan Proverbial Expressions. Auckland: Polynesian Press. (First pub-
          lished in 1953.)
Simpson, J. A., ed.
     1982. The Concise Oxford Dictionary of Proverbs. London: Oxford Univer-
          sity Press.
Stevenson, B.
     1948. The Home Book of Proverbs, Maxims and Familiar Phrases. New York:
          Macmillan Company.
White, G. M.
     1982. The role of cultural explanations in 'psychologization' and 'somatization.'
          Social Science and Medicine 16:1519–1530.
     1980. Conceptual universals in interpersonal language. American Anthropologist
          82(4):759–781.
Wilson, F. P., ed.
     1970. The Oxford Dictionary of English Proverbs. 3rd ed. Oxford: Clarendon
          Press.

7

Convergent evidence for a cultural model of American marriage[1]

Naomi Quinn

This paper analyzes two passages excerpted from a longer interview, illustrating the utility of a method of discourse analysis elsewhere (Quinn 1985a; 1985b; n.d.) applied to much more extensive interview material of the same sort. In the larger study from which these excerpts have been borrowed, husbands and wives in 11 marriages were interviewed, separately, over an average of 15 or 16 hours each, on the topic of their marriages.[2] Interpretation of the passages at hand draws on the more extended analysis of this entire body of material. The full analysis depends for its convincingness on its ability to account for features of discourse about marriage in many passages such as those examined here. Of course, the entire analysis cannot be presented in this brief paper, but the examples provided suggest its range. The two segments of discourse scrutinized here, one of which followed the other about midway through the first hour-long interview with a woman whom we call Nan, are reproduced below:[3]

3W-1: I think Tom and I both were *real* naïve about each other. I mean, I think that we got married on the strength of a lot of similar tastes and a lot of love and appreciation but not much real sense of who each other were. I really don't think that we, either of us, had examined each other and said – I mean, I don't think I had said, "Really, who is this Tom Harper, how can I describe him, what is he? What . . . ." You know, "Is that the kind of person I need to be married to?" I don't think I had ever consciously done that – examined my needs and to see if Tom'd fit them. I think it was an intuitive kind of thing and I look at it now and I don't think I necessarily could have done that. I mean, the things that have been strengths of our marriage are the same things that got us married – I think being comfortable with each other, the similar tastes, the same kind of – ways of dealing with a lot of things. And the things that have been difficult in the marriage I couldn't have foreseen; I don't think now but I have sometimes thought back, you know, "Gee, people really do go into marriage, with their eyes, closed." I just find it – how amazing that many marriages get to stay together, when you consider the way they do it.

3W-1: I think during some of Tom's and I – during some of the most difficult passages that we had when we have really despaired in a sense and thought, "This – we are going to be driven apart by all our problems," including, you know, our problems with each other, and one of the things we have both thought

is that, "If I know Tom as well as I know him and love him as much as I love him and still have this much trouble being married to him, what in the world chance would I have of finding anybody else who would be any easier to be married to and I wouldn't know that person any better when I got – married him than I knew Tom."

I: Right, right and that would be the whole thing all over again.

3W-1: Exactly and never having learned or worked through what actually you need to learn and work through to make the first marriage stick. And I think that's one of the things that – almost laziness in a sense or unwillingness to put out effort for nothing. Why in the world would you want to stop and not get the use out of all the years you've already spent together?

I: A sense of investment, ha?

3W-1: Yeah, really, A sense of, well, through the good and the bad. We have learned a lot about each other. We've learned a lot of ways of working with each other. If it took seven more years before you learned that much with the next person. Where – you know, where would you go?

The object of the analysis to be demonstrated on these interview excerpts is reconstruction of the cultural understandings of marriage that must be assumed to underlie discourse about marriage in order to make such discourse comprehensible. The reader will find it useful, in following this demonstration, to refer to these interview passages.

Metaphors of marriage

An extremely helpful feature of the discourse, and hence a departure point for this analysis, is the metaphor in which talk of marriage is cast. Metaphors are rich clues partly because they are ubiquitous (Lakoff & Johnson 1980). It is possible to talk about marriage in the technical terms that American English provides – to speak of one's *spouse* rather than one's "partner" or the person to whom one is "hitched"; of being *married* rather than "getting tied down" or "jumping into marriage"; of getting *divorced* rather than "splitting up" or "bailing out" of a marriage that is "falling apart." As Nan's discourse illustrates, people sometimes use the nonmetaphorical alternatives. However, they do not sustain such nonmetaphorical language for long probably because the technical language is neutral toward the marital experience it describes. The range of available metaphorical language, by contrast, allows the speaker to make a variety of points about that experience.

The metaphors for marriage provide a first set of clues to the cultural model of marriage underlying discourse of the sort examined here. Superficially varied, these metaphors fall into a few classes. For example, Nan casts marriage in several different metaphors that have in common the expectation that it is to be enduring. In one metaphor, an extremely popular one in talk about marriage, MARRIAGE IS A MANUFACTURED PRODUCT. In Nan's words, such entities have "strengths" and "stay to-

gether," but they take work to produce – "And never having learned or worked through what actually you need to learn and work through to make the first marriage stick," she observes. She and other interviewees show a great deal of creativity in exploiting this metaphor. They speak of marriages that "last" and "work" as well-made products should, and they characterize a marriage that does so as a "good thing" and a "strong marriage," much as one would say of a manufactured product made to last that it was "good" and "strong." They pursue other entailments of the metaphor, recognizing, in comments such as the following, that the manufacture of such a product requires, not just work, but also craftsmanship, durable material, good components that have been put together well, and a whole that is structurally sound and substantially constructed:

2H-3: It's just that our relationship is extremely important to each of us and, you know, we want to work hard at making it so and making it better.

4H-4: When the marriage was strong, it was very strong because it was made as we went along – it was sort of a do-it-yourself project.

1H-2: I think that maybe I have an appreciation for the fact that a happy marriage is not entirely problem-free and that probably means that you really have to start out with something that's strong if it's going to last.

4H-4: And I suppose what that means is that we have both looked into the other person and found their best parts and used those parts to make the relationship gel.

9H-3: I guess stacking that up against what I saw in this other marriage, I guess that, you know, it seems like it was stuck together pretty good.

4H-2: They had a basic solid foundation in their marriages that could be shaped into something good.

2W-2: Each one [experience] is kind of like building on another, that our relationship just gets more solid all the time.

Moreover, this same metaphor of marriage as some kind of manufactured product can also characterize marriages that fail to endure: Such marriages may be "weakened" or "ruined" under a variety of circumstances; they are "broken" ones that are not "working" anymore; they are "shaky" or they have "strains" in them; or they may be only "the facade of a good marriage."

In another metaphor of enduringness that recurs in this discourse, MARRIAGE IS AN ONGOING JOURNEY. As Nan puts it, spouses go "through the good and the bad" together; and they make progress, as reflected in her objection to "stopping" one marriage and starting over with somebody new: "Where would you go?" As this last comment also suggests, a journey has a final destination, arrival at which provides another way of expressing the idea of marital enduringness. Another wife states this point more optimistically:

4W-1: That I have changed so much and that we have changed so much and that we have been able to work through so many basic struggles in our marriage and be at a place now where we trust each other, we love each other, we like each other. We appreciate each other. And feel pretty confident about being able to continue that way and continue working any other stuff that comes up. Just seems pretty amazing to me. It could have gone in so many different directions and that it didn't is incredible. But I think both of us take a whole lot of credit for the direction it went in, that we worked at this really hard.

This passage exploits a further entailment of the ongoing journey metaphor: the directionality of such a journey. Interviewees sometimes use this metaphor also to suggest how marriages fail to endure: not only do they "stop" or come to a point at which they are "unable to continue," but spouses also find themselves "in a place where they don't want to be," or they "split and start going in a different direction."

A third common metaphor of enduringness, MARRIAGE IS A DURABLE BOND BETWEEN TWO PEOPLE, also appears in one passage under analysis. The secureness of this bond is often reflected in metaphors picturing married couples as "cemented together," "bound together," "tied to each other," or, in the words of one husband quoted earlier, in a relationship that has "gelled." Here, Nan conveys the same notion obliquely, by the forceful means required to sever such a bond: "We are going to be driven apart by all our problems." Again, a marriage in danger of ending can be characterized in the same metaphorical terms as an enduring one.

These, then, are some metaphors in which Nan and other interviewees express their expectation that marriage is an enduring relationship. Another expectation about marriage reflected in metaphor is that it be beneficial. In the two passages from Nan's interview this expectation is reflected first in the metaphor of one spouse's "fit" to the other's "needs" – "I don't think I had ever consciously done that. Examined my needs and to see if Tom'd fit them." In this metaphor, A SPOUSE IS A FITTING PART. Again, this is not a lone example of such metaphorical usage; other interviewees make such comments about their spouses as, "I couldn't find a replacement. I couldn't find another woman to replace Beth"; "The best thing about Bill, for me, is that he fits me so well"; and "We've kind of meshed in a lot of ways."

In a second metaphor for marital benefit, Nan conceptualizes the years she has been married as time "spent" – "Why in the world would you want to stop and not get the use out of all the years you've already spent together?" she says. Here, MARRIAGE IS AN INVESTMENT. In American English, time is a resource, which, like money (Lakoff & Johnson 1980:7–9), can be invested. Other interviewees also regard the benefits of marriage as resources that spouses derive from the marriage, as reflected in such comments as, "And that was really something that we got out of marriage"; "We did a lot more talking about what we did or didn't want in our own marriage"; "I'm sure they must have something good in their

marriage or they wouldn't still be together"; "I think she sort of felt that she would get those same things from marriage." Again, these metaphors of spouses as irreplaceable or well-fitting parts and of marriage as a container of resources illustrate but do not exhaust the metaphors interviewees use to express the idea that marriage is beneficial.

Nan's interview excerpt provides a good illustration of how interviewees frequently exploit the entailments of a given metaphor to make multiple points about marriage. Here, in the remark, "through the good and the bad," she makes the ongoing journey metaphor do double duty, characterizing marriage as something that is *both* enduring – a progression "through" successive experiences – and beneficial – some of these experiences are "good" ones. In her metaphor, marriage is also potentially costly, entailing encounters with bad as well as good. Other interviewees also make the point that marriage may entail costs as well as benefits. They talk, for instance, of "being short-changed in this relationship," or of the possibility of divorce "when the effort is more than the reward." Implicit in this last example is a folk social psychology[4] of voluntary relationships that, like its counterpart in academic exchange theory, assumes that the parties to such a relationship will not continue in it unless their benefits outweigh their costs, to render the relationship rewarding in net terms. Elsewhere in her interviews, Nan herself develops the implications of this assumption:

3W-12:   Because I think it costs me a lot and I don't think he's measuring that
         cost. And I'm scared it's going to cost me too much and leave me without being
         able to stay in the relationship.

A further implication of this exchange model of relationships such as marriage is that their continuation depends on *both* parties experiencing net benefit. Again, Nan makes this explicit when she says, at the beginning of the first passage, "Tom and I both were real naïve about each other. . . . I really don't think that we, either of us, had examined each other" for one's fit to the other's need. Such assertions about mutual needs to be met and mutual benefit to be realized are common in this discourse; interviewees frequently emphasize that they are speaking for "both of us," or add provisos such as "and I for her," or "and vice versa" to their descriptions of the benefits they derive or anticipate from marriage.

A third presupposition, that marriage is unknown at the outset, is vividly captured in Nan's metaphor of people who "go into marriage with their eyes closed." This is an instance of a general-purpose metaphor in American usage – KNOWING IS SEEING (Lakoff & Johnson 1980:48). In it, a lack of knowledge about marriage is cast as a failure to see, an equation reflected also in Nan's description of how she and her husband married without having examined each other, so that she did not know who he was, really. If initial ignorance of marriage can be captured in these metaphors of sightlessness, lack of observation, and nonrecognition, it is equally

well reflected in another set of common metaphors picturing the manner of entry into marriage as precipitous and unprepared – "We had no idea what we were getting into"; "We sailed right into marriage"; "He jumped from one marriage into another"; or, in one particularly vivid example, people "falling into marriage like king pins at the bowling alley." These modes of entry contrast with the more considered ways people talk about leaving marriage – "walking away," "stopping and getting off," or "having to bail out," for example.

A fourth expectation reflected in the two passages with which we began is that, once experienced, marriage turns out to be difficult. Nan speaks directly of "the things that have been difficult in the marriage," and she also casts these things in a metaphor, commonly used to describe marital difficulties, of the "problems" that threaten to drive her and Tom apart. In their metaphorical characterizations of marriage, interviewees exploit the difficulty inherent not only in problems, but also in all kinds of mentally, psychically, and physically demanding situations: thus, marriage may involve struggle, trial, or conflict, for example. A favorite description of marital difficulties, probably because it is so conveniently conjoined with the notion of enduringness in the metaphor of marriage as an ongoing journey, speaks of the hardships endured in the course of that journey; this metaphor appears in Nan's interview excerpts as the "difficult passages that we had." Elsewhere, interviewees elaborate on this metaphor, speaking, for instance, of the uphill stretches or the rocky road to be traveled in a marriage. One husband uses a ship metaphor to capture, at once, the necessity for a marriage to be structurally sound in order to endure and the further understanding that it must be so built in order to withstand marital difficulties – the stormy weather through which it will sometimes be required to sail:

> *3H-6:* The self-righting concept that, you know, the marriage has enough soundness and equilibrium that it will take steps to right itself in any kind of stormy situation.

A final expectation about marriage revealed in Nan's remarks is that it takes effort. This expectation follows from the understanding that marriage is difficult: In our folk physics of difficult activities, with its basis in experience of the physical world, such activities require effort to perform. Nan alludes to this effort directly when she speaks of the "laziness" implicated in her "unwillingness to put out effort for nothing." She also describes effort in a metaphor of "working through" what "you need to learn and work through to make the first marriage stick." Here, the problem metaphor used earlier is extended by allusion to the kind of effort, "working through," required for problem solution. Other interviewees speak in terms of other kinds of effort: of the "searching" required to discover "where each of us were"; of the necessity, entailed by the journey metaphor, to "fight our way back almost to the beginning"; or that entailed

by the manufactured product metaphor to "redo the whole thing." Frequently, also, by extension of this latter metaphor, interviewees allude to the "hard work" they have had to put in "for a good relationship." In the words of one husband quoted, "we want to work hard at . . . making it better."

These metaphors for marriage thus appear to be organized by five schemas for propositions about marriage, which can be glossed as follows:

> MARRIAGE IS ENDURING
> MARRIAGE IS MUTUALLY BENEFICIAL
> MARRIAGE IS UNKNOWN AT THE OUTSET
> MARRIAGE IS DIFFICULT
> MARRIAGE IS EFFORTFUL

In the following section, we see how Nan draws on these proposition-schemas to construct a reasoned argument about marriage.

The variant of the schema notion adopted here is Hutchins's (1980:51), although what he calls simply a *schema* is here alluded to as a *proposition-schema* in recognition that mental schemas may organize other than propositional material (Lakoff 1984; see Quinn & Holland, in the Introduction to this volume). In Hutchins's terms, such a proposition-schema is a "template" from which any number of propositions can be constructed. The centrality of these five schemas to Americans' understanding of marriage is evidenced by the recurrence of propositions cast in metaphors of the enduringness of marriage, the mutual benefit to be derived from it, initial lack of knowledge about it, its difficulty, and the effort it requires, along with other propositions in which these same concepts are nonmetaphorically represented throughout the discourse under analysis in the present study. These five classes of metaphor, together with three others, virtually exhaust the metaphors people adopt in their talk about marriage.

The three additional categories of metaphor occurring in this talk delineate three further proposition-schemas that appear to play a role in the American cultural model of marriage:

> MARRIAGE IS JOINT
> MARRIAGE MAY SUCCEED OR FAIL
> MARRIAGE IS RISKY

None of these three proposition-schemas figure in the two interview excerpts that are the focus of this analysis. Therefore, these schemas and the evidence, in metaphorical usage, for their role in Americans' understanding of marriage are sketched only briefly and partially here and treated no further (a full discussion of the metaphors for marriage appears in Quinn 1985a).

The notion that marriage is a joint arrangement is reflected in a rich variety of metaphors. The marital relationship, for instance, is described as a "unit" or a "pair," as being "together in this" or presenting a "united

front." Some of these metaphors, for example, of marriage as a "partner-ship," or married life as "teaming up," convey at once the jointness of marriage and the effortfulness of this joint enterprise. Other metaphors bear the dual entailments of jointness and enduringness, when the meta-phorical link between spouses is, by its nature, an enduring one, as in the examples cited earlier in this section, of spouses "bound together" or "cemented together" or "tied to each other" or using the "best parts" of each "to make the relationship gel." Another metaphor already encoun-tered, that of a spouse as a fitting part, simultaneously carries the entail-ments of benefit and jointness.

The most frequent metaphors of success, and conversely of failure, ex-ploit an entailment of the manufactured product metaphor. They add another layer of meaning to that metaphor to characterize the successful marriage as one that "works" and the failed marriage, by contrast, as one that is no longer working. Another popular metaphor, this one building on that of marriage as an effortful activity, characterizes marital success in terms of some difficult task brought to completion – a marriage, like a problem, "worked out," or an unsuccessful one that perhaps "doesn't work out." Two of the varied metaphors of risk used to talk about mar-riage characterize it as a matter of chance, such as gambling – "there's so many odds against marriage," for instance – or as being in danger of survival – as in the comment, "the marriage may be in trouble." The jour-ney metaphor, which so aptly combines the concepts of enduringness, dif-ficulties encountered along the way, and the effort of overcoming those obstacles to progress, can also bear the additional entailment of risk to survival, as the danger inherent in an arduous journey. Like that for ef-fort, the schemas involving success (or failure) and risk derive not directly from our understanding of marriage but from our folk physics of dif-ficult activities, of which marriage is one. Not only do we recognize that such activities require effort for their execution, but we also know that in spite of such effort, they may or may not be successfully completed: The difficulties may be insurmountable, so that undertaking to overcome them carries the risk of failure. This folk physics of difficult activities, then, like the folk social psychology of voluntary relationships, is a cultural model within a cultural model. We can only understand why marriage should be cast in metaphors of effort, success or failure, and risk if we know about difficulty.

Reasoning about marriage

The demonstration that Nan's metaphors for marriage, and those of other interviewees, are organized by a small number of schemas for proposi-tions about marriage sets the stage for the next part of our analysis. This requires that we return to Nan's interview excerpts for a more fine-grained examination of her discourse. We now take advantage of another feature

of such discourse: the reasoning people do in the course of their explanations of marriage. This reasoning lends convergent support for the five proposition-schemas identified on the basis of Nan's metaphors and supplies evidence for how these five schemas articulate with one another in Americans' cultural model of marriage. In this reasoning, propositions about marital enduringness, benefit, difficulty, and so on serve as building blocks for composite proposition-schemas. The more complex schema is created by conjoining two such propositions in a causal relation.

In order to uncover the logic of this reasoning, however, some preliminary decoding is required. It is necessary to decode the metaphors for marriage in which such reasoning is frequently couched to reveal the common schemas underlying these metaphors. It is also necessary to recognize regularity beneath another feature of the discourse – the varied syntax and semantics of causality in American English. A further syntactic feature of the discourse of particular relevance to this analytic task is the referencing of propositions developed earlier in a reasoning sequence in order to invoke these propositions again later in the same sequence. Making sense of such reasoning requires that these allusions be traced to their original referent so the concept reinvoked can be identified. One way speakers mark their references to earlier assertions is to repeat the metaphor in which the original proposition was cast. Thus, in the first of the two passages at hand, we see that Nan uses the metaphor KNOWING IS SEEING to talk about how married life begins. This metaphor is to tie together the argument of the entire passage, and its separate instantiations must be decoded and traced to their common referent.

Nan opens her argument in this passage by establishing that she and her husband were naïve about each other, not having "much sense of who each other were" at the time they got married. This is the first use of the KNOWING IS SEEING metaphor; Nan means not that they literally did not recognize each other but that she and her husband did not have much knowledge about each other at the outset. She plays out this use of the metaphor to dramatic effect when she goes on to note, "I really don't think that we, either of us, had examined each other" and ". . . I don't think I had said, 'Really, who is this Tom Harper, how can I describe him, what is he?'"

In the next sentence, Nan makes clear exactly what about her husband she did not notice at the beginning: Tom's fit to her needs. In this comment – "I don't think that I had ever consciously done that. Examined my needs and to see if Tom'd fit them" – "examining" and "seeing" are derived, once more, from the KNOWING IS SEEING metaphor and stand for the processes of understanding involved in evaluating and deciding about a situation. The analysis provided in the last section shows that the other metaphor introduced here, A SPOUSE IS A FITTING PART, is but one in a larger category of metaphors reflecting the proposition-schema, MARRIAGE IS MUTUALLY BENEFICIAL. In this latter meta-

phor, the fit of one spouse to the needs of the other allows each to fulfill these needs and hence derive the expected benefit from the relationship. Nan argues, more particularly, that some amount of misfit inevitably results from failure to examine goodness of fit to needs before getting married. As pointed out in the previous section, that Nan means this argument to hold mutually for herself and her husband is indicated by her liberal use of reciprocals – "both," "either of us," "each other" – to talk about their initial failure to examine the goodness of one's fit to the other's needs.

That Nan means her assertions to be generalizations about marriage, not something peculiar to her own marital experience, is brought home by her summary, near the end of the passage: "Gee, people really do go into marriage, with their eyes, closed." This comment can only be interpreted once the KNOWING IS SEEING metaphor is understood to refer to its initial application to her own marriage: If your eyes are closed, you cannot see and hence you will fail to observe any misfit of the person you are marrying to the needs you have. Thus, that many people get married in this manner bears the inference that not only her marriage to Tom but also many other marriages result in a misfit of one spouse to the other's needs.

Misfit to needs, then, represents mutual lack of marital benefit; having one's eyes closed and not examining one another and not looking to see who the other person is at the time one gets married all stand for lack of knowledge about this important aspect of marriage at its inception. Having made these two substitutions, we can see that the argument so far, made explicit in the assertion, "I don't think I had ever done that. Examined my needs and to see if Tom'd fit them," takes the form:

$$\text{UNKNOWN AT THE OUTSET} ===> \sim \text{MUTUALLY BENEFICIAL}$$

A homegrown notation has been adopted to depict the reasoning embedded in passages of natural discourse such as this one. In this notation, the proposition–schemas that constitute terms in longer reasoning sequences continue to be represented in capital letters but in abbreviated form (i.e., ENDURING, MUTUALLY BENEFICIAL, UNKNOWN AT THE OUTSET, DIFFICULT, and EFFORTFUL). For ease of recognition, this abbreviation preserves the English sense of each proposition–schema rather than converting that schema into arbitrary symbols. The negation of a proposition is represented by a logical symbol commonly used for negation ($\sim$) at the front of that term. A right arrow represents a causal link connecting a proposition derived from one of the five proposition-schemas, or its negation, to another proposition or its negation to create a complex schema. The direction of causality is from the left term to the right term, with the direction of the arrow. In the remark at hand, "I don't

think I had ever consciously done that. Examined my needs and to see if Tom'd fit them," the direction of causality is revealed by the syntax, *X* (in order) *to Y*, one of many syntactic devices for expressing causality in English.

The next step in Nan's argument rests on a further extension of the KNOWING IS SEEING metaphor, in the identification of things "I couldn't have foreseen." Again, the metaphor marks this comment as an allusion to the unexamined needs described earlier. Thus, to interpret the statement, "The things that have been difficult in the marriage I couldn't have foreseen," we must recognize that the unforeseen things stand for the unexamined needs Nan and her husband Tom turned out not to fit. We have already identified this misfitting part metaphor as belonging to a class of metaphors that stands for the benefits of marriage. No decoding is required of "the things that have been difficult in the marriage," a phrase that introduces the proposition-schema MARRIAGE IS DIFFICULT in nonmetaphorical language. Substituting the referent of "things unforeseen" and decoding the misfitting part metaphor, we see that "The things that have been difficult in the marriage I couldn't have foreseen," bears the interpretation:

~MUTUALLY BENEFICIAL ======> DIFFICULT

In this case, the direction of causality must be arrived at by inference. The sense of "foresee" requires that the difficulties in question were temporally preceded by the unexamined lack of fit to needs. Temporal order supports an inference of causal order; as Linde (this volume) observes, "the natural order of English is *post hoc, ergo propter hoc.*" Marital benefits that were not forthcoming at the outset of this marriage led to subsequent difficulties.

Finally, Nan concludes that it is "amazing that many marriages get to stay together, when you consider the way they do it." "The way they do it" is a clear reference to the assertion in the previous sentence, that people go into marriage with their eyes closed. As we have seen, the metaphor in this latter statement is one of marriage unknown at the outset. But "the way they do it" should lead to divorce; Nan uses a counterfactual construction to dramatize the seeming anomaly that so many marriages in fact do endure – as captured in the common metaphor of marriage as a well-made product that "stays together." Once the two metaphors in this conclusion are decoded to reveal it to be a statement about the relationship between initial ignorance of marriage and its ultimate enduringness, it remains only to reverse the counterfactual and specify the direction of causality. The logic of the assertion, "how amazing that many marriages get to stay together, when you consider the way they do it," is revealed to be:

UNKNOWN AT THE OUTSET ======> ~ENDURING

Here, causality is inferred from the syntax, *Y when X*, where *X* stands
for the causal agent, and *Y* is what is caused.

What remains unexplained is the larger organization of the argument,
which allows this speaker to go on from her first assertion concerning what
people do not know about each other when they marry to a conclusion
about marital enduringness. To make sense of this leap and to reconstruct
the full sequence of reasoning that could account for the final conclusion
she reaches, it is necessary to assume that Nan has in mind a further prop-
osition she does not make explicit. This additional proposition derives from
a schema in which marital difficulty is a proximate cause for the failure
of marriages to endure:

DIFFICULT ========> ~ENDURING

Inserting this proposition–schema into the chain of argument, we see,
gives an account of how the speaker must have reasoned to have produced
this discourse sequence. Another strong ground for granting Nan's im-
plicit assumption of this causal schema is that propositions of this form
are articulated in other reasoning in the discourse under study. Nan her-
self makes this relation between difficulty and enduringness explicit in the
next passage, when she says, in metaphorical language we have analyzed
earlier, "We are going to be driven apart by all our problems." Further
illustrations appear in the discourse of other interviewees; for example:

7H–1:   I don't know, we just reached a kind of crisis in the relationship. At this
         point, there were a lot of tears and that was either make or break at that point.

4W–1:   I think it's amazing that anybody stays married. I really have – that for
         people to live together day in and day out is an amazing struggle.

The metaphors in which marital enduringness and difficulty are cast,
in these two comments, are already familiar to the reader. These brief
examples suggest that inserting an unstated assumption at this point in
the analysis of Nan's reasoning is not arbitrary; there is plentiful evidence
in the remainder of the discourse under study that speakers do make such
a connection between marital difficulty and marital enduringness.

The full sequence of reasoning that must be assumed, then, in order
to allow the conclusion Nan reaches, is as follows:

UNKNOWN AT THE OUTSET ========> ~MUTUALLY BENEFICIAL
~MUTUALLY BENEFICIAL ========> DIFFICULT
                [DIFFICULT ========> ~ENDURING]
UNKNOWN AT THE OUTSET ========> ~ENDURING

Here, two final notational conventions are introduced. A line drawn below
any set of proposition–schemas indicates that taken together, these schemas
allow the further proposition–schema below the line. The proposition
derived from this final schema, then, is the conclusion reasoned to: in
this case, "How amazing that many marriages get to stay together when

you consider the way they do it." Square brackets around a proposition-schema indicate that it has not been made explicit in the argument but that it must be assumed in order to arrive at the conclusion to which the speaker has reasoned.

Thus, initial lack of knowledge about marriage leads to failure to experience marital benefit, which leads to marital difficulty, which leads to divorce. The schematic structure allowing this longish causal chain is readily available for reasoning about marriage. Moreover, chains of propositions violating this structure would not make sense to us. No one would be likely to argue, for instance, that a marriage that was mutually beneficial was therefore difficult, or that one in which mutual benefit was not forthcoming was therefore likely to endure. Such chains of reasoning do not, in fact, occur in this discourse. The sequence of causally related proposition-schemas displayed in the preceding paragraph seems to represent a widely shared understanding of how American marriage works. That other interviewees invoke the same chain of reasoning, or segments of this chain, in reasoning tasks similar to the one Nan has set herself, and that they, like Nan, may reason through to their conclusions without explicitly stating one or more of the propositions required to link together their argument suggests that not only are the separate proposition-schemas for each causal link in this chain available for reasoning about marriage but also that the sequence of linked proposition-schemas is itself a stable composite schema, available in its entirety.

As observed earlier, in the second excerpt the complex causal proposition-schema linking propositions about marital enduringness and marital difficulty is explicitly stated. A further proposition-schema, MARRIAGE IS EFFORTFUL, is introduced into Nan's argument in this passage. The excerpt illustrates the articulation of this new schema with the rest of a cultural model of marriage. Here, Nan sets about repairing the untenable conclusion she was left with in the first passage: Given the way people enter into it, how is any marriage to endure? Nan's dilemma stems from a central contradiction in how she and other Americans think about marriage.

The analysis of metaphors for marriage appearing in these passages reveals that the statement "We are going to be driven apart by all our problems" contains two such metaphors: Marital difficulty is characterized as problems that must be "worked through," and marital enduringness is captured in a metaphor of two people attached to each other so securely that they must be "driven apart" to be separated. Causality is handled, in this assertion, by the syntactic construction, *Y by X*. Thus decoded, the statement reads:

DIFFICULT ======> ~ ENDURING

Nan goes on to argue, however, that marital difficulties need not be allowed to drive a couple apart. She proceeds by first disposing of one

possible solution: Leaving one marriage for another, she demonstrates, does *not* eliminate such difficulties. This is true because lack of knowledge about the person you are marrying inevitably leads to marital difficulties, so that one marriage is likely to be no easier than the other: "If I know Tom as well as I know him and love him as much as I love him and still have this much trouble being married to him, what in the world chance would I have of finding anybody else who would be any easier to be married to and I wouldn't know that person any better when I got – married him than I knew Tom." The schema underlying this assertion is:

UNKNOWN AT THE OUTSET ══════> DIFFICULT

Causality is somewhat complex in this sentence, depending as it does on both the syntax of the sentence and the logical equivalence (her knowledge of a new husband would be the same as her knowledge of Tom when she married him) expressed at the end of it. Using upper-case letters to indicate logical relations and italics to indicate syntactic items, the causal structure of the argument can be seen to be:

IF [*if X*, *Y*] AND [*X'* = *X*] THEN [*if X'*, *Y*]

The *X* in this argument, that she did not know Tom when she married him, was asserted in the earlier passage and does not need restating here.

This conclusion, that initial ignorance of marriage leads to subsequent marital difficulties, depends on a piece of reasoning also drawn from the preceding excerpt, which, once again, is not explicitly restated in this one: Since initial ignorance about each other leads to lack of one's fit to the other's needs, and thus to lack of mutual benefit, and since lack of benefit causes marital difficulty, then the consequence of this initial ignorance is subsequent difficulty. Represented in notation, the full sequence of reasoning on which Nan's assertion relies is:

[UNKNOWN AT THE OUTSET ══════> ~MUTUALLY BENEFICIAL]
  [~MUTUALLY BENEFICIAL ══════> DIFFICULT]
UNKNOWN AT THE OUTSET ══════> DIFFICULT

Because the notation that has been adopted is designed to represent causality as determinate, it is too crude to capture another feature of Nan's thinking that emerges at this point. A folk theory of probability, only hinted at here, enters into her argument by way of the likelihood assumption – ". . . what in the world chance would I have . . ." – that any new husband she finds will fit her needs (and she his) equally as imperfectly as Tom. The strategy of remarrying is rejected – one might as well stay in the first marriage.

The argument now goes on to establish how an enduring marriage *can* be achieved: through effort. You must, concludes Nan, learn or work

through "what actually you need to learn and work through to make the first marriage stick." Here, effort is cast in the metaphor of problem solving, and enduringness is captured in another familiar metaphor of marriage as a well-made product – one that "sticks."

EFFORTFUL ═══════> ENDURING

In this statement, causality is made explicit in the syntax, X (in order) to Y, and rests on an entailment of the well-make product metaphor that specified processes are requisite to the manufacture of any such product: It is necessary to do X (in order) to make Y.

The last part of the passage restates this relation between effort and enduringness in the negative, with the purpose of clinching the argument against remarriage as an alternative strategy. To divorce and remarry someone new is to throw away the accumulated effort you have put into the first marriage. Moreover, an implication of the earlier assertion that one marriage is likely to be as mismatched and hence as difficult as another is that the effort required of any marriage is the same; no advantage is to be gained from starting over from the beginning. It follows that sufficient effort to make a marriage endure will never be accumulated: "If it took seven more years before you learned that much with the next person. Where – you know, where would you go?" (Nan has been married for seven years.) Learning "that much," in this remark, refers to "We have learned a lot," a reference, in turn, to "what actually you need to learn and work through" to make a marriage "stick," a few sentences earlier. This metaphor, as we saw in the previous section, invokes the effort entailed by learning and problem solving. Thus, the first term in Nan's conclusion, "if it took seven more years before you learned that much with the next person," stands for the lack of accumulated effort at the outset of a second marriage. As also shown in the last section, the second term, "Where would you go?" adopts a journey metaphor of indeterminate destination to suggest lack of marital enduringness. People who waste effort, we are cautioned, never get anywhere, a dictum as applicable to marriage as it is to problem solving or travel. The logic of this remark is:

~EFFORTFUL ═══════> ~ENDURING

The syntax of causality here is *if X, Y*.

Again, we ask how the two propositions about marriage developed in this passage, the first asserting an inverse relation between marital difficulty and marital enduringness and the second asserting a relation between enduringness and effort, make sense as a whole. Why does one lead the speaker to assert the other? Again, a term in the argument has been left implicit. This is a schema for the relation between effort and difficulty. That difficulty cannot be overcome without effort is so well understood, we speculate, that Nan takes it for granted. By inserting this proposi-

tion-schema, we see how she must have reasoned to her final conclusion.
The overall pattern of her argument, then, is:

[−EFFORTFUL ======> DIFFICULT]
  DIFFICULT ======> ~ENDURING
~EFFORTFUL ======> ~ENDURING
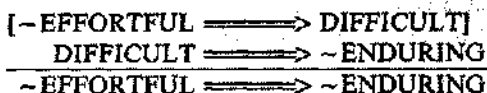
Reasoning in these passages tells a story about marriage that is confirmed by the reasoning sequences in the larger body of discourse under analysis. A large part of this story has now emerged. Even though people ordinarily do not know "what they are getting into" when they marry, they do have certain powerful expectations. They expect marriage to be an enduring relationship, but at the same time they view it as a voluntary relationship, the continuance of which is contingent on its benefit. These two assumptions, one about marriage and one drawn from our shared understanding of voluntary relationships, pose a contradiction. The contradiction is realized when, as is typical, the expected benefits of marriage do not automatically materialize. This problem is reconceptualized in the manner Americans think about many things: Lack of marital benefit becomes a difficulty to be overcome in the enterprise of making a marriage endure. Succeeding at this as at any task is largely a matter of effort. Taken together, the two reasoning sequences presented here reflect a widely held set of expectations about how the prototypical American marriage goes.

A notable feature of the reasoning embedded in this and other talk about marriage is the emptiness of the causal connections posited between terms of this cultural model of marriage. Effort is required for enduringness. Difficulties result in a marriage that does not endure. Lack of mutual benefits leads to marital difficulties. And so forth. However, the nature of causality in each case goes unspecified. The simple arrow used in the notation would seem to be an accurate representation of the causality of reasoning. (An exception was the inability of the notation to handle Nan's assertion about equal likelihood.) It is as if speakers invoke these causal connections to reason with, abstracting for this purpose a kind of nonspecific causality out of a lot of more detailed knowledge about how the world works. We may speculate that the speaker assumes the hearer to share this latter knowledge of *why* lack of benefits might lead to marital difficulty or *why* effort might overcome such difficulty, for example.

This "intersubjective sharing," in D'Andrade's term (this volume), would explain how such knowledge can be dropped out of the argument under construction without affecting its intelligibility or persuasiveness. However, the analyst intent on reconstructing the full cultural model of marriage may wish to fill in its details. To do so, we must pursue still a third trail of evidence in this body of discourse: scattered commentary in which the implicit assumptions nested within sequences of reasoning about marriage are addressed more explicitly and spelled out more fully.

Nested cultural models

Some causal connections are so well understood that they rarely if ever bear comment. Such, for example, seems to be the nature of the connection between difficulty and effort. Understanding of this causal link is transported into the world of marriage from our understanding of the physical world. Perhaps because it is based on direct and repeated physical experience, the knowledge that performance of difficult activities requires effort seem perfectly obvious to us – as Whorf (1941:85) speculated about the more general idea on which this one rests: that the expenditure of energy produces effects. Other causal connections between the terms of the cultural model are not so taken-for-granted, however. Such, for example, is the nature of the link between MARITAL DIFFICULTY and MUTUAL BENEFIT. Why should difficulties arise over the attainment of such benefits?

The discourse at hand has already offered a clue. An important kind of benefit people expect out of marriage is need fulfillment. This expectation is reflected in Nan's observations, in the first passage, about examining her own needs and her husband's fit to them. In our folk psychology of human needs, certain needs, such as those for sex, love, companionship, support, understanding, can only be fulfilled by other people. Americans expect that the person one marries should fulfill most, if not all, of these kinds of needs. This expectation is sometimes stated explicitly, as in the comments these two husbands make about their wives:

7H-2:   I haven't met a single woman since Beth, at all, who would ever come close to matching her in terms of, what she can do for me. What another woman could – for how she could fulfill me. And I – and understand me, particularly. Beth understands me very well. She knows what makes me tick.

5H-9:   Maybe it's the combination that there is a – there's an intellectual stimulation with one another, there's an emotional stimulation with one another, there's a child-bearing stimulation with one another, or wrestling with great issues of the world, and so I think Eileen encapsulates for me an ongoing growth potential for me and all that gambit and vice versa, I believe so. And I think we have found parts of that in many other people many times, but no one who we felt could replace in that sense.

It is this expectation of need fulfillment that makes sense of the final theme in Americans' story about marriage – that it is to be jointly lived. Fulfillment of needs in marriage supposes a substantial amount of physical proximity, emotional intimacy, and coordination of daily activities. It becomes clear why dual metaphors of a spouse as a fitting or irreplaceable part – both joined to one and beneficial to one – are such apposite ones for characterizing the marital relationship.

By this folk psychology of needs and their fulfillment, people have different needs and are endowed with differential capabilities for fulfilling these needs in other people. Although such capabilities are, to a certain

extent at least, learnable, individuals' differing natural endowments and
divergent histories insure that at the outset of a marriage each spouse's
needs and the other's capabilities will almost certainly be mismatched. This
likelihood is heightened, as Nan explains, if people enter marriage, as they
are apt to do, unobservantly or precipitously, without prior knowledge
about each other's needs. Some interviewees say they began marriage ig-
norant even of the idea that it involves need fulfillment. Moreover, as
other interviewees point out, individuals may change over the course of
a marriage, often developing or discovering new needs that a spouse's
capabilities cannot easily be stretched to meet. They speak of "growing
out of touch with each other," "growing apart," or "going in a different
direction," of "holding each other back," or a wife who is "holding me
up," of coming to "a place where we have to separate," or being "at a
point in growth and who we are that says, 'Okay, we need not and we
probably should not perpetuate this.'" Some clear statements of the model
of need fulfillment underlying such observations are:

4W-3:   I think we are committed to making our marriage work. Making the ef-
          fort to do the best we can until – unless at some point doing the best we can
          doesn't work, simply doesn't work. Doesn't meet our needs, doesn't make
          anybody happy and that kind of thing.

7H-1:   I don't think – when a marriage gets to the point where you're really holding
          down the other person, you're really restricting them, it's not worth sticking
          together because life's too precious to waste your time, with another person.
          Unless they're really fulfilling you on an emotional level.

Thus, people expect marriage to be mutually beneficial, but, as we have
seen, not automatically so. Some "misfit" of each spouse to the needs of
the other, either at the outset of marriage, or later in its course, is to be
anticipated.

What is difficult about marriage then, by this folk psychological theory,
is fulfillment of a spouse's needs. The larger body of interviews from which
these passages are drawn contains many other passages in which the dif-
ficulties of need fulfillment are elaborated. It is difficult, interviewees say,
to communicate one's needs and to understand the needs one's spouse is
communicating. It is difficult, sometimes impossible, to learn to fill these
needs even when they have been comprehended. It is also difficult to
sacrifice one's own desires, as the fulfillment of another's needs often
necessitates. Because of these difficulties, deriving mutual benefit out of
a marital relationship so the relationship will succeed is not an easy task.

Thus, only by deciphering certain American cultural understandings
of the self can we fathom the connection in Americans' thinking about
marriage between its benefits and its difficulties. The passages we analyze
in this paper give only a sampling of that folk psychology; discussions
of needs and their fulfillment arise naturally in the course of talk about
marriage and are scattered throughout the entire body of discourse under

study. This sporadic evidence must be drawn together to pemit recon-struction of the cultural model of needs and their fulfillment sketched here – so that the application of this folk psychology to marriage can be appreciated.

Americans' model of one piece of the world, marriage, contains within it assumptions drawn from models of other domains, some of which, like the folk physics of difficult activities, the folk social psychology of volun-tary relationships, the folk theory of probability, and the folk psychology of human needs, are of wide applicability, available for recombination with more special-purpose models to structure not only the domain of mar-riage but also multiple domains of our experience. Because our cultural knowledge is organized in this hierarchical way (D'Andrade this volume), models nested within models, we must follow the explanatory trail left in discourse, which leads us from understandings about marriage to under-standings about need fulfillment, for example. We must then retrace our steps to establish the implications of the nested cultural model for the cultural model under investigation.

Notes

2. All interviewees were native-born Americans who spoke English as a first language. All were married during the period of their interviews, all in their first marriages. Beyond these commonalities, they were selected to maximize diversity with regard to such obvious differences as their geographic and ethnic origins, their occupational and educational backgrounds, and the age of their marriages. No claim is made for the statistical representativeness of the people interviewed, nor would representativeness with respect to various sociological characteristics of the middle-sized southern town in which all interviewees resided even have been feasible for a sample so small. The study aimed to investigate how people organize knowledge rather than how any particular

feature of this knowledge varies across sociological categories such as gender, ethnicity, religion, or class.
3. This is a fictive name, of course. The code at the beginning of this and later interview segments contains, in order, an interviewee identification number, a *W* or an *H* to indicate a wife or a husband, and the number of the interview from which that segment was drawn in the sequence of interviews with that person. Husbands do not have the same identification numbers as their wives. As in the second segment from Nan's interview, comments or questions interjected by the interviewer are prefaced by an *I*, and resumption of the interviewee's part of the conversation is indicated by his or her identification number and letter. This and other interview segments reproduced in this paper have been regularized for stammers, stutters, elisions, slips of the tongue, and hesitations.
4. To characterize a given cultural model as "folk social psychology" or (later in this paper) "folk psychology," "folk physics," or "folk probability theory," is to invite the observation that our ordinary everyday ideas about a given phenomenon may not correspond, although they may be related, to their counterpart in current scientific theory. Although this relationship between folk and scientific models is not pursued in this paper, other papers in this volume discuss how widely shared cultural understandings may be "incorrect" from the stance of scientific explanation and evidence (Collins & Gentner, Kempton), may draw on existing social scientific models (Linde), and, as is likely the case with the folk social psychology of exchange in voluntary relationships discussed here, may contribute unanalyzed assumptions to those social scientific theories (Kay).

References

Hutchins, E.
    1980. Culture and Inference: A Trobriand Case Study. Cambridge, Mass.: Harvard University Press.
Lakoff, G.
    1984. Classifiers as a reflection of mind: A cognitive model approach to prototype theory. Berkeley Cognitive Science Report No. 19. Berkeley: University of California Institute of Human Learning.
Lakoff, G. and M. Johnson
    1980. Metaphors We Live By. Chicago: University of Chicago Press.
Quinn, N.
    1985a. American marriage through metaphors: A cultural analysis. North Carolina Working Papers in Culture and Cognition No. 1. Durham, NC: Duke University Department of Anthropology.
    1985b. American marriage and the folk social psychology of need fulfillment. North Carolina Working Papers in Culture and Cognition No. 2. Durham, NC: Duke University Department of Anthropology.
    n.d. American marriage: A cultural analysis. Unpublished manuscript in preparation, Department of Anthropology, Duke University, Durham, N.C.
Whorf, B. L.
    1941. The relation of habitual thought and behavior to language. In Language, Culture, and Personality: Essays in Memory of Edward Sapir, L. Spier, ed. Menasha, Wisc. Sapir Memorial Publication Fund. Pp. 75-93.

PART III
The role of metaphor and analogy in representing knowledge of presupposed worlds

8

The cognitive model of anger inherent in American English[1]

George Lakoff & Zoltán Kövecses

Emotions are often considered to be feelings alone, and as such they are viewed as being devoid of conceptual content. As a result, the study of emotions is usually not taken seriously by students of semantics and conceptual structure. A topic such as *The Logic of Emotions* would seem on this view to be a contradiction in terms, since emotions, being devoid of conceptual content, would give rise to no inferences at all, or at least none of any interest. We would like to argue that the opposite is true, that emotions have an extremely complex conceptual structure, which gives rise to wide variety of nontrivial inferences.

The conceptualization of anger

At first glance, the conventional expressions used to talk about anger seem so diverse that finding any coherent system would seem impossible. For example, if we look up *anger* in, say, *Roget's University Thesaurus*, we find about three hundred entries, most of which have something or other to do with anger, but the thesaurus does not tell us exactly what. Many of these are idioms, and they too seem too diverse to reflect any coherent cognitive model. Here are some example sentences using such idioms:

> He *lost his cool.*
> She was *looking daggers* at me.
> I almost *burst a blood vessel.*
> He was *foaming at the mouth.*
> You're beginning to *get to* me.
> You make my *blood boil.*
> He's *wrestling* with his anger.
> Watch out! He's *on a short fuse.*
> He's just *letting off steam.*
> Try to *keep a grip on yourself.*
> Don't *fly off the handle.*
> When I told him, he *blew up.*
> He *channeled* his anger into something constructive.
> He was *red with anger.*

He was *blue in the face*.
He *appeased* his anger.
He was *doing a slow burn*.
He *suppressed* his anger.
She kept *bugging* me.
When I told my mother, *she had a cow*.

What do these expressions have to do with anger, and what do they have to do with each other? We will be arguing that they are not random. When we look at inferences among these expressions, it becomes clear that there must be a systematic structure of some kind. We know, for example, that someone who is foaming at the mouth has lost his cool. We know that someone who is looking daggers at you is likely to be doing a slow burn or be on a short fuse. We know that someone whose blood is boiling has not had his anger appeased. We know that someone who has channeled his anger into something constructive has not had a cow. How do we know these things? Is it just that each idiom has a literal meaning and the inferences are based on the literal meanings? Or is there something more going on? What we will try to show is that there is a coherent conceptual organization underlying all these expressions, and that much of it is metaphorical and metonymical in nature.

METAPHOR AND METONYMY

The analysis we are proposing begins with the common cultural model of the physiological effects of anger:

> THE PHYSIOLOGICAL EFFECTS OF ANGER ARE INCREASED BODY HEAT, INCREASED INTERNAL PRESSURE (BLOOD PRESSURE, MUSCULAR PRESSURE), AGITATION, AND INTERFERENCE WITH ACCURATE PERCEPTION.
>
> AS ANGER INCREASES, ITS PHYSIOLOGICAL EFFECTS INCREASE.
>
> THERE IS A LIMIT BEYOND WHICH THE PHYSIOLOGICAL EFFECTS OF ANGER IMPAIR NORMAL FUNCTIONING.

We use this cultural model in large measure to tell when someone is angry on the basis of their appearance – as well as to signal anger, or hide it. In doing this, we make use of a general metonymic principle:

> THE PHYSIOLOGICAL EFFECTS OF AN EMOTION STAND FOR THE EMOTION

Given this principle, the cultural model given above yields a system of metonymies for anger:

BODY HEAT:
Don't get *hot under the collar.*
Billy's a *hothead.*
They were having a *heated argument.*
When the cop gave her a ticket, she got all *hot and bothered* and started cursing.

INTERNAL PRESSURE:
Don't get a *hernia!*
When I found out, I almost *burst a blood vessel.*
He almost had a *hemorrhage.*

Increased body heat and/or blood pressure is assumed to cause redness in the face and neck area, and such redness can also metonymically indicate anger.

REDNESS IN FACE AND NECK AREA:
She was *scarlet with rage.*
He got *red with anger.*
He was *flushed with anger.*

AGITATION:
She was *shaking* with anger.
I was *hopping mad.*
He was *quivering with rage.*
He's *all worked up.*
She's *all wrought up.*

INTERFERENCE WITH ACCURATE PERCEPTION:
She was *blind with rage.*
I was beginning to *see red.*
I was so mad I *couldn't see straight.*

Each of these expressions indicate the presence of anger via its supposed physiological effects.

The cultural model of physiological effects, especially the part that emphasizes HEAT, forms the basis of the most general metaphor for anger: ANGER IS HEAT. There are two versions of this metaphor, one where the heat is applied to fluids, the other where it is applied to solids. When it is applied to fluids, we get: ANGER IS THE HEAT OF A FLUID IN A CONTAINER. The specific motivation for this consists of the HEAT, INTERNAL PRESSURE, and AGITATION parts of the cultural model. When ANGER IS HEAT is applied to solids, we get the version ANGER IS FIRE, which is motivated by the HEAT and REDNESS aspects of the cultural theory of physiological effects.

As we will see shortly, the fluid version is much more highly elaborated. The reason for this, we surmise, is that in our overall conceptual system we have the general metaphor:

THE BODY IS A CONTAINER FOR THE EMOTIONS
He was *filled* with anger.
She couldn't *contain* her joy.
She was *brimming* with rage.
Try to get your anger *out of your system*.

The ANGER IS HEAT metaphor, when applied to fluids, combines with the metaphor THE BODY IS A CONTAINER FOR THE EMOTIONS to yield the central metaphor of the system:

ANGER IS THE HEAT OF A FLUID IN A CONTAINER
You make my *blood boil.*
Simmer down!
I had reached the *boiling point.*
Let him *stew.*

A historically derived instance of this metaphor is:

She was *seething with rage.*

Although most speakers do not now use *seethe* to indicate physical boiling, the boiling image is still there when *seethe* is used to indicate anger. Similarly, *pissed off* is used only to refer to anger, not to the hot liquid under pressure in the bladder. Still, the effectiveness of the expression seems to depend on such an image.

When there is no heat the liquid is cool and calm. In the central metaphor, cool and calmness corresponds to lack of anger.

Keep *cool.*
Stay *calm.*

As we will see shortly, the central metaphor is an extremely productive one. There are two ways in which a conceptual metaphor can be productive. The first is lexical. The words and fixed expressions of a language can *code*, that is, be used to express aspects of, a given conceptual metaphor to a greater or lesser extent. The number of conventional linguistic expressions that code a given conceptual metaphor is one measure of the productivity of the metaphor. In addition, the words and fixed expressions of a language can *elaborate* the conceptual metaphor. For example, a stew is a special case in which there is a hot fluid in a container. It is something that continues at a given level of heat for a long time. This special case can be used to elaborate the central metaphor. "Stewing" indicates the continuance of anger over a long period. Another special case is "simmer," which indicates a low boil. This can be used to indicate a lowering of the intensity of anger. Although both of these are cooking terms, cooking plays no metaphorical role in these cases. It just happens to be a case where there is a hot fluid in a container. This is typical of lexical elaborations.

Let us refer to the HEAT OF FLUID IN A CONTAINER as the source domain of the central metaphor, and to ANGER as the target domain. We usually have extensive knowledge about source domains. A second way in which a conceptual metaphor can be productive is that it can carry over details of that knowledge from the source domain to the target domain. We will refer to such carryovers as metaphorical entailments. Such entailments are part of our conceptual system. They constitute elaborations of conceptual metaphors. The central metaphor has a rich system of metaphorical entailments. For example, one thing we know about hot fluids is that, when they start to boil, the fluid goes upward. This gives rise to the entailment:

WHEN THE INTENSITY OF ANGER INCREASES, THE FLUID RISES
His pent-up anger *welled up* inside him.
She could feel her *gorge rising*.
We got a *rise* out of him.
My anger kept *building up* inside me.
Pretty soon I was in a *towering rage*.

We also know that intense heat produces steam and creates pressure on the container. This yields the metaphorical entailments:

INTENSE ANGER PRODUCES STEAM
She got *all steamed up*.
Billy's just *blowing off steam*.
I was *fuming*.

INTENSE ANGER PRODUCES PRESSURE ON THE CONTAINER
He was *bursting with anger*.
I could barely *contain* my rage.
I could barely *keep it in* anymore.

A variant of this involves keeping the pressure back:

I *suppressed* my anger.
He *turned his anger inward*.
He managed to keep his anger *bottled up* inside him.
He was *blue in the face*.

When the pressure on the container becomes too high, the container explodes. This yields the entailment:

WHEN ANGER BECOMES TOO INTENSE, THE PERSON EXPLODES
When I told him, he just *exploded*.
She *blew up* at me.
We won't tolerate any more of your *outbursts*.