Banaji, M.R., Lemm, K.M., and Carpenter, S.J. (2001). The social unconscious In A. Tesser and N. Schwarz (Eds.), Blackwell Handbook of Social Psychology: Intraindividual Processes. Malden, MA: Blackwell Publishers, Inc.

Chapter Seven

The Social Unconscious

Mahzarin R. Banaji, Kristi M. Lemm, and Siri J. Carpenter

Contemporary social psychologists are aware that long before concepts of cognitive mediation were admissible in scientific psychology, their predecessors had been sufficiently entranced with matters of mind to study them even at risk of marginalization by the then dominant antimentalists. The first social psychologists were bold not so much in their recognition that thinking, feeling, and motivation were fundamental mental systems – for hundreds of years, thinkers even in the western world, had known the same. The unique audacity of these psychologists was in the belief that thought, feeling, and motive could be scrutinized, manipulated, and subjected to experimentation in a manner not unlike the treatment accorded to particles, ions, and bacteria. It should be of little surprise then, that a field so confident a century ago that processes of conscious mental life could indeed be measured is now equally confident about measuring mental life that lies beyond consciousness.

Johnson-Laird's (1983) question "What should a theory of consciousness explain?" produced four components, *awareness*, *control*, *intention*, and *self-reflection*, that a tractable theory of consciousness must explain. The focus of this chapter is on the hidden side of consciousness, which leads us to focus on the inverse of these components: thoughts, feelings, and actions performed outside conscious awareness, without conscious control, or without intention. At this stage, research on unconscious processes reflects a basic attempt to demonstrate that particular unconscious processes occur at all, to trace the boundary conditions of their operation, to document the full richness of the systems that are engaged (cognition, affect, motivation) and the levels of social objects they include (e.g. self, other, social group). With a strong emphasis on developing robust and replicable methods for investigation, researchers have asked: can knowledge that resides outside conscious awareness influence social thinking, feeling, and action? Is unawareness actually a precondition for observing particular effects? How should we characterize attitudes that are fully within

This research was supported by grant number SBR 9709924 from the National Science Foundation. We thank Richard Hackman and Aiden Gregg for their helpful comments and suggestions.

awareness but relatively outside conscious control? Is it possible to consider the unconscious activation of goals and motives as we have come to accept unconscious cognition and affect? What do these investigations imply regarding the notion of free-will, particularly as it concerns assumptions about the freedom or constraints to think, feel, and act toward one's self and others? These are among the questions that have mattered to contemporary psychologists interested in the analysis of the social unconscious.

Research on unconscious processes does not, unfortunately, reflect a sensible observance of terminology of constructs and processes. Terms like *automatic*, *implicit*, *unconscious*, and *indirect* are often used interchangeably, and sometimes to refer to divergent underlying processes (e.g. awareness versus control). In recognition of our own complicity in creating this confusion, we attempt to restore some order for future discussions by using the term *unconscious* to refer to the family of processes that occur outside conscious awareness, without conscious control, or without intention to perform. The use of the term *unconscious* reflects a deliberate attempt to capture its usage from still largely psychodynamic meaning. In addition, we use the term *implicit* to refer to those processes that operate without the actor's conscious awareness, and the term *automatic* to refer to processes that operate without the actor's conscious control. In time, these issues and concerns about predictive validity and relationships among families of measures will be resolved. However, progress will be greatly speeded-up by charting a clear research agenda and encouraging greater collaboration across laboratories with divergent perspectives and methodological allegiances.

Much social psychological research can be said to be, in essence, the study of processes that operate outside conscious awareness and intention. After all, experiments must routinely create circumstances in which the behavior that is observed and measured is free of the concerns of social desirability and demand characteristics, and in that sense unawareness about the source of influence on behavior is the norm. Yet, it is only more recently that unconscious processes in social behavior have been examined in their own right, rather than as a methodological by-product of social psychological experimentation. This review revolves around those experiments that bring a deliberate focus to unconscious processes because of a genuine interest in the limits on introspection, in understanding the extent and nature of the social unconscious, and in using the study of unconscious processes as the basis to challenge commonplace notions of individual responsibility on the part of social actors, and assumptions of justice in interpersonal treatment of social targets.

Over two hundred years ago, Immanuel Kant wrote:

> We can reduce all the powers of the human mind, without exception, to these three: the *cognitive power*, the *feeling of pleasure and displeasure*, and the *power of desire*. It is true that philosophers who otherwise deserve unlimited praise for the thoroughness in their way of thinking have asserted that this distinction is only illusory, and have tried to bring all powers under nothing but the cognitive power. Yet it is quite easy to establish, and has in fact been realized for some time, that this attempt to bring unity into that diversity of powers, though otherwise undertaken in the genuine philosophic spirit, is futile. (Kant, 1790/1987, p. 394; italics in original)

Two centuries later, we find it worthwhile to retain this triumvirate, and are bemused by the similar dominance of the "cognitive power" then, as it is now. We include research

on unconscious forms of affect, and note that research on unconscious motives is at such an early stage of development that it would be hard to provide a responsible review of such work at this time.

This chapter brings together selected samples of research on unconscious processes as they inform cognition and affect (for reviews see Bargh, 1997; Bornstein & Pittman, 1992; Greenwald, 1992; Kihlstrom, 1990; Kihlstrom, Mulvaney, Tobias, & Tobis, in press; Uleman & Bargh, 1989; Wegener & Bargh, 1998). By necessity, the treatment here is not historical, and the attention to any single area is superficial. Should the review reflect a sense of the potential pervasiveness and emerging lawfulness of unconscious processes as they are revealed in social life, it will have succeeded.

Unconscious Cognition

By far the most research attention has been devoted to the study of unconscious social cognition. This is not surprising because of disproportionate attention given to the study of social perception, attention, memory, categorization, and judgment more generally. In this section, we devote our attention to three aspects of unconscious social cognition: the study of self, other, and social group. Admittedly, the demarcation is somewhat arbitrary, but it will allow us to build the case that a wide bandwidth of learning has become possible within a relatively short time on how humans think about themselves, others individuals, and the social groups of their species.

Self

Proposals to study the self as a cognitive structure have appeared since the 1970s (see Banaji & Prentice, 1994; Markus, 1977; Greenwald & Pratkanis, 1984; Kihlstrom, Cantor, Albright, Chew, Klein, & Niedenthal, 1988; Klein & Loftus, 1990; Linville & Carlston, 1994) and these set the stage for contemporary research on unconscious processes involving the self. These position papers and experimental accounts placed the study of self firmly in cognitive space, often using the dominant language of models that allowed a connection to established constructs such as memory (e.g. Greenwald & Banaji, 1989; Klein, Loftus, & Kihlstrom, 1996). The language of these models and the demystification of self that emerged out of these accounts permitted unconscious self processes to also be measured. The research may roughly be separated into analyses of the unconscious manner by which shifts in self-related processes such as self-presentation and self-evaluation occur, and the role of unconscious self-related processes in guiding an understanding of the social world.

The most illustrative findings that show that unconscious activation of significant others can have implications for self-evaluation come from studies in which the priming procedure uses subliminal presentation. Baldwin (1994) used subliminal primes to activate representations of a significant other (one's adviser) who is critical or accepting in orientation and showed parallel shifts in views of self; also, that approval or disapproval from

unconsciously activated others can influence one's evaluation of one's own work (Baldwin, Carrell, & Lopez, 1990). Besides the role accorded to significant others, the idea that membership in social groups has repercussions for individual psychological functioning has been of perennial interest to social scientists (see Walsh & Banaji, 1997, for a review). In its most recent form, this idea has led to research suggesting a potential link between activated knowledge of beliefs about one's group and performance on ability tests. Steele and Aronson (1995, p. 808) point out that "the existence of a negative stereotype about a group to which one belongs . . . means that in situations where the stereotype is applicable, one is at risk of confirming it as a self-characterization, both to one's self and to others who know the stereotype. That is what is meant by stereotype threat." In their experiments, Black Americans underperformed on tests of intellectual ability, and women underperformed on tests of mathematical ability (Steele, 1997) when subtly made aware of their group membership or the link between the group and the negative attribute. Several additional demonstrations of this finding now exist. For example, Levy (1996) showed that subliminally activated negative stereotypes about old age creates decrements in memory performance among elderly subjects; Croizet & Claire (1998) showed that eliciting information about parents' level of education led to a decrement in verbal ability among low SES students; Shih, Pittinsky, & Ambady (1999) showed that activating gender identity or ethnic identity among Asian women shifted performance to be respectively inferior or superior on a math test. Evidence about the robustness and ease of replication of these effects is only just beginning to be determined, and the mechanisms by which such effects are produced are not yet identified. Yet their implications for the ease with which equality and fairness in treatment can be compromised by group membership are sufficiently shocking to require particularly intensive study by investigators with varying theoretical perspectives.

In other research we learn that who one is and how one assesses oneself can implicitly influence views of others, just as we observed previously that significant others and social groups can influence judgments of self. Spencer, Fein, Wolfe, Fong, and Dunn (1998) showed that threat to self-image can automatically activate stereotypes of social groups even under conditions that otherwise do not produce such activation. And Sedikides & Skowronski (1993) showed the role of self in forming impressions of others more generally, by demonstrating that central dimensions of the self-concept were influential in judgments of others. Perhaps the most impressive corpus of research showing the role of one's significant others in shaping social perception has been obtained by Andersen and her colleagues (Andersen & Glassman, 1996). In providing the first experimental evidence for transference, they show that activation of information pertaining to significant others implicitly lead to inferences about new individuals that mimic representations of significant others and self. Moreover, such activation can also elicit facial affect that captures the evaluation of the significant other and produces behavioral confirmation in interpersonal interaction.

To demonstrate the role of unconscious processes in short-cuts to self-evaluation, Swann, Hixon, Stein-Seroussi, & Gilbert (1990) demonstrated that under conditions of limited cognitive capacity, participants showed a simpler preference for self-enhancing social agents, whereas the availability of resources led to more informative self-verifying strategies. It also appears that processes of social comparison occur with minimal cognitive resources or intention to compare, and even when the source of comparison is nondiagnostic for self-

assessment. Social comparison can lead to decrements in self-evaluation in such cases when resources are unavailable to adjust for the inappropriate comparison (Gilbert, Giesler, & Morris, 1995).

Studies showing the involvement of unconscious self-related processes are numerous, and these examples are selected to show that lack of both awareness and control play a role in assessments of self, and that self-knowledge and personal relationships can unconsciously influence assessments of the surrounding social world. The breakdown of simple distinctions between thinking and feeling are quite obvious in many analyses of self, and examining the role of unconscious processes shows such interrelations among mental systems to be fundamental, and defying of our imposed separation of these systems for expository purposes.

Other

Few topics in social psychology can be regarded as more central to the field's mission of understanding the stuff of human relations than the processes involved in one person observing, understanding, and assessing another. Although Katz and Braly (1933) and Icheiser (1949) explicitly recognized the role of unconscious processes in person and group perception, it was a later generation of experimenters who with their newfangled technologies studied the unconscious operation of person perception: to what degree and in what manner, they asked, are awareness, control, and intention components of the pervasive act of judging others? It is now clear that spontaneous, fluid, and effortless acts of person perception, when brought under scientific scrutiny, reveal the operation of a vastly intricate thought system, able to perform social gymnastics of incredible speed and elegance. The social gymnast, however, does not always land on the balance beam. The research we review shows also a more clumsy side of person perception: susceptibility to situational intrusions, the constraints of routinized thought patterns, of errors in computation and application that create costs of varying magnitude.

Implicit perception of others stems from the constructs in the perceiver's mind Among the highlights of this research literature are experiments conducted by Higgins, Rholes, & Jones (1977) which appeared without heralding the study of unconscious processes in person perception. Yet it ushered in a wave of research that has produced what some regard to be a law of social perception: constructs that are active in a perceiver's mind implicitly shape perception and judgment of others (Sedikides & Skowronski, 1990). Participants read material that served to activate knowledge about personality qualities such as "stubborn" or "persistent." Later, in a test of reading comprehension ostensibly unrelated to the previous session, participants judged an ambiguously described target to be more in line with the previously activated knowledge; those who had been primed with "stubborn" were inclined to find the target to be relatively stubborn, and others who had been primed with "persistent" judged the identical target to be more persistent. Participants in such experiments were not *aware* of the influence of previous experience in shaping their judgment, and in the absence of such awareness, there was no opportunity to *control* judgment. Certainly, we assume that participants *intended* to provide an unbiased judgment, on the basis of the actions of the target. Yet, as this experiment and the countless others using

variations of this procedure suggest, person perception can be guided by factors that may emanate elsewhere, outside consciously accessible cognition (see Higgins, 1996, and Sedikides & Skowronski, 1990, for reviews).

The many experiments that followed on the heels of Higgins, Rholes, & Jones (1977) served as more than just the clean-up crew. These experiments, continuing up to the present, reveal a rich understanding of unconscious person perception. Additionally, theoretical frameworks of various levels of specificity have been proposed that offer working explanations, suggest useful metaphors, and specify mechanisms (Higgins, Bargh, & Lombardi, 1985; Higgins, 1989; Herr, Sherman, & Fazio, 1983; Martin, 1986; Wyer & Srull, 1980). While we cannot review the theoretical models here, it is clearly the case that the experimental findings and theoretical attempts to understand unconscious person perception (e.g. recency, frequency, awareness, specificity, chronicity, contrast) have allowed hidden aspects of unconscious processes themselves to be revealed. Together, they have created a view of person perception that is altogether more complex and complete, and more troubling in its implications: perceivers believe that their judgments of others reflect properties of the target, and not of the thoughts that are implicitly active in their mind. That such influences on judgment occur without the intention to create bias in the judgment process, and without awareness that such bias may even exist, starkly raises the question of the extent to which "mental due process" (Banaji & Bhaskar, in press) in interpersonal interaction can be assumed.

The robustness of a theoretical construct is evident when a diversity of applications provide supporting evidence for the principle. The activation of constructs, either temporary or chronic, have been shown to influence behavior in a variety of domains: desire to work with a gay person (Johnson, Bryant, Jackson, Gatto, Nowak, & MacVittie, 1994); reducing risk of pregnancy (Norris & Devine, 1992); increasing the assessment of "alcoholic" (Southwick, Steele, & Lindell, 1986); explaining the cognitive states of depressives (Gotlib & McCann, 1984); priming aggression by sports (Wann & Branscombe, 1989); explaining individual differences in aggression (Graham & Hudley, 1994); increasing judgments of women as sexual objects (Rudman & Borgida, 1995); implicating television viewing as a vehicle of priming (Shrum & O'Guinn, 1993); the role of chronic accessibility in electoral choice (Lau, 1989); and the role of priming self-interest in political reasoning (Young, Thomsen, Borgida, Sullivan, & Aldrich, 1991).

Implicit perception of others follows from spontaneous trait inferences The construct accessibility literature shows that our judgments of others are influenced by the concepts that are active in our own minds at the time of perception. But what exactly is perceived when we observe others' behavior? Knowing that there may be multiple causes for behavior, to what do we attribute a particular action? Following decades of research in person perception beginning with Lewin and Heider, we know that the most common inference made is a trait attribution – we encounter a behavior, and infer that some trait about the actor must be associated with its occurrence.

Uleman and colleagues (Newman & Uleman, 1989) kicked off a controversy in the field of person perception by suggesting that traits are inferred spontaneously, or possibly automatically, upon encountering a behavior. In an early demonstration, Winter and Uleman (1984) had participants study descriptions of people performing behaviors that implied traits, such as "the sailor leaves his wife with 20 pounds of laundry." Later, partici-

pants were asked to recall the sentences they had previously read, given recall cues that were either traits that had been implied by the sentences (e.g. inconsiderate), non-trait semantic associates of the sentences (e.g. sea or wash), or no cue. Trait cues facilitated sentence recall better than no cue, and as well as or better than strong semantic associates, suggesting that participants had automatically made trait inferences at the time of learning about the behavior.

The original STI effect has been replicated in many iterations, providing convincing evidence that traits are inferred outside of conscious awareness (Moskowitz & Roman, 1992) and without conscious impression-formation goals (e.g. Skowronski, Carlston, Mae, & Crawford; 1998; Uleman, Newman, & Winter, 1992; Whitney, Waring, & Zingmark, 1992). Although the trait-cued recall paradigm has been challenged methodologically (D'Agostino & Beegle, 1996), evidence that traits are inferred spontaneously at encoding has been provided by research using methods other than cued recall, including probe recognition (Uleman, Hon, Roman, and Moskowitz, 1996), savings in a relearning task (Carlston & Skowronski, 1994), and using blatant or subtle priming at encoding to inhibit or facilitate STI (Newman & Uleman, 1990).

Spontaneous trait inferences may provide input to dispositional inference processes The bulk of the evidence suggests that most trait inferences made without intention are inferences about *behavior*, not dispositional inferences directly linked to the actor (e.g. Carlston, Skowronski, & Sparks, 1995; Moskowitz, 1993; Uleman, Moskowitz, Roman, & Rhee, 1993; Whitney, Davis, & Waring, 1994). However, STI may play an essential role in the formation of personality inferences. Several models of person perception have proposed that dispositional inference proceeds in multiple stages, the first of which requires minimal cognitive resources or control, and may thus be considered spontaneous or automatic (e.g. Burnstein & Schul, 1982; Brewer, 1988; Higgins, Strauman, & Klein, 1986; Ross & Olson, 1981).

Trope's two-stage inference model (Trope, 1986; Trope & Liberman, 1993) and Gilbert's three-stage model (Gilbert, Pelham, & Krull, 1988; Gilbert & Krull, 1988; Gilbert & Osborne, 1989) propose that observed behavior, the situation in which it occurs, and prior information about the actor are automatically identified in terms of underlying traits (e.g. "this is a friendly behavior"). The output of this automatic identification stage in turn becomes the input for the dispositional inference, in which behavioral, situational, and prior information that has been identified in terms of traits is combined to form a trait attribution about the actor. Experimental evidence shows that people make behavioral identifications even under conditions of diminished cognitive resources, whereas conscious correction for situational contributions to behavior may be inadequate if perceivers do not have adequate cognitive resources (Trope & Alfieri, 1997; Gilbert, Pelham, & Krull, 1988). The implications about human nature and nurture from these models are also troubling: because people are so often engaged in concurrent activities, behavior characterizations are often not appropriately adjusted for situational contributions to behavior. This can tilt toward trait- (rather than situation-) correspondent inferences, a phenomenon also termed the fundamental attribution error (Ross, 1977).

What early attribution theorists had predicted, research over the last twenty years has confirmed about the swift and remarkably sophisticated inferences that are made about

individual others in one's social world. The methods that are used are reliable, and this has allowed a healthy exporting of methods outside the laboratories in which they were developed. The theories of human inference processes in social context that have emerged are creative and continuously generative of research. All in all, research on unconscious processes in perceiving, understanding, and judging others shows how intelligent but fallible systems operate within the constraints of the cognitive architecture that evolution and learning allows and the demands of daily social life.

Social group

Perhaps the most distinguishing mark of social psychological research on unconscious processes is its interest in the social group as a legitimate unit of analysis. In the previous sections, we discussed how judgments about individual personality qualities can arise from unconsciously perceived sources. In this section, we discuss research on the unconscious activation of stereotypes and their application in judgments of individuals and groups. In the next section on unconscious affect, we will review related research on attitudes of prejudice that reside outside of conscious control or awareness.

As has often been argued, stereotypes about social groups are heuristics that simplify and organize perception of the social world. In so doing, beliefs about social groups and their use in individual judgment merely reveal ordinary processes of learning and generalization. Our discussion of these particular short-cuts will show the various ways in which unconscious processes reveal their presence. Our discussion will also point out the moral question that emerges from this rather ordinary discovery about category learning, generalization, and inferences. Stereotypes exact a toll by subsuming individuals into the larger social categories and by giving to individuals privileges and punishments that are not their due. We noted previously that social judgment may not reflect the actions of the target but of unconsciously applied constructs in the perceiver's mind. It is unsettling, at least in societies that consciously affirm that judgments ought to be based on the "content of one's character," to discover the extent to which judgments of individuals may reflect beliefs about their social group.

Unconscious stereotypes are rooted in social categorization A rich literature on social categorization processes indicates that such processes are automatically prompted by the mere presence of a stimulus target (Banaji & Hardin, 1996; Blair & Banaji, 1996; Blascovich, Wyer, Swart, & Kibler, 1997; Brewer, 1988; Eckes, 1994; Fiske & Neuberg, 1990; Ford, Stangor, & Duan, 1994; Hamilton & Sherman, 1994; Perdue, Dovidio, Gurtman, & Tyler, 1990; Pendry & Macrae, 1996; Stangor & Lange, 1994; Stroessner, 1996; Zárate, Bonilla, & Luévano, 1995). And in the mind of the social perceiver, stereotypes that accompany a particular category automatically accrue to its members.

Unconscious stereotyping is ubiquitous In an influential demonstration of unconscious race stereotyping, Devine (1989) found that subliminally presenting race information influenced how participants subsequently judged the ambiguous behavior of a race-unspecified target. Both high- and low-prejudiced participants rated the target as more hostile when

they had been presented with a list containing 80 percent stereotypically black words (e.g. jazz, basketball, Africa) than when the list contained only 20 percent stereotypically black words. Devine's evidence that stereotypes could be automatically activated by presenting cues about a stereotyped group inspired research on how stereotypes operate without conscious awareness, control, and intention (see Fiske, 1998, and Greenwald & Banaji, 1995, for reviews). This body of research provides strong evidence that beliefs about social groups are readily activated, and influence perception of the target. What's more, the research suggests that unconscious processes not only facilitate stereotyped responding but also inhibit counterstereotypical associations, perhaps making stereotypes additionally resistant to changing in the face of atypical group exemplars (Trope & Thompson, 1997; Van Knippenberg & Dijksterhuis, 1996).

Gender, as a category, has received much attention, in part because of its fundamental nature and presence in all human societies and in part for its convenience in not attracting attention to social category as the focus of the experiment (Banaji & Greenwald, 1995; Banaji & Hardin, 1996; Blair & Banaji, 1996; Dunning & Sherman, 1997; Lambert, 1995; Macrae, Bodenhausen, Milne, & Thorn, 1997; Nelson, Acker, & Manis, 1996; Pratto & Bargh, 1991). This research has shown that information about one's gender, whether conveyed through names, pictures, or gender stereotypical words, exerts an unconscious influence on judgment. For example, Banaji and Greenwald (1995) found that more male names than female names were identified as famous under conditions of memory uncertainty, suggesting that stereotypical beliefs about fame were implicitly applied in assigning fame to people. In other research, using traditional semantic priming procedures, participants were found to more quickly identify male and female target names (Blair & Banaji, 1996) or pronouns (Banaji & Hardin, 1996) when the names matched the gender stereotypicality of the primes than when they were incongruent with the primes.

Support is also found for the unconscious operation of race stereotypes (Bodenhausen, Schwarz, Bless, & Wänke, 1995; Dovidio, Evans, & Tyler, 1986; Gilbert and Hixon, 1991; Glaser & Banaji, 1998; Kawakami, Dion, & Dovidio, 1998; Lepore & Brown, 1997; Spencer, Fein, Wolfe, Fong, & Dunn, 1998; Von Hippel, Sekaquaptewa, & Vargas, 1997; Wittenbrink, Judd, & Park, 1997). These studies show, for example, that race stereotypes are easily activated upon encountering members of stereotyped groups (e.g. Gilbert & Hixon, 1991; Gaertner & McLaughlin, 1983; Lepore & Brown, 1997). Other research has indicated that activating unconscious stereotypes can influence not only individuals' judgments of others but also their overt behavior (Bargh, Chen, & Burrows, 1996). Such experiments starkly reveal that perceivers may have less control over the knowledge they use in social interaction than they or even the scientists who study them may have assumed. When knowledge about the social groups to which one belongs enters into the equation of social judgment early and with force, it can shape the cumulative record of social interaction without the hindrance of awareness or hence responsibility.

Is unconscious stereotyping unavoidable? Despite the preponderance of evidence that unconscious stereotypes hold a tight grasp over everyday thinking, the extent to which they are related to explicit beliefs and attitudes, the circumstances under which they are activated, and the degree to which unconscious stereotypes can be brought under deliberate control remain less certain. The question of the relationship between conscious and

unconscious measures emerged early. Are those who hold weaker forms of conscious stereotypes also likely to evidence weaker forms of unconscious stereotypes? Early attempts to address this question suggested that unconscious stereotypes, assessed indirectly by examining nonverbal behavior, social perception, memory, and speeded reactions to social stimuli, are often unrelated or only slightly related to explicitly expressed stereotypes assessed by self-report measures (Banaji & Greenwald, 1995; Banaji & Hardin, 1996; Devine, 1989; Dunning & Sherman, 1997; Gaertner & McLaughlin, 1983; Hense, Penner, & Nelson, 1995; Von Hippel, Sekaquaptewa, & Vargas, 1997; Wittenbrink, Judd, & Park, 1997). However, there is also a body of recent evidence that suggests the contrary (Augoustinos, Innes, & Ahrens, 1994; Dovidio, Brigham, Johnson, & Gaertner, 1996; Hense, Penner, & Nelson, 1995; Kawakami, Dion, & Dovidio, 1998; Lepore & Brown, 1997; Locke, MacLeod, & Walker, 1994; Wittenbrink, Judd, & Park, 1997).

Lepore and Brown (1997, 1999) argued that individual differences in consciously expressed prejudice should predict unconscious stereotyping. Using a procedure similar to that used by Devine (1989), Lepore and Brown subliminally primed high- and low-prejudiced participants either with evaluatively neutral words that connoted the social category Blacks (without connoting particular stereotypes), or with nonsense syllables. Then, participants read behavioral descriptions of a race-unspecified target person and rated the target on a number of traits stereotypic of Blacks. Participants who had scored high in prejudice against Blacks employed more negative stereotypes and fewer positive stereotypes in the prime condition than in the no-prime condition. In contrast, low-prejudiced participants used more positive stereotypes in the prime condition than in the no-prime condition, but showed no difference on the negative scales. Lepore and Brown concluded that when race *category* information is primed but race *stereotypes* are not, unconscious race stereotyping is contingent upon how much one explicitly endorses prejudice.

Recently, Kawakami, Dion, & Dovidio (1998) proposed an additional explanation for the murky relationship between implicit and explicit beliefs. They noted that even in research in which implicit and explicit measures are associated, the association is relatively weak, and proposed that highly sensitive procedures may be necessary to pick up relationships between implicit stereotyping and explicit beliefs and attitudes. In addition, Cunningham, Nezlak, & Banaji (1999) have shown that a general ethnocentric personality disposition is related to specific unconscious prejudices (toward foreigners, Black Americans, the poor, Jews, and gays). Such efforts represent initial strides in identifying the conditions under which implicit and explicit beliefs converge and diverge, by identifying methodological, statistical, and theoretical hurdles that need to be set aside before a more complete picture regarding the relationship between conscious and unconscious stereotypes or prejudice may be observed.

Can unconscious stereotypes be controlled? The controllability of unconscious stereotypes has sparked considerable theoretical debate and empirical research. There is abundant evidence that stereotypes that operate unconsciously defend their territory fiercely, influencing social interactions even when perceivers are consciously vigilant and motivated to defeat them (Banaji & Greenwald, 1995; Bargh, in press; Blair & Banaji, 1996; see Greenwald & Banaji, 1995). Indeed, conscious attempts to purge stereotypic thoughts can easily backfire, bringing stereotypes to the fore with redoubled force (Macrae, Bodenhausen, Milne,

& Ford, 1997; Nelson, Acker, & Manis, 1996; Nelson, Biernat, & Manis, 1990; Sherman, Stroessner, Loftus, & Deguzman, 1997). Bargh (in press) has proposed a metaphor to characterize unconscious stereotyping, comparing it to a monster whose influence cannot be restrained once it is set into motion. The solution may lie in motivated individuals' ability to develop, over time, chronically accessible *egalitarian* beliefs that can counter the effects of unconscious stereotypes.

Our assessment of the issue of controlling automatic processes is in line with Bargh (in press). When a process operates unconsciously, there is little, if anything, that can be done to retract, revoke, or rescind. If this message from basic research on unconscious stereotypes is to make contact with the world it seeks to improve, the responsible suggestion at the present time is not the simplistic one to "just say no." Automatic stereotypes can and will influence perception, memory, and judgment. If the goal of judging individuals by the content of their character is one that this and other societies wish to take seriously, this body of social psychological research suggests two radical strategies. First, create the social conditions that allow new associations and new learning about social groups that blur the bright line that demarcates social groups. Second, generate individual and group-based strategies for compensation in conscious recognition of the stark and pervasive unconscious biases that operate in social judgment.

Unconscious Affect

Whereas no uncertainty is expressed about the existence of an unconscious form of cognition and whether it can be reliably assessed, there is still active debate regarding the existence of unconscious affect (Clore, 1994; Clore & Ketelaar, 1997; Kihlstrom, Mulvaney, Tobias, & Tobis, in press; LeDoux, 1994, 1996; Zajonc, 1994, 1998). Research on unconscious affect (and related concepts better recognized by the labels emotion, evaluation, attitude, and prejudice) has acquired increased prominence in social psychology in part from the desire to provide more complete models of social behavior, and in part from the availability of tractable methods to measure these warm and wet constructs. Perhaps a rigorous analysis of unconscious affect is naturally located in social psychology because of the field's long-standing interest in constructs that tap feeling, most obviously that of attitude and esteem (see Greenwald & Banaji, 1995). Research on unconscious evaluation, attitudes, and affect has its origins in a multitude of experimental traditions necessitating tough choices regarding selection for review. However, no attempt is made here to distinguish between the various terms that are used to refer to slightly differing aspects of the basic construct. For additional coverage and differing emphases see Kihlstrom, et al. (in press) and Zajonc (1998).

Physiological measures of evaluation and attitude

Among the reasons to probe evaluation and attitudes in their physiological form, Cacioppo, Crites, Gardner, & Berntson (1994, p. 121) offer the following rationale: "Unfortunately, the attitudes that individuals are least willing to report are often those that are most impor-

tant to measure accurately, as they may differentiate individuals along theoretically important dimensions." Autonomic measures of unconscious evaluation were initially viewed with hope, but such assessments failed to separate intensity and valence of attitude (see Petty and Cacioppo, 1983; Zanna, Detweiler, & Olson, 1984). Facial EMG responses have also been obtained (Cacioppo, Martzke, Petty, & Tassinary, 1988) but again, their disadvantages have been noted, including the inability of such measures to protect against masking and distortion (see Cacioppo, Petty, Losch, & Kim, 1986). Recently, experiments in which a late positive potential (LPP) of the event-related brain potential (ERP) was related to evaluative categorization have been reported (Cacioppo, Crites, Berntson, & Coles, 1993). Further, the amplitude of LPP increases as a function of the mismatch between evaluative categorization and expectation of evaluative significance through salient contextual cues (Cacioppo et al., 1994). The amplitude of LPP is larger when a negative (rather than positive) attitude stimulus is presented within a sequence of positive stimuli, and such measures also appear to show sensitivity to intensity of negative stimuli. The obvious utility of such a measure to provide a marker of individual differences (e.g. fear responses to social situations implicated in phobia or negative responses to members of social groups as revealed in prejudice) will be realized in future experiments to test the construct and predictive validity of the measure.

Sensory-motor processes in evaluation and attitude

Evidence suggesting the involvement of motor processes and their sensory consequences in attitude formation merits attention here, because it points to yet another path that can reveal the role of unconscious evaluative processes in social cognition. Wells and Petty (1980) showed that the motor action of shaking versus nodding one's head while listening to persuasive messages resulted in lesser or greater agreement with the message. Likewise, Strack, Martin, & Stepper (1988) showed that motor activity that facilitated smiling increased ratings of the humor of cartoons compared with slightly differing motor activity that inhibited smiling. Such effects emerged in spite of subjects' being unaware of the meaning of the contractions of the zygomaticus muscle. Other research supports these findings that manipulations of facial expressions create affective states or influence attitudinal responses outside conscious awareness (Martin, Harlow, & Strack, 1992; Zajonc, Murphy, & Inglehart, 1989). Stepper & Strack (1993) have shown that proprioceptive cues from body posture (upright versus slumped) can influence the affective experience of pride, just as it can influence nonaffective judgments of effort, and Förster and Strack (1996) have shown that head nodding versus shaking increases memory for valence-consistent words. A distinction has been proposed between *experiential* knowledge, in which "feelings are 'immediately given' to the individual and have a distinct phenomenal quality" (Stepper & Strack, 1993, p. 218) versus *noetic* representations which reflect inferred, indirect knowledge, with the former being implicated in the information that is obtained from bodily posture or facial expression without conscious awareness. Finally, there is suggestive evidence that somatic manipulations involved in arm flexion versus arm extension can have small but reliable effects on the evaluation of attitudinally neutral stimuli such as ideographs, leading the authors to conclude that "attitudinal effects involve active motor

processes and that a person does not need to know the evaluative or motivational significance of the motor process for it to have attitudinal effects" (Cacioppo, Priester, & Berntson, 1993, p. 16). This intriguing research needs to be nurtured and developed further, for it has the potential to inform about the role of unconscious processes in a most fundamental association of body and mind, and the potential for the products of such unconscious operation to influence feeling and social behavior.

Perception and memory reveal unconscious forms of affect

With the increased usage of indirect measures of *perception* and *memory*, a welcome blurring of the sharp distinction between these two processes has occurred. Viewing unconscious processes of memory and perception as they inform about the nature of affective experience and expression has contributed to a broadening of our understanding of consciousness.

Mere exposure Among the most influential ideas linking perception and affect comes from the discovery that exposure to a stimulus leads to enhanced liking for it (Zajonc, 1968). There have been over two hundred published experiments testing this hypothesis (Bornstein, 1989; Bornstein & D'Agostino, 1994) that verify the reliability and robustness of the basic effect across a wide variety of stimulus forms, dependent variable formats, methods of exposure, and experimental settings. The finding that mere exposure produces liking has also been extended to research on interpersonal interaction (Bornstein, Leone, & Galley, 1987). The literature on category accessibility (see previous section on unconscious cognition) showed the peculiar effect of awareness on unconscious thought and social judgment (i.e. the influence of the priming event is most visible when that event is least available to conscious recollection). Research on the mere exposure effect has pointed up a parallel finding regarding unconscious affect: the magnitude of the effect is greater under conditions of subliminal rather than supraliminal exposure (Bornstein, 1989, 1992; Bornstein & D'Agostino, 1992). Theoretically, the mere exposure effect has shifted from being considered a phenomenon unique to the expression of affect to one that most parsimoniously fits into the broader landscape of familiarity and its effect on judgment more generally (Bornstein & D'Agostino, 1994; Jacoby & Kelley, 1987; Jacoby, Toth, Lindsay, & Debner, 1992; Mandler, Nakamura, and Van Zandt, 1987). Whatever the interpretational leaning, the mere exposure effect will remain among the most important discoveries of twentieth-century psychology. Here, its importance is in having identified a dissociation between what is consciously known and what is unconsciously felt.

Automatic evaluation In the early 1970s the discovery was made that meaning is automatically activated upon the mere presentation of a word (Meyer & Schevaneveldt, 1971; Posner & Snyder, 1975). Efforts to resist activation of default meaning are moot when conditions do not permit the exerting of conscious control (Neely, 1977). The evidence to be reviewed here pertains to the finding that just as semantic meaning is extracted automatically upon presentation of a word, the evaluative meaning of information is also grasped without conscious control. Fazio, Sanbonmatsu, Powell, & Kardes (1986) showed that judgments of a target were facilitated when its valence was congruent rather than incon-

gruent with that of the prime. Bargh, Chaiken, Govender, & Pratto (1992; Bargh, Chaiken, Raymond, & Hymes, 1996) replicated and extended this finding, additionally proposing that automatic evaluation occurs regardless of the strength (extremity) of prime valence, a claim about which there is debate (Chaiken & Bargh, 1993; Fazio, 1993), and even in the absence of a focus on the evaluative properties of information in judgment. Glaser & Banaji (1998) have reported a series of studies in which contrast effects in automatic evaluation appear when primes are of extreme valence, and they interpret this finding as an automatic correction for the implicitly perceived biasing influence of the prime.

In an effort to test the reliability, robustness, and boundary conditions of automatic evaluation, Greenwald, Draine, & Abrams (1996) and Greenwald, Klinger, & Liu (1989) effectively showed that the evaluative meaning of words is automatically registered by presenting the prime subliminally. In their most recent research they did this by inventing a variation of the technique called the "response window" that reliably produces the effect. As this research reveals, experiments have relied on time (measured in milliseconds) to respond to the target as an indicator of automatic evaluation. A second procedure has also been used in which evaluative primes, usually in the form of evaluative facial expressions, are briefly flashed (on the order of 4 milliseconds to prevent conscious registration) following which a neutral target (e.g. a Chinese ideograph) is to be rapidly judged. The replicated finding is that judgments of the neutral stimuli shift in the direction of the evaluative position of the prime (Murphy & Zajonc, 1993; Niedenthal, Setterlund, & Jones, 1994). Pratto & John (1991) used a Stroop color-naming task with evaluative stimuli in place of color names to extend the generality of automatic evaluation, showing that automatic evaluation can interfere with a conscious cognitive task.

Together, these experiments on automatic evaluation have changed our thinking about the existence and tractability of unconscious affect. First, they demonstrate that the affective quality of information registers without conscious awareness of the stimulus (as in the subliminal presentation studies) and without conscious control over the response (Murphy, Monahan, & Zajonc, 1995). Second, it appears that automatic evaluations are sensitive only to gross distinctions of polarity and not to anything that can be considered to be a more fine-grained evaluative assessment (see Pratto, 1994; Zajonc, 1994). Finally, although the experiments have examined unconscious perception and memory for evaluative material, they have been interpreted as revealing an attitude. This is a noteworthy shift in social psychology's understanding of the concept of attitude. In commenting on research on unconsciously activated attitudes, Cacioppo, et al. (1993, p. 16) which one? note that "Indeed, the day may come when we regard attitudes as being 'evaluative perceptions' . . . aroused by stimuli." Because conceptions of attitudes as necessarily accessible to conscious awareness and control are difficult to shake off, the research summarized here will come to be viewed as historically important – as the first robust and reliable demonstrations that permitted a sufficient breakthrough to allow us to conceptualize attitudes as automatic evaluations.

Attitudes of prejudice

Experts who study attitudes and beliefs toward social groups have emphasized the need to treat attitude (prejudice) with the same importance as has been accorded to belief

(stereotype), and have resisted the merging of these two constructs both in theory and in experimental practice. In part, this desire has stemmed from the conviction that attitudes of prejudice represent a unique and separable component from stereotypic beliefs. The organization of this chapter allows that distinction to continue even at the expense of separating research on unconscious prejudice from its cousin, unconscious stereotypes (see previous section). Just as the study of unconscious cognition has received greater attention than the study of unconscious affect, the parallel constructs of unconscious stereotype and unconscious prejudice have received similarly differential treatment. For evidence of this, see the greater coverage allowed to research on unconscious stereotypes compared with unconscious prejudice in a recent review (Fiske, 1998). Even since that review, however, attention to the study of unconscious prejudice has increased, largely from straightforward extensions of techniques to study automatic attitudes more generally. As with the study of stereotypes, such research is already challenging accepted notions of what prejudice means and raising troubling questions regarding the implications for how to regard human nature and human nurture (see Banaji & Bhaskar, 1999).

Indirect measures of prejudice have been of interest for over two decades (Crosby, Bromley, & Saxe, 1980), with continuing interest in related issues such as physiological indicators of prejudice (Vanman, Paul, Ito, & Miller, 1997; Vrana & Rollock, 1998), the relationship between public and private expressions of prejudice (Lambert, Cronen, Chasteen, & Lickel, 1996), and the impact of single direct or indirect exposure to negative behavior on judgments of groups and members of groups (Henderson-King & Nisbett, 1996). Yet a rigorous analysis of the role of consciousness and the disjunction between the unconscious roots of prejudice and its conscious manifestations has only just become possible. With methods to measure automatic evaluation and automatic stereotypes in place, it was only a matter of time before such techniques were used to study applications to prejudice. In fact, research to show that priming of race stereotypes produced evidence of linking evaluatively positive information with White compared with Black has been available for some time (Dovidio, Evans, & Tyler, 1986), in addition to evidence of a more general liking for one's own group. Associating neutral syllables with "we," "us," "ours' versus "they," "them," "theirs" produced greater liking for syllables attached to ingroup compared with outgroup primes (Perdue, Dovidio, Gurtman, & Tyler 1990).

With the first publication in 1998, the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) has already attracted attention as a measure of automatic association, most notably in the investigation of automatic *evaluative* associations toward social groups and self. The attraction of the method lies in two of its most salient properties: (a) the ability to obtain large effects compared with priming methods of automatic evaluation, and (b) the ability to compellingly reveal a lack of control over automatic evaluative associations. Like related measures of automatic association (e.g. semantic priming) the technique is based on the assumption that if two concepts have come to be associated in memory, they will be associated more quickly when they are encountered. The IAT procedure operationalizes this assumption by requiring participants to swiftly associate exemplars of categories such as "old" and "young" along with exemplars of the evaluative category "bad" or "unpleasant." The speed with which old–good and young–bad are classified compared to the speed with which old–bad and young–good are classified produces a robust measure of the relative automatic evaluation of young and old. The original re-

search demonstrated that the method is capable of detecting robust positive automatic associations toward flowers compared with insects, toward White compared with Black Americans (among non-Black subjects), and automatic ingroup positivity among Korean and Japanese Americans. (Reports of ongoing explorations with the technique are available at <www.yale.edu/implicit> or <depts.washington.edu/iat>, showing the wide application of the technique to investigate the attitudinal basis of depression or smoking, and attitudes toward a variety of social groups, e.g. Turks/Germans, Jews/Christians, East/West Germans, old/young, omnivore/vegetarian, male/female, overweight/thin.)

Research with the technique has explored attitudes toward self and social groups: female/male, feminine/masculine, or female leader/male leader, and the relationship between self-identity and gender-attitude (Carpenter & Banaji, 1998; Lemm & Banaji, 1998; Mitchell, Nosek, & Banaji, 1998; Rudman & Glick, 1998; Rudman & Kilianski, 1998; Rudman, Greenwald, & McGhee, 1998); attitudes toward math/science versus arts and the relationship among automatic gender identity, gender stereotypes about math/science, self-math identity, and performance (Nosek, Banaji, & Greenwald, 1998); race identity, group-esteem, and self-esteem (Rosier, Banaji, & Greenwald, 1998); dissociated attitudes toward multiply-categorizable objects (Mitchell, Nosek, & Banaji, 1998); attitudes regarding age, nationality, and religion (Rudman, Greenwald, Mellot, & Schwartz, 1998); and the role of personality in automatic prejudice (Cunningham, Nezlak, & Banaji, 1999). New designs for research have been suggested, based on a unified view of social cognition that draws on consistency theories (especially the Heiderian notion of balance) and associationist networks (Greenwald, et al., in press). However, several questions regarding its construct validity are only beginning to be addressed. The theoretical questions of utmost interest concern the predictive validity of this and other measures of automatic association (see Fazio, Jackson, Dunton, & Williams, 1995; Bessenoff & Sherman, 1998), developing measures of motivation to control prejudice (Dunton & Fazio, 1997; Plant & Devine, 1998), the relationship between automatic and controlled prejudice (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Kawakami, Dion, & Dovidio, 1998; Lepore & Brown, 1997; Von Hippel, Sekaquaptewa, & Vargas, 1997; Wittenbrink, Judd, & Park, 1997), and the malleability of automatic evaluative associations (Carpenter & Banaji, 1999; Dasgupta & Greenwald, 1999). Research on unconscious forms of prejudice elicits attention, in part because it speaks to a problem of great social significance. Because of this, and because of the potential to challenge many assumptions about the propensity to create harm without intention and awareness, this research requires the attention of a diversity of methodological and theoretical perspectives.

Conclusion

Beings with consciousness have the luxury to speculate that their own mind and behavior may also operate in a strikingly different mode, detached from consciousness. For hundreds of years, lay people and experts have believed that not only is there a mental world that remains hidden from consciousness, but that the workings of this world have important and far-reaching consequences for understanding who we are and who we aspire to be.

Yet it is only in the last hundred years, beginning with experiments on humans and other animals, that a science of the unconscious was attempted and succeeded. In this chapter, we attended to the work of those who grounded their investigations firmly in the social world, the ether in which mental life operates.

The assumption that human social behavior can only be understood by asking those capable of language to say, preferably in grammatical English, what they think, feel, and intend to do about themselves and others in their world is a limiting one. In the last two decades, social psychology has shown the advances that are possible when such an assumption is momentarily set aside. In another context, we made the point that it is not difficult to imagine why it is that social perceivers and social psychologists have trouble imagining and investigating those processes that lie outside conscious awareness (Banaji, Blair, & Glaser, 1997). We argued that when the source of an action emanates in time and space unconnected to the observed action, it is difficult to grasp the connection between the source and target of influence. It took Newton's genius to discover that light, a source unattached to physical objects, was responsible for producing the subjective experience of color. Likewise, sources of influence on thoughts, affect, and motives are not likely to be discerned easily because their causes lie in places that are unreachable by conscious awareness. In addition, as we observed, even under conditions that permit awareness, the ability to control thoughts, feelings, and motives may be weaker than assumed. The problem here is more complex than contemplating an understanding of the physical world, for unlike the physical world, the object of inquiry (unconscious mind) is a part of the thinking system that must conduct the inquiry. The limits on being able to look inward are serious, and here the social world offers a solution for theory and praxis: a rich array of events, situations, and opportunities to explore the manner in which unconscious processes operate, in contexts in which they have significant impact on happiness, liberty, and justice. It is perhaps the case that as we discover the extent to which unconscious processes control social thought, feeling, and behavior, we will arrive at a fuller appreciation of the unique role played by consciousness in a species with the capability to evaluate the nature of the social unconscious.

References

Andersen, S. M., & Glassman, N. S. (1996). Responding to significant others when they are not there: Effects on interpersonal interference, motivation, and affect. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* Vol. 3 (pp. 262–321). New York: Guilford Press.

Augoustinos, M., Innes, J. M., & Ahrens, C. (1994). Stereotypes and prejudice: The Australian experience. *British Journal of Social Psychology, 33,* 125–141.

Baldwin, M. W. (1994). Primed relational schemas as a source of self-evaluative reactions. *Journal of Social and Clinical Psychology, 13,* 380–403.

Baldwin, M. W., Carrell, S. E., & Lopez, D. F. (1990). Priming relationship schemas: My advisor and the Pope are watching me from the back of my mind. *Journal of Experimental Social Psychology, 26,* 435–454.

Banaji, M. R., & Bhaskar, R. (1999). Implicit stereotypes and memory: The bounded rationality of social beliefs. In D. L. Schacter and E. Scarry (Eds.), *Belief and memory.* Cambridge, MA: Harvard University Press.

Banaji, M. R., & Greenwald, A. G. (1995). Implicit gender stereotyping in judgments of fame. *Journal of Personality and Social Psychology, 68,* 181–198.

Banaji, M. R., & Hardin, C. (1996). Automatic stereotyping. *Psychological Science, 7* (3), 136–141.

Banaji, M. R., & Prentice, D. A. (1994). The self in social contexts. *Annual Review of Psychology, 45,* 297–332.

Banaji, M. R., Blair, I. V., & Glaser, J. (1997). Environments and unconscious processes. In R. S. Wyer (Ed.), *The automaticity of everyday life: Advances in social cognition,* vol. 10 (pp. 63–74). Mahwah, NJ: Erlbaum.

Banaji, M. R., Hardin, C., & Rothman, A. J. (1993). Implicit stereotyping in person judgment. *Journal of Personality and Social Psychology, 65,* 272–281.

Bargh, J. A. (1997). The automaticity of everyday life. In R. S. Wyer, Jr. (Ed.), *The automaticity of everyday life: Advances in social cognition* Vol. 10 (pp. 1–61). Mahwah, NJ: Lawrence Erlbaum Associates.

Bargh, J. A. (1999). The cognitive monster: The case against the controllability of automatic stereotype effects. In S. Chaiken & Y. Trope (Eds.), *Dual process theories in social psychology.* New York: Guilford Press.

Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology, 71,* 230–244.

Bargh, J. A., Chaiken, S., Govender, R., & Pratto, F. (1992). The generality of the automatic attitude activation effect. *Journal of Personality and Social Psychology, 62,* 893–912.

Bargh, J. A., Chaiken, S., Raymond, P., & Hymes, C. (1996). The automatic evaluation effect: Unconditional automatic attitude activation with a pronunciation task. *Journal of Experimental Social Psychology, 32,* 104–128.

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders.* New York: Penguin Books/Meridian.

Bessenoff, G. R., & Sherman, J. W. (1998). Automatic and controlled components of prejudice toward the overweight: Evaluation versus stereotype activation. Unpublished manuscript, Northwestern University.

Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology, 70,* 1142–1163.

Blascovich, J., Wyer, N. A., Swart, L. A., & Kibler, J. L. (1997). Racism and racial categorization. *Journal of Personality and Social Psychology, 72,* 1364–1372.

Bodenhausen, G. V., Schwarz, N., Bless, H., & Wänke, M. (1995). Effects of atypical exemplars on racial beliefs: Enlightened racism or generalized appraisals? *Journal of Experimental Social Psychology, 31,* 48–63.

Bornstein, R. F. (1989). Exposure and affect: Overview and meta-analysis of research, 1968–1987. *Psychological Bulletin, 106,* 265–289.

Bornstein, R. F. & D'Agostino, P. R. (1992). Stimulus recognition and the mere exposure effect. *Journal of Personality and Social Psychology, 63,* 545–552.

Bornstein, R. F., & D'Agostino, P. R. (1994). The attribution and discounting of perceptual fluency: Preliminary tests of a perceptual fluency/attributional model of the mere exposure effect. *Social Cognition, 12,* 103–128.

Bornstein, R. F., & Pittman, T. S. (1992). *Perception without awareness: Cognitive, clinical, and social perspectives.* New York: Guilford Press.

Bornstein, R. F., Leone, D. R., & Galley, D. J. (1987). The generalizability of subliminal mere exposure effects: Influence of stimuli perceived without awareness on social behavior. *Journal of Personality and Social Psychology, 53,* 1070–1079.

Brewer, M. B. (1988). A dual process model of impression formation. In T. K. Srull & R. S. Wyer (Eds.), *Advances in social cognition* Vol. 1 (pp. 1–36). Hillsdale, NJ: Erlbaum.

Burnstein, E., & Schul, Y. (1982). The informational basis of social judgments: Operations in forming an impression of another person. *Journal of Experimental Social Psychology, 18,* 217–234.

Cacioppo, J. T., Priester, J. R., & Berntson, G. G. (1993). Rudimentary determinants of attitudes:

II. Arm flexion and extension have differential effects on attitudes. *Journal of Personality and Social Psychology, 65,* 5–17.

Cacioppo, J. T., Crites, S. L., Berntson, G. G., & Coles, M. G. (1993). If attitudes affect how stimuli are processed, should they not affect the event-related brain potential? *Psychological Science, 4,* 108–112.

Cacioppo, J. T., Crites, S. L., Gardner, W. L., & Berntson, G. G. (1994). Bioelectrical echoes from evaluative categorizations: I. A late positive brain potential that varies as a function of trait negativity and extremity. *Journal of Personality and Social Psychology, 67,* 115–125.

Cacioppo, J. T., Martzke, J. S., Petty, R. E., & Tassinary, L. G. (1988). Specific forms of facial EMG response index emotions during an interview: From Darwin to the continuous flow hypothesis of affect-laden information processing. *Journal of Personality and Social Psychology, 54,* 592–604.

Cacioppo, J. T., Petty, R. E., Losch, M. E., & Kim, H. S. (1986). Electromyographic activity over facial muscle regions can differentiate the valence and intensity of affective reactions. *Journal of Personality and Social Psychology, 50,* 260–268.

Carlston, D. E., & Skowronski, J. J. (1994). Savings in the relearning of trait information as evidence for spontaneous inference generation. *Journal of Personality and Social Psychology, 66,* 840–856.

Carlston, D. E., Skowronski, J. J., & Sparks, C. (1995). Savings in relearning: II. On the formation of behavior-based trait associations and inferences. *Journal of Personality and Social Psychology, 69,* 420–436.

Carpenter, S. J., & Banaji, M. R. (1998). Implicit attitudes and behavior toward female leaders. Paper presented at Midwestern Psychological Association meeting, Chicago.

Chaiken, S., & Bargh, J. A. (1996). Occurrence versus moderation of the automatic attitude activation effect: Reply to Fazio. *Journal of Personality and Social Psychology, 64,* 759–765.

Clore, G. L. (1994). Why emotions are never unconscious. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 285–190). New York: Oxford University Press.

Clore, G. L., & Ketelaar, T. (1997). Minding our emotions: On the role of automatic, unconscious affect. In R. S. Wyer (Ed.), *The automaticity of everyday life: Advances in social cognition* Vol. 10 (pp. 105–120). Mahwah, NJ: Lawrence Erlbaum Associates.

Croizet, J., & Claire, T. (1998). Extending the concept of stereotype threat to social class: The intellectual underperformance of students from low socioeconomic backgrounds. *Personality and Social Psychology Bulletin, 24,* 588–594.

Crosby, F., Bromley, S., & Saxe, L. (1980). Recent unobtrusive studies of Black and White discrimination and prejudice: A literature review. *Psychological Bulletin, 87,* 546–563.

Cunningham, W. A., Nezlak, J. B., & Banaji, M. R. (1999). The roots of prejudice. Unpublished manuscript, Yale University.

D'Agostino, P. R., & Beegle, W. (1996). A reevaluation of the evidence for spontaneous trait inferences. *Journal of Experimental Social Psychology, 32,* 153–164.

Dasgupta, N., & Greenwald, A. G. (1999). Exposure to admired group members reduces implicit prejudice. Paper presented at the annual meetings of the American Psychological Society, Denver, CO.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology, 56,* 5–18.

Dovidio, J. F., Evans, N., & Tyler, R. B. (1986). Racial stereotypes: The contents of their cognitive representations. *Journal of Experimental Social Psychology, 22,* 22–37.

Dovidio, J. F., Brigham, J., Johnson, B., & Gaertner, S. (1996). Stereotyping, prejudice, and discrimination: Another look. In N. Macrae, C. Stangor, & M. Hewstone (Eds.), *Stereotypes and stereotyping* (pp. 1276–1319). New York: Guilford Press.

Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology, 33,* 510–540.

Dunning, D., & Sherman, D. A. (1997). Stereotypes and tacit inference. *Journal of Personality and Social Psychology, 73,* 459–471.

Dunton, B. C., & Fazio, R. H. (1997). An individual difference measure of motivation to control

prejudiced reactions. *Personality and Social Psychology Bulletin, 23,* 316–326.
Eckes, T. (1994). Explorations in gender cognition: Content and structure of female and male subtypes. *Social Cognition, 12* (1), 37–60.
Fazio, R. H. (1993). Variability in the likelihood of automatic attitude activation: Data reanalysis and commentary on Bargh, Chaiken, Govender & Pratto (1992). *Journal of Personality and Social Psychology, 64,* 753–758.
Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology, 69,* 1013–1027.
Fazio, R. H. Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality and Social Psychology, 50,* 229–238.
Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* Vol. 2 (pp. 357–411). Boston: Mcgraw-Hill.
Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* Vol. 23 (pp. 1–74). New York: Academic Press.
Ford, T. E., Stangor, C., & Duan, C. (1994). Influence of social category accessibility and category-associated trait accessibility on judgments of individuals. *Social Cognition, 12* (2), 149–168.
Förster, J., & Strack, F. (1996). Influence of overt head movements on memory for valenced words: A case of conceptual–motor compatibility. *Journal of Personality and Social Psychology, 71,* 421–430.
Gaertner, S. L., & McLaughlin, J. P. (1983). Racial stereotypes: Associations and ascriptions of positive and negative characteristics. *Social Psychology Quarterly, 46,* 23–30.
Gilbert, D. T., & Hixon, J. G. (1991). The trouble of thinking: Activation and application of stereotypic beliefs. *Journal of Personality and Social Psychology, 60,* 509–517.
Gilbert, D. T., & Krull, D. S. (1988). Seeing less and knowing more: The benefits of perceptual ignorance. *Journal of Personality and Social Psychology, 54,* 93–102.
Gilbert, D. T., & Osborne, R. E. (1989). Thinking backward: The curable and incurable consequences of cognitive busyness. *Journal of Personality and Social Psychology, 57,* 940–949.
Gilbert, D. T., Giesler, R. B., & Morris, K. A. (1995). When comparisons arise. *Journal of Personality and Social Psychology, 69,* 227–236.
Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality and Social Psychology, 54,* 733–740.
Glaser, J., & Banaji, M. R. (1998). Assimilation and contrast in automatic evaluation and prejudice. Paper presented at the annual meeting of the Society for the Psychological Study of Social Issues, Ann Arbor, MI.
Gotlib, I. H., & McCann, C. D. (1984). Construct accessibility and depression: An examination of cognitive and affective factors. *Journal of Personality and Social Psychology, 93,* 19–30.
Graham, S., & Hudley, C. (1994). Attributions of aggressive and nonaggressive African–American male early adolescents: A study of construct accessibility. *Developmental Psychology, 30,* 365–373.
Greenwald, A. G. (1992). New look 3: Unconscious cognition reclaimed. *American Psychologist, 47,* 766–779.
Greenwald, A. G., & Banaji, M. R. (1989). The self as a memory system: Powerful, but ordinary. *Journal of Personality and Social Psychology, 57,* 41–54.
Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102* (1), 4–27.
Greenwald, A. G., & Pratkanis, A. R. (1984). The self. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* Vol. 3 (pp. 129–178). Hillsdale, NJ: Erlbaum.
Greenwald, A. G., Banaji, M. R., Rudman, L. A., Farnham, S. D., Nosek, B. A., & Rosier, M. (in press). Prologue to a unified theory of attitudes, stereotypes, and self-concept. In J. P. Forges (Ed.), *Feeling and thinking: The role of affect in social cognition and behavior.* New York: Cambridge University Press.
Greenwald, A. G., Draine, S. C., & Abrams, R. L. (1996). Three cognitive markers of unconscious semantic activation. *Science, 283,* 1699–1702.

Greenwald, A. G., Klinger, M. R., & Liu, T. J. (1989). Unconscious processing of dichoptically masked words. *Memory & Cognition, 17,* 35–47.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. K. (1998). Measuring individual difference in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology.*

Hamilton, D. L., & Sherman, J. W. (1994). Stereotypes. In R. S. Wyer, Jr., & T. K. Srull (Eds.), *Handbook of social cognition* Vol. 2 (pp. 1–68). Hillsdale, NJ: Erlbaum.

Henderson-King, E. I., & Nisbett, R. E. (1996). Anti-black prejudice as a function of exposure to the negative behavior of a single black person. *Journal of Personality and Social Psychology, 71,* 654–664.

Hense, R. L., Penner, L. A., & Nelson, D. L. (1995). Implicit memory for age stereotypes. *Social Cognition, 13* (4), 399–415.

Herr, P. M., Sherman, S. J., & Fazio, R. H. (1983). On the consequences of priming: Assimilation and contrast effects. *Journal of Experimental Social Psychology, 19,* 323–340.

Higgins, E. T. (1989b). Knowledge accessibility and activation: Subjectivity and suffering from unconscious sources. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 75–123). New York: Guilford Press.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133–168). New York: Guilford Press.

Higgins, E. T., Bargh, J. A., & Lombardi, W. (1985). The nature of priming effects on categorization. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 11,* 59–69.

Higgins, E. T, Rholes, W. S., & Jones, C. R. (1977). Category accessibility and impression formation. *Journal of Experimental Social Psychology, 13,* 141–154.

Higgins, E. T., Strauman, T., & Klein, R. (1986). Standards and the process of self-evaluation. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundation of social behavior* Vol. 1 (pp. 23–63). New York: Guilford Press.

Icheiser, G. (1949). Misunderstandings in human relations: A study in false social perception. *American Journal of Sociology, 55,* Part 2.

Jacoby, L. L. & Kelley, C. M. (1987). Unconscious influences of memory for a prior event. *Personality and Social Psychology Bulletin, 13,* 314–336.

Jacoby, L. L., Toth, J. P., Lindsay, D. S., & Debner, J. A. (1992). Lectures for a layperson: Methods for revealing unconscious processes. In R. F. Bornstein and T. S. Pittman (Eds.), *Perception without awareness: Cognitive, clinical, and social perspectives* (pp. 81–120). New York: Guilford Press.

Johnson, J., Bryant, M., Jackson, L. A., Gatto, L., Nowak, A., & MacVittie, T. (1994). Construct accessibility, AIDS, and judgment. *Journal of Social Behavior and Personality, 9,* 191–198.

Johnson-Laird, P. N. (1983). A computational analysis of consciousness. *Cognition and Brain Theory, 6,* 499–508.

Kant, I. (1790/1987). *Critique of judgment.* Trans. W. S. Pluhar. Indianapolis, IN: Hackett Publishing.

Katz, D., & Braly, K. (1933). Racial stereotypes of one hundred college students. *Journal of Abnormal and Social Psychology, 28,* 280–290.

Kawakami, K., Dion, K. L., & Dovidio, J. F. (1998). Racial prejudice and stereotype activation. *Personality and Social Psychology Bulletin, 24* (4), 407–416.

Kihlstrom, J. F. (1990). The psychological unconscious. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 445–464). New York: Guilford Press.

Kihlstrom, J. F., Mulvaney, S., Tobias, B. A., & Tobis, I. P. (in press). The emotional unconscious.

Kihlstrom, J. F., Cantor, N., Albright, J. S., Chew, B. R., Klein, S. B., & Niedenthal, P. M. (1988). Information processing and the study of the self. In. L. Berkowitz, et al. (Eds.), *Advances in experimental social psychology* Vol. 21 (pp. 145–178). San Diego: Academic Press.

Klein, S. B., & Loftus, J. (1990). The role of abstract and exemplar-based knowledge in self-judgments: Implications for a cognitive model of the self. In T. K. Srull & R. S. Wyer (Eds.), *Content and process specificity in the effects of prior experiences: Advances in social cognition* Vol. 3 (pp. 131–139). Hillsdale, NJ: Lawrence Erlbaum Associates.

Klein, S. B., Loftus, J., & Kihlstrom, J. F. (1996). Self-knowledge of an amnesic patient: Toward a

neuropsychology of personality and social psychology. *Journal of Experimental Psychology: General, 125,* 250–260.

Lambert, A. (1995). Stereotypes and social judgment: The consequences of group variability. *Journal of Personality and Social Psychology, 68,* 388–403.

Lambert, A. J., Cronen, S., Chasteen, A. L., & Lickel, B. (1996). Private vs. public expressions of racial prejudice. *Journal of Experimental Social Psychology, 32,* 437–459.

Lau, R. R. (1989). Construct accessibility and electoral choice. *Political Behavior, 11,* 5–32.

LeDoux, J. E. (1994). Emotional processing, but not emotions, can occur unconsciously. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 291–292). New York: Oxford University Press.

LeDoux, J. E. (1996). *The emotional brain.* New York: Simon & Schuster.

Lemm, K., & Banaji, M. R. (1998). Implicit and explicit gender identity and attitudes toward gender. Paper presented at the Midwestern Psychological Association meeting, Chicago.

Lepore, L., & Brown, R. (1997). Category and stereotype activation: Is prejudice inevitable? *Journal of Personality and Social Psychology, 72,* 275–287.

Lepore, L., & Brown, R. (1999). Exploring automatic stereotype activation: A challenge to the inevitability of prejudice. In D. Abrams & M. A. Hogg (Eds.), *Social identity and social cognition* (pp. 141–163). Oxford: Blackwell Publishers.

Levy, B. (1996). Improving memory in old age through implicit self-stereotyping. *Journal of Personality and Social Psychology, 71,* 1092–1107.

Linville, P. W., & Carlston, D. E. (1994). Social cognition of the self. In P. G. Devine, D. C. Hamilton, & T. M. Ostrom (Eds.), *Social cognition: Impact on social psychology* (pp. 143–193). New York: Academic Press.

Locke, V., MacLeod, C., & Walker, I. (1994). Automatic and controlled activation of stereotypes: Individual differences associated with prejudice. *British Journal of Social Psychology, 33,* 29–46.

Macrae, C. N., Bodenhausen, G. V., Milne, A. B., & Ford, R. L. (1997). On the regulation of recollection: The intentional forgetting of stereotypical memories. *Journal of Personality and Social Psychology, 72,* 709–719.

Macrae, C. N., Bodenhausen, G. V., Milne, A. B., Thorn, T. M. J., & Castelli, L. (1997). On the activation of social stereotypes: The moderating role of processing objectives. *Journal of Experimental Social Psychology, 33,* 471–489.

Mandler, G., Nakamura, Y., & Van Zandt, B. J. S. (1987). Nonspecific effects of exposure on stimuli that cannot be recognized. *Journal of Experimental Psychology: Learning, Memory, & Cognition, 13,* 646–648.

Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology, 3,* 445–450.

Martin, L. L. (1986). Set/reset: Use and disuse of concepts in impression formation. *Journal of Personality and Social Psychology, 51,* 493–504.

Martin, L. L., Harlow, T. F., & Strack, F. (1992). The role of bodily sensations in the evaluation of social events. *Personality & Social Psychology Bulletin, 18,* 412–419.

Meyer, D. E., & Schvaneveldt, R. W. (1971). Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. *Journal of Experimental Psychology, 90,* 227–234.

Mitchell, J., Nosek, B., & Banaji, M. R. (1998). A rose by any other name? Dissociated attitudes toward social group members. Paper presented at the American Psychological Society meeting, Washington, DC.

Moskowitz, G. B. (1993). Person organization with a memory set: Are spontaneous trait inferences personality characteristics or behaviour labels? *European Journal of Personality, 7,* 195–208.

Moskowitz, G. B., & Roman, R. J. (1992). Spontaneous trait inferences as self-generated primes: Implications for conscious social judgment. *Journal of Personality and Social Psychology, 62,* 728–738.

Murphy, S. T., & Zajonc, R. B. (1993). Affect, cognition, and awareness: Affective priming with suboptimal and optimal stimulus. *Journal of Personality and Social Psychology, 64,* 723–739.

Murphy, S. T., Monahan, J. L., & Zajonc, R. B. (1995). Additivity of nonconscious affect: Combined effects of priming and exposure. *Journal of Personality and Social Psychology, 69,* 589–602.

Neely, J. H. (1977). Semantic priming and retrieval from lexical memory: Roles of inhibitionless spreading activation and limited-capacity attention. *Journal of Experimental Social Psychology, 26,* 505–527.

Nelson, T. E., Acker, M., & Manis, M. (1996). Irrepressible stereotypes. *Journal of Experimental Social Psychology, 32,* 13–38.

Nelson, T. E., Biernat, M. B., & Manis, M. (1990). Everyday base rates (sex stereotypes): Potent and resilient. *Journal of Personality and Social Psychology, 59,* 664–675.

Newman, S. L., & Uleman, J. S. (1989). Spontaneous trait inference. In J. Uleman & J. A. Bargh (Eds.), Unintended thought (pp. 155–188). New York: Guilford Press.

Newman, L. S., & Uleman, J. S. (1990). Assimilation and contrast effects in spontaneous trait inference. *Personality and Social Psychology Bulletin, 16,* 224–240.

Niedenthal, P. M., Setterlund, M. B., & Jones, D. E. (1994). Emotional organization of perceptual memory. In P. M. Niedenthal & S. Kitayama (Eds.), *The heart's eye: Emotional influences in perception and attention* (pp. 87–113). San Diego: Academic Press.

Norris, A. E., & Devine, P. G. (1992). Linking pregnancy concerns to pregnancy risk avoidant action: The role of construct accessibility. *Personality and Social Psychology Bulletin, 18,* 118–127.

Nosek, B., Banaji, M. R., & Greenwald, A. G. (1998). Math = Bad + Male, Me = Good + Female, therefore Math π Me. Paper presented at the American Psychological Society meeting, Washington, DC.

Pendry, L. F., & Macrae, C. N. (1996). What the disinterested perceiver overlooks: Goal-directed social categorization. *Personality and Social Psychology Bulletin, 22,* 249–256.

Perdue, C. W., Dovidio, J. F., Gurtman, M. B., & Tyler, R. B. (1990). "Us" and "Them": Social categorization and the process of intergroup bias. *Journal of Personality and Social Psychology, 59,* 475–486.

Petty, R. E., & Cacioppo, J. T. (1983). The role of bodily responses in attitude measurement and change. In J. T. Cacioppo and R. E. Petty (Eds.), *Social psychophysiology: A sourcebook* (pp. 51–101). New York: Guilford Press.

Plant, E. A., & Devine, P. A. (1998). Internal and external motivation to respond without prejudice. *Journal of Personality and Social Psychology, 75,* 811–832.

Posner, M. I., & Snyder, C. R. R. (1975). Attention and cognitive control. In R. L. Solso (Ed.), *Information processing and cognition: The Loyola Symposium* (pp. 55–85). Hillsdale, NJ: Lawrence Erlbaum Associates.

Pratto, F. (1994). Consciousness and automatic evaluation. In P. M. Niedenthal and S. Kitayama (Eds.), *The heart's eye: Emotional influences in perception and attention* (pp. 115–143). San Diego: Academic Press.

Pratto, F., & Bargh, J. A. (1991). Stereotyping based on apparently individuating information: Trait and global components of sex stereotypes under attention overload. *Journal of Experimental Social Psychology, 27,* 26–47.

Pratto, F., & John, O. P. (1991). Automatic vigilance: The attention-grabbing power of negative social information. *Journal of Personality and Social Psychology, 61,* 380–391.

Rosier, M., Banaji, M. R., & Greenwald, A. G. (1998). Implicit and explicit self-esteem & group membership. Paper presented at the Midwestern Psychological Association meetings, Chicago.

Ross, L. (1977). The intuitive psychologist and his shortcomings. In L. Berkowitz (Ed.), *Advances in experimental social psychology* Vol. 10 (pp. 173–220). New York: Academic Press.

Ross, M., & Olson, J. M. (1981). An expectancy-attribution model of the effects of placebos. *Psychological Review, 88,* 408–437.

Rudman, L. A., & Borgida, E. (1995). The afterglow of construct accessibility: The behavioral consequences of priming men to view women as sexual objects. *Journal of Experimental Social Psychology, 31,* 493–517.

Rudman, L. A., & Glick, P. (1998). Implicit gender stereotypes and backlash toward agentic women: The hidden costs to women of a kinder, gentler image of managers. Unpublished manuscript, Rutgers University.

Rudman, L. A., & Kilianski, S. (1998). Implicit and explicit attitudes toward female authority. Unpublished manuscript, Rutgers University.

Rudman, L. A., Greenwald, A. G., & McGhee, D. E. (1998). Sex differences in gender stereotypes revealed by the Implicit Association Test. Unpublished manuscript, Rutgers University.

Rudman, L. A., Greenwald, A. G., Mellot, D. S., & Schwartz, J. L. K. (1998). Automatic prejudices: Flexibility and generality of the Implicit Association Test. Unpublished manuscript, Rutgers University.

Sedikides, C., & Skowronski, J. J. (1990). Towards reconciling personality and social psychology: A construct accessibility approach. *Journal of Social Behavior and Personality, 5,* 531–546.

Sedikides, C., & Skowronski, J. J. (1993). The self in impression formation: Trait centrality and social perception. *Journal of Experimental Social Psychology, 29,* 347–357.

Sherman, J. W., Stroessner, S. J., Loftus, S. T., & Deguzman, G. (1997). Stereotype suppression and recognition memory for stereotypical and nonstereotypical information. *Social Cognition, 15* (3), 205–215.

Shih, M., Pittinsky, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and shifts in quantitative performance. *Psychological Science, 10,* 81–84.

Shrum, L. J., & O'Guinn, T. C. (1993). Processes and effects in the construction of social reality: Construct accessibility as an explanatory variable. *Communications Research, 20,* 436–471.

Skowronski, J. J., Carlston, D. E., Mae, L., & Crawford, M. T. (1998). Spontaneous trait transference: Communicators take on the qualities they describe in others. *Journal of Personality and Social Psychology, 74,* 837–848.

Southwick, L., Steele, C., Lindell, M. (1986). The roles of historical experience and construct accessibility in judgments about alcoholism. *Cognitive Therapy and Research, 10,* 167–186.

Spencer, S. J., Fein, S., Wolfe, C. T., Fong, C., & Dunn, M. A. (1998). Automatic activation of stereotypes: The role of self-image threat. *Personality and Social Psychology Bulletin, 24* (11), 1139–1152.

Stangor, C., & Lange, J. E. (1994). Mental representations of social groups: Advances in understanding stereotypes and stereotyping. *Advances in Experimental Social Psychology, 26,* 357–416.

Steele, C. M. (1997). A threat in the air: How stereotypes shape the intellectual identities and performance of women and African Americans. *American Psychologist, 52,* 613–629.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69,* 797–811.

Stepper, S., & Strack, F. (1993). Proprioceptive determinants of emotional and nonemotional feelings. *Journal of Personality and Social Psychology, 64,* 211–220.

Strack, F., Martin, L. L., & Stepper, S. (1988). Inhibiting and facilitating conditions of the human smile: Unobtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology, 54,* 768–777.

Stroessner, S. J. (1996). Social categorization by race or sex: Effects of perceived non-normalcy on response times. *Social Cognition, 14* (3), 247–276.

Swann, W. B., Hixon, J. G., Stein-Seroussi, A., & Gilbert, D. T. (1990). The fleeting gleam of praise: Cognitive processes underlying behavioral reactions to self-relevant feedback. *Journal of Personality and Social Psychology, 59,* 17–26.

Trope, Y. (1986). Identification and inferential processes in dispositional attribution. *Psychological Review, 93,* 237–257.

Trope, Y., & Alfieri, T. (1997). Effortfulness and flexibility of dispositional judgment processes. *Journal of Personality and Social Psychology, 73,* 662–674.

Trope, Y., & Liberman, A. (1993). The use of trait conceptions to identify other people's behavior and draw inferences about their personalities. *Personality and Social Psychology Bulletin,* 553–562.

Trope, Y., & Thompson, E. P. (1997). Looking for truth in all the wrong places? Asymmetric search of individuating information about stereotyped group members. *Journal of Personality and Social Psychology, 73,* 229–241.

Uleman, J. S., & Bargh, J. A. (Eds.) (1989). *Unintended thought.* New York: Guilford Press.

Uleman, J. S., Newman, L., & Winter L. (1992). Can personality traits be inferred automatically? Spontaneous inferences require cognitive capacity at encoding. *Consciousness and Cognition, 1,* 77–90.

Uleman, J. S., Hon, A., Roman, R. J., & Moskowitz, G. B. (1996). On line evidence for spontane-

ous trait inferences at encoding. *Personality and Social Psychology Bulletin, 22,* 377–394.
Uleman, J. S., Moskowitz, G. B., Roman, R. J., & Rhee, E. (1993) Tacit, manifest, and intentional reference: How spontaneous trait inferences refer to persons. *Social Cognition, 11,* 321–351.
Van Knippenberg, A., & Dijksterhuis, A. (1996). A posteriori stereotype activation: The preservation of stereotypes through memory distortion. *Social Cognition, 14* (1), 21–53.
Vanman, E. J., Paul, B. Y., Ito, T. A., & Miller N. (1997). The modern face of prejudice and structural features that moderate the effect of cooperation on affect. *Journal of Personality and Social Psychology, 73,* 941–959.
Von Hippel, W., Sekaquaptewa, D., & Vargas, P. (1997). The linguistic intergroup bias as an implicit indicator of prejudice. *Journal of Experimental Social Psychology, 33,* 490–509.
Vrana, S. R., & Rollock, D. (1998). Physiological response to a minimal social encounter: Effects of gender, ethnicity, and social context. *Psychophysiology, 35,* 462–469.
Walsh, W. A., & Banaji, M. R. (1997). The collective self. In J. G. Snodgrass & R. L. Thompson (Eds.), *The self across psychology: Self-recognition, self-awareness, and the self concept. Annals of the New York Academy of Sciences* Vol. 818 (pp. 193–214). New York: New York Academy of Sciences.
Wann, D. L., & Branscombe, N. R. (1990). Person perception when aggressive or nonaggressive sports are primed. *Aggressive Behavior, 16,* 27–32.
Wegner, D. M., & Bargh, J. A. (1998) Control and automaticity in social life. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* Vol. 2 (pp. 446–496). Boston: McGraw-Hill.
Wells, G. L., & Petty, R. E. (1980). The effects of overt head movement on persuasion: Compatibility and incompatibility responses. *Basic and Applied Social Psychology, 1,* 219–230.
Whitney, P., Davis, P. A., & Waring, D. A. (1994). Task effects on trait inference: Distinguishing categorization from characterization. *Social Cognition, 12,* 19–35.
Whitney, P., Waring, D. A., & Zingmark, B. (1992). Task effects on the spontaneous activation of trait concepts. *Social Cognition, 10,* 377–396.
Winter, L., & Uleman, J. S. (1984). When are social judgments made? Evidence for the spontaneousness of trait inferences. *Journal of Personality and Social Psychology, 47,* 237–252.
Wittenbrink, B., Judd, C. M., & Park, B. (1997). Evidence for racial prejudice at the implicit level and its relationship with questionnaire measures. *Journal of Personality and Social Psychology, 72,* 262–274.
Wyer, R. S., Jr., & Srull, T. K. (1980). The processing of social stimulus information: A conceptual integration. In R. Hastie, E. B. Ebbesen, T. M. Ostrom, R. S. Wyer, D. L. Hamilton, & D. E. Carlton (Eds.), *Person memory: The cognitive basis of social perception* (pp. 227–300). Hillsdale, NJ: Erlbaum.
Young, J., Thomsen, C. J., Borgida, E., Sullivan, J. L., & Aldrich, J. A. (1991). When self-interest makes a difference: The role of construct accessibility in political reasoning. *Journal of Experimental Social Psychology, 27,* 271–296.
Zajonc, R. B. (1968). The attitudinal effects of mere exposure. *Journal of Personality and Social Psychology,* Monograph Supplement, 9, (2, Pt. 2).
Zajonc, R. B. (1994). Evidence for nonconscious emotions. In P. Ekman and R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 293–297). New York: Oxford University Press.
Zajonc, R. B. (1998). Emotions. In D. T. Gilbert and S. T. Fiske (Eds.), *The handbook of social psychology* Vol. 2, 4th. edn. (pp. 591–632). Boston: McGraw-Hill.
Zajonc, R. B., Murphy, S. T., & Inglehart, M. (1989). Feeling and facial efference: Implications of the vascular theory of emotions. *Psychological Review, 96,* 395–416.
Zanna, M. P., Detweiler, R. A., & Olson, J. M. (1984). Physiological mediation of attitude maintenance, formation, and change. In W. M. Waid (Ed.), *Sociophysiology* (pp. 163–196). New York: Springer-Verlag.
Zárate, M. A., Bonilla, S., & Luévano, M. (1995). Ethnic influences on exemplar retrieval and stereotyping. *Social Cognition, 13* (2), 145–162.