Social cognition is meant to examine the process of meaningful social interaction. Despite the central involvement of language in this process, language has not received the focal attention that it deserves. Conceptualizing meaningful social interaction as the process of construction and exchange of meaning, the authors argue that language can be productively construed as a semiotic tool, a tool for meaning making and exchange, and that language use can produce unintended consequences in its users. First, the article shows a particular instance of language use to be a collaborative process that influences the representation of meaning in the speaker, the listener, and the collective that includes both the speaker and listener. It then argues that language use and social cognition may have reciprocal effects in the long run and may have significant implications for generating and maintaining cultural differences in social cognition.

Keywords: language; meaning; social cognition; thought; communication; culture

Many of the processes that are most central to social cognition—attribute, person perception, stereotyping, and so on—involve language in some manner. People use language to communicate to one another (and to researchers) their attributions, perceptions, and stereotypes, for example, with language use sometimes shaping the very products being communicated. At a different level, the intrapersonal processes through which these products are generated may be mediated in part by language. In this sense language is a tool for implementing social cognition (Semin, 2000), and much social cognition is acquired through the use of language. It is, in fact, difficult to think of any social-cognitive processes that do not involve language in some manner. Clearly, the study of language can contribute greatly to the understanding of social thought and action. Unfortunately, relevant empirical research on this topic is scattered over a number of different domains, and given the diversity (and technicality) of inquiries into language in psychology, the role of language has not received the focal attention that it deserves in social cognition.

There have been earlier reviews of the role of language in social psychology (Clark, 1985; Holtgraves, 2002; Krauss & Chiu, 1998; Krauss & Fussell, 1996), including specific considerations of the relationship between language and social cognition (Chiu, Krauss, & Lau, 1998; C. Hardin & Banaji, 1993; C. D. Hardin & Higgins, 1996; Semin, 2000). Our goal with this review is to update these prior reviews and, more importantly, to provide a new framework for a consideration of language by focusing explicitly on its role as a mechanism for the creation and exchange of meaning. Specifically, we argue that in social psychology, and especially in social cognition, language is most productively conceptualized as a semiotic tool, namely, a tool for meaning making and meaning exchange in imagined or real social interaction. In what follows, we first outline our stance by bringing into focus how meaning is critical in human social interaction, how social cognition was meant to be an examination of meaningful social interaction, and how language is centrally involved as a tool in the process of constructing and exchanging meaning. We then point out that language use and social cognition may have reciprocal effects in the long run and may have significant implications for generating and maintaining cultural differences in social cognition.

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HUMAN SOCIALLY, MEANING, AND LANGUAGE: LANGUAGE AS SEMIOTIC TOOL

Human sociality is saturated with meaning. When social psychology is said to be about social behavior, what is meant by social behavior is not a sheer bodily movement but rather a meaningful social action. When a bodily movement carries meaning, it invites other humans’ and the actor’s own interpretations of the bodily movement. For example, when a school boy’s right eyelid contracts rapidly, it may be an involuntary twitch, a wink, or even a mockery of someone’s clumsy attempt at winking (Ryle, 1971). What people react to is what they think he meant to do, not what he actually did. As far as the bodily movement goes, it is all the same—a rapid contraction of an eyelid. Depending on whether observers think it is a twitch, a wink, or a mockery, they would react by ignoring, guessing what the winker meant, or hatching a plan to retaliate the mockery. When people engage with others, they do so by behaviors, but the others’ meanings are critical to their social engagement (Geertz, 1973).

The question of making meaning and meaning exchange—how people engage in meaningful thought and action in social contexts—is a central question of social cognition. Early forebears like Bartlett (1932; see Y. Kashima, 2000, on Bartlett’s social psychology) were centrally concerned about this. It is related that the construction and communication of meaning lies at the heart of symbolic interactionism (Blumer, 1969; Mead, 1934). More recently, Ostrom (1984) in his manifesto, “The Sovereignty of Social Cognition,” argued that social cognition conceptualizes humans as interaction partners who interpret each other’s behaviors in a stream of social interaction. And Bruner’s (1990) call for cultural psychology is also a more recent advocacy for a psychology that takes meaning seriously. Put differently, from its inception, social cognition as a research tradition was meant to be a scientific examination of the construction and exchange of meaning in social contexts. And in this process of making meaning and exchange, language is centrally involved.

Language in its abstract sense is a socially shared tool allowing its users to create and exchange meaning. In so doing, the users of any particular language are connected to one another through this shared symbolic system. In this way language provides a means for connecting individual and social levels of analysis, a perspective in line with that explicated by Wertsch (1991), who integrated Vygotsky’s (1962) and Bakhtin’s (1981) perspectives in his theory of cultural psychology (see Fiedler, Bluemke, Freytag, Unkelbach, and Koch, in press, for a more recent semiotic approach to communication). In Wertsch’s perspective, higher mental functioning is derived from social life, an internalization of the capacity to engage in dialogue. Hence, all cognition is essentially social cognition, cognition that is in some sense connected to the real or imagined presence of others. Language is the symbolic system that makes this possible.

Although language allows for the creation and exchange of meaning, it does not guarantee complete and mutual understanding. This is because meaning does not reside solely in the message. Rather, language is used to create meaning and its users must be active participants in this process. Speakers intend to convey a particular meaning and have the recipient recognize that communicative intention (Grice, 1957; Holgraves, 2007). This is what speech-act theorists refer to as illocutionary force (Searle, 1969). However, the effects of a speaker’s utterance (what speech-act theorists term its perlocutionary effects) may extend beyond what the speaker intended to communicate (Holgraves, 2005). Although much research has explored the intended consequences of language, it is the unintended consequences with which we are most interested.

At this point, let us draw a distinction between two types of language use as a semiotic tool. One is a specific instance of language use. Take Lakoff’s (1987, p. 77) example and imagine a waitress saying to her colleague, “The ham sandwich just spilled beer all over himself.” The use of the noun phrase “the ham sandwich” in this utterance stands for the person who is eating the sandwich. A specific, one-off instance of language use as a semiotic tool like this may be called a token language use, or what Saussure (1966) called parole. Over time, however, this type of language use may become prevalent at this restaurant, so much so that most waitresses use this type of construction—the use of an order to refer to the customer—most of the time for most customers. This may be called a type of language use. A token is to a type as an exemplar is to a category. If a language use type occurs prevalently, then, it may be said that it is part of language as an abstract symbolic system, or what Saussure (1966) called langue. Such frequent and widespread use of a certain feature of language as a semiotic tool has been called a linguistic practice (Y. Kashima, Kashima, Kim, & Gelfand, 2006).

Just as any tool can help its users achieve their goals if used appropriately, language helps people achieve their goals. People do things in saying. In this sense, language use has intended consequences (e.g., illocutionary force). However, the semiotic tool perspective helps us highlight another side of language use. When speakers use a language, they may inadvertently end up doing certain things but not other things. In other words, language use may have unintended consequences. There are two ways this can come about. One class of unintended consequences has to do with consequences of token language use. As Chiu et al. (1998) have argued, using language on any specific occasion can have unintended
social-cognitive consequences. We extend this analysis by arguing that these consequences occur for (a) speakers, (b) recipients, and (c) a collective consisting of the speakers and recipients. The second class of unintended consequences has to do with how features of a language, or common linguistic practices, influence social cognitive processes. We argue that if a type of language use occurs prevalently, then specific instances of this language use type can have long-term effects on social cognition.

Figure 1 summarizes our theoretical assumptions while depicting the relationships between a specific instance of token language use and the totality of language use types (language as an abstract system). The underlying assumptions are that (a) speakers and listeners cooperate with each other to construct a particular instance of language use during their social interaction, (b) this particular instance of language use affects their cognitions, (3) this type of language use may be so prevalent that it can be understood as part of the totality of the language system, and (4) at this point the language system can be said to influence the social cognitions of its users. The following sections are organized in accordance with the two time frames of unintended consequences of language use. We first address the microinteractional level and short-term implications of (a) and (b) by arguing that different aspects of language affect speakers’ and listeners’ social cognition through its use as a semiotic tool for meaning production and exchange. We then broaden the time frame and consider the ways in which language as an abstract system can be said to influence the social cognitions of its users through linguistic practices (c and d).

**Figure 1** Proposed relationships between language use and cognition over time.

**LANGUAGE USE AND THE CREATION OF MEANING**

In the perspective of language as a semiotic tool, the process of meaning making by language in social interaction can have important cognitive consequences (Chiu et al., 1998; C. Hardin & Banaji, 1993). In this section we focus on the cognitive consequences of using language on a particular occasion in which individuals take turns assuming the roles of speaker and recipient. Both the speaker and the recipient coordinate their activities to establish a mutual understanding by using language, and this process is highly collaborative (e.g., Clark, 1996).

In a particular instance of producing an utterance, a speaker engages a number of cognitive and social systems (Levelt, 1989). Oftentimes the first step in this process will involve the creation of a linguistically coded representation from a nonlinguistically coded representation, a process that can influence the nature of the resulting representation. By *linguistic representation* we are referring to an internal, conceptual entity with language-based constituents. *Nonlinguistic representation*, on the other hand, refers to internal, nonconceptual entities that are not comprised of language-based constituents.

This process may be akin to the conversion of an implicit attitude into an explicit attitude. Gawronski and Bodenhausen (2006) in a recent theoretical integration suggested that implicit and explicit attitudes may result from associative and propositional processes, which are driven by different principles. Associative processes are based on spatio-temporal contiguity; propositional processes follow syllogistic reasoning. If nonlinguistic representations engage associative processes that support implicit attitudes, linguistic representations are closely aligned with propositional processes that support explicit attitudes. Whether these involve different processes as Gawronski and Bodenhausen claimed they do or have one underlying process (Albarracín, Hart, & McCulloch, 2006; Kruglanski & Deschesne, 2006), we suggest that language use frequently involves the recoding of implicit, nonlinguistic representations into explicit, linguistic ones. Note that a person does not need to actually verbalize these thoughts aloud, simply creating a linguistic representation may be sufficient (Vygotsky’s, 1962, inner speech).

The creation of a linguistic representation that is to be conveyed to a recipient via an utterance will involve additional social and collaborative processes that further influence the nature of those representations. This is because meaning construction is a collaborative activity as interlocutors mutually orient to each others’ perspectives and construct and interpret utterances from these perspectives (e.g., Clark, 1996). As interlocutors converse, they provide evidence (e.g., nonverbal behaviors such as a nod and a smile, simple verbal utterances like “yeah” or “OK,” and more extensive verbal utterances that paraphrase the speaker’s utterance) of mutual understanding (Clark, 1996), and when they mutually recognize that they have reached an understanding that is sufficiently similar for the current purpose, they are said
to have grounded the utterance (Clark, 1996). This collective representation may be conceptualized as each communication partner having a representation that “we” share “our” representation (Kashima, Klein, & Clark, 2007; Searle, 1990), thus establishing common ground. The collective representation generated through the collaborative use of language results in a shared reality (C. D. Hardin & Conley, 2001; C. D. Hardin & Higgins, 1996; Higgins, 1992). It is important to note, however, that although interactants strive to establish common ground, a state of mutual understanding is not always achieved (e.g., Holtgraves, 2005). What is crucial from our perspective is that interactants try to achieve common ground and that they actively collaborate in the creation of meaning. It is this process that plays a crucial role in the unintended consequences of language use.

We begin with a discussion of the effects of language use on a speaker’s internal representations, that is, how the creation of a linguistic message can influence the nature of one’s thoughts. This is followed by a consideration of how the collaborative and interpersonal nature of language use affects the process of communication with a corresponding impact on the recipient’s internal representations. Finally, we turn to collective consequences of language use, that is, the production of what we call collective representations.

**LANGUAGE USE—SPEAKER EFFECTS**

Similar to the communication of an impression to an audience in the cognitive tuning experiments (Zajonc, 1960), language is an essential semiotic tool for converting a speaker’s inchoate experience into an explicit and communicable form. The creation of an explicit linguistic representation engages processes that may alter existing representations in the speaker. In other words, a newly created linguistic representation does not simply overlay an initial nonlinguistic representation. Rather, it is a new and different representation—the creation of new meaning—that may alter the nature of the initial nonlinguistic representation as well as related content. Here we consider three areas of research that have demonstrated this unintended consequence of language use.

**Decision Making**

Language is a tool with which people explicate their reasons for decisions. Wilson and colleagues have conducted a number of studies demonstrating that verbalizing reasons for a decision can influence various aspects of the decision-making process, including the quality of the decision itself (Wilson & LaFleur, 1995; Wilson, Lisle, & Kraft, 1990; Wilson et al., 1993; Wilson & Schooler, 1991). The essential comparison in these experiments is between participants who make a decision and must verbalize their reasons for that decision and participants who make a decision but are not required to verbalize their reasons for that decision. For example, Wilson and Schooler (1991) asked participants to judge the quality of different brands of strawberry jam (Experiment 1) or to indicate their preferences for different college courses (Experiment 2). In both experiments, participants who were asked to verbalize the reasons for their decisions made less optimal decisions than did participants who did not verbalize their reasons.

The general interpretation of these findings is that asking people to articulate their reasons for a decision causes them to attend to nonoptimal criteria. That is, the creation of a linguistic representation of a reason for a decision engages processes that alter the nature of that decision. More specifically, reasons that are the easiest to verbalize are the ones most likely to be articulated, and other reasons that may be important, yet are more difficult to verbalize, will tend not to be included. The reasons that are verbalized drive the decision and lessen its quality. For example, in a study conducted by Wilson et al. (1993), participants rated a set of posters that were either humorous (easy to verbalize features) or artistic (difficult to verbalize features). For participants who were asked to verbalize their reasons, the ease with which poster attributes could be articulated affected the reasons that were given; more positive attributes were articulated for the humorous poster than for the artistic poster. Ultimately, this difference affected participants’ ratings; people who had generated reasons preferred the humorous posters; control participants preferred the artistic posters.

More recently, the research of Dijksterhuis and colleagues (Dijksterhuis, 2004; Dijksterhuis & Nordgren, 2006) has demonstrated a similar pattern of results in terms of conscious versus unconscious thought. For example, Dijksterhuis and van Olden (2006) conducted decision-making experiments in which some participants were kept from engaging in conscious (and hence language-based) thought. These participants made more optimal decisions than did participants who were allowed to engage in conscious thought. One of the reasons for this difference is that language-based conscious thought involves a less than optimal weighting scheme, a tendency to weight more heavily those factors that are accessible and easy to verbalize (similar to Wilson et al.’s, 1993, research). In a way, it is a case of the tail wagging the proverbial dog, or a semiotic tool driving one’s decision. A tool is meant to help users achieve their goals but in this case its use can have additional unintended collateral consequences.
Emotions

Language is a primary means by which emotions are communicated after they have dissipated. However, verbally identifying emotions (in others and in oneself) can create or alter the nature of those emotional representations. For example, Halberstadt (2003) demonstrated that the process of talking about another's emotion can bias memory for the expression of that emotion. In this study, all participants were shown photos of people displaying ambiguous emotional expressions. Some of the participants were asked to explain why the person was experiencing that particular emotion; other participants were not asked to do this. Participants who explained the emotion remembered the faces as expressing that emotion more intensely relative to participants who were simply told what emotion the person was experiencing. Using language to explain the emotion forced participants to decompose the face into specific features that were then re-integrated in terms of the relevant emotional category. Hence, using language to describe another's emotion altered the underlying representation of that emotion.

The use of language not only plays a role in the perception of others' emotions, it also plays a fundamental role in the perceptions of one's own emotions. This is not a new idea. Spinoza (1675/1949) wrote, “Emotion, which is a passion, ceases to be a passion as soon as we form a clear and distinct idea, thereof.” More recently, Lieberman (in press) has argued that affective labeling has the consequence of activating the reflective neural system (C-system) and dampening the reflexive neural system (X-system). Hence, when one uses language to label an emotional state, the underlying physiology of that state is altered. More specifically, at least for negatively valenced images, linguistic processing of the image lessens activation of the amygdala (Hariri, Bookheimer, & Mazziotta, 2000; Lieberman et al., 2007).

This is not necessarily a bad thing. For negative experiences, especially those that are traumatic, verbalizing or writing one’s thoughts about the experience can have a beneficial effect on overall well-being (Lyubomirsky, Sousa, & Dickerhoof, 2006). According to Pennebaker (Pennebaker & Greybeal, 2001; Pennebaker & Seagal, 1999), talking and writing about one’s experiences allows one to organize and structure those experiences, thereby allowing one to complete and hence bring those negative experiences to an end. Recently, Lyubomirsky et al. (2006) pitted the effects of the writing and talking about an experience versus only thinking about the experience. They found enhanced satisfaction with life for those who wrote or talked about their experiences and diminished satisfaction with life for those instructed only to think about their past experiences. It appears that the use of language (affective labeling) to express reactions to negative experiences has the effect of lessening the automatic rumination that might prolong negative affectivity (Lieberman, in press). Hence, journal writing is an activity that has been recommended by therapists (Pennebaker, 1997).

Using language as a semiotic tool enables people to communicate emotions but it has the perlocutionary effects of affecting the communicators’ representations and altering the meaning of the emotional experience. Although it may distort the communicators’ memories in some instances, it may help them regulate their emotions—especially those related to traumatic experiences.

Story Telling

Story telling is a universal method by which humans make their inchoate experiences intelligible to others and to themselves. Language is centrally involved in this activity that researchers have argued has important cognitive consequences (e.g., Marsh, 2007; McAdams, 1993; Pennington & Hastie, 1988; Schank & Abelson, 1977, 1995). Consider first the manner in which an initial representation is transformed into a story. Many times the construction of a story will involve the glossing over of details (everything can’t be included in a story) and the forcing of a sequence of events into a story-like structure. In other words, the construction of a story is influenced by a storytelling schema (Rumelhart, 1975). Consequently, the representation that remains is a function of the act of verbalizing the story (Schank & Abelson, 1995). A study conducted by McGregor and Holmes (1999) illustrates this well. They had participants tell a biased story about a relationship conflict as if they were a lawyer for one of the two characters. Later, participants’ memory for and judgments of the targets were assessed. In all studies there was clear evidence of a storytelling effect; participants’ judgments were biased in the direction of the story that they told.

It is perhaps more important that story telling illustrates the collaborative nature of language use and how internal representations may be jointly constructed. That is, stories are told to other people in a social context and frequently story tellers will tailor their tales for their specific audience. Clark and Murphy (1982) called this audience design (also see Fussell & Krauss, 1989). This recoding of the originally linguistic stimuli into another form of linguistic representation can then influence subsequent memory. Because people talk about the past, and because they frequently do so in the context of others, the act of talking about the past can influence one’s representation of the past. Pasupathi (2001; Pasupathi, Alderman, & Shaw, 2007) has made this point explicit, arguing that what people know is based, in part, on what
they tell. Two principles—coconstruction (interactants mutually influence the construction of stories about the past) and consistency (conversational reconstruction influences later memory)—are invoked as mechanisms explaining how the act of talking about the past will influence later memory for those past events. In this way, the act of telling stories can play a critical role in the development of the self as well as play a role in the stability of the self (McLean, Pasupathi, & Pals, 2007). Along somewhat similar lines, social constructionists (e.g., Gergen & Gergen, 1988) have also argued that talk can influence the nature of mental representations.

An example of this can be seen in the classic study conducted by Higgins and Rholes (1978). They had participants describe a target person whose portrait was evaluatively ambiguous (e.g., Donald who is adventurous or foolhardy) for an audience who presumably liked or disliked the target being described. Participants altered their descriptions based on their knowledge of the audience’s preferences. When their memory and impressions of the target were subsequently accessed, those who provided more positive descriptions had more positive impressions and memory of the target. This was dubbed saying is believing (SIB), and subsequent research has replicated the SIB effect (see McCann & Higgins, 1990, for a review). Similarly, Tversky and her colleagues (Dudukovic, Marsh, & Tversky, 2004; Marsh & Tversky, 2004; Tversky & Marsh, 2000) also showed the effects of story telling on subsequent memory, pointing to the robustness of the phenomenon.

In sum, the act of talking about one’s decisions or emotions, or telling a story to others, can alter the speaker’s representation of what has been talked about. Using language as a semiotic tool, communicators can convert inchoate psychological experiences into an explicit and communicable form to explicate one’s reasons for a decision, to communicate one’s feelings, and to make intelligible one’s complex experience in narrative form. The construction of a linguistic representation—what previously was implicit is made explicit—enables speakers to communicate the referent of the representation to others and to turn their cognitive capacities to those explicit representations as an object of cognitive activities. These linguistic representations may be altered further in order to fine-tune them for recipients in the service of communicative goals, and this tuning can have long-term cognitive consequences as well. We return to the collaborative constructions of meaning below.

LANGUAGE USE—RECIPIENT EFFECTS

Language is a critical semiotic tool that speakers use to have their meaning and intention recognized (Austin, 1962). Recipients are oriented toward recovering the speakers’ intention (Sperber & Wilson, 1995). Hence, much of the recipient’s cognitive activity is directed toward uncovering this intended meaning (or illocutio-

ary force). In the process of doing this, however, many unintended consequences (or perlocutionary effects) can occur. For social cognition, as we will see, what is significant is how the recipients go beyond the information given, and different types of linguistic information all invite recipients to construct different meanings. These effects can occur at the semantic, syntactic, and pragmatic levels.

Semantics

Recipients use their semantic knowledge—what words mean—to construct mental representations of the objects and events referenced in an utterance. In this profoundly important, although apparently trivial, sense, language use affects the recipients’ mental representations. As Allport (1954) noted about the role of language in prejudice, calling someone a fag instead of gay makes a difference in the recipient’s representation of that person (Carnaghi & Maass, in press; Greenberg and Pyszczynski, 1985; Kirkland, Greenberg & Pyszczynsky, 1987; Simon & Greenberg, 1996). Traditionally, it is grammatically correct for the speaker to use words such as men and his in the generic sense of people in general; however, recipients appear to understand them as males (Ng, 1990). Even common first names such as John and Joan can create different impressions about a person (Kasof, 1993).

At a different level, one of the more subtle semantic aspects of language use is the meaning of a verb; different verbs imply different kinds of causality—a phenomenon termed implicit causality. It was in the late 1960s and early 1970s (Abelson & Kanouse, 1966; Garvey & Caramazza, 1974; Kanouse, 1972; McArthur, 1972) that implicit causality was noted in the literature. Brown and Fish (1983), however, are probably most responsible for bringing the phenomenon to the attention of psychologists. In general, implicit causality refers to a tendency for (action and state) interpersonal verbs to imply a particular causal focus. For action verbs (e.g., help) people are more likely to assign greater causal weight to the agent (person performing the action) than to the patient (person who is the recipient of the action) (Brown & Fish, 1983; Corrigan, 1988). For example, upon hearing “Bob helped Tom,” they are more likely to believe that Bob is the cause of this event rather than Tom and that Bob is a helpful person rather than that Tom is a needy person. Note that this is not a grammatical effect; the agent is assigned greater causal weight regardless of whether it is the grammatical subject or object. For state verbs (e.g., like), people tend to assign greater causal weight to the person who brings
about the state (stimulus) rather than the person who experiences the state (experiencer) (Au, 1986; Van Kleek, Hillger, & Brown, 1988). Upon hearing that “Bob likes Tom,” people are more likely to judge Tom as more responsible than Bob and that Tom is a likeable person rather than that Bob tends to like people. Again, this is not a grammatical effect as it occurs for state verbs with the experiencer in the subject role (termed experiencer-stimulus verbs; e.g., Bob likes Tom) and those with the stimulus in the in the subject role (termed stimulus-experiencer verbs; e.g., Bob impresses Tom).

Why does implicit causality occur? One possibility is that verbs activate associations that then influence causal judgments. All interpersonal verbs have associated with them dispositional terms referencing the sentence subject, object, or both. However, these derived dispositional terms are not symmetrical but rather parallel quite closely the causal reasoning tendencies for these verbs. Specifically, for action verbs (of the agent-patient variety) most of the dispositional terms reference the agent rather than the patient (e.g., help → helpful), thereby mirroring the tendency to perceive the agent rather than patient as the causal locus. And both stimulus-experiencer verbs (e.g., impress → impressive) and experiencer-stimulus verbs (e.g., like → likeable) have dispositional terms referencing the stimulus rather than the experiencer. In an extensive analysis of approximately 900 English interpersonal verbs, Hoffman and Tchir (1990) found that more than 90% of the action verbs had dispositional terms referencing the agent and only 25% of the terms referenced the patient. For state verbs, more than 75% had terms referencing the stimulus and fewer than 50% referencing the experiencer.

This asymmetry suggests that implicit causality is mediated by these derived dispositional terms. That is, the use of a certain verb activates the related dispositional term which then influences (often unintentionally from the speaker’s perspective) judgments of causality. Consistent with this, Hoffman and Tchir (1990) found a larger implicit causality effect for verbs with terms referencing the expected causal locus than for those that did not have a dispositional term (but see Rudolph & Fosterling, 1997, for an alternative interpretation). A separate experimental test of this hypothesis by these authors yielded conceptually similar results, as did a series of memory studies conducted by Holtgraves and Raymond (1995) in which participants were more likely to recall the names of agents (rather than patients) and stimuli (rather than experiencers).

An alternative view of implicit causality is that it reflects primitive schemas for thinking about interpersonal causality (Rudolph & Fosterling, 1997). Because of an agent-patient schema people tend to assign causality to agents rather than patients, and because of a stimulus-experiencer schema they tend to assign causality to stimuli rather than to experiencers. These schemas are assumed to operate independent of language; in fact, their existence is assumed to influence language (rather than the other way around). Thus, a tendency to view agents as responsible has resulted in the development of dispositional terms referencing agents rather than patients.

To a certain extent, the two mechanisms are not mutually exclusive, and which one operates may be a function of the task. Semin and Marsman (1994) demonstrated that if participants are asked to make dispositional inferences, then the lexical hypothesis receives support; participants are more likely to make dispositional inferences as a function of whether there is a derived dispositional term for the verb. In contrast, if participants are asked to make judgments of causality, then the existence of the derived dispositional term has relatively little effect on these judgments.

More generally, these two views of implicit causality reflect the reciprocal relationship between language use and social cognition, a topic that we elaborate on below. A tendency to perceive agents as causally responsible may influence the development of the lexicon (a diachronic effect) such that there are more derived dispositional terms referencing agents rather than patients. But then the existence of this linguistic asymmetry may influence the thought processes of language users (i.e., produce unintended consequences) when they use language on a particular occasion (a synchronic effect).

Syntax

In addition to the implicit semantics of verbs, predicate forms can vary in terms of their syntactic properties. This may encourage recipients to construct different mental representations and give rise to additional unintended consequences. A case in point is the research based on Semin and Fiedler’s (1988, 1991) linguistic category model. Their approach points to the role of different linguistic categories, including verbs and adjectives, in the recipient’s construction of meaning. Their scheme includes action verbs (amaze, anger) and state verbs (like, hate), both identical to the stimulus-experiencer and experiencer-stimulus verbs, respectively, in the Brown and Fish (1983) scheme. Action verbs are subdivided into descriptive action verbs (concrete and objective descriptions of observable events such as call, meet, visit, etc.) and interpretive action verbs (less objective and more interpretive verbs such as help, cheat, imitate, etc.). Their model also includes adjectives, a category that represents the endpoint of the abstractness continuum.

These categories differ in linguistic abstractness. Descriptive action verbs (e.g., talk) are the least abstract and revealing of the actor and the easiest to verify. Interpretive action verbs (e.g., help) are more abstract
and revealing but are less easy to verify. As a result, they are subject to greater observer disagreement; it is less easy to identify a behavior as constituting help than a behavior as constituting talk. The continuum then continues with state action verbs (e.g., surprise), followed by state verbs (e.g., like), and lastly adjectives (e.g., honest). As internal states, state verbs are less observable—and hence less verifiable and agreed upon—than are action verbs. State verbs are also more enduring than are state action verbs and hence more abstract and revealing about the person (an internal reaction that persists reveals more of an actor than one that is a momentary reaction to an event). Relative to verbs, adjectives (e.g., honest) are more abstract (they are not tied to a specific behavior) and reveal more about the person being described. It is related that they are less objective and verifiable than verbs. Almost any particular action can be described at different levels, and the predicate types chosen to describe that action can have important consequences. For example, Tom could be described as “hitting” Bob (a descriptive action verb), or more abstractly as “hurting” Bob (an interpretive action verb), or more abstractly yet as “hating” Bob (a state verb). Or, rather than describing the action, Tom might simply be referred to as an aggressive person. Linguistic abstraction can play an important role in social perception. When speakers describe behaviors in more abstract terms, their listeners form more abstract representations of these behaviors as well (Maass, Arcuri & Semin, 1989). In this way, variations in linguistic abstractness can contribute to the development and maintenance of stereotypes about outgroups, a phenomenon that we discuss in more detail below.

Pragmatics

A speaker’s intended meaning cannot be derived from syntax and semantics alone; additional interpretive processes are required. Traditionally, pragmatics represents the domain of language that considers the manner in which utterances are interpreted within a social and cultural context. This interpretive process can produce unintended consequences because interlocutors may differ in their assumptions regarding the operation of certain pragmatic rules (Holtgraves, 2005). There is research demonstrating that this can occur in psychology experiments because experimenters and participants sometimes make differing pragmatic assumptions (Hilton, 1995; Schwarz, 1996), a phenomenon that occurs with some frequency, as we describe below.

According to Grice (1975; see also Sperber & Wilson, 1986, 1995), all communication (including the communication of an experimenter in a psychology experiment) comes with a presumption of relevance. As a result, participants in psychology experiments will generally interpret the communications of an experimenter (including the stimulus materials used in the experiment) as if they were relevant, an assumption that may not have been intended by the experimenter. In other words, experimenters may provide participants with information to see if they use it. But participants, following standard pragmatic rules, assume that all information is relevant and so they use it. For example, in the classic Kahneman and Tversky (1973) studies, participants were provided with descriptions of a target person consistent with either a lawyer or engineer stereotype. In addition, the number (base rate) of lawyers and engineers in the sample was manipulated. Participants were far more likely to predict that the target was an engineer (or lawyer) when the description matched the engineer (or lawyer) stereotype even when the underlying base rate supported the other occupation. The usual interpretation of this finding is that participants’ judgments were based almost exclusively on the degree of similarity between the sample and a population and that participants failed to use appropriately the base-rate information that had been provided.

What seems to be crucial here are the instructions. Participants were told the description was based on personality tests administered by a panel of psychologists. This clearly represents individuating information rather than base-rate information, and because the experimenter gives this information to participants as part of the experimental procedure it seems reasonable that participants will assume this information is relevant (in Grice’s, 1975, sense) and should be used. Several studies have demonstrated that if the presumed relevance of the individuating information is undermined in various ways (e.g., by telling participants the descriptions were randomly generated), people are far less likely to use it (Igou & Bless, 2003; Krosnick, Li, & Lehman, 1990; Schwarz, Strack, Hilton, & Naderer, 1991).

Other judgmental biases can be interpreted in this way as well. For example, in the classic Jones and Harris (1967) study, participants read an essay presumably written by another student and were then asked to judge the essay writer’s true opinion regarding the issue. Some participants were told the essay writer had been instructed by the experimenter to adopt the position conveyed (forced-choice condition); other participants were told the writer’s position had been freely chosen (free-choice condition). Participants inferred the author’s position to be in line with the position advocated in the essay even when that position had been assigned and hence was not diagnostic of the writer’s true opinion. Participants are given information to use in performing a specific task (judging the essay writer’s opinion), and it is reasonable for them to assume that such information should be used (why else was it provided?). When the
relevance of the information is lessened, people are much less likely to use it. Wright and Wells (1988) replicated the Jones and Harris (1967) study but told some participants that the information given to them had been randomly selected and, hence, might not be relevant for the judgment task they were to perform. In this condition the fundamental attribution error was dramatically reduced.

Unintended pragmatic consequences can occur in psychology experiments in more subtle ways. Research participants may sometimes generate inferences to maximize the relevance of the experimenter’s communications, and because of this, pragmatic processes may play a role in how people respond to virtually any self-report measure. For example, Strack, Schwarz, and Wanke (1991) asked respondents to rate their happiness and their satisfaction with life, two questions that obviously are highly related. For some participants the two items were presented together at the end of a questionnaire; for others the life satisfaction item was presented as the first item in an ostensibly unrelated questionnaire. In the first situation the second question would appear to be redundant (it violates Grice’s, 1975, maxim of relevance) and so participants might reason that it must mean something different from the first. Why else would it be asked? Responses to the two questions differed significantly when they were part of the same questionnaire. Such a concern does not arise when the two items are part of two separate questionnaires, and responses to the two items were almost identical in this situation.

There are similar implications for the construction of response scales. Respondents assume that response scales are relevant in the Gricean (1975) sense, that is, they are a meaningful component of the questionnaire. Hence the numerical value of rating scales may be used by respondents to interpret the meaning of the scale’s response options (Schwarz, 1996; Schwarz, Hippler, Deutsch, & Strack, 1985; Schwarz et al., 1991).

In short, language use involves the production and comprehension of meaning within a web of pragmatic rules. Communication can be less than perfect and result in unintended consequences because of differing pragmatic assumptions. In the setting of a psychology experiment, this can result in unwarranted inferences regarding the relevance of the experimenter’s communication as well as the stimulus materials (for more detailed discussions of laboratory effects that can be interpreted in this way see Hilton, 1995; Hilton & Slugoski, 2001; Holtgraves & Anderson, in press; Schwarz, 1996). Of course such unintended consequences are not limited to experiments (see Holtgraves, 2005, for a demonstration of how speakers and recipients can differ systematically in their interpretations).

**LANGUAGE USE—COLLECTIVE EFFECTS**

The acts of both producing and comprehending language can alter, in significant ways, the mental representations of speakers (via production) and recipients (via comprehension). Nonetheless, the social cognitive implications of language use go beyond the speakers’ and recipients’ individual cognitions. For example, the telling of a story (what gets told and how it is expressed) is heavily influenced by the audience, an influence that continues during the course of the story-telling episode. In this way stories are jointly constructed and the internal representation of the story teller and the audience are collectively altered by the story-telling episode. It is not just story telling that is interactive in this sense; almost all talk can be viewed as being jointly constructed. For example, many real-life social judgments are elicited in a conversational context and these judgments are a result of this collaborative process. People are asked their opinions and whether they believe something is likely to occur, and so on. The manner in which the question is asked and the speaker’s beliefs about the state of the questioner’s knowledge can influence the answers that are given, thereby altering the representations of the interactants. For example, the attributions that people give in a conversational setting are sometimes based on assumptions regarding the recipient’s knowledge (Slugoski, Lalljee, Lamb, & Ginsburg, 1993); people tend to focus on and identify those causes of which the recipient is probably not aware. Similarly, people are more likely to convey stereotype-consistent information if they believe the recipient does not possess that particular information (Lyons & Kashima, 2003). Judgments, then, are not simply the result of intrapersonal cognitive processes but frequently the result of an interaction between those processes and certain relevant, pragmatic principles regarding communication. One consequence of this collaborative activity is that speakers and recipients coconstruct collective representations (Y. Kashima et al., 2007). Collective representations in this context are representations (a) that are held by the individual language users involved in the communication, (b) that represent the content of the mutual understanding, and (c) that are associated with collective identity, namely, representations about the holders of the mutual understanding. The speakers and recipients are likely to believe this collective representation to be reliable and valid to the extent that the communicators trust each other as a source of accurate information and therefore trust the holders of the collective representation (C. D. Hardin & Conley, 2001; C. D. Hardin & Higgins, 1996).

Echterhoff, Higgins, and Groll’s (2005) recent work speaks to this. As noted earlier, the SIB effect (Higgins
namely, an establishment of a mutual understanding and due to the collective implications of language use—the social cognitive consequences of language use is likely may have cognitive implications in and of itself, part of the SIB effect. To put it differently, although language use audience, and the more they trusted, the stronger was the extent to which the speakers trusted their audience. They trusted their ingroup member more than their outgroup audience, and the more they trusted, the stronger was the SIB effect. To put it differently, although language use may have cognitive implications in and of itself, part of the social cognitive consequences of language use is likely due to the collective implications of language use—namely, an establishment of a mutual understanding and the production of collective meaning.

**Intergroup Stereotypes**

Nowhere is a collective consequence of language use better illustrated than in the area of intergroup stereotypes. Stereotypes about ingroups and outgroups are often communicated and speakers must make choices about the words and phrases used to describe different targets, a process that can mutually influence the interactants' stereotypes. These linguistic choices can play a role in the perpetuation of intergroup stereotypes, a phenomenon referred to as the linguistic intergroup bias (LIB), or tendency to use differing levels of abstraction when describing the positive and negative actions of ingroup and outgroup members (Fiedler, Semin, & Finkenauer, 1993; Maass, 1999; Maass & Arcuri, 1996; Maass, Milesi, Zabbini, & Stahlberg, 1995; Maass et al., 1989).

An early demonstration of the LIB was provided by Maass et al. (1989). They showed members of different riding groups in Italy pictures of cartoons (one half socially desirable and one half socially undesirable) involving members of these different riding groups, including each participant’s own club (and hence one’s ingroup) and other clubs (outgroups). Participants were asked to choose an alternative that described the scene (Experiment 1) or to provide a free description of the scene (Experiment 2). When the cartoon depicted ingroup members engaged in positive behaviors, participants were more likely to use adjectives, words that reflect relatively enduring and stable qualities. When ingroup members were depicted as engaging in negative behaviors, participants described the behavior more concretely (with descriptive action verbs), thereby implying that the behaviors were unique and unstable and not revealing of the personal qualities of the actor. This tendency was reversed for cartoons depicting outgroup members; their positive behaviors were described concretely (descriptive action verbs) and their negative behaviors more abstractly (although the results were stronger for the positive than for the negative behaviors). Note that this bias is not restricted to groups but occurs at the individual level as well (Maass et al., 1995).

The LIB may be driven, in part, by a motivational tendency to protect one’s social identity. Evidence for this comes from the tendency for the LIB to increase when one’s ingroup is threatened (Maass, Ceccarelli, & Rudin, 1996). Also consistent with this motivational view is the demonstration that people scoring high on the need for cognitive closure (a desire to possess a definitive answer on some topic) are more likely than those low on this dimension to use a high level of abstraction when describing positive ingroup behavior and negative outgroup behavior (Webster, Kruglanski, & Pattison, 1997; see also Maass, Cadimu, Boni, & Borini, 2005). The LIB may also reflect a cognitive tendency to use abstract language for behaviors that conform to expectations (linguistic expectancy effect; Maass et al., 1989; Wigboldus, Semin, & Spears, 2000). Because positive behaviors are generally expected for ingroup members, there is a tendency to use more abstract language when referring to them. Evidence for this cognitive explanation has been provided by studies demonstrating the use of more abstract language for expected behaviors regardless of behavioral valence (Maass et al., 1995) and by Semin and Smith’s (1999) finding of a relationship between linguistic abstractness and memory; the more temporally distant an event, the more likely the event will be represented with an abstract term. Both motivational and cognitive factors are likely in operation in the production of the LIB (e.g., Maass et al., 2005). Although the literature draws a clear distinction between LIB and linguistic expectancy effect, in this review we will use the label of LIB throughout to avoid further complexity in exposition.

The LIB emerges in an instance of speakers’ language use. According to Wenneker and Wigboldus (in press), the LIB may occur either during encoding or during utterance production. Regarding the former, when people perceive outgroup members’ stereotype-consistent (typically negative) behaviors, they may construct more abstract linguistic representations (spontaneous trait inferences; Uleman, Newman, & Moskowitz, 1996; for demonstrations of this effect for stereotypes, see Stewart, Weeks, & Lupfer, 2003; Wigboldus, Dijkstra, & van Knippenberg, 2003). When given a chance, these generated abstract linguistic representations may be
used to describe groups, thus producing an LIB. Consistent with this, Wenneker, Wigboldus, and Spears (2005) showed that an LIB occurred when the group membership of a target was known at the time of encoding; it did not occur when group membership was not known. It is also possible for the LIB to occur during the course of utterance production, in the absence of linguistic representations about ingroups and outgroups. However, in this case the language user’s communicative intent is necessary for an LIB to emerge. Semin, de Montes, and Valencia (2003) have demonstrated that the LIB occurs only when a communicator has a clear communicative purpose; it fails to emerge when a communication goal is lacking.

A somewhat related issue is whether the LIB occurs spontaneously or strategically. People who can control their responses to explicit measures of prejudice do not control manifestations of the LIB, and measures of the LIB correlate with implicit but not explicit measures of prejudice (von Hippel, Sekaquaptewa, & Vargas, 1997). Wigboldus et al.’s results (2003) suggest the LIB deriving from the encoding process may be spontaneous. Nonetheless, the LIB may be used strategically as a means of influencing the opinions of others. For example, prosecution lawyers tend to describe a defendant’s actions with abstract language (to imply dispositionality); defense lawyers tend to use more concrete language (as a means of implying situationality) (Schmid & Fiedler, 1996, 1998; Schmid, Fiedler, Englisch, Ehrenberger, & Semin, 1996). Likewise, Fiedler, Bluemke, Friese, and Hofmann (2003) showed the effect of audience identity on LIB, and Douglas and Sutton (2006) have demonstrated the effect of language abstractness on perception of the speaker’s relationship with the recipient. Perhaps the most dramatic demonstration of strategic language use in the LIB is by Douglas and Sutton (2003), who showed that the linguistic intergroup bias can be overridden when participants are asked to provide descriptions that are designed to accomplish a particular goal (e.g., derogate a target).

However, the LIB is generated in an instance of language use; once it occurs, its effects can be observed in both recipients and speakers, illustrating the formation of collective representations among them. First, in receiving more abstract descriptions of the negative behaviors of an outgroup, the recipient of such communications is likely to form more stereotypical views of the outgroup; the abstract language serves to induce dispositional attributions regarding the outgroup (e.g., Wigboldus et al., 2000). Similar effects have been demonstrated to occur for the speaker, suggesting that the LIB can help to maintain one’s beliefs as well (Karpinsky & von Hippel, 1996). Although to the best of our knowledge no direct demonstration exists, a particular instance of LIB in language use may produce or strengthen the speakers’ and recipients’ collective representations about the intergroup stereotypes and may in the long run result in the formation and maintenance of the intergroup stereotypes culturally shared in the community at large (Maass, 1999).

**LANGUAGE AS ABSTRACT SYMBOLIC SYSTEM**

As we have seen, the use of language in a particular interaction episode has unintended social cognitive consequences for the speaker, the listener, and the collective. In these instances it is the effects of using a language—that is of critical importance. Language use is patterned, however, and those patterns may become linguistic practices (Y. Kashima et al., 2006). Examples of linguistic practices include dropping a pronoun (E. Kashima & Kashima, 1998; Y. Kashima & Kashima, 2003), using adjectives as opposed to verbs (Y. Kashima et al., 2006; Maass, Karasawa, Politi, & Suga, 2006), using contextual qualifiers (e.g., adding “when I am with my friends” in saying someone is sociable; Y. Kashima et al., 2006), and so on. If a certain linguistic practice is adopted repeatedly by a majority of the people in a linguistic community across a wide range of social contexts, this linguistic practice could have long-term and wide-spread social cognitive consequences. That is, a particular practice may have the unintended consequence of influencing the nature of the linguistic representations of its users. Furthermore, if this linguistic practice is used widely in a linguistic community for a long period of time, eventually it may be considered to be part of the language itself (a type rather than a token). At that point, the language system itself may be considered to have an influence on users’ social cognitive processes. As a collection of language users use their language system as a semiotic tool to construct and exchange their meaning in everyday activities, they engage in their preferred linguistic practice as a matter of habit; in so doing, they may end up affecting their own social cognitive processes, thus setting themselves apart from others who use a different linguistic practice and contributing to the formation and maintenance of cultural differences between the collectives.

In short, just as the use of language can have unintended consequences, so too can various features of a language have unintended consequences for social cognition and culture. The most well-known approach to this type of language–thought relationship is what is generally known as the Whorf-Sapir hypothesis (or more commonly, the Whorfian hypothesis), a cluster of ideas based on the writings of Benjamin Whorf (1956) and Edward Sapir (1921). The essence of the Whorfian
hypothesis is that the structure of the language one speaks serves to condition particular ways of thinking; in effect, language conditions thought. This hypothesis has been a lightening rod for debates regarding the nature of language, the nature of thought, and the relationship between the two. Although this hypothesis was largely discredited by the 1970s (at least among psychologists), there has been a clear resurgence of interest in these ideas (for reviews see Gentner & Goldin-Meadow, 2003; Gumperz & Levinson, 1996; Hunt & Agnoli, 1991). There is, for example, recent research demonstrating the effects of language on perceptions of color (Ozgen, 2004; Roberson, Davidoff, Davies, & Shapiro, 2004; Roberson, Davies, & Davidoff, 2000), time (Boroditsky, 2001), space (Levinson, 1997; Levinson, Kita, Haun, & Rasch, 2002; but see Li & Gleitman, 2002), and numerical cognition (Gordon, 2004).

There have also been demonstrations of the effects of language on social-cognitive processes. Perhaps the best known example in this regard is Bloom’s (1981) research on counterfactual reasoning. He argued that the Chinese language does not contain constructions (e.g., the subjunctive) that facilitate counterfactual thinking and that because of this English speakers more accurately and more easily engage in counterfactual thinking than do speakers of Chinese. Although his research provided support for this reasoning, his conclusions have proven controversial on several grounds (e.g., Au, 1983, 1984; Cheng, 1985; Chen, Chiu, Roese, Tam, & Lau, 2006; Liu, 1985), a controversy that illustrates some of the problems inherent in testing hypotheses regarding the effects of a specific language on thought.

In our view, there are two ways in which the language–thought relationship can be demonstrated. To illustrate, suppose that a cognitive task such as memory is used to examine the effects of language on cognition. This may involve the presentation of original information as stimuli (e.g., perceptual or linguistic) and the subsequent response to those stimuli (e.g., recall or recognition). To demonstrate a Whorfian effect one would need to demonstrate (a) that people use a particular linguistic practice to recode the stimuli into linguistic codes and (b) that the linguistically coded representations are used to produce the subsequent response to the cognitive task instead of the original information. Regarding cross-language comparisons (the typical procedure for detecting Whorfian effects), it is possible that a certain linguistic feature is present in Language A but absent in Language B. In this case, neither Condition A nor B can be satisfied for the users of Language B. However, this does not guarantee the detection of a Whorfian effect; Conditions A and B need to be satisfied for users of Language A. That is, for the detection of a Whorfian effect, the linguistic practice to use the particular feature of the language should be prevalent among users of Language A and the task should require the use of conceptual meaning rather than sensory perception.

A second possibility is that a certain linguistic feature is present in both languages but more prevalent in one group than in the other (i.e., more frequently used by more people in a greater number of social contexts). If more prevalent in one linguistic community than the other, this practice is more likely to be used to recode the original stimuli into linguistic representations. However, this is not sufficient to observe a Whorfian effect. The linguistic representations, rather than the original information, must be used to perform the cognitive task. This is likely when the original information is lost, less accessible, or less relied on for the later use. Consequently, a Whorfian effect may be more prominent in domains that require cognitive processes involving conceptual meaning (such as social cognition) than in those that are more based on sensory perception. To the extent that the responses require the use of representations that are more based on meaning and less based on sensory perceptions, people are more likely to use the linguistic representations than the original information.

In our view, then, the effects of language on thought should be stronger for domains that are less dependent on sensory experience and more reliant on conceptual meaning (for a summary of effects in the perceptual domain, see Gentner & Goldin-Meadow, 2003; Gumperz & Levinson, 1996). Social cognitive domains are good examples, and we review research in the realm of person perception that is consistent with these implications.

Person Perception

Although some of our perceptions of people have a sensory basis (e.g., Hassin & Trope, 2000; Montepare & Zebrowitz, 1998; Willis & Todorov, 2006; Zebrowitz, 1999), once we begin to contemplate our reaction, to ourselves or to others using language, then language can enter and play an important role in this process. An early and influential stage in the process of person perception is the assignment of people to categories, including dispositional categories. Obviously this cannot occur without the symbolic means to represent those dispositions. Language is a semiotic tool that facilitates this cognitive operation. However, languages differ in the lexical items that are available for categorizing others, and this creates the possibility that speakers of different languages may differ in their impressions of others.

A classic study conducted by Hoffman, Lau, and Johnson (1986) demonstrated this quite clearly. They presented Chinese-English bilinguals with personality descriptors. Two of the descriptions were consistent with a one-word label in English (but not in Chinese;
e.g., artistic type), and two were consistent with a one-word label in Chinese (but not in English; e.g., shi gu, a person who is worldly, experienced, reserved, socially skilled, and devoted to his or her family). Participants were randomly assigned to read the descriptions in either Chinese or in English, and then 5 days later their impressions of and memory for the target were assessed. Participants demonstrated schematic processing of the descriptions when the language they used provided a label for the description; their impressions were more congruent with the label and they were more likely to endorse nonpresented traits consistent with the label. In other words, participants formed a more stereotypical representation of the description when the language they used contained a relevant personality construct than when it did not. Hence, differences in the lexicon were associated with differences in the internal representation of the target.

The differential availability of words can also influence the perceptions of emotions in others. For example, Lindquist, Barrett, Bliss-Moreau, and Russell (in press) used an emotion word satiation procedure to investigate the effects of temporarily disabling an emotion word on emotion perception. When participants had an emotion term disabled (by repeating the word 30 times) they were slower and less accurate in making perceptual judgments about faces depicting emotions. It is important that this effect occurred when participants made comparison judgments that did not explicitly require the use of emotion words. In short, the speed and accuracy with which others’ emotions are perceived appears to be influenced by the temporary accessibility of the lexicon. There are, of course, clear and relatively dramatic cross-linguistic differences in the emotional lexicon (Goddard, 2002; Wierzbicka, 1999). For example, Polish lacks an exact equivalent for the English term disgust, Tahitian lacks an equivalent word for sadness, and so on. Based on the results of Lindquist et al., it would be reasonable to predict differences in the speed and accuracy of the recognition of emotions as a function of the language that one speaks (although see Breugelmans & Poortinga, 2006).

In addition to perceiving others, the language one speaks may also influence how one thinks about oneself. Numerous studies have demonstrated substantial and consistent differences between North Americans and East Asians regarding the reported self, with the former more likely to describe a private (rather than public) self and to report higher self-esteem than the latter (Bond, 1996; Heine, Lehman, Markus, & Kitayama, 1999; Trafimow, Triandis, & Goto, 1991). This difference, however, appears to be partially mediated by language. For example, Ross, Xun, and Wilson (2002) randomly assigned Chinese-English bilinguals to complete measures of self and mood in either English or Chinese. Those individuals responding in Chinese reported lower self-esteem, comparable levels of positive and negative mood, and more collective self-statements relative to participants who responded in English. Trafimow, Silverman, Fan, and Law (1997) found that when responding to “I am . . .” items in English, participants produced significantly more idiocentric cognitions than they responded in Chinese (in which case they produced more group cognitions). More recently, Marian and Kaushanskaya (2004) examined autobiographical memories recalled by bicultural Russian-English bilinguals. The memories recalled in English were more self-oriented (both in terms of content and in terms of using personal pronouns) and those recalled in Russian were more other-oriented.

**LANGUAGE, CULTURE, AND SOCIAL COGNITION**

As we argue above, differences among languages and linguistic practices can result in differing social cognitions. But what is the source of these linguistic differences? Taking a diachronic perspective, language and linguistic practices reflect the culture within which they develop (Lucy, 1992), with language use being the mechanism through which broad cultural orientations influence the development of language. Recall Figure 1 where token language use influences language change over time. More specifically, the collaborative and situated nature of language use results in language users’ being sensitive to cultural practices. Because of this, the use of language on any particular occasion reflects these cultural orientations, and over time consistent ways of representing culture linguistically become linguistic practices and eventually part of the language. In this regard, we have identified a broad cultural difference in terms of linguistic contextualization. In what follows we describe this pattern and its various manifestations and argue that this pattern both reflects cultural differences and helps to maintain them.

**Linguistic Contextualization Versus Decontextualization**

For illustration, it is useful to start with E. Kashima and Kashima’s (1998, Y. Kashima & Kashima, 2003) research on pronoun use and individualism and collectivism (Hofstede, 1980). Speakers of some languages such as English usually reference themselves and others when reporting on their actions (e.g., “I went to the show last night”); speakers of other languages often do not do this (e.g., “Went to the show last night”). In fact, Japanese speakers, as an example of the latter, drop the
The linguistic practice of pronoun drop (or pronoun nondrop) may be regarded as part of the grammar of such languages; namely, English may be regarded as a pronoun nondrop language, whereas Japanese is a pronoun drop language (see Shibatani, 1990). In pronoun nondrop languages, the explicit mentioning of a pronoun highlights the person that the pronoun refers to so that the target is decontextualized, whereas dropping a pronoun contextualizes the target in the context of speech. Requiring a pronoun (and hence making the target person salient) is a linguistic practice that is consistent with individualism’s emphasis on the person. Not requiring a pronoun (and hence not focusing on the individual) is a linguistic practice consistent with collectivism. Consistent with this reasoning, E. Kashima and Kashima (1998) reported that countries in which people speak a pronoun nondrop language score higher on Hofstede’s (1980) individualism and other correlated cultural variables than countries in which people do speak a pronoun drop language.

Their subsequent research (Y. Kashima & Kashima, 2003), using multiple regression analysis, found that pronoun variability, gross national product (GNP), and climate were all significant predictors of a country’s level of individualism and that pronoun variability had a significant effect on individualism even when GNP and climate were controlled. Furthermore, they found a significant GNP × Pronoun Drop interaction, suggesting that the effect of economic affluence on individualism may be moderated by pronoun use. Hence, as level of affluence rises within a culture, the extent to which this rising affluence may result in increased individualism may depend, in part, on whether members of that culture use a pronoun nondrop language, a language that forces them to identify explicitly the individual performer of action.

The linguistic practice of pronoun drop is a specific instance of a broader cultural pattern and tends to cooccur with other contextualizing linguistic practices. In particular, East Asian (pronoun drop) and some European (pronoun nondrop) languages appear to have different linguistic practices in describing social objects. Y. Kashima et al. (2006) reported that Korean speakers tend to use verbs but English speakers tend to use adjectives to describe a variety of social objects including the self and other, one’s and a friend’s relationships, and one’s family and a friend’s family. Likewise, Maass et al. (2006) showed that Italians were more likely to use adjectives when describing other individuals and groups and Japanese speakers were more likely to use verbs. Provided that adjectives are more abstract and devoid of contexts in which the target person’s behavior was observed, whereas verbs retain contextual information more, adjective use is a decontextualizing linguistic practice. In addition, Y. Kashima et al. reported that another contextualizing linguistic practice was also more frequently observed in Korean descriptions of social objects than English equivalents; Koreans were more likely to provide contextual qualifiers to a description of a social object (e.g., sociable when I am with friends) than were Australian English speakers.

These differences in contextualizing linguistic practices show up in other ways as well. Holtgraves and Yang (1992) demonstrated that the politeness of Koreans is more responsive to the social context (especially the inter-actants’ relative status) than is the politeness of North Americans. That is, Koreans were more likely to vary their levels of politeness as a function of the social context than were North Americans. More generally, there is a tendency for Koreans to speak more indirectly (to both produce indirect utterances and look for indirect meanings) than North Americans (Holtgraves, 1997). Speaking indirectly requires relatively greater attention to the context than does speaking directly (which is more context free). This difference is consistent with Hall’s (1976, 1983) description of the difference between high-context cultures (generally collectivist cultures) and low-context cultures (generally individualist cultures).

Taken together, in East Asian languages, contextualizing linguistic practices are more prevalent and decontextualizing ones less prevalent, than in European languages. What are the social cognitive correlates of such linguistic practices? First of all, decontextualizing linguistic practices such as the preferential uses of adjectives as opposed to verbs may contribute to memory processes. Maass et al. (2006) showed that there are memory effects paralleling the practice of lexical choice (adjective vs. verb) in person and group perceptions. Just as Italians tended to use adjectives and Japanese tend to use verbs, Italians were more likely to transform behavioral information (verbs) into traits (adjectives) and Japanese participants tended to falsely recall verbs when they had seen traits. In this case cultural differences in cognitive styles and linguistic preferences showed clear parallel trends. Second, different linguistic practices may encourage different attentional processes. In particular, Stapel and Semin (in press) showed that priming of a decontextualizing linguistic practice can result in a greater ability to disregard the context and to pay closer attention to the focal object. In their Experiment 3, they primed a decontextualizing or contextualizing linguistic practice (adjective vs. action verb use) by having their Dutch-speaking participants complete scrambled sentence tasks, so that when they reorganized the words to construct meaningful sentences, they would end up using either adjectives or verbs. They were then presented with Kitayama, Duffy, Kawamura, and Larsen’s (2003) frame-and-line test:
The task was to copy a line framed within a square into a larger or smaller square so that the drawn line had the same length as the original. After being primed with the decontextualizing adjective use, the participants could draw the line more accurately than when primed with the contextualizing verb use, thus showing the adjective users’ greater ability to disregard the context (differently sized squares).

It is possible that decontextualizing linguistic practices may jointly contribute to the formation and maintenance of the correspondence biases in attribution (Gilbert & Malone, 1995), a tendency to infer from the behavior of others a corresponding internal disposition such as a personality trait. This bias appears to be more prevalent in English speaking cultures than in Asian cultures (Miller, 1984, 1987; Morris & Peng, 1994; for reviews, see Choi, Nisbett, & Norenzayan, 1999; Y. Kashima, 2001). Using open-ended descriptions of an individual person, research has shown that Western person descriptions are more trait-based than are Asian person descriptions (e.g., Bochner, 1984; Cousins, 1989; Dhawan, Roseman, Naidu, Thapa, & Rettek, 1995; Rhee, Uleman, Lee, & Roman, 1995; Trafimow et al., 1991). Some research examining attitude attributions (e.g., Jones & Harris, 1967) has shown that English speakers are more likely to infer essay writers’ attitudes based on their essays than are East Asians (e.g., Choi & Nisbett, 1998; Y. Kashima, Siegal, Tanaka, & Kashima, 1992; Lee, Hallahan, & Herzog, 1996). Indeed, Kashima et al. (2006) showed that people’s tendency to use adjectives rather than verbs could account for English speakers’ greater tendency to use personality dispositional terms to describe themselves and others relative to Korean speakers, a well-known and well-established cultural difference (e.g., Rhee et al., 1995).

It is also possible that East Asians’ contextualizing linguistic practices may correlate with their tendency to construe the individual as embedded in a social context. Note that the linguistic practices of using verbs (rather than adjectives) and contextual qualifications tend to expand the scope of causal reasoning. Consistent with this, Choi, Dalal, Kim-Prieto, and Park (2003) and Norenzayan, Choi, and Nisbett (2002) have shown that East Asians regarded both actors’ dispositions and their contexts as the relevant causes of the actors’ behaviors, although North Americans regarded actors’ dispositions as the causes of their behaviors. It should be noted that this is different from the oft-remarked cultural difference of Western dispositionalism versus Eastern situationalism. It is that East Asians regard a broader set of causes (i.e., both disposition and situation) as responsible for action than do Westerners. This tendency to have a broader scope for causal reasoning extends to the consequences of events. Maddux and Yuki (2006) found that Japanese tend to think an event is likely to have longer and more distal effects than do their North American counterparts.

In this connection, Miyamoto and Kitayama (2002) demonstrated that cultural differences (American vs. Japanese) in the correspondence bias are partially due to differences in the generation of situational inferences, an activity that may reflect contextualizing linguistic practices. In their studies, participants indicated their judgments of an essay writer’s true attitude towards an essay topic. When the essay was minimally diagnostic regarding the writer’s true attitude, Americans exhibited a substantial correspondence bias (i.e., indicated that the essay revealed the writer’s true attitude) but the Japanese participants did not. In a second study, using a thought listing procedure, Japanese participants generated significantly more situation inferences than American participants when making their judgments online (but not when they were memory based). It is important that mediational analyses indicated that the number of situational inferences generated mediated the cultural difference in the correspondent bias. Hence, the failure of Japanese participants to demonstrate the correspondence bias was largely due to their tendency to generate situational (rather than dispositional) explanations for the writer’s behavior.

In this section we have described some of the social-cognitive correlates of contextualizing versus decontextualizing linguistic practices. Again, we view the relationship between language and social cognition as being reciprocal. That is, linguistic practices prevalent in a culture (e.g., contextualizing vs. decontextualizing) may enhance corresponding social cognitive processes as we described above (see also Stapel & Semin, in press). These social cognitive processes can further facilitate the use of those linguistic practices. In other words, once established, a particular linguistic practice and the corresponding social cognitive process form a positive feedback loop, which further entrenches the connection between language use and social cognition. Over time, this positive feedback loop is likely to influence the development of language and help maintain the cultural patterns within which it develops (cf. Ji, Zhang, & Nisbett, 2004).

**CONCLUSIONS AND FUTURE DIRECTIONS**

Language and social cognition are intimately connected because language is often the medium for developing, representing, retrieving, and communicating social impressions, judgments, beliefs, and so on. Although this fact is obvious, our understanding of it is rather preliminary. To be sure, a voluminous literature exists that examines the role of language in psychological processes. However, not all of it is useful for social psychology’s
interest in language. Specifically for social cognition, we believe that language is best viewed as a semiotic tool, a tool used for the creation and exchange of meaning. As with any tool, its use can have unintended consequences, and it is those consequences that have been the focus of this article (see Klein, Spears, & Reicher, 2007, for a treatment on a more strategic side).

A serious consideration of language can allow for the placement of many social cognitive processes in the activities within which they usually occur. Perceptions of others, judgments, attributions, and so on are often generated while talking with others, often times in response to others’ questions. Hence, these processes frequently occur within an interpersonal context. What appear to be internal, intrapersonal processes may instead reflect a complex interplay of intrapersonal and interpersonal processes, with language playing a critical role in both.

Clearly, then, it is important to study social cognition in its natural contexts, or at least more natural contexts. Of course this is neither easy nor straightforward. One approach is to incorporate language or conversation variables within a standard experimental procedure and examine their subsequent effects on recipients or speakers. For instance, research examining the influence of conversational contexts on person perception (e.g., Wyer, Budesheim & Lambert, 1990) and judgments (e.g., Schwarz et al., 1991) are good examples of this approach. Similarly, research on implicit causality and linguistic abstraction can be viewed as attempts to experimentally examine the influence of language variables on (primarily) the recipient’s cognitions, particularly in terms of stereotypes.

Experimental studies of the effects of language variables on recipients can be extended in many ways. There is, for example, some research examining how language can influence the persuasion process (Blankenship & Holtgraves, 2005) but much more could be done. Also, the role played by metaphors in political discourse and persuasion (Lakoff, 1996) is an area that is ripe for empirical research (see Ottati, Rhoads, and Graesser, 1999). Particularly important also would be studies examining the effects of sexist (e.g., Ng, 1990) and racist speech (e.g., Leets & Giles, 1997) on recipients’ perceptions, attitudes, and other social psychological reactions (e.g., Castelli, Vanzetto, Sherman, & Luciano, 2001), a topic that has not received the attention that it deserves. For example, do indirect insults result in more negative effects (because of required inferential processing) than direct insults? What is the role of the speaker’s credibility in these effects? Which features of an existing representation are activated with racist speech?

From the speaker’s perspective, the effects of using language on the speaker’s cognitions have been studied using various versions of the communication game paradigm (Higgins & Rholes, 1978; Echterhoff, Higgins, Kopietz, & Groll, in press). Typically this involves participants generating messages for others who have a known attitude toward the target. Participants clearly design their messages with the target in mind, and as we described above, doing so appears to have important cognitive (memory and judgment) consequences. This basic procedure has been modified in various ways to examine, for example, the relative effects of different communication goals (e.g., Echterhoff et al., in press), the interplay of communication goals and activated constructs (e.g., Sedikides, 1990), whether people correct their attitudes following the communication of their impressions (Todorov, 2002), and so on. This procedure can and should continue to be used to examine the effects of various aspects of language use on cognition. There are also related techniques that can be used for examining the influence of anticipatory (rather than actual) language use on cognition (Zajonc, 1960).

What’s missing from these approaches, of course, is the collaborative nature of language use. For example, in the communication game procedure, participants construct a message but the give and take of conversational exchanges is missing; it is a one-way communication situation. And this may be critical. Language use is an inherently collaborative activity (Clark, 1996) and hence many social-cognitive products are essentially joint constructions. That is, the mutual influence that occurs when people converse may influence their internal representations regarding what they are talking about. Important advances in this regard have been made by researchers examining the effects of collaborative language use (especially story telling) on memory and self representations (McLean et al., 2007; Pasupathi, 2001; Pasupathi, Stallworth, & Murdoch, 1998). There are numerous additional research possibilities here. For example, there are many variables (e.g., status, distance, formality, group size, etc.) that influence how people talk with one another. Do these variables then have a corresponding effect on interactants’ internal representations? Because people tell stories so frequently, do they acquire and process new information with a story-telling goal in mind? Also, do people who frequently tell self-stories have more stable identities (via repetition)? Or does telling self-stories to different audiences (and hence possibly altering those stories as a function of the context) result in a more fragmented self? Is the self as contextualized and discursive as social constructionists argue?

The collaborative nature of language use highlights also the importance of the pragmatic aspects of language use. An underlying principle here is that people strive to construct an interpretation of another’s communication that makes sense (i.e., is a relevant contribution), and this
sense-making process can have unintended consequences. In this article we have focused on the role of this principle in psychology experiments. In these studies, the experimenter provides participants with nonoptimal or irrelevant information to see if they use it. Participants, believing that any provided information is relevant, proceed to use it. It is important that these effects can occur in relatively subtle ways; sometimes the mismatch is inferential rather than explicit. An important future research task is to extend this analysis to other situations (both in the lab and out) in which there may be a mismatch between interactants in the presumed relevance of both provided and implicit information.

This approach can be extended by considering how adherence to conversational maxims may sometimes conflict with other social interaction rules. For example, Hodges and Geyer (2006) recently articulated a values-pragmatic account of the conformity experiments of Asch (1955). In this view, participants in the Asch experiments are faced with a conflict between the Gricean (1975) maxim of quality (tell the truth as you know it) and pressure to be attentive to one another’s face (Goffman 1967). Participants balance these conflicting pressures by varying their responses over trials—most often giving their own view (truth) but occasionally going along with the majority—a symbolic nod to the importance of managing their face.

Linguistic Practices and Language Structure

The effects of language on cognition have been viewed most frequently within the framework of the Whorfian (1936) hypothesis. Although this hypothesis remains controversial, there has been a clear resurgence of interest in these ideas. In our view, the effects of language on cognition will tend to be greater for more abstract and ambiguous domains (e.g., person perception) relative to more unambiguous and concrete domains (e.g., color perception). And for this reason we believe language and linguistic practices should play a relatively strong role in social cognition. In this article we have described research documenting how language differences in the number and type of dispositional terms, or whether pronouns are optional or mandatory, can influence how one thinks about others. These language differences do not necessarily prohibit or mandate specific patterns of thought (strong Whorfian effects) but they do clearly influence the nature of that thought. Hence, in our view research on language and social cognition can make important contributions to the Whorfian debate.

One of the fundamental difficulties with investigating the language–thought relationship is identifying unambiguously that it is a particular feature of language that is responsible for a particular cognitive effect. Comparing the performance of participants who speak different languages falls short in this regard. One useful alternative approach is to use bilingual participants and randomly assign them to perform a task with one of two languages (e.g., Boroditsky, 2001). Perhaps even more useful is a true experimental manipulation such as the emotion satiation task (Lindquist et al., in press), a procedure through which certain parts of the lexicon can be temporarily disabled and the subsequent effects of that disabling on cognitive performance examined.

Language, Culture, and Social Cognition

There are clear cultural differences in some of the most basic features of language and language use, and it would be surprising if these differences were not related to cultural differences in social cognition. We have argued that linguistic practices both reflect these cultural differences as well as help to maintain them. Foremost in this regard are differences in linguistic contextualization, a cluster of language variables that both reflect and maintain the broad cultural patterns of individualism and collectivism. These differences in linguistic contextualization may underlie a variety of cultural differences in social cognition such as person perception, the fundamental attribution error, self perception, and so on.

Although we view the relationship between language and culture as being reciprocal, the nature of this relationship changes as a function of the time frame with which it is viewed. That is, a certain way of culturally based thinking can play a role in the development of language. So a tendency to think of agents as causally responsible contributes to the development of verbs with derived dispositional terms referencing agents rather than patients. But people who now acquire that language will be affected by this structural feature—they will be more inclined to think of agents rather than patients as being causally responsible. Similarly, culturally based linguistic practices (e.g., describing others with adjectives) can influence particular ways of thinking (e.g., thinking about others dispositionally) with these ways of thinking contributing to the maintenance of this linguistic practice. Note that in this way both language and culture (independent of language) can simultaneously play a role in certain cognitive activities (Ji et al., 2004).

It should be noted also that culture can enter into the relationship between language and social cognition in a different way as well. Specifically, cultures differ in terms of their attitudes toward language use, and such differences can moderate the influence of language on cognition. For example, Kim (2002; Kim & Markus, 1999) has argued that in the West there is generally a positive view...
of language use; talk is assumed to reflect one’s thought processes and hence represents a means of conveying one’s individuality. In contrast, in East Asian cultures talking is viewed less positively. Talk is believed to interfere with thinking, and rather than facilitating relationships (as assumed in the West) it is often regarded as harmful. Hence, to the extent that one’s thoughts are influenced by the process of verbalizing those thoughts, such effects are more likely to occur in Western cultures (where talking is viewed more positively and occurs more frequently) than in Eastern cultures (where talking is viewed less positively and occurs less).

Language is implicated in a wide variety of social cognitive processes, from the creation, maintenance, and transformation of internal representations to the joint construction of collective representations. Both the nature of the language that one uses and the act of using that language play important roles in these processes. Clearly, an examination of language and language use can foster a clearer understanding of a variety of social cognitive phenomena.

NOTES

1. It should be noted that there is an alternative, but related, implicit causality explanation proposed by Kasof and Lee (1993). They argued that implicit causality is a function of the differential salience of sentence subjects and objects evoked by different verb types. In their research, agents were perceived to be more salient than were patients, and stimuli more salient than were experiencers. The salience ratings were highly correlated with ratings of causality obtained in other experiments, a finding interpreted as demonstrating that salience mediates implicit causality. Additional support for the salience hypothesis comes from the finding that sometimes voice (passive vs. active) can have an effect on perceived salience and causal judgments (although the effect is small relative to verb class effects; Rudolph & Fosterling, 1997).

2. Although recent interest in these ideas frequently cite Whorf (1956) and Sapir (1921) as originators, the basic ideas actually have a relatively long history (see Gumperz & Levinson, 1996).

REFERENCES


