Language and Social Behavior

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Language pervades social life. It is the principal vehicle for the transmission of cultural knowledge, and the primary means by which we gain access to the contents of others' minds. Language is implicated in most of the phenomena that lie at the core of social psychology: attitude change, social perception, personal identity, social interaction, intergroup bias and stereotyping, attribution, and so on. Moreover, for social psychologists, language typically is the medium by which subjects' responses are elicited, and in which they respond: in social psychological research, more often than not, language plays a role in both stimulus and response.

Just as language use pervades social life, the elements of social life constitute an intrinsic part of the way language is used. Linguists regard language as an abstract structure that exists independently of specific instances of usage (much as the calculus is a logico-mathematical structure that is independent of its application to concrete problems), but any communicative exchange is situated in a social context that constrains the linguistic forms participants use. How these participants define the social situation, their perceptions of what others know, think and believe, and the claims they make about their own and others' identities will affect the form and content of their acts of speaking.

Although this chapter focuses on language *use,* rather than language structure, the ways languages can be used are constrained by the way they are constructed, particularly the linguistic rules that govern the permissible (i.e., grammatical) usage forms. Language has been defined as an abstract set of principles that specify the relations between a sequence of sounds and a sequence of meanings. As often is the case with pithy definitions of complex terms, this one is more epigrammatic than informative. It omits much of what is required to understand the concept, and even considered on its own limited terms, it is technically deficient. For example, the word *sound* in the definition is used in a narrow technical sense, restricted to those sounds we identify as speech. The sound of a door slamming may express the slammer's exasperation eloquently, but language conveys meaning in an importantly different fashion. Moreover, the definition of *sound* must be expanded to allow consideration of languages that are not spoken, such as sign languages used by the hearing-impaired, and written language. Finally, of course, *meaning* is hardly a self-defining term.

For present purposes, it may be more helpful to think about language as a set of complex, organized systems that operate in concert. A particular act of speaking can be examined with respect to any of these systems (G. Miller, 1975), and each level of analysis can have significance for social behavior. For example, languages are made up of four systems—the *phonological,* the *morphological,* the *syntactic,* and the *semantic*—which, taken together, constitute its *grammar.* The phonological system is concerned with the analysis of an acoustic signal into a sequence of speech sounds (consonants, vowels, syllables) that are distinctive for a particular language or dialect. Out of the bewildering variety of sounds the human vocal tract is capable of producing, each language selects a small subset (the range is from about 11 to 80) that constitute that language's *phonemes,* or elementary units of sound. The morphological system is concerned with the way words and meaningful subwords are constructed out of these

phonological elements. The syntactic system is concerned with the organization of these morphological elements into higher level units—phrases and sentences. The semantic system is concerned with the meanings of these higher level units.

At another level of analysis, acts of speaking can be regarded as *actions* intended to accomplish a specific purpose by verbal means. Looked at this way, utterances can be thought of as *speech acts* that can be identified in terms of their intended purposes—assertions, questions, requests, etc. (Austin, 1962; Searle, 1969, 1985). At first glance it might seem that the type of act an utterance represents will be given by its grammatical sentence type, but languages are not constructed in so simple a fashion. English, for example, has an interrogative mode for asking questions, an imperative for issuing commands, a declarative for making assertions, and so on. However, the grammatical form does not determine the speech act an utterance represents. "Can you tell me the time?" (as typically used) and "Do you know how to drive a car with a stick-shift?" are both in the interrogative mode, but they constitute quite different speech acts. "Yes" might be an adequate response to the latter, but the former is intended to be understood as a request rather than a question, and "Yes" would be a defective answer. Considerations of this sort require a distinction be drawn between the *semantic* or *literal meaning* of an utterance and its *intended meaning*. Acts of speaking typically are imbedded in a *discourse* made up of a coherently related sequence of such acts. Conversation and narratives are two types of discourse, and each has a formal structure that constrains participants' acts of speaking.

This chapter will focus on the role language use plays in several areas of interest to social psychologists. It is not intended as a chapter on language *per se,* although it will be necessary to consider some of the principles and mechanisms that underlie language use in order to discuss the relevance of language to a content area. Of course, the nature of language is far from a settled matter, and different linguistic schools disagree quite passionately about what constitutes the essence of the uniquely human ability to use language. In the U.S. the dominant school of linguistics derives from the generative-transformational theory of Noam Chomsky, and this viewpoint has been a major influence in psycholinguistics, and in cognitive psychology more generally. However, linguistic issues of interest to social psychologists tend more often to be addressed by specialists in pragmatics, discourse analysis or sociolinguistics than by transformational grammarians.

The sections that follow review theory and research in eight areas of social psychology: interpersonal communication, coverbal behavior, culture and cognition, attitude change, interpersonal relations, intergroup perception, social identity, and gender. Each of the sections is written as a more-or-less self contained discussion, although the later sections will draw upon linguistic concepts introduced earlier. We believe that an understanding of the role of language use will illuminate the social psychologist's understanding of several phenomena of interest. We also believe that a clearer understanding of the social nature of the situations in which language is used will deepen our general understanding of the principles and mechanisms that underlie language use, an issue that will be addressed in the concluding section.

Language and Interpersonal Communication[1]

Linguists often say that language and communication are not the same thing, and certainly that is true. People can and do communicate without language, and species that don't use language (which include all except *Homo Sapiens)* seem able to communicate adequately for their purposes. Nevertheless, it would be a mistake to minimize the difference between the kinds of communication that can be accomplished with and without language. The utility of language as a tool for communication seems to lend itself to grandiose and sometimes vaporous pronouncements, but it is hardly an exaggeration to say that the social order, as it is constituted in human societies, is predicated on the capacity for linguistic communication, and without this capacity the nature of human social life would be radically different. If language were nothing more than a tool for communication, it would warrant social psychologists' interest.

In the most general sense, communication involves exchanges of representations. Sperber and Wilson describe communication as

> … a process involving two information-processing devices. One device modifies the physical environment of the other. As a result, the second device constructs representations similar to the representations already stored in the first device (Sperber & Wilson, 1986, p. 1).

In human communication, the information processing devices are people, the modifications of the environment are (typically) the perturbations of air molecules caused by speech, and the representations are mental representations. Sperber and Wilson's definition focuses on the central role of representations in communication, while leaving open the question of precisely how the representations stored in one device come to be constructed by the second device. Krauss and Fussell (1996) have described four conceptions of interpersonal communication: the *encoding/decoding* paradigm, the *intentionalist* paradigm, the *perspective-taking* paradigm, and the *dialogic* paradigm. These paradigms[2] provide different characterizations of the process by which representations are conveyed.

The Encoding/Decoding Paradigm

In the *Encoding/Decoding* paradigm, representations are conveyed by means of a code—a system that maps a set of signals onto a set of significates or meanings.[3]

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[1]This section owes a great deal to Krauss and Fussell (1996, which reviews social psychological approaches to communication in much greater detail.

[2]By "paradigms" we mean broad theoretical perspectives reflected in commonalties of assumptions and emphasis in the approaches different investigators have taken in studying communication. In the Krauss and Fussell (1996) chapter, these were referred to as "models."

[3] In the simplest kind of code (e.g., Morse code), the mapping is one-to-one (for every signal there is one and only one meaning and for every meaning there is one and

Existence of the code allows the representations to be transformed into signals *(encoded)* that can be transmitted, which in turn are transformed back into representations *(decoded)* by the information processing device to which it is directed. In human communication, the information processing devices are people and the code is language, which allows speakers to create linguistic representations that incorporate the relevant features of the mental representations they want to convey. By decoding the linguistic representation, an addressee is able to construct a mental representation that corresponds, at least in some respects, to the speaker's mental representation.

Common to an encoding/decoding view of communication are two assumptions. One is implicit in the concept of a code, namely, that the meaning of a message is fully specified by its elements. The other assumption is that communication consists of two autonomous and independent processes—encoding and decoding. As general principles, both assumptions are defective. Granted that language can in certain respects be likened to a code, and that both encoding and decoding processes are involved in communication; nevertheless, encoding and decoding do not adequately describe what occurs in communication. The grounds for this assertion will be spelled out in the following sections, but to note just one example, it is often the case that the same message will be understood to mean different things in different contexts. Without making the context (more precisely, the relevant features of the context) part of the code, a communication model that consists simply of encoding and decoding will have difficulty explaining how the same encoding can at different times yield different decodings. Moreover, even when context is held constant, the same message can mean different things to different addressees, and there is considerable evidence to indicate that when speakers design messages they attempt to take properties of their addressees into account (Bell, 1980; H. Clark & Murphy, 1982; Fussell & Krauss, 1989a; Graumann, 1989; Krauss & Fussell, 1991) .

The Intentionalist Paradigm

Considerations such as these have led to a distinction between a message's *literal* and *nonliteral* meanings. Although the distinction is not universally accepted,[4] there is

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only one signal), but more complicated arrangements are possible. The term *code* itself is used by linguists and others concerned with language in a variety of different ways (cf., Bernstein, 1962, 1975; D. G. Ellis & Hamilton, 1988) . We will use the term to refer to the general notion of a mapping system.

[4] Among those concerned with language, there is a lively debate as to the utility of the literal/figurative distinction (Gibbs, 1984; Glucksberg, 1991; Katz, 1981). According to Gibbs, the belief that sentences have meaning apart from any context is based on an illusion:

> To speak of a sentence's literal meaning is to already have read it in light of some purpose, to have engaged in an interpretation. What often appears to have been the literal meaning of a sentence is just an occasion-specific meaning where the context is so widely shared that there doesn't seem to be a context at all (Gibbs, 1984, p. 296; see also Fish, 1980).

consensus that the words in a sentence and the meanings those words are understood to convey do not bear a fixed relationship—that the communicative use of language requires participants to go beyond the words in extracting the speaker's intended meaning. In the Encoding/Decoding paradigm, meanings are properties of messages, but an alternative view is that successful communication entails the exchange of *communicative intentions.* In this view, messages are simply the vehicles by which such exchanges are accomplished.

Communicative intentions cannot be mapped onto word strings in a one-to-one fashion, as the Encoding/Decoding paradigm portrays the process. Rather, speakers must select from a variety of potential alternative formulations the ones that most felicitously express the meanings they want to convey.[5] As a result, for the addressee, decoding the literal meaning of a message is only a first step in the process of comprehension; an additional step of inference is required to derive the communicative intention that underlies it. Approaches that focus on the role of communicative intentions in communication reflect what will be called the *Intentionalist* paradigm. Fundamental to the intentionalist paradigm are two sets of ideas that are basic to pragmatic theory: the cooperative principle and speech act theory.

Grice's cooperative principles and the conversational maxims. The philosopher H.P. Grice certainly was not the first to recognize that nonliteral meanings posed a problem for theories of language use, but he was among the first to explicate the processes that allow speakers to convey, and addressees to identify, communicative intentions that are expressed nonliterally. His insight that the communicative use of language rests on a set of implicit understandings among language users has had an important influence in both linguistics and social psychology. In a set of influential papers, Grice (1957, 1969, 1975) argued that conversation is an intrinsically cooperative endeavor. To communicate participants will implicitly adhere to a set of conventions, collectively termed the "Cooperative Principle," by making their messages conform to four general rules or maxims: *quality* (they should be truthful), *quantity* (they should be as informative as is required, but not more informative), *relation* (they should be relevant), and *manner* (they should be clear, brief and orderly). Listeners, Grice argued, expect speakers to adhere to these rules, and communicators utilize this expectation when they produce and comprehend messages. When an utterance appears to violate one or more of these maxims, the listener may conclude that the violation was deliberate, and that the utterance was intended to convey something other than its literal meaning. On this basis, an utterance like "It's nice to see someone who find this topic so stimulating," said about a student who has fallen asleep during a lecture, will be understood to have been ironically intended.

Speech act theory. A second line of thought that has contributed to the Intentionalist approach stems from work in the philosophy of language on what has come to be called speech act theory (Austin, 1962; Searle, 1969, 1985). Any utterance can

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[5]"Felicitously" here means with due regard to the broad range of factors that constrain usage in particular situations. These factors include social norms that govern usage in that situation, aspects of the speaker-addressee relationship, information the addressee does and does not possess, etc.

be thought of as constituting three rather different types of acts: a *locutionary act* (the act of uttering a specific sentence with a specific conventional meaning), an *illocutionary act* (the act of demanding, asserting, promising, etc. through the use of a specific locution), and a *perlocutionary act* (an attempt to have a particular effect on the addressee). Fundamental to speech act theory is the idea that a variety of different locutions can have the same illocutionary (and perlocutionary) force. Depending on circumstances, a speaker could perform the act of requesting another to close a door by saying "Shut the door," "Would you mind closing the door?" "Did you forget to shut the door?" "Can you think of any reason we should keep the door open?" "I'm having trouble hearing you because of all the noise in the hall," "Do you feel a draft?" etc. Although each utterance has a different literal interpretation, all could be understood in the appropriate context as a request to close the door. The illocutionary force of an utterance corresponds to its intended meaning. When the locutionary and illocutionary force of an utterance (i.e., its literal and intended meaning) are the same, the result is termed a *direct speech act;* when an utterance's locutionary and illocutionary force are different (as was the case in all but the first example), the result is termed an *indirect speech act* (Searle, 1985)

In principle, theoretical models that derive from an intentionalist approach describe both the production and interpretation of utterances, but in practice research has focused on comprehension, and virtually no experimental work has examined the process by which speakers draw upon their knowledge of the cooperative principle and speech acts in formulating messages. In the area of comprehension, an important question concerns indirect speech acts. What have been termed "three-stage models" of comprehension describe the process as follows: First, literal sentence meaning is determined; then, the appropriateness of this literal meaning is assessed in light of conversational principles and the context; finally, the intended meaning is identified on the basis of the literal meaning and conversational principles. The predictions that follow from a three-stage model have met with only limited empirical support. Such nonliteral forms as indirect speech acts and figurative usage (e.g., metaphor, idiom) do not consistently take longer to comprehend than their literal versions (Gibbs, 1982, 1984, Glucksberg, 1991; Glucksberg & Keysar, 1990), and an expression's nonliteral (metaphorical) meaning may be activated even when it is irrelevant to the subject's task (Glucksberg, in press).

Schwarz, Strack and their colleagues have applied this perspective to interactions between experimenter and subject in social psychological research, and have shown that discrepancies between an experimenter's intended meaning and a subject's interpretation can be an important, unintended determinant of the subject's response (Bless, Strack, & Schwarz, 1993; Schwarz, Strack, Hilton, & Naderer, 1991; Strack & Schwarz, in press; Strack, Schwarz, & Wänke, 1991) . In one such study, (Strack et al., 1991) questionnaire respondents were asked to respond on a rating scale to two questions: (a) "How happy are you with your life as a whole?" (b) "How satisfied are you with your life as a whole?" In one condition the two items were asked in succession, while in the other they appeared in separate apparently-unrelated questionnaires. As one would expect, responses to the two items were correlated, but the correlation was significantly higher when the two items appeared in different questionnaires. Strack et al. explain this apparently paradoxical result by likening the questionnaire to a communication situation in which the respondents expect the

experimenter's messages to be governed by the Gricean maxims. From such a perspective, presenting the Happiness and Satisfaction questions in the same context would induce respondents to base their answers on the *distinctive* aspects of the two content domains, thereby attenuating the correlation. As Bless et al. (1993) note, the standardized, inflexible format of experiments and structured interviews rarely allow for the interactive determination of intended meaning. "As a consequence, subjects are required to rely heavily on general rules, and even subtle cues may become informationally loaded. The information extracted from the context may often not be intended by the experimenter" (p. 149). The significance of this problem for survey research is addressed by Schwarz, Groves and Shuman (this volume) .

The Perspective-taking Paradigm

For the Intentionalist paradigm, messages are vehicles that convey speakers' communicative intentions. However, people's perspectives often differ, and recipients may employ different interpretive contexts in constructing the communicative intention that underlies the message. As a result, the same message can convey different meanings to different recipients. To deal with this problem, speakers attempt to take their addressees' perspectives into account when they formulate messages. In this respect, the concrete and particular form a message takes may be as much attributable to the addressee is as it is to the speaker (cf., Krauss, 1987).

The ideas that underlie the perspective-taking paradigm have a long history in social psychology. Well over a half-century ago, George Herbert Mead observed that human communication was predicated on people's capacity to anticipate how others would respond to their behavior (Mead, 1934). They accomplish this, Mead contended, by *taking the role of the other*—by viewing themselves from the other person's perspective. Fundamental to the notion of perspective-taking is the assumption that people experience the world differently, and communication requires that these differences be taken into account. As Roger Brown put it: "Effective coding requires that the point of view of the auditor be realistically imagined" (R. Brown, 1965).

Although the issue seldom is addressed directly, perspective-taking is implicit in the Intentionalist approach. For example, the Gricean Maxim of Quantity instructs speakers to make their contributions as informative as is required for the purposes of the exchange, but to be sure their contributions are not more informative than is required. However, the informativeness of a message can be specified only with respect to a particular addressee; a message that is inadequately informative for one addressee might be more informative than required for another. To formulate messages that conform to the Maxim of Quantity, a speaker has to assess the addressee's knowledge. Wilks (1987 makes a similar point with respect to the Maxim of Relevance.

The operation of perspective-taking can most readily be seen in spatial reference. The retinal images of two people viewing the same spatial layout will be slightly different, a consequence of differences in their vantage points. Although they are looking at the same scene, the apparent relations among objects in the scene may be different—an object that is to the right of a reference point for one viewer may be to

the left of it for the other—and when they communicate about objects' locations, they must take these differences into account. To coordinate reference, a speaker may adopt an egocentric perspective ("To my right"), an addressee-centered perspective ("To your left"), or a mutual or neutral perspective ("Midway between us") (Levelt, 1989) . Although messages formulated from an egocentric perspective may be easier to produce, messages that adopt the addressee's perspective may be easier for that person to comprehend (Levelt, 1982; Schober, 1993; Schober, 1995) . Speakers tend to employ an addressee-centered or, less often, a mutual perspective in a structured communication task (Schober, 1993, 1995) , and the tendency to use an addressee-centered perspective increases with the disparity between speaker and addressee perspectives (Schober, 1993, 1995; Herrmann, Burkle, & Nirmaier, 1987).

Spatial perspective-taking can be distinguished from conceptual perspective-taking, in which speakers take the addressees' knowledge, beliefs, feelings, motives, etc. into account in message formulation (Schober, 1993) . Although others' spatial perspectives often can be ascertained directly, conceptual perspectives more often must be inferred or determined by application of a heuristic (H. Clark & Marshall, 1981). Since these inferences often are based on meager evidence, speakers can make errors in assessing their addressees' perspectives and by so doing miscalculate the contents of their common ground. Fussell and Krauss have found elements of both accuracy and systematic bias in people's estimates of others' ability to identify a stimulus (celebrities, New York City landmarks, household gadgets). Although the relative identifiability of stimuli is judged with considerable accuracy, subjects systematically overestimate the proportion of others who could identify stimuli that they themselves could identify and underestimate the proportion who could identify stimuli they could not identify (Fussell & Krauss, 1991; Fussell & Krauss, 1992; Krauss & Fussell, 1991).

An important source of information about others' perspectives derives from their their social category memberships. Each of us belongs to a number of overlapping social categories that to a certain extent determine what we know, believe, value and want. If a person is know to be, say, a middle-aged male Californian, a computer software engineer, a Unitarian, a member of the Wildlife Conservancy, and a collector of antique cameras, a great deal about what he is likely to know, believe, and value, can be inferred. Such inferences are necessarily probabilistic and far from certain—doubtless there are middle-aged devotees of grunge rock, and Unitarians who support a total ban on abortion—and identifying another's social category memberships can itself be problematic. Still, in the absence of other information, people's social category memberships are a useful source of information about their perspectives on a wide range of topics.

The subtlety of conceptual perspective-taking is illustrated in a simple experiment by H. Clark, Schreuder and Butterick (1983) , in which experimenters showed subjects a picture of (then President) Ronald Reagan with (then director of the Office of Management and Budget) David Stockman, and asked either: "You know who this man is, don't you?" or "Do you have any idea at all who this man is?" The two questions differ in their implied presupposition about what the addressee will know: The first implies that the referent of "this man" will be recognizable; in the second, his recognizability implicitly is understood to be less likely. About 80% of those responding to the first question took "this man" to mean Reagan, something that none

did in response to the second question. Note that in formulating their answers, respondents could not simply rely on their own ability to identify the two men. Even those subjects who could identify Stockman had to employ the knowledge that he was considerably less recognizable than Reagan. The utilization of such social knowledge, often in considerably more complex forms, is a common feature of language use.

Manifestations of perspective-taking can be observed at all levels of language use. At the phonological level, the care with which a speaker articulates a word is inversely related to the addressee's presumed familiarity with it (Fowler, 1988; Fowler & Housum, 1987; Fowler & Levy, 1994; Hunnicut, 1985; Lieberman, Katz, Jongman, Zimmerman, & Miller, 1985). Adults adjust their speech to suit children's limited linguistic capacities by using syntactically simple sentences and special intonation contours—a dialect called "motherese" (Bohannon, 1977; Hu, 1994). But perspective-taking is most clearly manifest at the level of lexical choice, and particularly with regard to reference. For example, what a speaker will choose to call an innominate stimulus (a stimulus that lacks a conventionalized name) will depend upon whether the name is for the speaker's own use or for someone else's (Fussell & Krauss, 1989a; Gatewood & Rosenwein, 1985; Innes, 1976; Kaplan, 1952; Krauss, Weinheimer, & Vivehananthan, 1968) : names addressed to others tend to be literal and conventional, while names intended for oneself are more like to be figurative and idiosyncratic (Fussell & Krauss, 1989a; Krauss et al., 1968). The number of words a speaker uses to refer to a stimulus depends on the addressee's perceived familiarity with it (Fussell & Krauss, 1992; Isaacs & Clark, 1987).

Perspective-taking is accomplished by means of two processes that operate in concert. One process employs heuristics to derive an addressee's perspectives from such indices as group or category membership and situational context (cf., H. Clark & Marshall, 1981). The other process derives the addressee's perspective from information gleaned in the course of the ongoing interaction. The relative balance between these two processes depends considerably upon the form of the communicative exchange, and especially the amount of interaction or responsiveness it affords.

Traxler and Gernsbacher (1992, 1993) contend that to generate successful messages speakers must construct representations of their addressees, and in such noninteractive forms as lectures or electronic mail, where feedback is less immediate and communicators lack information about how well their messages are being understood, this may be difficult. Providing speakers with feedback about the effectiveness of their messages improves subsequent communication about the same content (Traxler & Gernsbacher, 1992, Experiment 1), and shows some evidence of transfer to new content (Traxler & Gernsbacher, 1992, Experiment 2). Even temporarily putting the speaker in the listener's role has a positive effect on the quality of the messages generated (Traxler & Gernsbacher, 1993).

In highly interactive settings such as conversation, communicators can draw on a variety of informational resources in fashioning messages, among them explicit comments and questions, vocal and visible back-channel responses (Brunner, 1979; Duncan, 1973; Duncan, Brunner, & Fiske, 1979; Duncan & Fiske, 1977; Kendon, 1967; Yngve, 1970), and the appropriateness of their partners' responses. This information-

rich format permits communicators to generate messages that are commensurate with others' informational needs and closely attuned to each others' perspectives. The process is revealed by examining successive referring expressions—the words or phrases speakers use to refer to people, objects, events, relationships, etc. Speakers articulate referring expressions with great care on the first occasion of mention and less carefully thereafter (Fowler, 1988). They also tend to make initial referring expressions lengthy and detailed, and reduce them on subsequent mentions (H. Clark & Schaefer, 1987; H. Clark & Wilkes-Gibbs, 1986; Garrod & Anderson, 1987; Hupet, Chantraine, & Neff, 1993; Hupet, Seron, & Chartraine, 1991; Isaacs & Clark, 1987; Krauss & Weinheimer, 1964; Schober, 1993; Wilkes-Gibbs & Clark, 1992) . This tendency to abbreviate referring expressions has been interpreted as support for the idea that conversational partners construct shared perspectives in the process of communication (Hardin & Higgins, 1996). However, the process is highly dependent on speakers having reason to believe they have been understood, based either on audible or visible feedback from the addressee or other evidence. When feedback is reduced, delayed, or eliminated, the abbreviation process is greatly attenuated (Krauss & Bricker, 1966; Krauss, Garlock, Bricker, & McMahon, 1977; Krauss & Weinheimer, 1966).

There is good evidence that speakers take their addressees' perspectives into account in the formulation of messages (H. Clark & Murphy, 1982; Fussell & Krauss, 1989a; Graumann, 1989; Keysar, 1992; Krauss, Fussell, & Chen, 1995; Krauss et al., 1968; Schober, 1993), and the impact perspective-taking has on the communicativeness of messages is reasonably well documented. Names given to innominate objects that have been formulated for one's own use communicate less well to others than names specifically formulated for other people (Fussell & Krauss, 1989a; Innes, 1976; Krauss et al., 1968), messages addressed to a particular person communicate less well to others than they do to that person (Fussell & Krauss, 1989b), addressees who could provide feedback benefited more from the speaker's messages than "overhearers," who heard the same content but could not provide feedback (Kraut & Lewis, 1982; Kraut, Lewis, & Swezey, 1982).

Feedback, and the knowledge of its availability, transforms the communication situation by permitting speakers to modify tentatively formulated assumptions about what listeners know as the interaction proceeds. In effect, the availability of feedback redistributes the cognitive load of message production and comprehension. A speaker who is cognizant of the moment-to-moment state of the addressee's understanding is less dependent on a model of the addressee's knowledge constructed from prior assumptions, and can avoid much of the cognitive work involved in constructing such a model. Similarly, an addressee who finds a message ambiguous or incomprehensible can avoid some of the cognitive work involved in making sense of it by signaling a lack of comprehension. Some of the conversational mechanisms participants use have been described by Auer (1984), H. Clark and Wilkes-Gibbs (1986), Jefferson (1975a, 1975b) , and Schegloff (1979, 1982, 1984).

The Dialogic Paradigm

The three paradigms that have been considered differ in a number of respects, perhaps the most fundamental of which is where they locate meaning. For the

Encoding/Decoding paradigm, meaning is a property of messages, for the Intentionalist paradigm it resides in speakers' intentions, and for the Perspective-taking paradigm it derives from the addressee's point of view. In the *Dialogic* paradigm, the fourth type of paradigm to be discussed, meaning is regarded as an emergent property of the participants' joint activity. Encoding/Decoding, Intentionalist, and Perspective-taking paradigms describe communication in terms of participants' *individual* acts of production and comprehension: speakers produce utterances that convey particular meanings, and addressees process these utterances in order to ascertain the intended meanings. In the Dialogic paradigm, communication is a process in which participants work collaboratively to produce shared meanings. In such a view, for example, feedback is not simply a mechanism by which addressees help speakers generate more informative messages, but an intrinsic part of the process by which the meanings of messages are established. From this perspective, communication is an example of "joint activity" of the kind that characterizes much social interaction. As H. Clark and Brennan (1991) observe:

> It takes two people working together to play a duet, shake hands, play chess, waltz, teach, or make love. To succeed, the two of them have to coordinate both the content and process of what they are doing… Communication, of course, is a collective activity of the first order.

In psychology, the Dialogic approach to communication is, to a great extent, an outgrowth of the analysis of discourse and the study of conversational interaction. Careful and systematic observation of conversations reveals that long interchanges in which participants produce well-formed sequential contributions that advance the conversation toward some goal in an orderly fashion are relatively rare. More typical is a seemingly chaotic process in which participants interrupt each other, complete each others' sentences, interject corrections, require each other to "fill in the blanks"—in short, engage in a variety of activities that are inconsistent with the view of participants in conversations as "autonomous language processors" (Brennan, 1993) . From an Encoding/Decoding perspective such talk might be thought of as a degenerate version of some ideal form, but from a Dialogic perspective these apparent deficiencies really are an intrinsic part of the way conversation operates as a communicative process. From this point of view, conversation is an activity in which the participants *jointly* work to achieve some common purpose that cannot be accomplished individually. The goal is to achieve a state of *intersubjectivity.* The Norwegian social psychologist Ragnar Rommetveit applied the notion of intersubjectivity to communication, arguing that every communicative act rests upon the participants' mutual commitment to "… a temporarily shared social world" (Rommetveit, 1974, p. 29). Out of the divergent social realities participants bring to the situation, intersubjectivity is created and continually modified by acts of communication. In this way, "… what is made known by what is said is affected by what is tacitly taken for granted, and *vice-versa"* (Rommetveit, 1980, p. 76).

For a number of reasons, Dialogically-oriented research has tended to be mainly descriptive, and experimental studies in this tradition have proved difficult to implement. The most fully articulated example of a communication model that takes a Dialogic approach is H. Clark's "collaborative model" (H. Clark, 1996; H. Clark & Brennan, 1991; H. Clark & Schaefer, 1987; H. Clark & Schaefer, 1989; H. Clark & Wilkes-

Gibbs, 1986; Isaacs & Clark, 1987; Wilkes-Gibbs & Clark, 1992) .[6] According to the collaborative model, communicators try to ensure that they have similar conceptions of the meaning of each utterance before they proceed to the next one. This necessitates a set of conversational mechanisms aimed at assuring that meaning has been coordinated. For example, an act of reference is accomplished in two phases: *presentation*, in which an utterance is produced, and *acceptance*, in which the participants come to agree that the message has been understood. Each phase can consist of several acts of speaking, all aimed at insuring that meaning has been coordinated.

From the collaborative view, the meaning of an utterance emerges from the process of interaction, and the meaning of an expression is what the participants (implicitly) agree it to mean. When referents are ambiguous or when participants bring radically different perspectives to the situation, it will take them more time to coordinate on meaning (Hupet et al., 1991; Wilkes-Gibbs & Kim, 1991) . H. Clark and his colleagues contend that communicators attempt to formulate utterances that minimize the *collective* effort, which underscores the contrast between the Intentionalist approach's emphasis on individual communicative acts and the collective or interactive view implicit in a Dialogic approach. For example, a speaker might err in the direction of providing less information than was needed (an apparent violation of the Quantity maxim), anticipating that responding to the listener's request for additional information would be less effortful collectively than including all of the details the listener conceivably might need. Consistent with this, Fussell and Krauss (1992) found that speakers often would refer to an object by name, with no additional identifying information, even though they thought it unlikely that the listener would be able to identify it from the name alone. The interactive format of the experiment made such a strategy more efficient (calculated in collective terms) than if the speaker tried to estimate the information needed by the addressee and produced an unnecessarily detailed message.

Although the Collaborative model has not addressed this issue, one of the most interesting aspects of the Dialogic perspective is its view of the relationship of communication and participants' cognitive process. For individualistically-oriented approaches, perceptions of the world are precursors to communication and exist independently of it. In the Dialogic view, however, perceptions of the world themselves derive from the state of mutual orientation and the way people talk about the world. The difference between the two positions is not trivial. The Dialogic view gives communication a preeminent role in the construction of mind. The point is nicely made in a passage attributed to Volsinov[7]

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[6]For examples of Dialogically-oriented approaches that are (primarily) non-experimental, see the papers in the volume edited by Wold (1992) and the series edited by Markova, Foppa and Graumann (Markova & Foppa, 1991, 1992; Markova, Graumann & Foppa, 1995).

[7]Although V.N. Volosinov is listed as the author of *Marxism and the Philosophy of Language,* most scholars agree that the ideas it expresses are those of the Russian philosopher and literary theorist Mikhail Bakhtin, who may have written the volume (see K. Clark & Holquist, 1984)

> It is not experience that organizes expression, but the other way around —expression organizes experience. Expression is what first gives experience its form and specificity of direction... Indeed, from whichever aspect we consider it, expression-utterance is determined by the actual conditions of the given utterance -- above all, by its immediate social situation. (Volosinov, 1986)

In this sense, a Dialogic theory is a theory of mind as well as a theory of communication. Rommetveit (1992) describes his theory as "a dialogically based social-cognitive approach to human cognition and communication." The relation of cognition and communication will be considered again in our discussion of the relation of language, culture and thought.

Language and Coverbal Behaviors

As they speak, people often gesture, nod their heads, change their postures and facial expressions, and redirect the focus of their gaze. Although these behaviors are not linguistic by a strict definition of that term, their close coordination with the speech they accompany suggests that they are relevant to an account of language use. Of course, each of these behaviors also can occur apart from the context of speech. DePaulo and Friedman (this volume) provide a broad review of research on the role of "nonverbal behaviors" in communication. This section will consider gaze, gesture and facial expression as *coverbal behaviors*—behaviors that normally accompany speech, and are believed to have relevance to it. It also will touch on some of the nonverbal information that is conveyed in speech by "tone of voice."

Gesture

Conversational speech often is accompanied by gesture, and the relation of these hand movements to the speech they accompany is a matter of considerable interest. Speech-accompanying gestures are usually regarded as communicative devices whose function is to amplify or underscore information conveyed in the accompanying speech. According to one of the icons of American linguistics, Edward Sapir, people "… respond to gesture with extreme alertness,… in accordance with an elaborate and secret code that is written nowhere, known to none, and understood by all" (Sapir, 1921, p. 556) . The linguistic anthropologist Ray Birdwhistell carried the analogy between gesture and language a step further, attempting to develop a gestural grammar modeled after linguistic grammars (Birdwhistell, 1970) .

Speakers make several different types of gestures, each having somewhat different properties. One type, often called *emblems* (Efron, 1941/1972; Ekman & Friesen, 1972 or *symbolic gestures* (Ricci Bitti & Poggi, 1991) are essentially conventionalized hand signs with well established meanings (the "thumbs-up" and "V for victory" sign are familiar examples), and they are assumed by virtually all who have discussed them to convey semantic information. In contrast, the simple, repetitive, rhythmic hand movements that are coordinated temporally with sentence prosody,

called *batons* (Efron, 1941/1972; Kendon, 1983) or *beats* (McNeill, 1985, 1987) do not appear to convey semantic information, and are believed to be associated with the intonational structure of the utterances they accompany (McClave, 1991, 1994) . More controversial is the large class of articulate, unplanned gestures that often accompany spontaneous speech called *gesticulations* (Kendon, 1983), *representational gestures* (McNeill, 1992) , or *lexical movements* (Krauss, Chen, & Chawla, 1996) . These hand movements vary considerably in duration, are complex and nonrepetitive, and often their form appears related to the semantic content of the speech.

Traditionally it has been assumed that, by emphasizing or elaborating aspects of the spoken content, gestures of this type serve a communicative function (Birdwhistell, 1970; Graham & Argyle, 1975; Kendon, 1983, 1987) , but several researchers have questioned the contribution they make to communication (Bull, 1983, 1987; Feyereisen & de Lannoy, 1985, 1991; Krauss et al., 1996; Rimé & Schiaratura, 1991) . The experimental evidence is inconclusive. Some investigators have reported results consistent with the "gestures-as-communication" hypothesis (A. Cohen, 1977; A. Cohen & Harrison, 1972; Graham & Argyle, 1975; Riseborough, 1981; Rogers, 1978) , while others have found little or no facilitative effect of gesture on communication (Feyereisen, Van de Wiele, & Dubois, 1988; Krauss, Dushay, Chen, & Bilous, 1995; Krauss, Morrel-Samuels, & Colasante, 1991).

If gesticulations did not serve a communicative function, why would speakers bother to make them? Hewes' (1973 theory of the origin of speech regards gestures as vestiges of the evolutionary process that resulted in speech, a conjecture that Nottebaum has called "… a novel idea unsupported by any compelling evidence" (Nottebaum, 1973, p. 15). Dittmann and Llewelyn (1969) argue that speech-accompanying gestures are used to dissipate tension that accumulates during lexical search, but data supporting this view is insubstantial. An idea that has been proposed by a remarkably diverse group of investigators over the past quarter-century, is that at least some gestural activity plays a role in speech production by facilitating the retrieval of words from lexical memory (Butterworth & Beattie, 1978; DeLaguna, 1927; Dobrogaev, 1929; Freedman, 1977; Mead, 1934; Moscovici, 1967) . Findings of research by Krauss and his colleagues (Chawla & Krauss, 1994; Krauss et al., 1996; Morrel-Samuels & Krauss, 1992; Rauscher, Krauss, & Chen, 1996) are consistent with this position.

Reviewing the literature on the communicativeness of gestures, Kendon has concluded that they "… do play a part in communication and they do provide information to co-participants about the semantic content of the utterances, although there clearly is variation about when and how they do so" (Kendon, 1994, p. 192) . Others, reviewing more or less the same literature, have come to a different conclusion (Feyereisen & deLannoy, 1991; Krauss et al., 1996; Rimé & Schiaratura, 1991) . The more important issue that remains to be resolved is not whether gestures *can* be used communicatively, but rather whether they ordinarily *are* used that way and, if so, under what circumstances, what kinds of information they are used to convey, and how effectively they convey it.

Gaze Direction

Participants in conversations periodically shift the direction of their gaze toward and away from each other, and a variety of kinds of significance have been attributed to both the amount of time participants spend looking at each other, and to the points in the speech stream at which those glances occur (Fehr & Exline, 1987; Kleinke, 1986) . One theoretical interpretation links patterns of gaze direction to the conversational participants' interpersonal relationship. Overall, liking and looking tend to covary positively; people tend to look more at people they like than at people they don't like. As a result, other-directed gaze has been interpreted as an "intimacy behavior," which, along with such other nonverbal behaviors as proximity, body-orientation, touching, etc. express the communicators' social distance (Argyle & Cook, 1976; Exline, 1972; Exline, Gray, & Schuette, 1985; LaFrance & Mayo, 1976; Russo, 1975) .

Another perspective on the functions of gaze in interaction focuses on its role in conversational regulation. Changes in who holds the conversational floor tend to be associated with shifts of gaze direction: speakers typically begin their turns with gaze averted, and as they complete their turns, they are likely to be looking directly at their listeners. Kendon (1967) , among others, has suggested that gaze directions informs the listener the speaker is prepared to relinquish the floor, while averted gaze indicates the opposite. However, microanalyses of the nonverbal behaviors associated with changes of speaker status suggests that the role of gaze in signaling the end of a conversational turn is minimal (Duncan, 1972; Duncan & Fiske, 1977; Duncan & Niederehe, 1974).

Still other investigators have focused on the way gaze is related to ongoing language use (Beattie, 1978; Butterworth, 1978) . For example, because such "back-channel" responses as smiles and head nods must be apprehended visually, speakers will glance frequently at their listeners, particularly at points in the speaking turn where information about comprehension would be especially useful Brunner, 1979; Duncan, 1973; Krauss, Fussell et al., 1995; Krauss et al., 1977). Speakers vary considerably in the amount of time they spend looking at their addressees, but there are regularities in the flux of gaze direction and aversion. At the beginning of a speaking turn, a speaker is likely to look away from the listener; over the course of the turn, the direction of gaze will shift periodically toward and away from the listener; as the speaking turn comes to an end, gaze is likely to be directed toward the listener (Kendon, 1967) . A listener, on the other hand, will tend to gaze at the speaker for relatively long periods of time.

Examination of the points in the speech stream at which gaze is directed toward and away from the listener suggest that speech and directed gaze are part of an integrated behavioral system. A speaker in a conversation is required simultaneously to perform several cognitively demanding tasks. These include planning and formulating speech, and monitoring the co-participant(s) for visible signals that would bear on comprehension of what has been said. A speaker's ability to process information is constrained by limited cognitive capacity, and the flux of gaze may reflect moment-to-moment variations in the cognitive demands of these tasks. When the demands of speech planning impose heavily on cognitive resources, speakers will avert gaze to reduce visual input that would add to the information processing load; when the demands of planning are lighter, the speaker may monitor the addressee for

visible indications of comprehension, confusion, agreement, etc. (Argyle & Cook, 1976; Beattie, 1978; Butterworth, 1978) .

Studies of the points in the speech stream at which changes in gaze direction occur produce evidence consistent with this point of view. Gaze aversion occurs more frequently during the hesitant phase of speech, when speech planning is occurring, than during the fluent phase, when speakers are articulating the previously planned utterance (Beattie, 1978. Speakers are more likely to be looking at their listeners at the end of sentences and speaking turns, when the demands of planning are light, than at the beginning (Cegala, Alexander, & Sokuvitz, 1979; Kendon, 1967). Gaze tends to be averted during filled pauses, which are symptomatic of difficulties in formulating speech (Cegala et al., 1979) . A speaker who is required to gaze fixedly at the listener will find it more difficult to produce fluent speech (Beattie, 1978; , 1981), but compelling the speaker to fixate gaze on an inanimate object does not affect fluency (Chiu, Hong & Krauss, 1995) .

Facial Expression

Much research on facial expression treats it as an automatic response to an internal state, but facial expressions can be controlled voluntarily to a considerable extent, and are used in social situations to convey a variety of kinds of information. In a series of field experiments, Kraut and Johnson (1979) found smiling to be less related to an individual's affective experience than to whether or not another person could view his or her facial expression. Speakers' facial expressions and the affect expressed in their voices tend to be consistent, even when others cannot see them (Buck, Savin, Miller & Caul, 1972; Putnam & Krauss, 1991; Winton, Putnam, & Krauss, 1984). Changes in addressees' facial expressions may reflect a kind of "motor mimicry" (Bavelas, Black, Chovil, Lemery, & Mullett, 1988; Bavelas, Black, Lemery, & Mullett, 1986) that allows the addressee to express understanding, concern, agreement, etc. Smiles and head nods also serve as "back-channels" (Yngve, 1970)—signs of confirmation by means of which communicators coordinate meaning—and tend to occur at the same points in the conversation as verbal backchannels (Brunner, 1979; Duncan et al., 1979).

The coordination of gaze, facial expression and speech nicely illustrates the integration of different communicative modalities. As noted above, a speaker is likely to be gazing at the addressee when verbal planning is largely complete—when knowing whether the addressee has understood would be especially useful. The speaker's gaze can serve as a signal that elicits a verbal or visible back channel response (Brunner, 1979; Duncan, 1973; Duncan & Fiske, 1977; Duncan et al., 1979) . However, the backchannel is not simply a reflexive response to directed gaze. When the addressee has not comprehended the message's contents, the smile, head nod or verbal backchannel tends to be withheld, thereby informing the speaker that communication has not occurred (Y. Chen, 1990; Krauss, Fussell & Chen, 1995) .

Nonverbal Information in Conveyed in Speech

The primary medium by which language is expressed—speech—also contains a good deal of information that can be considered nonverbal. A speaker's voice transmits individuating information concerning his or her age, gender, region of origin, social class, etc. In addition to this relatively static information, transient changes in vocal quality provide information about changes in the speaker's internal state, the most intensively studied of which has been affect. Changes in a speaker's affective states usually are accompanied by changes in the acoustic properties of his or her voice (Cosmides, 1983; Fairbanks & Pronovost, 1939; Frick, 1985; Streeter, Macdonald, Apple, Krauss, & Galotti, 1983; Williams & Stevens, 1969, 1972) , and listeners seem capable of interpreting these changes, even when the quality of the speech is badly degraded (Krauss, Apple, Morency, Wenzel, & Winton, 1981; Scherer, 1986; Scherer, Koivumaki, & Rosenthal, 1972), or the language is one the listener doesn't understand (Krauss, Morency, & Ferleger, 1983) . Scherer (1986) provides a review of this literature.

Language, Culture and Cognition

Language and the Activation of Culturally Shared Ideas

In the course of the evolution of the mind, according to Donald (1993), *homo sapiens* passed through three cognitive transitions: the development of mimetic skills, the evolution of language, and the invention of external memory devices. Each development created a new way of representing reality and made possible a new form of culture. Bruner (1990) suggests that "The symbolic systems that individuals used in constructing meaning are systems that were already in place, already 'there,' deeply entrenced in culture and language. They constituted a very special kind of communal tool kit whose tools, onces used, made the user a reflection of the community" (p. 11). Both Donald's and Bruner's accounts underscore the close relation of language use, shared meaning representation and culture. However, few social psychologists have pursued the impact of language use on culturally shared cognition (see Markus, Kitayama & Heiman,1996).

Cultural psychologists (Markus & Kitayama, 1991; Markus et al., 1996; Shweder & Sullivan, 1990) have focused on culture as a shared meaning system developed by members of a collective to represent the world, create cultural artifacts, orient themselves and others to features of the environment, and evoke certain feelings. A cultural meaning system consists of a large, diversified pool of shared ideas, values, beliefs and causal knowledge, coherently organized in a network of interrelations (D'Andrade, 1984), that constrain the meanings people construct and the inferences they draw (e.g., J. Miller, 1984; Morris & Peng, 1994). If a cultural meaning system is an organized network of interrelated cognitive elements, exposure to relevant cues should activate a subset of components in the system and spread throughout the network, ultimately activating some culturally patterned cognitions. Hong, Chiu and Kung (in

press) tested this idea by exposing Westernized Hong Kong Chinese undergraduates either to images common in Chinese cultures (e.g., a dragon, traditional musical instruments) or to neutral perspective drawings. Although Chinese undergraduates typically make fewer internal attributions to social behavior than their American counterparts (Morris & Peng, 1994), exposing subjects to symbols of Chinese culture effectively activated their Chinese cultural meaning systems, increasing the extent of internal attributions and strengthening their endorsement of traditional Chinese values.

Like other symbols of culture, language is an effective means of activating culturally patterned cognitions. Bilingual Hong Kong Chinese students are less dogmatic when they respond to the Dogmatism Scale (Rokeach, 1960) in English than when they answer the same questionnaire translated into Chinese (Earle 1969). Earle hypothesized that these bilinguals had learned Chinese and English in distinct settings, at the same time acquiring two distinct cultural knowledge structures reflecting the two languages' cultures. The Chinese version of the questionnaire activated the more dogmatic Chinese language culture, and the English version activated the less dogmatic English language culture. Similar results have been reported by Bond (1983), who asked bilingual Hong Kong Chinese students to complete the Rokeach Value Survey from the perspective of a typical Hong Kong Chinese. Half of the subjects responded to the original (English) questionnaire and the remaining half to a Chinese translation of it. Those who answered the English version endorsed Western values to a greater extent than those who responded to the Chinese version.

Linguistic Relativity of Thought

Another way to conceptualize the relation of language, meaning and culture within the cultural meaning system framework is to view language as part of the mental architecture used to represent cultural experiences that is a vestige of earlier cognitive evolution. From this perspective, a language reflects a world view shared by its speakers. This position was espoused by the anthropologist Franz Boas (1911/1966), who contended that "Languages differ not only in the character of their constituent phonetic elements and sound-clusters, but also in the groups of ideas that find expression in fixed phonetic groups" (p. 20). According to Boas, structural features of a language that constrain what speakers can say will reflect cultural ideas otherwise inaccessible to researchers. The relation of language patterns to culture is still an important topic in linguistic anthropology (e.g., Nuckolls, 1993; Pedersen, 1983; Sherzer, 1987; Wierzbicka, 1986), although the emphasis there has shifted from obligatory grammatical categories to such optional categories as address forms and patterning of suffixes, and from linguistic analyses to discourse analyses. Underlying this work is the assumption that a grammatical category is a resource a language offers for representing the world that is made salient through use in everyday conversation (Sherzer, 1987).

Boas' view was developed by Sapir and Whorf into a stronger form, often referred to as the Sapir-Whorf, or linguistic relativity, hypothesis. The Sapir-Whorf hypothesis holds that a language's grammar orients speakers to certain aspects of experience and shapes the way they mentally represent that experience. As a result, speakers of markedly different languages may represent physically similar states of

affairs quite differently (Whorf, 1956). Whorf assumed that the use of language to encode experience results in a parallelism between linguistic and cognitive structures. As a result, every language incorporates a metaphysic or naive conception of reality, and speakers of markedly different languages have different mental images of similar states of affairs. For example, the three tense system of English and the lexical items used to quantify time (days, hours, minutes) may lead English-speakers to think about time a point on a linear time line. By contrast, Hopi lacks a tense system, and subjective duration is not expressed in terms of unidimensionally graded temporal units. As a result, Whorf contended, time is experienced quite differently by Hopi and English speakers.

Whorf argued that language represents culture and can constrain the development of non-linguistic cultural norms. As he put it,

> How does such a network of language, culture, and behavior come about historically? Which was first: the language patterns or the cultural norms? In main they have grown up together, constantly influencing each other. But in this partnership, the nature of the language is the factor that limits free plasticity and rigidifies channels of development in the more autocratic way... Language thus represents the mass mind; it is affected by inventions and innovations but affected little and slowly, whereas to inventors and innovators it legislates with the decree immediate (Whorf, 1956, p. 156).

Psychologists attempting to assess the relation of grammar and cognition have found little support for the linguistic relativity hypothesis. For example, object shapes (flat vs. round) are obligatorily marked in Navaho verbs, and, consistent with linguistic relativity, Carroll and Casagrande (1958) found that Navaho-speaking Navaho children were more inclined than English-speaking Navaho children to group objects by shape rather than color. However, the Navaho-speaking children were *less* likely than English-speaking non-Navaho children to organize their perceptual world by shapes, despite the fact that English verbs are not inflected for object shape.

Researchers have also investigated the extent to which grammatical differences among languages can affect a speaker's reasoning ability. For example, In English, a property, event, action, or condition can be *entified* (rendered "truth commitment-free") in a noun phrase once it has been described. In the sentence, "The measure will be approved by the Congress," *approval by Congress* is a state of affairs that can be verified by referring to the relevant facts. However, in entified constructions (e.g., "Approval by Congress will force a Presidential veto" or "The measure requires approval by Congress") speakers can refer to approval without regard to the measure;s actual approvak. Chinese lacks a grammatical form for marking counterfactual propositions, and in Chinese it is unusual to entify an expression in this fashion. Bloom (1981) claims that entified expressions allow referents to be detached from reality and used in hypothetical reasoning, and because Chinese lacks this form, development of schemas necessary for abstract, theoretical thinking is impeded in Chinese speakers. Consistent with this view, he found that English speakers performed better than Chinese speakers on comprehension tests of counterfactual statements (e.g., "If this explorer had been able to understand the language spoken by the natives, he would have learned that the natives were very friendly") and statements with entified verb phrases (e.g., "Eating

fatty foods increases the likelihood of getting heart disease"). He also found that Chinese-English bilinguals performed better on the English than on the Chinese version of the tests. Subsequent research, however, revealed these apparent cross-linguistic differences to be the result of poor translations of the test messages (Au, 1983, 1984; Takano, 1989). Individual differences in the ability to understand counterfactuals appear to reflect differential levels of cognitive development and culturally-based educational practices rather than language differences (Au, 1992; Lardiere, 1992; Liu, 1985).

Finally, researchers have investigated the relation between memory for colors and the availability in a language of basic color terms. Languages differ in the number of basic color terms they provide, and early studies seemed to support a relationship between color codability and recognition memory (R. Brown & Lenneberg, 1954; Lenneberg, 1961). However, ater studies revealed the relation of codability and color memory to be artifactual (Heider, 1972; Heider & Olivier, 1972), leading to the conclusion that basic color terms reflect a universal, evolutionary neurophysiological stratum of color perception (Berlin & Kay, 1969; Kay & McDaniel, 1978; but see Saunders & van Brakel, in press), and undermining what some (e.g., Krauss, 1968) had taken to be the strongest evidence for the Whorfian hypothesis.

The lack of clear empirical support for linguistic relativity has been reinforced by a change in emphasis in linguistics proper. When linguistics emerged as a scientific discipline in the 18th century, one of its primary concerns was the nature of linguistic diversity, but starting in the 1950s this focus was supplanted by an emphasis on *linguistic universals* (e.g., Chomsky, 1968) . One consequence of the widespread acceptance of the idea that grammars of all languages derive from the same set of biologically innate constraints was a tendency to minimize the conceptal significance of differences among languages. As Chomsky put it, "The computational system of language that determines the forms and relations of linguistic expressions may indeed be invariant; in this sense, there is only one human language, as a rational Martian observing humans would have assumed" (Chomsky, 1992, p. 50). The assumption that languages are structurally identical undermines the idea that differences among languages will have important cognitive consequences. As R. Brown has observed, the views of psychologists have shifted from "the extreme relativism of Whorf and the anthropologists of his day" to "an extreme cultural universality and presumptive nativism" (R. Brown, 1976, p.149; see also Rosch, 1987). Most psychologists probably would agree with Pinker's conclusion that "…there is no scientific evidence that languages dramatically shape their speakers' ways of thinking" (Pinker, 1993, p. 12; see also Glucksberg, 1988; Hunt & Agnoli, 1991).

Communication and Cognition: A Post-Whorfian Approach

However, despite the negative findings of many experiments designed as tests of the linguistic relativity hypothesis, it is not difficult to find clear evidence of effects of language on a number of aspects aspects of cognition (see Hardin & Banaji, 1993; Hunt & Agnoli, 1991; Hunt & Banaji, 1988). These include: (a) *Visual scanning*: Habitual ways of reading in a language can affect the preferred direction of visual scanning (Braine, 1968; H. C. Chen & Chen, 1988; Hoosain, 1986, 1991; Kugelmass & Lieblich, 1970). (b)

Verbal learning: Phonological properties of language used to encode stimulus materials can affect verbal learning (N. Ellis & Hennelly, 1980; Hoosain & Salili, 1987; Naveh-Benjamin & Ayres, 1986). (c) *Visual memory*: How a visual stimulus is labeled can affect its representation in memory (Carmichael, Hogan, & Walter, 1932; Daniel, 1972; Kay & Kempton, 1984; Thomas & DeCapito, 1966). (d) *Decision-making*: Verbal framing of a decision problem can affect problem representation and subsequent decisions (Kahneman & Tversky, 1984; I. Levin, Schnittjer, & Thee, 1988; Northcraft & Neale, 1986). (e) *Problem-solving*: Verbal encoding of visual stimuli can facilitate or hinder problem-solving, depending on whether or not the problem-solving task requires an accurate representation of the visual information (Glucksberg & Weisberg, 1966; Ranken, 1963). What these studies illustrate is that while grammatical categories in a language do not appear to affect cognition *per se,* language does have important cognitive consequences when it is put to use, a conclusion that is consistent with the discourse-centered approach to language and culture in linguistic anthropology (Sherzer, 1987; Streeck, 1994), social representation theory (Rommetveit, 1984) and conversation analysis (Schegloff, 1991).

Chiu, Krauss, Lam and Tong (1995) have summarized the relation of language use, cognition and culture in terms of five propositions:

> I. A language's grammatical structure is not sufficient to affect its speakers' ways of thinking. Rather, for it to influence cognition, the structure must be activated or used to describe, characterize, or label some state of affairs.
>
> II. Using language to represent a state of affairs can evoke or create an internal representation that differs from the internal representations of the same state of affairs evoked or created by other means of encoding.
>
> III. The internal representations evoked or created by language use can affect a language user's subsequent cognitions.
>
> IV. The form that a linguistic representation takes will be affected by the contexts of language use, including the ground rules and assumptions that govern usage, audience design and the immediate, ongoing and emerging properties of the communication situation.
>
> V. Through communication, the private cognitions of individuals can be made public and directed toward a shared representation of the referent. This proposition links language use to the emergence of social representations (Moscovici, 1988) or socially shared cognitions (Hardin & Higgins, 1996; Ruscher, Hammer, & Hammer, 1996; Schegloff, 1991), which are core elements of cultural meaning systems (Bruner, 1990).

The evidence for Proposition I has been reviewed above. With regards to Proposition II, a primary site of language use is communication, where people use language to convey their mental representations to others. However, language is not a neutral or perfect instrument for this purpose. For example, the language design feature called *discreteness* (Hockett, 1960) requires that temporal events be represented as discrete units (e.g., *years*, *days*, *hours*, *seconds*, or *milliseconds*) despite the fact that they

are subjectively experienced as continuous and unsegmented. The descriptive resolution or codability of a class of experience can differ from language to language—unlike English, Tarahumara (a Uto-Aztecan language of northern Mexico) lacks separate lexical entries for *green* and *blue*. The lack of a lexical entry may prompt a speaker to elaborate on an idea to express it in the available lexicon or to focus on attributes of the referent that are relatively easy to express linguistically (Langacker, 1976). As a result, when a state of affairs is described, the linguistic representation of the thing described may differ in important respects from perceptual or other representations of it. For example, Krauss and Chiu (1993) asked subjects either to describe the faces of young women from photos, or to judge the perceptual similarity of pairs of faces. As evidenced by the resulting multidimensional structures, descriptions and similarity judgments utilized different features of the faces.

Proposition III contends that representations evoked by language use affect subsequent cognition, but the process by which this occurs is still unclear. One possibility is that a linguistic representation of a state of affairs will "overshadow" other representations. According to the *recoding interference hypothesis*, "verbalizing a visual memory may produce a verbally biased memory representation that can interfere with the application of the original visual memory" (Schooler and Engstler-Schooler, 1990, p. 36). When there is more than one way of referring to a referent, the different referring expressions (e.g., *woman* vs. *lady*) may lead to different representations. Competition can also occur between the representations evoked by different descriptions of the referent. Schooler and Engstler-Schooler (1990) had subjects either describe or visually rehearse stimuli that ranged from colors to photos of faces. Subjects who described stimuli committed more errors on an incidental memory task than subjects who visually rehearsed them, suggesting that producing a description may have interfered with its visual representation.

Speakers also may modify their messages to make them consistent with their perception of immediate and emerging properties of the communication context, as Proposition IV indicates. The relevant properties of the communication situation include their own communication goals (McCann & Higgins, 1992), their estimation of the addressee's knowledge and beliefs (H. Clark & Wilkes-Gibbs, 1986; Edelman, Rierdan, & Wapner, 1977; Fussell & Krauss, 1989a, 1989b, 1992; Isaac & Clark, 1987; Krauss, 1987), and the referent array (Hupet et al., 1991; Krauss & Weinheimer, 1966; Rosenberg & Cohen, 1966). To test the effects of a speaker's communication goals on cognition, Higgins and Rholes (1978) asked subjects to read an evaluatively ambiguous description of a stimulus person and then write an essay about the stimulus person to a recipient who either liked or disliked the target. Not surprisingly, subjects' messages tended to be evaluatively consistent with the recipient's feelings about the stimulus person. More relevant to the present discussion, subjects' later recall of the original description of the stimulus person were biassed in the direction of the target's feelings.

Designing messages for the perceived informational requirements of the recipient also can affect the way the speaker mentally represents the state of affairs under discussion. Chiu et al. (1995) found that descriptions of visual stimuli differed depending on whether the intended audience was a grade school student or a college student, indicating that subjects modified their messages in accordance with the principle of audience design (Clark & Murphy, 1982). When subjects who had described

the shapes to a grade school child were later tested on an incidental memory task, their memory was biassed in the direction of their descriptions.

Finally, socially shared knowledge imparts meaning to cultural experiences. According to Bruner (1990) "By virtue of participation in culture, meaning is rendered public and shared," and socially shared cognitions emerge from "shared modes of discourse for negotiating differences in meaning and interpretation" (pp. 12-13). Social representation theorists hold that when private cognitions are made public, shared representations of an event emerge and the participants become committed to a particular interpretation of reality (Rommetveit, 1984).

As people adjust their referring expressions to their addressee's attitudes or beliefs, they may construct a definite and shared representation of the referent. Ruscher et al. (1996) found that conversationalists who were motivated to reach an agreement on an impression task formed shared impressions of a target person by focusing on stereotype-consistent information. Research on referential communication also has shown that conversationalists who have different levels of expertise on the conversation topic (Isaacs & Clark, 1987) or have learned to use different expressions to refer to a stimulus (Wilkes-Gibbs & Kim, 1991) will collaborate to establish a common way of referring to the referents, and there is some evidence that their subsequent memory of a referent may be distorted in a direction that is consistent with the established common expressions (Wilkes-Gibbs & Kim, 1991). As Bruner (1990) has observed, "However ambiguous or polysemous our discourse may be, we are still able to bring our meanings into the public domain and negotiate them there" (p. 13).

We began this section with a characterization of culture in terms of shared meanings. Because language is so deeply implicated in communication it plays a pivotal role in the construction of such shared meanings. In communication, participants make the contents of their minds accessible to others. To accomplish this task, they must formulate linguistic representations of private cognitions, and in formulating such representations, they take the their coparticipant's knowledge and perspectives and the communication context into account. Shared meanings are constructed through collaborative effort, and through these joint efforts participants' private thoughts are transformed into shared cognitions. Common knowledge and shared linguistic representations established in communication may affect conversationalists' subsequent cognition.

A new way of thinking about the relation of language, cognition and culture seems to be emerging that is a departure from the linguistic relativity hypothesis. According to this conception, language is related to cultural meanings in two important ways. First, patterns of language use express shared meanings or social representations in a culture. This process may help explain how language can be an effective means of activating culturally-patterned cognitions. In addition, through its communicative function, language allows new shared meanings to be constructed, replacing or modifying existing social representations as people communicate and negotiate the meaning of their collective experience. The psychological processes implicated in these relations is of great potential interest to social psychologists.

Language and Attitude Change

Appreciation of the relationship between language and perceived credibility dates back at least to Aristotle, who cautioned speakers against over-reliance on rhetorical trickery. As he noted

> The aptness of language is one thing that makes people believe in the truth of your story: ... some impression is made upon an audience by a device which speech-writers employ to nauseous excess, when they say, "Who does not know this?" or "It is known to everybody." The hearer is ashamed of his ignorance, and agrees with the speaker, so as to have a share of the knowledge that everybody else possesses." (*The Rhetorica* (trans., Roberts, 1954, pp. 178-179)

Aristotle pointed out that "persusasion is achieved by the speaker's personal character when the speech is so spoken as to make us think him credible" (p. 25). To accomplish this, communicators must both know what they ought to say as well as how to say it.

Attitude change researchers have examined how a variety of speech characteristics (e.g, speech rate and lexical diversity) and such elements of rhetorical styles as language intensity and powerful or powerless speech style affect a speaker's credibility. In most of this research, the contents of the persuasive message is held constant, and the communicator's speech characteristics and rhetorical style is systematically varied.

Effects of Language Use on Listeners' Attitudes

The effect a particular linguistic variation has on a speaker's perceived effectiveness and credibility will be determined primarily by cultural conceptions of how a competent communicator speaks. In most Western cultures a competent communicator is expected to speak fluently, confidently and articulately, and perceived effectiveness is adversely affected when the communicator's speech style deviates from these standards. Communicators are generally seen as less effective and less credible when they speak slowly (N. Miller, Maruyama, Beaber, & Valone, 1976), or when their message is low in lexical diversity (Bradac, Davies, Courtright, Desmond, & Murdock, 1977) or filled with hedges, filled pauses and parenthetical remarks (Erickson, Lind, Johnson, & O'Barr, 1978; Hosman, 1989). Using inappropriately crude language also hurts the communicator's credibility (Bostrom, Baseheart, & Rossiter, 1973; Paradise, Cohl, & Zweig, 1980). See Bradac (1990) and Giles and Street (1994) for reviews of this literature.

However, a recipient's expectations regarding the communicator's speech also is affected by the communicator's social category (Burgoon, 1990; see also Scherer, 1979a). When encountering a persuasive message, a recipient will try to determine its intended meaning on the basis of all the available information, including relevant speech norms, the message's content and the communicator's verbal and nonverbal behaviors

(Krauss, 1987). If the speech conforms to normative expectations, the recipient may evaluate the communicator positively and be more receptive to the persuasive message (Burgoon, 1990), but if it falls outside the acceptable normative range for a member of the speaker's category, the receptivity will be lowered. For example, because women typically possess less power than men, people may expect them to employ less assertive and more indirect strategies in attempting to influence men. As a result, women who speak in an expectancy-congruent tentative style may have greater persuasive effectiveness with men than women who speak assertively.

Research supports this view. Carli (1990; see also Lakoff, 1973; Mulac & Lundell, 1982; Quina, Wingard, & Bates, 1987) has found that women tend to speak more tentatively in persuasive communication than men (to use more hedges, question tags and disclaimers), particularly when they are communicating to a male audience, and female communicators are more persuasive with a male audience when they speak tentatively than when they speak assertively. Similarly, Burgoon and Stewart (1974) found that men who use fewer intensifiers and women who use more intensifiers are less persuasive than those who conform to the gender norms regarding language intensity. (See the section on Language and Gender for a discussion of gender differences in language use.)

The recipient's own patterns of language use may also moderate the relation of the communicator's language and persuasion. According to speech accommodation theory (Giles, Coupland, & Coupland, 1991), similarity in language use between communicator and recipient reduces the perceived psychological distance between communicator and recipient, and this in turn can lead to greater receptivity to persuasive communication. Persuasive effectiveness has been shown to be positively related to perceived communicator-recipient similarity in language intensity (Aune & Kikuchi, 1993), lexical diversity (Bradac et al., 1977), and speech rate (Street & Brady, 1982; Street, Brady, & Putnam, 1983).

However, more recent research suggests that the relation of language and persuasion is more complicated. Although a communicator's language can influence perceived credibility, linguistic style also can affect the comprehensibility of the persuasive message. Communicators who speak rapidly may be judged more credible than those who speak at a normal rate, but their rapid speech may adversely affect the clarity of their messages (S. Smith & Shaffer, 1995). Similarly, although a communicator 's credibility may be reduced by frequent use of intensifiers (e.g., *really, very*), hedges, hesitations, and tag questions, these rhetorical devices also may enhance message clarity (M. Hamilton, Hunter, & Burgoon, 1990) and inhibit positive and negative thoughts about the message (Gibbons, Busch, & Bradac, 1991). In these examples, the same speech behavior can have a positive effect on perceived speaker credibility and negative effects on message comphrensibility or cognitive responding. As a result, it is difficult to specify in the abstract how a given speech variable will affect attitude change in any specific instance (e.g., Gibbons et al., 1991; Hosman, 1989; Miller & Burgoon, 1977; Woodall & Burgoon, 1983).

When effects of speech cues and message content are considered together, the effects of speech cues on attitude change may be limited. In such process approaches to persuasion as Petty and Cacioppo's (1981, 1986) elaboration-likelihood model or

Chaiken, Liberman and Eagly's (1989) heuristic systematic model, information conveyed by variations in speech cues is considered heuristic or peripheral—i.e., not directly relevant to the argument strength of the persuasive message (see also chapters by Petty & Wegner and Eagly & Chaiken in this volume). For persuasive message's that are easily understood and personally relevant to the recipient, the strength of the arguments will have a greater effect on the recipient's attitude than will peripheral cues (e.g., Maheswaran & Chaiken, 1991; Petty & Cacioppo, 1984). Thus, the effects of speech cues on the recipient's source credibility and attitude is likely to be attenuated when the message recipient has sufficient capacity and motivation to process information relevant to the merits of the advocated position. Unfortunately, except for a few studies (e.g., Gibbons et al., 1991; Giles, Henwood, Coupland, Harriman, & Coupland, 1992), the role of language variations in attitude change has not been systematically examined within the context of process models of persuasive communication.

Effects of Language Use on Communicators' Attitudes

Although attitude change research has been concerned primarily with the effects persuasive messages have on their recipients, a persuasive message also may influence the attitudes of the person who produced it. The effects of language use on a speaker's attitudes have been examined in a small number of studies, and findings are generally consistent with ideas about the relation of language use and cognition outlined above: describing an attitude object can evoke a linguistic representation of the attitude object, and bias the speaker's subsequent representation of (i.e., attitude towards) the attitude object.

In a series of experiments, Eiser and his colleagues (Eiser & Ross , 1977; Eiser & Pencer, 1979) instructed some subjects to write essays on capital punishment containing words that were pro-capital punishment and negative in connotation (e.g., *irresponsible, indecisive, romanticising*) and others to include words that were anti-capital punishment and negative in connotation (e.g., *barbaric, uncivilized*). Based on a subsequent assessment, subjects' attitudes toward capital punishment changed in the direction of the words they had included in their essays. Analogous results have been obtained by T. Wilson and Schooler (1991; T. Wilson et al., 1993), who had subjects choose one item from a set of alternatives (brands of jam, college courses, or wall posters). Compared to their no verbalization controls, choices of subjects instructed to verbalize the reasons for their choices were suboptimal (relative to expert opinion), and biased in the direction of the reasons they had generated. T. Wilson and Schooler (1991) suggest that people asked to describe the reasons for their preferences may tend to focus on attributes of the attitude object that are easy to verbalize. As a result, the reasons they generate may not be representative of the actual sources of their initial attitudes.

Such effects of language use on attitude change appear to be relatively short-lived. After six days, Eiser and Pancer's (1979) subjects had reverted to their original attitudes toward capital punishment. Similarly, after 25 days subjects in T. Wilson et al's. (1993) verbalization condition were more likely to regret their choices than the no verbalization controls. On the other hand, studies by Higgins, McCann and their colleagues found effects of language use on attitudes toward a fictitious individual

increased over time (e.g., McCann, Higgins, & Fondacaro, 1992). It may be that the modified attitudes in the Eiser and Pancer and T. Wilson et al. studies eroded over time as the individual assimilated counter-attitudinal information in the course of day-to-day experiences. Subjects in the McCann et al. studies were unlikely to encounter counter-attitudinal messages.

Language and Interpersonal Relations

When people interact, the nature of their interpersonal relationship is manifested in a variety of ways: by the distance they stand from each other, their postures, their facial expressions, how much they gaze at one another, and so forth. It also is implicit in the language they use. The expression of relationship in speech can be quite subtle. For example, speakers can adjust certain parameters of their speech to make it more similar to that of their conversational partners, but the adjustment (or accommodation, as it is called) is neither automatic nor always symmetrical. Generally speaking, higher status and more powerful individuals accommodate less than their lower status, less powerful co-participants (Giles, Mulac, Bradac, & Johnson , 1987; Giles et al., 1991; Gregory & Webster, 1996; Thakerar, Giles, & Cheshire, 1982; see Ng & Bradac, 1993 for review). Relationship is also manifested in lexical choice—particularly in the terms people use to address each other. Two related areas in which lexical choice reflects the relationship of language use and interpersonal relations will be considered: address modes and politeness.

Address Modes

All languages provide speakers with a variety of forms to use in addressing another. In the course of a day, an American college professor named Joan Smith might be called "Professor Smith," "Ms. Smith," "Joan," "ma'am," etc., each form reflecting a somewhat different conception of the relationship of speaker and addressee, and a different definition of the situation (Ervin-Tripp, 1972) . P. Brown and Fraser (1979) review the ways in which situational definitions are marked by usage forms. Certain occasions may require the use of formal titles: Joan Smith may be addressed as "Professor Smith" at a meeting of the university senate by everyone, including a colleague who had greeted her earlier with "Hi, Joan." Regardless of situation, however, a speaker's choice of address form is constrained by his or her relation to the addressee—unlike Smith's colleague, the student delegate to the university senate probably would continue to address her as "Professor Smith" after the meeting had adjourned.

Many languages require a speaker to choose among second person pronouns when addressing another person, and often the choice must be based on an assessment of the speaker's and addressee's relationship. English is unusual because iy has a single second person pronoun, having lost it's earlier singular and plural forms *(thou* and *ye). You* is used for both nominative singular and plural, and for both intimate and distant relationships. Many languages closely related to English have an intimate (T) and a

formal (V) form of the second person pronoun, and Japanese provides a variety of choices that range from formal and polite to extremely derogatory (Harada, 1976).

In a now-classic paper, R. Brown and Gilman (1960) studied the social-relational factors that underlie speakers' choice of the T or V form, examining usage in plays and literature, through responses to questionnaires and interviews, and observation of interaction (see also R. Brown Ford, 1961) . They concluded that two interpersonal dimensions account for language users' choice of T or V—the speaker's and addressee's relative statuses, and the social distance that separates them. They called these dimensions *power* and *solidarity.*

The conventions governing the usage of T and V pronouns have changed considerably over the last few hundred years, perhaps mirroring changes in the societies in which the languages are spoken. The form itself derives from 4th century BC Latin, when the convention of using the plural form *(vos)* for the Roman Emperor was established.[8] Gradually the practice was extended to nobility and others who exercised power, and, over time, to high status individuals more generally. Initially, T and V marked the *addressee's* status: Regardless of the speaker's status, upper class addressees were called V, and lower class were T. A bourgeois Frenchman would call his wife V, and a waiter T; the waiter would call his bourgeois customer V, and his wife and other waiters T.

However, the T form gradually came to express the intimacy of the speaker's and addressee's relationship, in addition to their relative statuses: Upper class speakers would address close friends and family members as T rather than V. Over the course of the last hundred years, the solidarity dimension has come to dominate the status dimension: In contemporary France, waiter and customer address each other as V. Of course, usage conventions vary somewhat by subgroup. In the 1960's, R. Brown and Gilman found a significant positive correlation between French university students' radicalism and the breadth of their self-reported T usage.

Hooks (1984) suggests that for English-speakers the use of titles and first names serves the same function that choice of second person pronouns serve in other languages. However, as several generations of graduate students have found from conversing with faculty members, it is possible to hold a lengthy conversation without ever addressing one's partner by name; it is considerably more difficult to avoid using the second person pronoun. Distinctions in address forms often are used by members of a linguistic community to mark the quality of interpersonal relationships, but the particular conception of interpersonal relations is culturally determined (Friedrich, 1966;

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[8]See Brown (1965 for a discussion of the evolution of the T and V forms. According to Williams (1975), English speakers adopted the practice of using *you* to mark status and *thou* to mark solidarity, in 13th century, in imitation of the upper status Norman French speakers. However, *thou* could also be used as a mark of contempt, which is the point of Sir Toby Belch urging Sir Andrew Aguecheek to write a challenging letter that would: "…taunt him with the license of Inke; if thou thou'st him some thrice, it shall not be amisse" (Shakespeare, *Twelfth Night*, III, ii). By the beginning of the 18th century, *thou*/*thee*/*thy* were no longer used by educated English speakers, although they are still part of the vernacular in some parts of England.

Wierzbicka, 1985, 1986). For example, in Australian English abbreviated forms of first names often end with the consonant -*z* —"Marz" for "Mary," "Baz" for "Barry," and "Caz" for "Caroline" or "Catherine." According to Wierzbicka (1986), the suffix may be used to mark affectionate relationships, but the -*z* form is not simply the Australian version of the standard practice in British or American English of truncating first names ("Susan" --->"Sue" or "Pamela" --> "Pam"). Unlike "Sue" or "Pam," "Marz" or "Gaz" are exclusively address forms, and normally would not be used to refer to someone. An Australian might introduce someone as "Sue Smith," but not as "Suz Smith," and Ms. Smith might answer the phone with "Sue speaking," but not "Suz speaking." Nor, according to Wierzbicka, is the -*z* abbreviation the Australian equivalent of English diminutives like "Suzie" or "Pammie." Whereas the latter are used to express the kind of positive feelings would feel toward young children, the -*z* form expresses a more adult quality of positive affect.

Politeness Theory

Both requests and orders (or directives) are attempts to induce others to do something. They differ in what they presuppose about the relationship of speaker and addressee. Underlying a directive is the presupposition that the speaker is entitled to issue an order, and that the addressee has a social obligation to comply—a property of a relationship characterized by asymmetrical status or power. A request carries with it the presupposition that the addressee has a right to refuse, and must be made in a way that preserves the illusion that refusal is a possibility. By varying the extent to which a request allows for alternative courses of action, compliance can be seen as voluntary. The linguistic form of the utterance plays a role in this. Requests formulated as direct speech acts ("Lend me a pencil") constrain the addressee's response to a much greater extent than the same request formulated indirectly ("Do you have an extra pencil I could borrow?")

Variations in the linguistic form of requests can be seen as a manifestation of *politeness.* Politeness can be thought of as behavior that has its origin in an implicit agreement by interactors to respect each others' *face*—i.e., the claims each implicitly makes about who they are and the role they will play in the interaction (Goffman, 1959). Other things being equal, indirect requests are judged to be more polite than their direct versions (Francik & Clark, 1985; Gibbs, 1986; Holtgraves & Yang, 1990) . P. Brown and Levinson (1978 contend that politeness is reflected universally in linguistic form, and propose a model of the abstract principles underlying polite usages based on the detailed study of three unrelated languages and cultures: Tamil (a non-Indo-European spoken in southern India), Tzeltal (spoken by Mayan Indians in Mexico); and English (as spoken in the U.S. and England). P. Brown and Levinson claim that in all three of these cultures (and, by extension, universally) speakers take the same three factors into account in calculating how a request should be formulated: (1) the magnitude of the request (i.e., the burden that compliance would impose on the addressee); (2) the status of the speaker relative to that of the addressee; and (3) the closeness of the speaker-addressee relationship. According to P. Brown and Levinson, the greater the burden the request imposes, the more politely (i.e., indirectly) the request must be formulated. However, the requirement of politeness is mitigated

when the speaker's status is high relative to that of the addressee, and when their relationship is intimate.

The politeness of a request must be calibrated for the particular situation in which it is made. A request made in an insufficiently polite form will be perceived as rude, but a excessively polite request made for something the addressee is expected to do may be judged to carry some additional meaning—e.g., sarcasm. The instructor who says "I wonder if it would be considered rude of me to ask the two students in the back row to postpone their obviously fascinating and important conversation until class is over" will be understood to be doing something more than politely asking the students to stop talking. Direct requests are perceived as appropriate when compliance places little burden on the addressee (Holtgraves & Yang, 1990).

Attempts to test the P. Brown and Levinson model empirically have produced mixed, but generally supportive, results. In an examination of dialogue in four of Shakespeare's plays, R. Brown and Gilman (1989) found that politeness increased with the addressee's status and the extent to which the act was face threatening. Although social distance did not influence politeness, interpersonal affect did: speakers spoke more politely to addressees they liked than to those they disliked. This latter finding underscores Slugoski and (1988) observation that P. Brown and Levinson's concern with face-maintainance has lead them to focus on interactions that are affectively positive or neutral. Of course, not all interactions are so agreeable; in some, people go out of their way to say things that are hurtful, demeaning and face-threatening. Slugoski and Turnbull studied subjects' perceptions of compliments and insults in fictitious vignettes, and found that politeness phenomena such as those described by P. Brown and Levinson are characteristic of dyads with affectively positive relationships. Judgments of a comment's intended meaning depended upon whether or not speaker and addressee liked one another: Statements that were literal insults were more likely to be understood nonliterally when the addressee was liked. On the other hand, literal compliments were seen as more likely to be nonliterally intended when the addressee was disliked. Like R. Brown and Gilman, Slugoski and Turnbull found that social distance did not affect the interpretation of insults.

Request size, relative status, and (perhaps) social distance contribute to the determination of an appropriate level of politeness, but they do not appear to combine additively. Using data from both American and Korean subjects, Holtgraves and Yang) found interactions among the three factors' contributions to request politeness, and both cultural and gender differences in their weightings (see also P. Brown, 1993; Johnstone, Ferrara, & Bean, 1992) . As Slugoski and Turnbull (1988 point out, although the Brown-Levinson model was formulated to predict the degree of polite usage, the parties' relative status can equally well be predicted from a knowledge of the request magnitude, the politeness level and the dyad's social distance. Holtgraves and Yang (1990) find that both American and Korean subjects judge the speaker's relative status to be inversely related to the politeness of the request form.

Language and Social Perception

Speech contains information about the social categories to which a speaker belongs, and serves as a rich source of data for impression formation. Research on the topic dates back to the early days of radio, when Pear (1931) had BBC listeners provide personality profiles of speakers from their broadcast voices. In Pear's study, as in the dozens that followed, considerable agreement was found among subjects' ratings of speakers' personality. Generally speaking, however, only modest correlations have been found between these ratings and ratings made by people who actually know the speakers. Apparently we have well developed stereotypes of how particular types of people are supposed to sound that, like other kinds of stereotypes, have little basis in fact. Giles and Powsland (1975) provide a useful review of research in this area.

Inferring Social Categories from Speech

Although George Bernard Shaw was not the first to observe that the words we use (and the way we articulate them) mark the social categories to which we belong, his play *Pygmalion* popularized public awareness of how the way we speak is related to the person we are perceived to be. His fictional phonetician Henry Higgins could reconstruct a speaker's personal history from a mere snippet of speech. However, Shaw was less interested in Higgins's esoteric talent than in the way speech defines another's social categories for the average, untutored person. The social significance of this fact for Liza Doolittle was far reaching. As Higgins said:

> You see this creature with her kerbstone English: The English that will keep her in the gutter to the end of her days. Well, sir, in three months I could pass that girl off as a duchess at an ambassador's garden party. I could even get her a job as a lady's maid or shop assistant, which requires better English (Shaw, 1951, p. 28).

Quite independently of what we say, our speech tells others a great deal about us: our age, gender, geographic origin, socioeconomic status, and even (albeit imperfectly) our size. Anatomical and physiological changes that occur in the course of development are reflected in acoustic properties that make it quite easy to distinguish a toddler's voice from that of an adolescent, or a young adult from a senior citizen (Kent & Burkard, 1981) . Vocal cues to gender are partly phonetic, a consequence of differences in male and female vocal tracts, and partly matters of social norms: in some settings women and men are expected to employ different speech styles reflected in differences in syntax, pronunciation and vocabulary. (See Ladefoged (1967) and Laver (1980) for a description of the mechanisms responsible for voice quality.)

Perhaps the most important index of identity in speech is dialect. Dialect is reflected at all levels of linguistic organization. Minor variations are observed in syntax (compare "Ask him does he want a cold drink," heard in the Southern U.S. with "Ask him if he wants..." heard most other places) and lexicon (what is called a "bag" in the Eastern U.S. often is called a "sack" in the Midwest, and vice-versa). But the most significant variation occurs at the phonological level, and is reflected in what is referred to as *accent.* As Williams observes

> Perhaps more than any other characteristic, our accent assigns us to a geographical area, to a social class in that area. It tells a listener whether we are being formal or informal, casual or intimate. We judge and are judged by how we pronounce our words (J. Williams, 1975, p. 301).

Regional dialects, which reflect speakers' geographic backgrounds, often are thought to be degenerate variants of a standard version of a language, but to linguists all versions of a language are dialects, although some may be more prestigious or acceptable in certain contexts than others. Indeed, the distinction between a dialect and a language can't be specified with any precision. There are many cases of different "languages" that are mutually intelligible to virtually all speakers (e.g., Spanish and Portuguese), while, on the other hand, speakers of two "dialects" of the same language (e.g., Cantonese and Mandarin Chinese) may have great difficulty understanding one another. For such reasons, many linguists contend that the distinction between language and dialect is political rather than linguistic, and a not-entirely-facetious definition of a *language* is "a dialect with an army." Although regional dialects point to a person's geographical origins, regional stereotypes of a region's inhabitants are not uncommon ("Scots are penurious," "New Yorkers are rude," "Southerners are lazy"), and can affect the evaluations of speakers whose dialects identify them as coming from a particular region.

Apart from gender, perhaps the most important dimension of social identity that one's speech discloses is social class. Class variation in language use occurs in most societies (Guy, 1988) , and it is surprising how discerningly listeners can utilize such variations to identify a speaker's socioeconomic status. Naive subjects' judgments of SES, based on hearing speakers read a brief standard passage, are highly correlated with measured SES, and even so minimal a speech sample as counting from 1-10 yields reasonably accurate judgments (D. S. Ellis, 1967) . Generally speaking, lower-class speakers are judged less favorably than middle-class speakers (Smedley & Bayton, 1978; Triandis & Triandis, 1960) , and middle-class judges perceive themselves to be more similar to middle-class speakers than to lower class speakers (Dienstbier, 1972). The biassing effects of ethnic accents on evaluations (e.g., Spanish-English in the U.S., French-English in Canada, Welsh-English in the U.K.) may be mediated by assumptions listeners make about the speaker's social class (Lambert, Hodgson, Gardner, & Fillenbaum, 1960; Ryan & Sebastian, 1980). Giles and Powsland (1975 review the evidence for several languages and cultures.

Inferring Personality from Speech

Several studies have tried to identify the person characteristics that listeners infer from the language that speakers use (see Bradac, 1990; Giles & Street, 1994 for reviews). Typically in these studies, speech characteristics are manipulated experimentally, and subjects evaluate the speaker along such common person perceptual dimensions as competence and sociability.

Overall, speakers with rapid speech rates are judged favorably on the dimensions of competence, sociability and trustworthiness (N. Miller et al., 1976; Street

& Brady, 1982; Street et al., 1983). Long silent pauses and long response latencies tend to lower evaluations of competence (Baskett & Freedle, 1974; Scherer, 1979b), whereas perception of dominance appears to increase with utterance length (Palmer, 1989; Scherer, 1979b). The relationship between vocal pitch and social inference is less straightforward. Apple, Streeter and Krauss (1979) found that elevated fundamental frequency could result in perceptions of deceit and emotional instability, but Scherer, London and Wolf (1973) report that speakers with higher vocal pitch level were perceived as more competent and dominant. The results of these two studies cannot be compared directly because in the Apple et al. study fundamental frequency and speech rate were manipulated electronically. while the Scherer et al. study used selected speech samples with naturally-varying pitch. Finally, conversationalists tend to adapt to each other's communicative behaviors by becoming more alike in a wide range of prosodic and coverbal features, including pronounication, pitch patterns, speech rates, pause and utternance duration and vocal intensities (see Giles et al., 1991 for review), and those who adjust or accommodate their communicative actions are generally seen as more attractive socially but lower in social status than those who do not accommodate (Giles & Smith, 1979; Gregory & Webster, 1996; Street, 1982; Street & Brady, 1982; Street et al., 1983).

Some limitations of this work are worth noting. Because most of the studies were not theoretically motivated, and predate recent theoretical developments in social perception (Higgins & Bargh, 1987), they cast little light on the processes that link linguistic features to personality inferences (see McCann & Higgins, 1990). Perhaps the most serious limitation derives from the failure to provide an adequate of the role of context in the social inference process. Recent work on the contextual nature of social inferences (Shoda & Mischel, 1993; see also Gilbert's chapter in this volume) indicates that inferences from linguistic features may be modified when relevant contextual information is introduced (see Bradac, 1990). For example, slow speech rates do not lead to devaluation of the speaker's competence when the speaker is known to be delivering a technical talk to listeners who are unfamiliar with the topic (B.L. Brown, Giles & Thackerar, 1985), frequent internal pauses do not result in negative evaluations of the speaker when the speaker is known to be simultaneously engaging in a perceptual-motor task (Newman, 1982), and long response latencies can lead listeners to judge a speaker is being honest when the response runs contrary to the speaker's self interest (Kraut, 1978).

Effects of Language Use on the Speaker's Person Cognition

Two somewhat different lines of research have examined how language use affects a speaker's person cognition. One focuses on the way descriptions of a target person vary with the communication context and how different descriptions evoke different mental representations of the target person, thereby influencing subsequent impressions of the target person. The other line of research has focused on how causal information the is implicit in different verb types can bias the perception of an interpersonal event.

Language, communication and person cognition. In formulating a message, a speaker will take the audience's knowledge, beliefs and attitudes into account (H. Clark

& Carlson, 1981; H. Clark & Marshall, 1981; H. Clark & Murphy, 1982; Fussell & Krauss, 1989a, 1989b; McCann & Higgins, 1992). Effects of audience design on message formulation and person cognition were examined in a previously-described study in which subjects formulated messages about an ambiguously described target person for an audience who either liked or disliked him (Higgins & Rholes, 1978; see also Zajonc, 1960). As might be expected, subjects' descriptions were distorted in a direction consistent with the audience's attitude, but more interestingly, their impressions of the target, assessed some time later, also were evaluatively consistent with the contents of the message. This finding has been replicated and extended by Higgins, McCann and their associates (Higgins & McCann, 1984; Higgins, McCann, & Fondacaro, 1982; McCann et al., 1991; see also Sedikides, 1990).

More recently, T. Wilson, Hodges and LaFleur (1995) had subjects read mixed (positive and negative) behavioral descriptions of a person, and then articulate reasons for liking or disliking that person. Positive or negative behavioral information, made cognitively accessible to subjects immediately before verbalization, affected subsequent impression of the target: subjects liked the target more when positive (rather than negative) behavioral information had been made accessible. In a control condition in which subjects memorized the behavioral descriptions instead of verbalizing the reasons for their attitudes, the accessibility manipulation had no effect on subsequent impressions of the person.

Such studies indicate that elements of the communication context (e.g., the attitudes of the audience) and contextual cues that make certain behavioral information accessible that affect how the speakers' describe others, can affect speakers' subsequent impressions of the people they describe.

The way speakers describe others also depends on the availablility of suitably descriptive entries in their lexicons. English lacks good equivalents for certain terms Chinese use to describe personality (e.g., *shi gu* -- meaning experienced, devoted to the immediate family, and competent in dealing with difficult interpersonal situations), just as some English personality terms (e.g., *liberal*) cannot easily be rendered in Chinese. Hoffman, Lau and Johnson (1986) presented Chinese-English bilinguals and English-speaking monolinguals with descriptions of people who either were readily describable by Chinese (but not English) personality terms or by English (but not Chinese) personality terms. The bilinguals either read a Chinese version of the descriptions and were encouraged to think in Chinese, or read an English version of the same descriptions and were encouraged to think in English; the English-speaking monolinguals read the English version. Compared both to the bilinguals using English and to the monolinguals, bilinguals using Chinese made more inferences that were congruent with the Chinese personality terms in response to descriptions of high Chinese codability, and fewer inferences congruent with the brief English personality terms in response to descriptions of high English codability. These results suggest that some effects of person schemata on social perception may be mediated by language use.

Linguistic category and implicit causality. The first observation of the phenomenon that has come to be called *implicit causality* was made by Gilson and Abelson (1965), who were studying the process of inductive generalization. To their

surprise, they found that subjects' willingness to accept a generic assertion based on inductive evidence was a function of the verb used in the assertion. Garvey and Caramazza (1974) later reported that for a sentence of the form *Person A verbed Person B*, the particular verb used determined whether the grammatical subject (Person A) or the grammatical object (Person B) would be seen as the causal agent of the action. Social psychologists studying the phenomenon (e.g., R. Brown & Fish, 1983) have suggested that implicit causality in verbs may reflect some basic principles of human cognition that govern interpretations of interpersonal events. (For an informed review of research on implicit causality, see Semin, in press.)

The same interpersonal event can be characterized by a variety of different types of interpersonal verbs. For example, "Jim carried his friend's luggage," "Jim helped his friend," or "Jim is helpful" all could be used to describe the same specific incident. Each type of verb is assumed to be marked with rich implicit meanings, and when a particular verb type is used to describe an interpersonal event, it evokes a mental representation of the event consistent with those meanings (Semin & Fiedler, 1992).

R. Brown and Fish (1983) provided the first taxonomy of interpersonal verbs by distinguishing between state verbs and action verbs. A state verb depicts a stimulus-experiencer relation as in "Ted amuses Paul," where Ted is the stimulus and Paul is the experiencer, or in "Ted likes Paul," where Ted is the experiencer and Paul is the stimulus. An action verb depicts an agent-patient relation, as in "Ted helps Paul," where Ted is the agent and Paul is the patient. State verbs and agent action verbs convey different kinds of implicit causal information. When English-speakers encounter a sentence with a state verb ("Ted amuses Paul"), they tend to attribute the state to the stimulus (Ted is amusing vs. Paul is easily amused); on the other hand, when they encounter a sentence with an action verb (e.g., "Ted helps Paul"), without any other information, they will tend to see the agent as the cause of the action (e.g., Ted is helpful vs. Paul needs help). One of the possibilities R. Brown and Fish considered (but later rejected) is that implicit causality is a consequence of English morphology. When dispositional forms are derived from state verbs (e.g., *like-likable, disdain-disdainful*), they more often are used to characterize the stimulus (as in *He likes her. -- She is likable,*) and than the experiencer (as in *He disdains to sit with us. -- He is disdainful.*). By contrast, when dispositional forms are derived from action verbs (e.g., *defy-defiant, avoid-avoidable*), the dispositional forms are usually used to characterize the agent (as in *They defied their parents and got married. -- They were defiant*) and seldom used to characterize the patient (as in *He cannot avoid her -- She is unavoidable*).

For state verbs, the state is more frequently attributed to the stimulus than to the experiencer; for action verbs, the action is more frequently attributed to the agent than to the patient. Moreover, in sentences with state verbs, the stimulus is judged likely to induce the same state in other people, and the experiencer was judged unlikely to experience the same state with other people. In sentences with action verbs, the agent is judged likely to treat others the same way and the patient is judged unlikely to receive the same treatment from others (R. Brown & Fish, 1983).

Given sentences with state verbs, subjects tend to attribute the state's antecedent condition to the stimulus, and to believe the experiencer would do something in response to the state the stimulus induced. Similarly, given sentences with action verbs,

subjects tend to attribute the antecedent condition to the patient (e.g., the patient asked for help), and to believe that the patient would do something in response to the agent's act (e.g., thank the agent) (Fiedler & Semin, 1988). Kasof and Lee (1993) contend that different verb forms induce differential salience of actors and agent, or stimulus and experiencer, and that this difference in salience mediates the attributions of causal agency. They found that subjects tend to focus on the agent rather than than on the patient when reading sentences with action verbs, and on the stimulus rather than on the experiencer when reading sentences with state verbs. Studies using more indirect measures (multidimensional scaling of interpersonal verbs and on-line reading comprehension) also have found that language users are sensitive to the implicit causal meanings marked in different verb types and can spontaneously decode these implicit meanings (Au, 1986; Greene & McKoon, 1995).

How does describing an interpersonal event with different verb types affect mental representations of the event? In a series of studies, Semin and Fiedler (1988) differentiated between action verbs that are descriptive and those that are interpretive. Descriptive action verbs (e.g., *call*, *kiss*) refer to a relatively narrow range of activities, and interpretive action verbs (e.g., *help*, *cheat*) refer to general classes of behaviors. Along with state verbs and adjectives, descriptive and interpretive action verbs can be placed on a continuum that ranges from concrete to abstract characterizations of behavior. Descriptive action verbs anchor the concrete end of the continuum, followed by interpretive action verbs and state verbs. Adjectives fall at the abstract pole (see also Semin & Fiedler, 1991; Fiedler, Semin, & Bolten, 1989). Characterizing concrete behaviors in terms of abstract linguistic categories attenuates the perceived causal contribution of situational factors and enhances the perceived contribution of dispositional factors (Semin & Greenslade, 1985; Semin & Fiedler, 1988).

Attributions of causal agency also are affected by social factors in the situation. The valence of an interpersonal action verb affects who will be perceived as its cause; generally speaking, agents are more likely to be seen as the cause of negative than of positive actions (Franco & Arcuri, 1990; LaFrance & Hahn, 1993) , perhaps because positive actions are frequently perceived to be a response to situational norms. Causal attribution also is influenced by the agent's and patient's genders. A female agent is more likely to be perceived as the cause if the patient is a female; for male agents, the patient's gender does not affect perceived causality (LaFrance & Hahn,1991). Apparently females tend not to be seen as causal agents of actions affecting males.

It is evident that language users are sensitive to the meanings implicit in different types of interpersonal verbs, and that the choice of interpersonal verb used to describe an event has cognitive consequences. What is less clear is how language users extract these implicit meanings.

One possibility, a version of Brown and Fish's morphological explanation advanced by Hoffman and Tchir (1990), posits that interpersonal verbs activate associated dispositional (adjectival) forms in long-term memory. The language user assigns causal weights to either the stimulus or the experiencer, depending on whether the dispositional form applies to the agent or the patient. Dispositional adjectives that derive from action verbs apply mainly to the agent rather than the patient (Stanley *helps* Walter --> Stanley is *helpful)* , and dispositional adjectives that derive from state

verbs apply mainly to the stimulus (Carol *fascinates* David --> Carol is *fascinating).* Hence, language users are more likely to assign causal status to the agent than to the patient, and to the stimulus than to the experiencer. To test this idea, Hoffman and Tchir had subjects respond to a number of attribution measures after reading a simple sentence of the form "A verbed B." The verbs were either state or action verbs, and within each verb type half had a dispositional form attributable to the agent or stimulus (e.g., *obstructive, thrilling)*, and half had a dispositional form attributable to the patient or experiencer (e.g., *recommendable, obsessive).* The tendency to attribute cause to the agent was attenuated when the dispositional form of the action verb applied to the patient, and the tendency to attribute cause to the stimulus was attenuated when the dispositional form of the state verb applied to the experiencer. A priming manipulation (listing the dispositional forms of verbs just before filling out the attribution measures) increased the dispositional form's mediating effect.

The adequacy of Hoffman and Tchir's derived adjective explanation is drawn into question by Greene and McKoon (1995), who found that in an on-line reading comprehension task object-initiating verbs (mostly state verbs or interpretive action verbs) followed by the connective *because* made the grammatical objects (the initiators) more accessible than the grammatical subjects (the reactors). This difference was found regardless of whether the derived adjectives of the object-initiating verbs refer to the verbs' objects (e.g., *adore - adorable*) or to their subjects (e.g., *criticize - critical*). Greene and McKoon contend that initiating arguments are marked in interpersonal verbs and that the implicit causality of interpersonal verbs is directly comprehended.

Critics of implicit causality research have suggested that by focusing on such features of language as verb categories, investigators may be endorsing an inappropriately static conception of the relation of language use and person cognition. According to D. Edwards and Potter (1993), the causality implicit in an interpersonal verb can readily be negated by contextual information, as in the sentence "Playing the devil's advocate, Eileen criticized Debbie's proposal." Moreover, as Greene and McKoon (1995) observe, comprehending a sentence like "George helped his friend" is quite different from observing George actually carrying his friend luggage. In comprehending the sentence, the semantic meaning of *helped* is relevant. However, to the observer of the behavior, the semantic properties of *help* versus *helpful* are irrelevant unless the verb *help* is used to describe George's behavior.

Is an interpersonal verb's causal implications an intrinsic part of its linguistic meaning, or is it an inference that may or may not be drawn, depending on circumstances? Semin and Marsman (in press) argue that listeners can draw inferences from interpersonal verbs on a variety of dimensions (e.g., the perceived temporal duration of the action or state, how enduring a quality it implies, its affective consistency, etc.); causal agency is only one of them. Although researchers have assumed that interpersonal verbs automatically trigger inferences about causal agency, Semin and Marsman suggest that they are themselves a consequence of contextual factors (e.g., the question the subject is asked). If Semin and Marsman are correct, implicit causality researchers need to specify the aspects of the context that trigger inferences about causal agency.

Speakers' linguistic choices are affected by a host of factors, including their communicative intentions and the context in which communication occurs. An important challenge for implicit causality research is to specify the conditions under which speakers elect one or another verb type to describe their experiences. Two sets of studies have addressed this issue. One focuses on the role of implicit causality in intergroup perception, and is reviewed in the next section. The second set of studies was conducted by McGuire and McGuire (1986), who asked children and adolescents to talk about their school and family, and compared the verb types used in sentence segments that had "myself" or "other people" as their subjects. More state verbs and fewer action verbs were used when the self was described than when other people were described, suggesting that individuals may tend to think of (and/or communicate about) their own experiences in terms of concrete actions, and to think and communicate about others' experiences more abstractly, in terms of general dispositions (see also Fiedler & Semin, 1992; Semin & Fiedler, 1989; Semin, Rubini, & Fiedler, 1995).

Implicit causality research has enriched our understanding of the ways subtle aspects of word meaning can affect the mental representations of social events. Even richer insights can be anticipated from studies that examine how interpersonal verbs are used in contexts that more realistically mirror the situations in which people communicate.

Language and Social Identity

It seems obvious that the way a person speaks will mark that person's identity for others. What may be less obvious is that language also plays an important role in defining the speaker's identity for him- or herself. Social psychological research on language and social identity has focused on three issues: (1) The role of language as a marker of social identity, (2) The role of language in maintaining social identities, and (3) Listeners' evaluative reactions to information about the speaker's social identity conveyed in speech.

Language as a Marker of Social Identity

In a recent TIME/CNN poll, 65% of 1000 American respondents supported legislation to make English the "official language" of the U.S. The poll's results reflect increasing support over the last decade for such public measures as the exclusive use of English in classroom (Hornblower, 1995; see also Padilla et al., 1991 for a discussion from a psychological perspective) and for laws requiring that commercial signs be in English. In no small part, the English-only movement is motivated by the assumption that widespread use of languages other than English in the U.S. promotes ethnic divisiveness. This view was explicitly cited by Robert Dole as justification for his support of English-only measures in his Presidential campaign. "We must," Dole said, "stop the practice of multilingual education as a means of instilling ethnic pride or as a therapy for low self-esteem" (Hornblower, 1995).

Although the advisability of establishing an official language is a complicated matter with political, sociological and economic ramifications that go beyond the scope of this chapter, the debate raises several interesting questions that social psychologists have addressed. They include: Does speaking a "nonofficial" language reduce one's identification with the mainstream culture, and how important a role does language play in establishing people's identities?

The "ethnic pride" and "self-esteem" that Senator Dole referred to are elements of social identity, which, according to Tajfel (1972), consists of individuals' knowledge of their group membership and the emotional significance they attach to that knowledge. In this conception, self-identity can be thought of as a knowledge structure individuals use to categorize themselves. Because language is an important basis for social categorization, it is a consequential marker of social identities.

Giles, Taylor and their associates have used multidimensional scaling to compare the relative contributions that language, cultural background and geographical residence make to self- and social categorization. They examined the process in five groups: Welsh bilinguals from South Wales (Giles, Taylor, & Bourhis, 1977), English Canadians, French Canadians (Taylor, Bassili, & Aboud, 1973), Anglo-Americans and Franco-Americans (Giles, Taylor, Lambert, & Albert, 1976). In these studies respondents assessed the self and target persons who spoke different languages, resided in different geographical locations, and had different cultural backgrounds. For all groups, the language spoken was the most salient dimension of self- and ethnic identities. A similar study, conducted with Puerto Rican adolescents with limited exposure to other languages and cultures, found that the language spoken to be a salient (albeit not the most salient) dimension of ethnic identity (Giles, Llado, McKirnan, and Taylor, 1979). There can be little doubt that the language one speaks is an important dimension for both self- and social categorization.

Ethnographic research also underscores the importance of language as a basis for defining group membership. For example, Eastman (1985) has described how a social group's shared attitudes are coded in culture-specific vocabulary ("group talk") and how familiarization with "group talk" is required for group entry. In South Africa, individuals who were excluded from the ingroup for political reasons attempted to reaffirm their group membership by emphasizing language as an inclusive attribute for membership definition (Louw-Potgieter and Giles, 1987).

If social identity is a knowledge structure, and language is a marker of social identity, language variation could make particular social identities salient, thereby activating cognitive elements associated with them. There is evidence that this does occur. Chinese-English bilinguals' responses on a measure of Chinese values show greater identification with these values when the questionnaire is in English than when it is in Chinese (Yang & Bond, 1980). The importance the individual attaches to the values is a significant predictor of the strength of this language activation effect (Bond & Yang, 1982). When Cantonese-speaking Hong Kong Chinese, responding to a measure of traditional Chinese beliefs, received oral instructions in Mandarin (the official language of the People's Republic) they responded more like Westerners, compared to subjects who received instructions in Cantonese (Bond & Cheung, 1984). Mainlanders are generally seen as more traditional than Hong Kong Chinese, the Mandarin

instructions presumably activated subjects' Hong Kong identities. It seems clear that ethnic identities can be activated by the presence of an outgroup language.

There is an apparent conflict between these results and studies of language activation effects reviewed earlier in the section on language, cognition and culture. Those studies found that bilingual Chinese responded to questionnaire items tapping attitudes and Western values in a more "Chinese" manner when the items were presented in Chinese than when they were presented in English. These findings are similar to assimilation effects obtained in research on the relation of knowledge activation and social judgment (see Higgins, 1990) in which activation of a construct such as *aggressive* increases the likelihood that construct will be applied in subsequent judgments of an ambiguous behavior. The language activation effects described in this section resemble contrast effects frequently obtained in the social judgment literature (e.g., Herr, 1986; Martin, 1986; see also Martin & Achee, 1992), in which activation of a construct leads to an increased likelihood of applying the *contrastive* meaning of the construct in subsequent judgments (e.g., activation of *aggressive* increases the likelihood of viewing an ambiguous behavior as *not aggressive*). Assimilation effects are more likely to occur when research participants are unaware of the connection between the activation cues and the target responses, and contrast effects are more likely to occur when research participants are aware of such connection (Higgins, 1990).

We suspect that in studies finding assimilation effects, the connection between the questionnaire's language and the dependent measure (e.g., the relation of Chinese vs. English to dogmatism) was not obvious to the respondents, while in studies where a contrast effect was found, the connection between the questionnaire's language and the dependent measure (e.g., Chinese vs. English and endorsement of Chinese values) was clearer. Asking bilingual Chinese about the importance of Chinese values in English may have made salient the relation between language and group values. This, in turn, may have activated subjects' Chinese identities by changing their standards of judgment, seeing themselves as more Chinese than the English-speaking investigator (see Herr, 1986, for a discussion on change of standards as a mediator of contrast effects in social judgment). Subjects also may have tried to affirm their Chinese identities by endorsing Chinese values (Yang & Bond, 1980). Although more research will be required to identify the mechanisms that mediate the language activation effects, the experimental evidence supports the view that language can affect the individual 's social identity in concrete situations.

Some writers have been criticial of the view that social identity is supported by language, claiming that linguistic identification is not necessary for ethnic identification, and that acculturation inevitably leads to language shifts. For example, J. Edwards (1992) contends that many ethnic groups manage to maintain continuing solidarity long after they have lost the ability to speak their original group language. When an ethnic minority comes into contact with the dominant group, language shift or a decline in the ethnic group language tends to be accompanied by a failure to teach the native language to the younger generations, perhaps reflecting a decision to replace the group language with one that is perceived to be more prestigious and socially functional. Language shift typically is more rapid in ethnically diverse urban environments than in rural areas that afford less opportunity for contact with users of the dominant language. Finally, bilingualism often is a temporary stage in the process of language

shift that is replaced with dominant-language monolingualism in the course of a generation or two. Such observations suggest that language shift may be driven by pragmatic economic and social status concerns rather than by changes in social identification.

Edwards' argument, and others like it, conceive of acculturation as a unidimensional process: ethnic group members either retain their ethnic identity and reject the majority culture (i.e., espouse separation), or give up their ethnic identity in order to attain positive relations with the majority culture (i.e., espouse assimilation). Others have taken a multidimensional view of the acculturation process: Ethnic group members' decisions to retain or reject their ethnic identity is independent of their decision to maintain or not maintain positive relationships with the dominant group (Berry, 1980). Thus it is possible for ethnic group members both to have positive relations with the majority culture and to retain their ethnic language and identities.

There is some evidence that acculturation does not inevitably result in language shifts. A large-scale survey of English-dominant Americans of Mexican ancestry revealed that those who had adapted to the mainstream American culture by developing a strong family identity or a Chicano Raza identity were committed to transmitting Mexican traditions to their children (Gurin, Hurtado, & Peng, 1994; Hurtado, Gurin, & Peng, 1994). They also tended to assert the importance of speaking Spanish and to approve bilingualism. A survey of Canadians of Portuguese descent found that those who had a greater tendency to assimilate were less proficient in Portuguese; however, respondents who showed a desire to retain their ethnicity *and* to attain positive relations with the mainstream culture were *more* proficient in Portuguese (Lanca, Alksins, Roese & Gardner, 1994). This evidence suggests that ethnic identification is usually accompanied by linguistic identification, and that acculturation may not lead to erosion of linguistic identification. Consistent with this view, sociolinguistic research has documented the proposition that most social categories are marked by distinctive speech and nonverbal styles (see Giles, 1979; Helfrich, 1979; Robinson, 1979; P. Smith, 1979). Even ethnic groups that have lost their original group language may retain a distinctive ethnic speech style, and such speech styles can be important symbols of group identity (Giles, Bourhis, & Taylor, 1977).

Linguistic Contributions to the Maintenance of Intergroup Distinction

Speech divergence. Language use also can play a role in affirming one's social identity and maintaining intergroup distinction. Dialect and speech style are not fixed elements of an individual's language use, and vary depending on the social setting and the speech styles of the speaker's conversational partners. Even such straightforward parameters as pitch, loudness and articulation rate are influenced by other participants' pitch, loudness and rate (Bilous & Krauss, 1988; Natale, 1975a, 1975b) . Generally speaking, people's speech styles tend to *converge* (i.e., to become more like that of their partners), although there are circumstances in which *divergence* is found. Social psychologists studying intergroup communication have examined convergence and divergence in intergroup contexts as a function of speaker's social identities.

Although speakers from different social categories are likely to attenuate their distinctive ethnic speech styles and display speech convergence in order to reduce the psychological distance between themselves and others (e.g., Giles & Smith, 1979; Giles, Taylor, & Bourhis, 1973; H. Levin & Lin, 1988), they may react to identity-threatening circumstances by accentuating speech and nonverbal differences between themselves and members of the other group. In a study by Bourhis and Giles (1977), Welsh-born adults "overheard" the experimenter, speaking in a Standard English dialect, make a derisive comment about the Welsh language. Subjects who valued their group membership diverged linguistically by speaking more heavily Welsh-accented English; the speech of subjects who did not value their group membership converged. Speech divergence is more likely to occur in intergroup interactions when: (a) group identities are emphasized in the interaction (Bourhis, Giles, Leyens, and Tajfel, 1979), (b) the speaker anticipates non-cooperative or competitive interactions with outgroup members (Taylor & Royer, 1980; see also Doise, Sinclair, & Bourhis, 1976), (c) the outgroup participant is known to have negative attitudes toward the speaker's group language (Bourhis et al., 1979), and (d) the outgroup participants diverge into their group language first (Bourhis et al., 1979).

Social identity theory (Tajfel, 1974, 1982; Turner, 1981) provides a framework for interpreting such findings. The theory proposes that members of a group strive for positive social identities by engaging in social comparison on valued dimensions, and this process may lead them to search or create dimensions on which they will compare favorably with the outgroup. Speech divergence can be a strategy speakers use for making themselves psychologically and favorably distinct from outgroup members (Bourhis, 1979; Giles, 1977, 1978, 1979; Giles et al., 1977; Giles & Johnson, 1981; Hogg & Abrams, 1988). According to this view, social groups differ in their relative status or ethnolinguistic vitality. A social group has high status or ethnolinguistic vitality if its members speak a popular, widely respected language that has good representation in public institutions. Since the language of the more vital group is associated with higher social prestige, members of the more vital group are likely to display group divergence to maintain positive group distinctiveness.

The speech of members of the less vital group may converge or diverge depending on a number of factors. First, when members of the less vital group accept the intergroup status distinction as unchangeable, they may try to attain a more positive self-evaluation by using speech convergence as a way of becoming part of the more vital group. However, when membership in the less vital group is important to the individual's self-definition and self-evaluation (social identification), and when members of the less vital group believe that the existing intergroup status distinction is illegitimate or can be altered, they may seek to reaffirm their ethnic identities through speech divergence. For example, the identity of the Welsh adults in the Bourhis and Giles (1977) experiment described above was important to their self-definition, and they believed that the Welsh language could be revitalized (i.e., they believed that the vitality of Welsh relative to Standard English could be changed). As a result, when their Welsh identities were threatened, they used speech divergence as a symbolic act to reaffirm their Welsh identities.

Although social identity theorists regard speech divergence as a tactic of intergroup distinctiveness, direct evidence for its identity maintenance function is

lacking (Giles, Scherer, & Taylor, 1979). Social identity theory also assumes that speech convergence signifies intergroup accommodation: As members of different ethnic groups attenuate their group-specific speech characteristics in the course of conversation, the intergroup boundary becomes less salient and speakers accommodate to social psychological differences between themselves and outgroup members. In contrast, divergence in group-specific speech characteristics signifies that speakers are trying to distance themselves psychologically from outgroup members. However, the relation between speech convergence/divergence and psychological accommodation/differentiation often is far from straightforward. In the same conversation, speakers may diverge on some indices and converge on others (Bilous & Krauss, 1988). Moreover, depending on situational norms and the cooperative or competitive nature of the interaction, speech divergence may be positively evaluated or seen as appropriate (Doise et al., 1976; Van den Berg, 1986). Finally, depending on the interactional context and the conversationalists' interaction goals, speech divergence may or may not signify psychological differentiation (Thakerar et al., 1982). Indeed, in some conversational context, divergence on some features may signify psychological convergence (Bilous & Krauss, 1988).

Certainly further theoretical elaboration will be needed to specify how normative factors and meaning attributions influence speech divergence in intergroup contexts (Giles et al., 1991; McKirnan & Hamayan, 1983). Nevertheless, the fact that a threat to ethnic identity can prime speech divergence underscores the importance of language for the maintenance of social identity.

Linguistic categories and intergroup perception. Language use also can play a role in maintaining social identity by reinforcing intergroup perceptions (Maass & Arcuri, 1992). Speakers spontaneously use more state verb phrases and less interpretive action verb phrases when they describe behaviors of a stereotyped group (e.g., African-Americans) than when they describe the behavior of their own group (D. Hamilton, Gibbons, Stroessner, & Sherman, 1992). Since interpretive action verbs denote general classes of behaviors and are less abstract than state verbs, the finding of Hamilton et al. suggests that behaviors of stereotyped groups are more likely to be linguistically encoded in terms abstract qualities of group members rather than as acts those members performed. Significantly, the tendency to describe the behavior of members of other groups in abstract is not uniform across behaviors. Undesirable outgroup behaviors (and desirable ingroup behaviors) tend to be described with abstract verb types, while desirable outgroup behaviors (and undesirable ingroup behaviors) tend to be described with concrete verb types (Fiedler, Semin, & Finkenauer, 1993; Maass, Salvi, Arcuri, and Semin, 1989). This finding may help explain what Pettigrew (1979) has termed the *ultimate attribution error* -- the tendency to perceive positive ingroup behavior and negative outgroup behavior as reflecting enduring, dispositional qualities of group members, and to perceive negative ingroup behavior and positive outgroup behavior as reflecting the effects of situational inducement (see Hewstone, 1990 and Wilder, 1986 for reviews of this attributional phenomenon).

More recent studies (Maass, Milesi, Zabbini, & Stahlberg, 1995; Rubini & Semin, 1994) indicate that the linguistic intergroup effect is mediated by expectancies about group behavior. Specifically, people may hold differential expectations regarding behaviors of different social groups. When the group member's behavior is in accord

with these expectations, it will be encoded and described by more abstract verb types, but when the behavior is incongruent with these expectations, it will be encoded and described by more concrete verb types.

Finally, communication about outgroup members is characterized by lower linguistic diversity, compared to communication about the ingroup (Fiedler et al., 1993). Subjects descriptions of the opposite gender were more stereotypical and descriptions of their own gender more variable. This tendency may contribute to the perception of outgroup homogeniety (Park, 1986; see also Fiske's chapter in this volume).

Evaluative Reactions to Social Identity Information Conveyed in Speech

Because language variation within and between speech communities are important markers of the language user's social group memberships, perceivers can infer a speakers' group memberships from his or her voice and attribute characteristics associated with that inferred memberships. Literally hundreds of studies have examined attitudes towards such language variations (see Ryan & Giles, 1982 for review). Typically, in these studies subjects listen to recordings of bilingual speakers reading a passage in one of the target languages and to a translation of the same passage in the second target language, and evaluate the speakers' personalities. Subjects are unaware that they are listening to two readings of each of several bilinguals. The method, originally developed by Lambert (1967), is referred to as the *matched guise technique.*

Ratings of speakers' personalities can be organized into two evaluative dimensions: status and solidarity (Ryan, Giles, & Sebastian, 1982). The status dimension includes such attributes as *educated, rich, successful, competent* and *intelligent.* Evaluations along this dimension typically reflect the sociopolitical power of the associated linguistic group. Speakers of the dominant social group's dialect usually are judged more favorably on the status dimension than members of a linguistic minority group or speakers of nonstandard variants of the dominant group language (Brennan & Brennan, 1981; Callan, Gallois, & Forbes, 1983; Giles et al., 1992; Genesee & Holobow, 1989; Lyczak, Fu, & Ho, 1976; Mazurkewich, Fister-Stoga, Mawle, Somers, & Thibaudeau, 1986; Sebastian & Ryan, 1985).

The solidarity dimension includes such attributes as *trustworthy, friendly, kind* and *benevolent.* Minority group members typically rate speakers of their own language more favorably than speakers of the standard dominant group language on the solidarity dimension (Bond, 1985; Bourhis, Giles, & Tajfel, 1973; Giles et al., 1992; Hogg, Joyce, & Abrams, 1984; Lyczak et al., 1976). This pattern of evaluation is believed to reflect an attempt by the less powerful group to maintain the communicative functions and popularity of its language, at least in such informal interactional contexts as family and intimate relationships.

There are however notable exceptions to these generalizations. When group identification is strong, ingroup favoritism may dominate the listener's evaluations (see Ros, Can, & Huici, 1987). For example, Italo-Australians who identified themselves more strongly as Italians than Australians judged Italian speakers more favorably than English speakers on both status and solidarity, with the extent of ingroup favoritism

positively related to the strength of ingroup identification (Hogg, D'Agata, & Abrams, 1989). Similar results were obtained in Scotland by Abrams and Hogg (1987).

The research described above is largely descriptive in nature, and relatively little attention has been given to the psychological processes that mediate listeners' judgments (Giles & Ryan, 1982). The research by Hogg, Abrams and their associates suggests that apart from sociolinguistic variables (e.g., relative power and status of the social groups), listeners' judgments are mediated by the social identification processes and judgment goals in the intergroup context. Cognitive and affective variables may also play a role. For example, compared to speakers of a standard dialect, speakers with "foreign" accents are usually judged less favorably on both status and solidarity (Sebastian & Ryan, 1985). However, judges may find unfamiliar accented language more difficult to understand than a standard accent, and as a result experience negative affect (Sebastian & Ryan, 1985). The extent to which negative evaluations of accented language speakers are mediated by the negative affect associated with difficulties in comprehension is unclear. Recent research also reveals that group perception can be mediated by such cognitive processes as behavioral identification, social categorization and intergroup judgments (e.g., Fiske & Neuberg, 1990; see also Brewer and Brown's chapter on intergroup relations).

Finally, contextual factors are an important moderator of language attitudes. The strength of the matched guise technique is that it isolates the contribution of language variation to social inferences. However, the procedure also deprives listeners of other relevant contextual cues, and when contextual cues are introduced, the effects of language variations may be greatly attenuated. Indeed, there is some evidence to suggest that, independent of their own linguistic group membership, speakers will be more favorably judged if they accommodate to the language characteristics of the listeners (Koslow, Shamdasani, & Touchstone, 1994; Genesee, 1984), or conform to situational norms for communication (Genesee, 1984).

Language and Gender

Linguistic and Psychological Gender

Gender is an important concept both in linguistics and social psychology, but the term means different things in the two disciplines. In linguistics, gender refers to formal (grammatical) categories for nouns and noun-like words. (This usage retains the term's Middle English meaning of *kind,* reflected in such contemporary words as "genre" and "generic.") For social psychologists, gender is restricted to particular kinds or categories: namely, person categories that have their origins in a socially constructed view of human sexual dimorphism. For clarity, when the sense of gender is not clear from the context, the first concept will be referred to as *linguistic* or *grammatical gender,* and the second as *psychological gender*. (See the chapter by Deaux and LaFrance (this volume) for a discussion of psychological gender.)

Of course, linguistic and psychological gender are not entirely unrelated. Psychological gender is an important category for classifying people, and not surprisingly in many languages it determines the grammatical gender of certain nouns. At the same time, it is important to bear in mind that languages exist in which linguistic gender is based on properties unrelated to psychological gender (e.g., animacy vs. inanimacy), and that some languages have no gender inflections at all, even in their pronominal systems.

Some linguists distinguish between two types of linguistic gender: *grammatical gender,* which is formal, and *natural gender,* which is semantic (Quirk, Greenbaum, Leech, & Svartik, 1972. In languages with natural gender, a noun's gender is determined by its semantic features (e.g., male/female, animate/inanimate). In languages with grammatical gender, words referring to entities that have psychological gender (e.g., "boy," "aunt," "princess") usually fall in the appropriate gender classification.[9] However, all nouns in these languages are inflected for gender, so a noun's gender is for the most part unrelated to its semantic propertiers. For example, in German, a language with grammatical gender, "spoon" is masculine *(der Löffel)* and "fork" is feminine *(die Gabel),* while in Spanish, the genders are reversed: *el tenedor* and *la cuchara*.

Social psychological research on language and gender has had three main focuses: (1) the psychological significance of linguistic gender; (2) male-female differences in language use; and (3) the effects of the use of gender-stereotyped languages on attributions of the language user.

Grammatical Gender and Meaning

Linguists maintain that grammatical gender and psychological gender are unrelated. Although this independence may hold on a semantic analysis, psychologically the evidence is less clear. If grammatical gender were nothing more than an arbitrary linguistic category, a noun's gender would not affect interpretations of its meaning, but a number of writers have hypothesized that grammatical gender can connote stereotypically masculine or feminine properties, and subtly influence speakers' evaluations of words and their referents. There is some evidence to support this view. Ervin (1972) gathered Italian speakers' semantic differential ratings of a set of Italianate nonsense words with masculine [-*o*] or feminine [-*a*] endings. Ratings of -*o* words resembled ratings of the word "men," and ratings of -*a* words were similar to ratings of "women."

Because the nonsense words in Ervin's study were semantically empty, it may not be surprising that gender stereotypes conveyed by their inflections influenced subjects' ratings of them. It would be quite a different matter if grammatical gender biased the interpretation of real words with established semantic properties. Pairs of

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[9]With some exceptions. For example, in Latin, *agricola* (farmer) and *nauva* (sailor) were feminine; in Old English, *wiffmann* (woman) was masculine and *mægden* (maiden) was neuter.

words in different languages with the same meaning but different genders provide a natural control for assessing the connotative effects of grammatical gender. Konishi (1993) had Spanish and German speakers rate on the semantic differential a set of common words that are masculine in German and feminine in Spanish (e.g., "spoon"), and another set that are masculine in Spanish and feminine in German (e.g., "fork"). For both German and Spanish speakers, words with masculine grammatical gender in their language received higher ratings on the SD's potency dimension than words with feminine gender. For example, German speakers rated "spoon" (which is masculine) as more potent than "fork" (which is feminine); in Spanish, the genders are reversed, and so were the ratings of Spanish speakers. Ratings on the evaluation and activity scales did not differ for the two types of words. Since the words rated by the German and Spanish speakers had the same semantic properties, it appears that a word's gender category can affect what it connotes.

Conceptually related issues arise with regard to the connotative consequences of ostensibly generic or "non-gendered" usage. In English, gender is marked almost exclusively in the pronominal system. Until quite recently it was conventional in English (and other languages) to employ the masculine form of third-person singular pronouns for both masculine and generic reference ("Anyone who aspires to be a doctor is committing *himself* to several years of very demanding training"), but this practice is changing, at least in some usage communities.[10] In large part the change is motivated by a belief that "… most readers and listeners process the generic *he* as if it were the specific *he*… The mental pictures that run through their minds are predominately of males" (Geivitz, 1978, August, p. 3), so that the generic use of masculine pronouns is intrinsically sexist. Research by Briere and Lanktree (1978, Moulton, Robinson and Elias (1978) , Ng (1990) , and E. Wilson and Ng (1988) provides some support for a male bias implicit in the masculine generic, although studies by Cole, Hill and Dayley (1983) indicate that the biasing effect is highly context-sensitive. For example, masculinity/femininity ratings of the holders of gender-stereotypic jobs (flight attendant vs. attorney) from job descriptions that referred to the person as *he, he/she,* or *they* were unaffected by the specific pronoun used. Other things being equal, it is probably the case that a hearer/reader who encounters a generically-used masculine pronoun will tend to think of the pronoun's referent as male, but contextual factors constrain the biasing effect, which may be less general or robust than advocates of nonsexist usage have supposed.[11]

Whether such language reforms achieve their intended effects remains very much an open question, because few studies have addressed the issue. Prentice (1994) found that admonishing undergraduates to avoid sexist usage in their written work reduced females' use of the masculine generic in subsequent writing for that course, but did not affect imagery or attitudes toward language reform; no effects of any sort were found for males. The modest nature of the results may seem disappointing, but the intervention was not one that would be expected to produce substantial cognitive effects (see also Rubin, Greene, & Schneider, 1994). Khosroshahi (1989) elicited

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[10]See, for example the report of the APA Task Force on Issues of Sexual Bias in Graduate Education (APA, 1975).

[11]Apparently, even terms that are explicitly ungendered (e.g., *adult, people)* can elicit implicit attributions of gender (Wise & Rafferty, 1982).

undergraduates' imagery to *he, he/she,* and *they* used generically, and found more female imagery among "reformed-language women" (i.e., women who had used generic pronouns in their term papers) as compared to "traditional-language women" (women who used the generic "he"); the imagery of reformed- and traditional-language males did not differ. Whether differences in the imagery of reformed- and traditional-language women resulted from the language they use, or whether both imagery and linguistic practice derive from differences in the two groups' gender identities is something that Khosroshahi's study does not address.

Nevertheless, there may be reasons for favoring changes in the linguistic practice that are unrelated to the effect of generic pronouns on thoughts about the referent's gender. To the extent that an expression is identified with a particular position or perspective, use of the expression may communicate information about the speaker's attitude toward the position. Closely related terms (e.g., *women/lady, Negro/Black/African-American, crippled/handicapped/disabled/physically challenged)* might serve the same pragmatic (referential) function in a given situation, but each is associated with a somewhat different conceptualization of its referent that is related to a complex ideology or network of attitudes. As Bakhtin has noted, few utterances are really neutral, because a speaker's evaluative attitude toward the subject of the utterance often is implicit in lexical choice (Bakhtin, 1986). It also may be the case that quasi-synonymous terms like *woman* and *lady* are associated with somewhat different mental representations. The idea that using such terms can influence the speaker's mental representation of the concept is examined above in the section on language, cognition and culture.

The influence of grammatical gender is not confined to situations in which information processing is controlled or systematic. For speakers of Serbo-Croatian (a language with grammatical gender) possessive adjectives facilitated recognition of nouns in a lexical decision task when the gender of adjective and noun matched (Gurjanov, Lukatela, Lukatela, Savic, & Turvey, 1985) . It also seems to be the case that natural gender has a priming function. Banaji and Hardin (1996) found that stereotypically (but not semantically) gendered occupations (e.g., doctor, nurse) primed recognition of the third person pronoun that corresponded with the gender stereotype, but only for female subjects; priming effects using semantically gendered terms (mother, father) were found for both male and female subjects.

Male-Female Differences in Language Use

A great deal of research on language and gender reflects what might be called a "sex differences" orientation—asking how men and women differ in the way they use language. Much of this research is difficult to interpret because results often confound apparent female-male differences in language use with the effects of situations, individuals' roles in those situation, and individuals' gender identities. The complexity of gender-differences in language use, and the interpretive difficulties they present, is nicely illustrated by considering factors affecting a relatively simple dimension of speech: vocal pitch.

A voice's frequency range is determined principally by the size of speaker's larynx, which is roughly correlated with body size, and because men on average are larger than women, their voices tend to be deeper. However, the relationship is not a simple one. Size differences are reflected most directly in differences in *basal* fundamental frequencies (the lowest tone a speaker can produce), but speakers have considerable flexibility about where they place their voices within their range so the correlation between basal fundamental and *average speaking* fundamental is less than perfect. At least for English speakers, this correlation is considerably greater for men than for women (Gradol & Swann, 1983) . This may be a consequence of women tending to place their voices in their midranges and men favoring the lower part of their registers, something that is understandable given the homophobic social stereotypes of women with deep voices and men with high-pitched voices. So although laryngeal size is an important determinant of vocal range, gender category is an important determinant of where a speaker will place his or her voice within that range. Moreover, such practices may be tied to particular gender-role definitions, which are themselves subject to change. In Japan, women traditionally have been expected to use exaggeratedly high-pitched voices in formal situations. However, in recent years observers have noted a sharp drop in women's average speaking fundamental frequency, corresponding to changes in women's social status (Kristof, 1995) .

Even for so simple an aspect of language use as fundamental frequency, interpreting observed male-female differences can be less than completely straightforward, and the dimensions that have been of greatest interest to social psychologists have been considerably more complicated. Research has focused primarily on four aspects: speech articulation, conversational content, speech register, and interactive style. Aries (1996) provides a recent and comprehensive review of the research literature.

Speech articulation. At least for speakers of English, there is some evidence that women's speech is more distinctive—more precisely articulated and better differentiated phonetically—than that of men. Men tend to speak more rapidly than women, and their articulation of a variety of phonetic contrasts is "reduced" so that differences among phonemes are diminished (Byrd, 1994; Henton, 1992). Reduction is characteristic of casual, informal speech, and the formality-informality of a setting is, of course, socially defined. For technical reasons, such studies typically have subjects read sentences provided by the experimenter in speech laboratories rather than recordings of their spontaneous speech, and it is not known whether the same differences obtain in more natural settings. It is conceivable that females tend to regard the experimental situations as relatively formal settings and, as a result, speak more carefully than the male participants.

Conversational content. Based on studies done early in the century in which investigators eavesdropped on natural conversations, researchers concluded that the content of male and female talk differed in fundamental ways: men tended to talk about money and business; women's conversations centered about home, children and men (Carlson, Cook, & Stromberg, 1936; Landis & Burtt, 1924; Moore, 1922) . Although conversational content obviously will be affected by a variety of situational factors, some viewed the differences found in these early studies as reflecting fundamental sex

differences. Indeed, one investigator saw them as evidence of different evolutionary adaptations.

> After making every possible allowance for differences in convention and personal experience, it is hard to escape the conviction that the original nature here depicted is of two fundamentally different sorts, and that the two types could hardly be permanently adapted to identical interests (Moore, 1922, p. 214).

Even 75 years ago Moore's interpretation was extreme, and his contemporaries were aware that conversational content was very much affected by the situation in which the conversation occurred: talk at concerts tends to be about music, people standing in front of department store windows are likely to discuss clothes and home decor (Carlson et al., 1936; Landis & Burtt, 1924) . More recently, Kipers (1987) recorded the topics of naturally-occurring conversations in a public school faculty lounge of all-male, all-female and mixed-gender groups of teachers. Home and family, personal and family finances, and such social issues as child abuse and women's rights were the most common topics in the all-female conversations, while recreation and work-related matters predominated in the all-male conversations; rates in the mixed groups tended to fall somewhere between the all-male and all-female rates.

Without understanding individual's roles in the specific situations, and whether males and females define the situations in the same way, it's not clear what can be concluded from such studies. We are unaware of any studies of gender differences in talk sampled across situations in which the roles of males and females were systematically varied, but we expect that such a study would find role to be a more important determinant of content than gender.

Speech registers. As the term is used here, a speech register is a type of linguistic variation conditioned by usage. Registers can be contrasted with dialects, which are variations conditioned by the speaker's regional or social place (C. Ferguson, 1983) . Registers can constitute very broad varieties of usage (e.g., casual vs. formal speech) or more narrowly formulated categories such as "motherese" or "sports-talk" (the speech style affected by sportscasters). One of the ideas investigators in this tradition have pursued is that, quite independently of content and situation, females and males have come to "talk differently," and one way of formulating the difference is in terms of speech registers.

In an influential paper, R. Lakoff (1973; 1975; see also Key, 1975) identified a female speech register that could be observed at all levels of linguistic structure. For example, at the lexical level, Lakoff claimed, females used weaker expletives ("Oh fudge!" "Dear me!") and empty adjectives ("divine," "adorable"); at the syntactic level, females' assertions were likely to be formulated as truncated-tag questions ("It's hot today, *isn't it?"*); at the prosodic level, their declarative responses to questions tended to have a rising (interrogative) intonation (Q: "When will dinner be ready?" A: *"At six o'clock?"*); at the pragmatic level, they are more likely than men to use indirect speech acts ("Would you mind terribly turning down your radio?"). According to Lakoff, the female register serves as a marker for women's subordinate social status and reinforces attributions of dependency, incompetence, and timidity that are part of the female stereotype. Its existence is a two-edged sword: Because women are expected to

employ this register, those who do not (who "talk like a man") are negatively sanctioned; at the same time, women who use the register are regarded as weak, incompetent and frivolous. From this perspective, differences in male and female speech are a reflection of the general dominance of males in society, a view that has been termed the *male dominance hypothesis* (Thorne & Henley, 1975; Uchida, 1992) .

Lakoff's thesis, which was based on unsystematic observation of her own and other women's speech, raises several interesting empirical questions, two of which will be considered. One question is the extent to which the speech of females and males actually differs when such factors as role, situation and personal identity are taken into account. The second question concerns the effects of using the female speech register on a listener's perception of the speaker.

Despite the pervasiveness of the view that women and men "talk differently," there is relatively little empirical support for the generality of a female register that is independent of other social factors. For example, indirectness, which Lakoff viewed as an element of the female register, was observed to be more common in the dinner table talk of men than of women (Rundquist, 1992), and tag questions occur about as often in male speech as in female speech (DuBois & Crouch, 1975) . Brouwer, Gerritsen and De Haan (1979) recorded the speech of nearly 600 Dutch speakers purchasing train tickets in Amsterdam, and found that women's and men's utterances did not differ in length or their frequency of diminutives, indirect requests, or polite expressions. However, it was not the case that the situation so constrained what could be said that it afforded no opportunity for male-female differences to emerge. Reliable variation attributable to the sex of the *addressee* was observed: utterances addressed to males were longer, and contained more diminutives and civilities than those addressed to females, but this occurred regardless of whether the speaker was male or female.

Employing an index based on the frequency of empty adjectives, tag questions, hedges, and use of the word "so," Crosby and Nyquist (1977, study 1) found somewhat higher average scores in brief same-sex conversations of female undergraduates than in those of their male counterparts. However, the speech of males and females making inquiries at an information booth showed no differences on the same index (Crosby & Nyquist, 1977, study 2) . Finally, in interactions between police personnel and civilians making inquiries, female inquirers had marginally higher scores than male inquirers. However, overall, inquirers' scores were higher than those of the police (Crosby & Nyquist, 1977, study 3) . The latter result is particularly interesting because it underscores the relationship of the language people use and the social role they are playing in a particular situation. In simulated job interviews, males and females use polite forms and hedges about equally often, as would be appropriate to their role as job seekers (Rubin & Nelson, 1983). In courtroom interactions, the speech of witnesses with little power and authority contains elements of the female register, regardless of the speaker's gender (O'Barr & Atkins, 1980).

Interactional style. Just as speakers differ on the topics they choose to talk about and the linguistic forms they use to talk about them, they also differ in how much they talk, how often they interrupt, pause, interject comments like "uh-huh" while others are talking, etc. Features of usage such as these can be thought of as constituting a speaker's *interactional style.* Does interactional style vary with a speaker's gender?

Differences in interruption rates probably have been the most widely commented male-female difference in interactional style, perhaps because interruptions were thought to have a significance for the relationship of the interacting parties that went beyond the particular conversation. In an early and oft-cited study, Zimmerman and West (1975 found that males interrupted females far more frequently than females interrupted males, and concluded that (p. 125) "just as male dominance is exhibited through male control of macro-institutions in society, it is also exhibited through control of at least part of one micro-institution" — i. e., conversation. Although some investigators have replicated the Zimmerman and West finding (Esposito, 1979; Natale, Entin, & Jaffe, 1979, others have not (Beattie, 1983; Bilous & Krauss, 1988; McCarrick, Manderscheid, & Silbergeld, 1981; Roger & Nesserhover, 1987) . Pillon, Degauquier and Duquense (1992) , in a particularly thorough analysis of transcripts of a good-sized sample of male-female dyadic conversations, found few differences in the interactional style of males and females, and concluded that "males' and females' conversational behavior betray more similarities than differences" (p. 147). Clear evidence of within-dyad accommodation was found (see also Bilous & Krauss (1988)) . Despite the inconclusiveness of the data, the relation between gender and interruption rate is often taken to be established beyond question. For example, discussing the development of sex differences in nonverbal behavior, Haviland and Malatesta (1981 assert: "We know that men interrupt the speech of others more than women" (p. 185).

Putting aside the question of whether men and women differ in their interruption rates, it is important to realize that interruptions do not constitute a homogeneous class of events, and different kinds of interruptions may serve quite different functions (Beattie, 1983; N. Ferguson, 1977; Roger, Bull, & Smith, 1988) . N. Ferguson (1977) found that speakers' interruption rates were uncorrelated with their scores on a test of dominance, and Bilous and Krauss (1988) found that in same-sex dyadic conversations, undergraduate women interrupted each other nearly twice as often as men did; in female-male dyads, males and females interrupted at about the same rate, and interruption rates were about the same as those in male-male dyads. Although in some situations interruptions may reflect a desire to dominate the conversation and control the other participants, in others it may be a consequence of the participants knowing each other well, being involved in the conversation, and capable of finishing their partner's sentences or understanding their intended meanings from fragments (cf., Roger et al., 1988) . Regarding all interruptions as disruptive intrusions is inconsistent with the collaborative view of conversation discussed earlier. Bilous and Krauss (1988 concluded that female dyads' high rates of interruptions in their study were the product of participants' high level of involvement, rather than a reflection of their desire to dominate.

Regardless of gender, interactive style is affected by the amount of power an individual has in a situation—powerful speakers talk and interrupt more, etc. Both males and females role-playing high power roles in discussion groups express more hostility and less anxiety than those playing low power roles (Siderits, Johannsen, & Fadden, 1985) . A factor that is seldom taken into account in studies of interactional style is the speaker's familiarity or expertise with respect to the discussion topic. Dovidio, Brown, Heltman, Ellyson et al. (1988) found that males talked more and initiated more speech on "masculine" topics, and that females talked more and initiated

more speech on "feminine" topics; on what were judged to be "neutral" topics, males initiated more speech and talked more.

The question of whether there are male-female differences in language use that are independent of the speaker's role and expertise cannot be answered from present data. However, it does appear that as females and males become more similar on extralinguistic dimensions, differences in the language they use become smaller.

Effects of Using Gender Stereotyped Language

If "women's language" is, as Lakoff claimed, a linguistic expression of women's powerlessness in society, then its use should identify speakers as powerless regardless of their gender. There is considerable evidence that powerless speech results in negative evaluations of the speaker, and some indication that use of the female register affects the way a speaker is evaluated quite independently of his or her gender. Quina et al. (1987 generated parallel sentences in either "masculine" or "feminine" versions and had subjects evaluate the purported male, female or sex-unidentified speaker. Authors of the feminine versions were judged to be low on competence and high on warmth, but attributed gender did not affect speaker evaluations. Effects of stereotypically feminine language on persuasive effectiveness are discussed in the section on Language and Attitude Change above. Ng and Bradac (1993) provide a general review of power in language, as it affects communication and social influence.

Concluding Comment

It is noteworthy that all three of the previous editions of this *Handbook* (four, if one includes the 1935 volume edited by Carl Murchison) have included chapters concerned with language (Esper, 1935; Miller, 1954; Miller & McNeill, 1968; Clark, 1985)—something that can be said of few other topics. The authors of those chapters were not themselves social psychologists, and relatively little of the chapters' contents was drawn from the mainstream of social psychological research. Each urged social psychologists to be more aware of the role language plays in social behavior. The preceding pages of this chapter attest to the fact that those exhortations have been heeded. There can be no doubt that social psychologists have discovered the relevance of language to the phenomena they study, and the resulting research has greatly enriched our understanding of a wide range of social psychological phenomena. Indeed, space considerations made it necessary for us to omit discussion of a great deal of relevant and worthy work by social psychologists.

However, some writers foresaw an additional benefit that would result from social psychologists' greater involvement with language: a clearer understanding of the social processes that underlie language use. For example, in his influential chapter in the third edition of this *Handbook*, Clark observed

> It is paradoxical … that modern social psychologists have paid so little attention to language use. Few have taken it up and most texts in social psychology have ignored the topic altogether… [Researchers in other areas] have made great

> progress in understanding how language works, but because they aren't social psychologists, they have largely neglected the social bases of language—how it is instrumental in social processes and how it is shaped by those processes (Clark, 1985, p. 179).

Although social psychologists have gained deeper insight into the social phenomena they study by understanding the role language plays, it probably is fair to say that, with a few important exceptions, their work has not thus far contributed importantly to a better understanding of (as Clark put it) "how language works." Given the direction that the study of language has taken over the past forty years, this is not entirely surprising. An increasing emphasis on linguistic universals and abstract models of linguistic competence, combined with a principled indifference to linguistic performance in concrete social situations, has narrowed the possibilities for social psychologists to contribute to an understanding of how language is used.

Simon, in a pronouncement that raised the hackles of some social psychologists at the time it was made, declared "that cognitive social psychology is simpl[y] a special branch of cognitive psychology…[and] that virtually all cognitive psychology is also social psychology" (Simon, 1976, p. 258). Certainly it is true that the phenomena social and cognitive psychologists study have much in common, and a comparison of the contents of the four editions of this *Handbook* dramatically reveals the extent to which the cognitive approach has influenced contemporary social psychology. As Markus and Zajonc observed in the third edition, "Social psychology and cognitive social psychology are today almost synonymous. The cognitive approach is clearly the dominant approach among social psychologists, having virtually no competitors" (Markus & Zajonc , 1985, p.137).

However, despite the fact that there has been a great deal of research at the interface of the two fields, evidence for the second part of Simon's proposition is not abundant. Thus far, the flow of ideas has been primarily from cognitive psychology to social psychology; for the most part, social psychologists have taken ideas and approaches originally developed in cognitive psychology and adapted them to the study of social phenomena.

Interestingly, in recent years, a growing number of cognitive psychologists have discovered that their ability to explain language use is limited by a lack of understanding of the social processes involved, and finding little to help them in the social psychological literature, have begun to address issues that are essentially social psychological in nature. Typically the resulting research has not been framed in terms of traditional social psychological variables, but it nevertheless deals with fundamental issues of social perception, coordination and cooperative interaction, social decision making, and collective representation, etc. At the same time, some social psychologists have begun to question whether the individualistic emphasis implicit in much cognitive psychology can lead to general explanations of social behavior. The problem is most clearly seen in transactive memory, where individuals collaborate to pool the contents of their recollections (cf., Liang, Moreland, & Argote, 1995; Ruscher & Hammer, 1994; Wegner, Erber, & Raymond, 1991), but it applies equally well to many other processes that social psychologists study.

Nowhere are the social and the cognitive more inextricably intertwined than in the arena of language use, and nowhere does the notion of the social actor as an "autonomous information processor" (Brennan, 1993) fit less well with the observed phenomena. We agree with Clark that social psychologists could make an important contribution to our understanding of the role language plays in people's lives by explicating the social bases of language use. We also believe that in doing so, social psychologists will gain new perspectives on some fundamental aspects of social behavior.

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