

Introduction

APPROACHES TO STUDYING THE SOCIAL THINKER ♦ THE EBB AND FLOW OF COGNITION IN
PSYCHOLOGY ♦ WHAT IS SOCIAL COGNITION? ♦ PEOPLE ARE NOT THINGS ♦ BRAINS
MATTER ♦ CULTURES MATTER

This is not a self-help book, but it will help you navigate your social world. This is not a do-good book, but it will help you make a difference in the world. This is not fiction, but it tells some good stories. Social cognition captures a remarkable range of phenomena useful to individuals and to the human condition.

Consider a common experience of mistaken social cognition. Try telling someone at a party that you are a psychologist or even that you are simply studying psychology. It does no good to say you do research and do not read minds. The inevitable reaction is either that the person draws back in horror of being analyzed on the spot or that the person leans over to disclose all sorts of intimate secrets. One psychologist we know avoids these situations by claiming to be a computer programmer. We have hit upon a different strategy, which is to say calmly, "I study how people make first impressions on strangers." This comment promptly stops that conversation.

Suppose, however, that the conversation did not end right there. Suppose the person began to talk about what makes people tick, about impressions of various friends, relatives, and strangers at the party. That is the kind of raw data with which this book is concerned. Social cognition is the study of how people make sense of other people and themselves. It focuses on how ordinary people think and feel about people—and on how they think they think and feel about people.

People's understanding of the social world can be studied by *asking* them how they make sense of others (Heider, 1958). This is the route of *phenomenology*: to describe systematically how ordinary people say they experience their world. If people are right, researchers can use these insights to build formal theories by pulling together patterns across many people's intuitions. Even if people are wrong, researchers can study people's commonsense theories in and of themselves to learn how people think. Social cognition researchers are also concerned with commonsense theory, or *naïve psychology*, for its own sake. That is, people's everyday theories about each other are themselves interesting to study. Thus, if the person at the party has some ideas about how people form impressions of each other, the person's informal ideas are interesting in their own right.

Research on social cognition also goes beyond naïve psychology. The study of social cognition entails a fine-grained analysis of how people think about themselves and others, and it leans heavily on the theory and methods of cognitive psychology. One of the hallmarks of social cognition is the influence of detailed models from cognitive psychology. These models are important because they

precisely describe mechanisms of learning and thinking that apply in a wide variety of areas, including social perception. Because these models are general and because cognitive processes presumably influence social behavior heavily, it makes sense to adapt cognitive theory to social settings.

Both the naive psychology viewpoint and the cognitive viewpoint are important themes in social cognition research. These two viewpoints characterize the double appeal of social cognition. The entertaining part of studying how people think about others is its appeal to your intuitions; it resembles what is fun and absorbing about sitting around with a friend after midnight, speculating about human nature. The fine-grained part forces you to be accurate and precise; its appeal resembles that of a favorite intricate puzzle. Whether your taste runs to crosswords, math games, jigsaw puzzles, or mystery novels, there is considerable pleasure in getting all the pieces to fit.

APPROACHES TO STUDYING THE SOCIAL THINKER

Two broad intellectual approaches to the study of social cognition—elemental and holistic—can be traced to psychology's origins in philosophy. Knowing something of social cognition's intellectual history will give perspective to researchers' current efforts. The *elemental approach* is characterized by breaking scientific problems down into pieces and analyzing the pieces separately and in detail before combining them. The *holistic approach* is characterized by analyzing the pieces in the context of other pieces and focusing on the entire configuration of relationships among them. This distinction will become clearer as the two approaches are described.

The Elemental Origins of Social Cognition Research

Until the beginning of the 20th century, psychology was a branch of philosophy, and philosophers provided some basic principles of mind that still carry weight today (Boring, 1950). In the elemental tradition of the British philosophers, the mind is likened to chemistry, in which ideas are the elements. Any concept, whether concrete such as "salt" or abstract such as "shame," is a basic element, and any element can be associated with any other element. The bonds between concepts create mental chemistry (Locke, 1690/1979).

In the elemental view, ideas first come from our sensations and perceptions. Then they are associated by contiguity in space and time (Hume, 1739/1978). That is, if salt is next to pepper on the table, the two can become a unit through contiguity. Repetition is the key to moving from simple contiguity to a mental compound (Hartley, 1749/1966). If salt and pepper are on the table together every day of your life, when you think of salt you will automatically think of pepper. Salt and pepper becomes a mental compound. Similarly, if the concept "professor" often comes up (on television, for example) at the same time as the concept "absentminded," they are likely to be associated simply as a function of repeated pairings. People consciously use the principles of repetition and contiguity in daily life too; think of the last time you attempted to memorize the seven contiguous digits of a phone number by repeating them until they became

a unit. Frequency of repetition is a major factor that determines the strength of an association (Mill, 1869, 1843/1974).¹

Psychology began to emerge as a discipline separate from philosophy in the early 20th century, and at that time the notions of mental chemistry were first put to empirical test. The first laboratory psychologists, such as Wilhelm Wundt and Hermann Ebbinghaus, trained themselves and their graduate students to observe their own thought processes: to introspect on how they committed ideas to memory and on how they retrieved ideas from memory (Ebbinghaus, 1885/1964; Wundt, 1897). Their method was to analyze experience into its elements to determine how they connect, and to determine the laws that govern those associations. These themes, which began with the British philosophers, continue to form the basis of modern experimental psychology. In a later section of this chapter and in Chapter 4, we will see how the elemental approach is currently represented within the study of social cognition.

The Holistic Origins of Social Cognition Research

In reaction to the elemental approach, the German philosopher Immanuel Kant (1781/1969) argued for an emphasis on tackling the whole mind at once. In his view of the mind, mental phenomena are inherently subjective. That is, the mind actively constructs a reality that goes beyond the original thing in and of itself. A bunch of grapes is perceived as a unit, but that perception is a construction of the mind. Perceiving a "bowl of grapes" differs from perceiving each individual grape separately. Similarly, if someone cuts off some grapes and the remaining ones topple out of the bowl, the two movements are perceived as linked in a cause-effect relationship. Again, that perception is furnished by the mind; it is not inherent in the stimulus. The intellect organizes the world, creating perceptual order from the properties of the surrounding field.

Gestalt psychology drew on these initial holistic insights (Koffka, 1935; Kohler, 1938/1976). In contrast to analysis into elements, psychologists who use Gestalt methods first describe the phenomenon of interest, the immediate experience of perception, without analysis. This method, already introduced as phenomenology, focuses on systematically describing people's experience of perceiving and thinking. It later became one of the major foundations of social cognition research: the reliance on asking people how they make sense of the world.

Although both the elemental and holistic groups drew on introspections, Gestalt psychologists focused on people's experience of dynamic wholes, and elementalists focused on the expert's ability to break the whole into pieces. As an illustration of the difference between Gestalt and elemental approaches, think of a song in your mind. A song can be perceived as a series of individual notes (elemental) or as a melody that emerges from the relationships among the notes (Gestalt). The emergent structure is lost by analyzing it into its sensory elements, in the Gestalt view. Gestalt psychologists saw the mental chemistry metaphor of the elementalists as misguided because a chemical compound has properties not predictable from its isolated elements. Similarly, the perceptual whole has

¹Other principles of association were proposed at various times and then dropped in favor of repeated contiguity. These included similarity and causality as creating associations, and vividness as strengthening associations (Boring, 1950).

properties not discernible from the isolated parts. For example, the note middle C can seem high in the context of many lower notes or low in the context of many higher notes, but it would not stand out at all in the context of other notes close to it. Similarly, an average-height basketball player stands out in the subway but not on the team. Many arriving college students who had topped their high school classes discover that they no longer stand out as intellectual stars in college. Again, the individual acquires meaning in the immediate context. Psychological meaning goes beyond raw sensory parts to include the organization people impose on the whole. The importance of Gestalt stimulus configurations guided two researchers whose work directly informs social cognition research and theory: Solomon Asch and Kurt Lewin.

Asch's Configural Model

In his pioneering work, Asch (1946) examined how people combine the components of another person's personality and come up with an integrated overall impression. In so doing, he set the stage for much of person perception research (E. E. Jones, 1990; D. J. Schneider, Hastorf, & Ellsworth, 1979). In his analysis of how people form impressions of others, Asch theorized that we experience another person as a psychological unit, that we fit the person's various qualities into a single unifying theme. Asch originally made this point in an impressive series of 12 studies (Asch, 1946). The participants' task was to form an impression of someone described by one or another list of personality traits. One group, for example, was told about someone who was "intelligent, skillful, industrious, cold, determined, practical, and cautious." (Form an impression of this person before reading on.) Another group was told about someone who was "intelligent, skillful, industrious, warm, determined, practical, and cautious." The simple manipulation of the traits warm and cold created large differences in people's descriptions of the target person. For example, the cold, intelligent person was seen as calculating, and the warm, intelligent person was seen as wise.

Asch proposed two models to account for these results: the configural model and the algebraic model. The configural model hypothesizes that people form a unified overall impression of other people, and that the unifying forces work on individual elements to bring them in line with the overall impression. Thus the pressure toward unity may change the meaning of the individual elements to fit better in context. An intelligent con artist is sly; an intelligent child is clever; an intelligent grandmother is wise. In addition to meaning change, people use a variety of strategies to organize and unify the components of an impression; they not only change the meaning of ambiguous terms, but they also resolve apparently discrepant terms with considerable ingenuity. All of this mental activity results, according to the configural model, in an impression made up of traits and their relationships, just as a *schema* later would be defined as consisting of attributes and their relationships.

The alternative, the algebraic model, directly contrasts with the configural model and, by extension, with the subsequent schema models. The algebraic model takes each individual trait, evaluates it in isolation from the others, and combines the evaluations into a summary evaluation. It is as if, upon meeting someone new, you were simply to combine together all the person's pros (e.g., intelligence) and cons (e.g., coldness) to form your impression. The algebraic model of information averaging boasts an impressive program of research

(N. H. Anderson, 1981), as does a related algebraic model of combining beliefs to form an overall attitude (Fishbein & Ajzen, 1975).

The configural and algebraic models represent, respectively, the holistic and elemental approaches to social cognition described here. As such, they represent two fundamentally different ideas about how people form impressions of others. These two competing approaches originally proposed by Asch were thoroughly researched and, as you might imagine, hotly debated for a number of years (see Fiske & Taylor, 1991, for references). However, from a theoretical perspective, the contest was essentially a draw because both models were flexible enough to account for each other's data and neither was stated in a strictly falsifiable form. This led to a consensus on the "futility of the adversarial approach" (Ostrom, 1977) and pleas for more theory development. Neither approach any longer focuses on "disproving" the other side. Indeed, many of the dual-process theories described in Chapter 2 in effect resolve this old debate by noting that both models are right but that people follow each under different informational and motivational circumstances that, not surprisingly, mimic the respective research paradigms of the two approaches.

Lewin's Person-Situation Field Theory

Kurt Lewin (1951) imported Gestalt ideas to social psychology and ultimately to social cognition research (Boring, 1950; Bronfenbrenner, 1977; Deutsch, 1968). Like other Gestalt psychologists, Lewin focused on the person's subjective perceptions, not on "objective" analysis. He emphasized the influence of the social environment *as perceived by the individual*, which he called the psychological field. A full understanding of a person's psychological field cannot result from an "objective" description by others of what surrounds the person because the crucial factor is the person's own interpretation. This is not to say that the person can necessarily verbalize his or her perceived environment, but that the person's own reports typically provide better clues than do the researcher's intuitions. For instance, a researcher may objectively report that Barb complimented Ann on her appearance. The researcher may even have strong hunches about why Barb did it. But Ann's reaction will depend on her own perception of Barb's intent: ingratiation, envy, reassurance, or friendliness. A prime way to find that out is to ask Ann to describe what happened in her own terms. Just as in Gestalt psychology generally, Lewin emphasized the individual's phenomenology, the individual's construction of the situation.

Another theme imported from Gestalt psychology to social psychology was Lewin's insistence on describing the total situation, not its isolated elements. A person exists within a psychological field that is a configuration of forces. One must understand all the psychological forces operating on the person in any given situation in order to predict anything. For example, some forces might motivate an individual to study (e.g., an upcoming exam, the sight of one's roommate studying), but other forces might motivate the individual to spend the evening another way (e.g., a group of friends suggesting a movie). No one force predicts action, but the dynamic equilibrium among them, the ever-changing balance of forces, does predict action.

The total psychological field (and hence behavior) is determined by two pairs of factors. The first pair consists of the *person in the situation*. Neither alone is sufficient to predict behavior. The person contributes needs, beliefs, perceptual

abilities, and more. These act on the environment to constitute the psychological field. Thus, to know that a particular person is motivated to study does not predict whether or how much he or she will study. But a motivated person in a library is extremely likely to study a lot. Ever since Lewin, social psychologists have seen both the person and the situation as essential to predicting behavior. The study of social cognition focuses on perceiving, thinking, and remembering as a function of who and where a person is.

The second pair of psychological field factors that determines behavior is *cognition and motivation*. Both are joint functions of person and situation and jointly predict behavior. Cognition provides the perceiver's interpretation of the world; without clear cognitions, behavior is not predictable. If a person has incomplete or confused cognitions about a new setting, behavior will be unstable. For example, if you do not have the foggiest idea about what an upcoming exam in music composition will be like, you may behave erratically and unpredictably; you may try several study strategies, none of them very systematically. Cognitions help determine *what* a person will do, which direction behavior will take. If a musician friend explains what composition exams typically contain, your cognitions and your studying will settle down along the lines laid out. But this assumes that you actually do study. The second feature of the psychological field is motivation; its strength predicts whether the behavior will occur at all and, if it does, how much of it will occur. Knowing what to do does not mean you will do it; cognition alone is not enough. Motivation provides the motor for behavior.

To summarize, Lewin focuses his analysis on psychological reality as perceived by the individual; on confronting a whole configuration of forces, not single elements; on the person and the situation; and on cognition and motivation. These major themes, which date back through Gestalt psychology to Kant, are theoretical points that still survive in modern approaches to social cognition as well as in psychology as a whole.

Conclusion

We have characterized the historical origins of social cognition as a contrast between the elemental and the holistic viewpoints. The elemental approach aims to build up from the bottom, combining smaller pieces into larger ones until the whole puzzle is assembled. The piecemeal nature of this approach contrasts sharply with the holistic nature of the Gestalt alternative. To describe a person's active construction of reality, in the holistic view, it is necessary to tackle the entire configuration as seen by the perceiver. The tension between the elemental and configural or holistic approaches will surface again, in a different form, in Chapter 2. We will see that they can be integrated as two complementary processes.

THE EBB AND FLOW OF COGNITION IN PSYCHOLOGY

Psychologists have not always agreed that it is important to get inside the mind. The study of cognition has received both good and bad reviews over time. To prevent an overly myopic view of the importance of cognition, let's take a brief look at its place in experimental and social psychology. Early psychologists,

whether elemental or holistic, relied heavily on introspection as a central tool for understanding human thought. As you will see, however, introspection developed a bad reputation, and with it cognition fell into disrepute. Experimental psychology rejected cognition for many years, but social psychology did not. The next two sections present the contrasting histories of cognition in the two subfields, experimental and social psychology.

Cognition in Experimental Psychology

Wundt's work at the dawn of empirical psychology relied heavily on trained introspection.² The use of introspection was linked to the fact that Wundt's goal was emphatically cognitive: people's experience was the subject matter of interest. Wundt and others gathered data about mental events and constructed theories to account for those data. However, introspection was ultimately abandoned as a methodology in experimental psychology because it did not conform to the principles appropriate to scientific investigation. By usual scientific standards, one's data should be publicly reproducible. Other scientists ought to be able to examine the data, replicate them following the same procedures, and analyze the data to see if they confirm the theory. In early experimental psychology, theories were required to account for introspections (i.e., self-observations), and therein lay the problem. If the criteria for a theory's success depended on private experience, the evidence could not be produced in public. The research could not be checked by others. The most absurd version of the problem would be this: If my theory accounts for my introspections and your theory accounts for yours, how do we decide who is right?

When introspection was abandoned because of problems such as this, the study of cognition was also neglected. There was a shift away from studying internal (cognitive) processes and toward external, publicly observable events. The ultimate development of this approach was American behaviorist psychology in the early decades of the 20th century. Behaviorists held that only overt, measurable acts are sufficiently valid objects for empirical scrutiny. One of the founders of this approach was Edward L. Thorndike. B. F. Skinner and others further developed Thorndike's work. For example, Thorndike's (1940) theory of instrumental learning held no place for cognition. According to the theory, behavior has certain rewarding and punishing effects, which cause the organism to repeat or avoid the behavior later. In short, "the effect becomes a cause." Both effect and cause are observable, and cognition is thought to be irrelevant (Skinner, 1963). One behaviorist even called the idea of cognition a superstition (Watson, 1930).

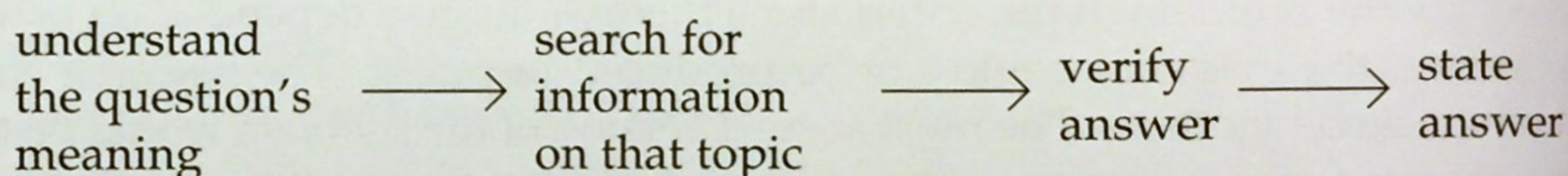
Behaviorists argued that specifying an observable stimulus (S) and response (R) for every part of one's theory is the strict scientific discipline necessary to the advancement of psychology, including social psychology (Berger & Lambert, 1968). For example, a behaviorist might approach the topic of racial and ethnic discrimination by noting that some children are punished for playing with

²Wundt also took measures that did not rely on people's own reports of their internal processes; for example, he also emphasized the measurements of reaction time, which is the time between stimulus and response. If you ask us how old we are, we can respond instantly. If you ask either of us how old the other author is, we have to calculate it, and that takes longer. Thus from reaction time one could infer more or less intervening thought. Such measures supplemented introspective data.

children of certain other ethnic groups and rewarded for playing with children of the family's own ethnic group. A simplified model of this would include "the other ethnic group" as the stimulus and "not playing together" as the response. A behaviorist would not consider the possible role of stereotyping (cognition). In experimental psychology generally, one net effect of behaviorism was that ideas about cognition fell into disrepute for about half a century and behaviorist theories dominated.

Several events caused experimental psychologists to take a fresh interest in cognition during the 1960s (J. R. Anderson, 1980; Holyoak & Gordon, 1984). First, linguists criticized the failure of the stimulus-response framework's attempts to account for language (cf. Chomsky, 1959, criticizing Skinner, 1957). It became clear that the complex, symbolic, and uniquely human phenomenon of language would not easily yield to behaviorist approaches.

Second, a new approach called *information processing* arose out of work on how people acquire knowledge and skills (Broadbent, 1958). Information processing refers to the idea that mental operations can be broken down into sequential stages. If you ask one of us when her niece was born, she thinks back to personal circumstances surrounding the event and recalls that it was August 1979. An information processing theory might represent those cognitive operations as follows:



The point of an information processing theory is to try to specify the steps intervening *between* stimulus (question) and response (answer). From this point of view, the important feature is the sequential processing of information. Information processing approaches entail the effort to specify cognitive processes, which behaviorists would not do.

New scientific tools have developed that allow cognitive psychologists to trace the nonobservable processes presumed to intervene between stimulus and response. The most important of these tools is the computer, which has become a methodological tool as well as a theoretical metaphor. It serves as a tool in that cognitive scientists use computers to simulate human cognitive processes; they write complex programs that play chess, learn geometry, and summarize the news (J. R. Anderson, 1976; Newell & Simon, 1972; Schank & Abelson, 1977). Social cognition researchers have developed computer simulations of how people form impressions and memories of each other (Hastie, 1988a; Linville, Fischer, & Salovey, 1989; E. R. Smith, 1988) and influence each other (Latané & Bourgeois, 2001). The computer has also been a metaphor in providing a framework and a jargon for characterizing mental processes; cognitive psychologists talked about input-output operations, or memory storage and retrieval, with respect to human cognition. More important, much of that early cognitive theory built on the idea that human cognition resembles computer information processing in important ways.

With the advent of cognitive neuroscience, the metaphors and models are changing. Cognitive psychologists are focusing more on modeling processes that are plausible with regard to increasingly understood brain systems, neural networks, their timing, and even single-cell responses. The current

challenges include modeling how clusters of individually dumb neurons can make us do such exquisitely intelligent things. Some of the models draw on insights from individually simple organisms, such as ants, that collectively accomplish optimal choices, such as finding nests safe from predators (Mallon, Pratt, & Franks, 2001). Another example is the coordination of flocks of birds that individually have, well, birdbrains, but collectively move together across thousand of miles, alighting, flying, and taking off in unison, in effect making group decisions (Couzin, Krause, Franks, & Levin, 2005). Simple biological collectives may provide metaphors, models, and methods for understanding neural systems.

To summarize, experimental psychology began with introspection as a legitimate method for gaining insight into thinking and with cognition as a legitimate focus for theory. Behaviorists virtually eliminated such techniques and concerns for decades, and cognition fell into disrepute. During the 1970s, cognitive psychology reemerged as a scientifically legitimate pursuit (J. R. Anderson, 1990; Neisser, 1967; D. A. Norman, 1976). More recently, during and after the 1990s Decade of the Brain, cognitive neuroscience has profoundly altered the landscape, for example, highlighting the interplay between human cognition and emotion (Phelps, 2006), the diffuse neural systems involved in language production and comprehension (Gernsbacher & Kaschak, 2003), the neural bases of cognitive control including inconsistency monitoring (Miller & Cohen, 2001), the distinct neural bases for distinct types of category learning (Ashby & Maddox, 2005), and the neural evidence for long-standing concepts such as episodic memory for past experiences, supported by both the neuropsychology of brain damage and neuroimaging studies of memory (Tulving, 2002). It might seem that the neural emphases are remote from social cognition, threatening to tear psychology apart. Fortunately, human neuroscience has the potential to glue psychology back together because the brain is not divided up the way psychology departments are. We are simultaneously social, affective, cognitive actors in the world.

Cognition in Social Psychology

In contrast to experimental psychology, social psychology has consistently leaned on cognitive concepts, even when most psychology was behaviorist. Social psychology has always been cognitive in at least three ways. First, since Lewin, social psychologists have decided that social behavior is more usefully understood as a function of people's perceptions of their world rather than as a function of objective descriptions of their stimulus environment (Manis, 1977; Zajonc, 1980a). For example, an objective reward such as money or praise that people perceive as a bribe or as flattery will influence them differently than a reward they perceive as without manipulative intent. Their reaction is predicted by their perception, not simply by the giver's actions.

Other people can influence a person's actions without even being present, which is the ultimate reliance on perceptions to the exclusion of objective stimuli. Thus someone may react to a proffered bribe or to flattery by imagining the reactions of others (e.g., "What would my mother say?" or "What will my friends think?"). Of course, such thoughts are the person's own fantasies, having perhaps tenuous connection to objective reality. Thus the causes of social behavior

are doubly cognitive; our perceptions of others actually present and our imagination of their presence both predict behavior (cf. G. W. Allport, 1954).³

Social psychologists view not only causes but also the end result of social perception and interaction in heavily cognitive terms, and this is a second way in which social psychology has always been cognitive. Thought often comes before feeling and behaving as the main reaction that social researchers measure. A person may worry about a bribe (thought), hate the idea (feeling), and reject it (behavior), but social psychologists often mainly ask: "What do you think about it?" Even when they focus on behavior and feelings, their questions are often, "What do you intend to do?" and "How would you label your feeling?" These arguably are not behavior and feelings but cognitions about them. Thus social psychological causes are largely cognitive, and the results are largely cognitive.

A third way in which social psychology has always been cognitive is that the person in between the presumed cause and the result is viewed as a *thinking organism*; this view contrasts with regarding the person as an emotional organism or a mindless automaton (Manis, 1977). Many social psychological theories paint a portrait of the typical person as reasoning (perhaps badly) before acting. In attempting to deal with complex human problems, as social psychology always has, complex mental processes seem essential. How else can one account for stereotyping and prejudice, propaganda and persuasion, altruism and aggression, and more? It is hard to imagine how a narrowly behaviorist theory would even begin. A strict stimulus-response (S-R) theory does not include the thinking organism that seems essential to account for such problems. In several senses, then, social psychology contrasts with strict S-R theories in its reliance on S-O-R theories that include stimulus, organism, and response. Consequently, the thinker, who comes in between stimulus and response, has always been paramount in social psychology.

The social thinker has taken many guises in recent decades of research (S. E. Taylor, 1998). These guises describe the various roles of cognition in social psychology. Besides the varied roles of cognition, motivation has played different roles in the view of the social thinker. Keeping in mind these two components, cognition and motivation, we can identify five general views of the thinker in social psychology: consistency seeker, naive scientist, cognitive miser, motivated tactician, and activated actor (Table 1.1).

The first view emerged from the massive quantities of work on attitude change after World War II. In the late 1950s several theories were proposed, all sharing some crucial basic assumptions. The consistency theories, as they were called, viewed people as *consistency seekers* motivated by perceived discrepancies among their cognitions (e.g., Festinger, 1957; Heider, 1958; see Abelson et al., 1968, for an overview). Dissonance theory is the best-known example: If David has publicly announced he is on a diet and knows that he has just eaten a hot fudge sundae, he must do some thinking to bring those two cognitions into line. (Changing the subjective definition of "diet" would be a start.)

Chapter 9 deals more thoroughly with consistency theories, but for the moment two points are crucial. First, these theories relied on perceived inconsistency, which places cognitive activity in a central role. For example, if would-be

³One might well ask, what is the logical alternative to this approach? Who does research on reactions to the objective as opposed to the cognized world? The answer is behaviorists, as described, and some perceptual theorists (Gibson, 1966; see Chapter 3).

TABLE 1.1. Models of the Social Thinker in Social Cognition Research

Model of the Social Thinker	Era	Main Role of Motivation	Main Role for Cognition	Theoretical Example (Relevant Chapter)
Consistency seeker	1950–1960s	Drive to reduce discomfort from cognitive discrepancy	Cognitions about behavior, beliefs	Dissonance theory of attitudes (Ch. 9)
Naive scientist	1970s	Prediction and control, qualifies rationality	Primary, rational analysis	Covariation model of attribution (Ch. 6)
Cognitive miser	1980s	Rapid, adequate understanding	Shortcuts conserve limited capacity	Heuristic decision making (Ch. 7)
Motivated tactician	1990s	Thinking is for doing in social context	Interaction goals organize cognitive strategies	Dual-process models (Ch. 2), especially stereotyping (Ch. 11)
Activated actor	2000s	Social surviving and thriving	Automatic affect and behavior	Implicit associations (Ch. 3–4, Ch. 12–15)

dieters can convince themselves that one splurge will not matter, eating a sundae is not inconsistent for them. Objective inconsistency is not important. Subjective inconsistency among various cognitions or among feelings and cognitions is central to these theories. Actual inconsistency that is not perceived as such does not yield psychological inconsistency.

Second, once inconsistency is perceived, the person is presumed to feel uncomfortable (a negative drive state) and to be motivated to reduce the inconsistency. Reducing the aversive drive state is a pleasant relief, rewarding in itself. This sort of motivational model is called a drive reduction model. Less formally, the sundae-consuming dieter will not be free from anxiety until he manufactures some excuse. Hence, consistency theories posit that people change their attitudes and beliefs for motivational reasons because of unmet needs for consistency. In sum, motivation and cognition both are central to the consistency theories.

Ironically, as they proliferated, consistency theories ceased to dominate the field, partly because the variants on a theme became indistinguishable. Moreover, it was difficult to predict what a person would perceive as inconsistent and to what degree, and which route to resolving inconsistency a person would take. Finally, people do, in fact, tolerate a fair amount of inconsistency, so the motivation to avoid it as an overriding principle was called into doubt (cf. Kiesler, Collins, & Miller, 1969).

Research in social cognition began in the early 1970s, and with it new models of the thinker emerged. Cognition and motivation played rather different roles in these new models compared to the roles they played in the consistency seeker model. In the new models, motivation is secondary in importance to cognition. These views are central to social cognition research, and they will be

covered in more detail throughout the book. At present, however, a brief look is useful.

The first model within the framework of social cognition research is the *naive scientist*, a model of how people uncover the causes of behavior. Attribution theories concern how people explain their own and other people's behavior; they came to the forefront of research in the early 1970s (see Chapter 6). Attribution theories describe people's causal analyses of or attributions about the social world. For example, an attribution can address whether someone's behavior seems to be caused by the external situation or by the person's internal disposition. If you want to know why your acquaintance Bruce snapped at you one morning, it would be important to decide whether there were mitigating circumstances (e.g., his girlfriend left him; you just backed into his car) or whether he has an irritable disposition (he always behaves this way to everyone).

Attribution theorists at first assumed that people are fairly rational—like scientists—distinguishing among various potential causes. In part, this was a purposeful theoretical strategy designed to push a rational view of people as far as possible to discover its shortcomings. The theories started with the working hypothesis that, given enough time, people will gather all the relevant data and arrive at the most logical conclusion. In this view, you would think about your friend's behavior in a variety of settings and carefully weigh the evidence for a situational or a dispositional cause of his behavior. Thus the role of cognition in the naive scientist model is as an outcome of fairly rational analysis.

If you are wrong about why Bruce was irritable, the early theories would have viewed your error as an emotion-based departure from the normal process or as a simple error in available information. For example, if you attribute Bruce's unpleasant behavior to his irritable disposition, it may be because you are motivated to avoid the idea that he is angry at you. Viewed from this perspective, errors arise mainly as interference from nonrational motivations. In the early attribution theories, motivation enters mainly as a potential qualification on the usual process.

Recall that in consistency theories, in contrast, motivation drives the whole system. The role of motivation in consistency theories is quite central; it acts as an aversive drive state that persists until inconsistencies are resolved. Attribution theorists traditionally have not viewed unresolved attributions as causing an aversive drive state. Motivations for predicting and controlling one's social world presumably set attributions in motion; in that sense, motivation does help to catalyze the attribution process, just as it catalyzes the entire consistency seeking process. Nevertheless, motivation is far more explicit in consistency theories than in attribution theories.

Unfortunately, people are not always such careful naive scientists. The cognitive system is limited in capacity, so people take shortcuts. The limitations of the cognitive system can be illustrated by such trivial problems as trying to keep a credit card number, an area code, and a telephone number in your head as you dial, or by more serious problems such as working poorly when you are distracted. The impact of cognitive limitations shows up in social inferences too. To illustrate, in deciding why Bruce was irritable, you may seize on the easiest explanation rather than the most accurate one. Rather than asking Bruce what is disturbing him, you may simply label him as unpleasant, without giving it much thought. Quite often, people simply are not very thorough.

Hence, the third general view of the thinker is the *cognitive miser* model (S. E. Taylor, 1981b). The idea is that people are limited in their capacity to process information, so they take shortcuts whenever they can (see Chapters 7–8). People adopt strategies that simplify complex problems; the strategies may not be correct or produce correct answers, but they emphasize efficiency. The capacity-limited thinker searches for rapid, adequate solutions rather than for slow, accurate solutions. Consequently, in this view, errors and biases stem from inherent features of the cognitive system, not necessarily from motivations. Indeed, the cognitive miser model is silent on the issue of motivations or feelings of any sort except rapid, adequate understanding (which is fairly cognitive rather than motivational in flavor). The role of cognition was central to the cognitive miser view, and the role of motivation vanished almost entirely, with isolated exceptions.

As the cognitive miser viewpoint matured, the importance of motivations and emotions again became evident. Having developed considerable sophistication about people's cognitive processes, researchers began to appreciate anew the interesting and important influences of motivation on cognition (see Chapter 2). In addition, affect has been a continued source of fascination, as Chapters 13–14 indicate. With growing emphasis on motivated social cognition (Showers & Cantor, 1985; Tetlock, 1990), researchers returned to old problems with new perspectives gained from studying social cognition. Social interaction became more important. People's thinking is for doing, to paraphrase William James (1890/1983), and their social thinking is for their social doing (S. T. Fiske, 1992, 1993). The 1990s view of the social perceiver might best be termed the *motivated tactician*, a fully engaged thinker with multiple cognitive strategies available, who (consciously or unconsciously) chooses among them based on goals, motives, and needs. Sometimes the motivated tactician chooses wisely, in the interests of adaptability and accuracy, and sometimes the motivated tactician chooses defensively, in the interests of speed or self-esteem. Thus views of the social thinker came full cycle back to appreciating the importance of motivation, but with increased sophistication about cognitive structure and process.

As the 21st century gets well under way, views of the social perceiver are shifting slightly yet again, building on all that came before. The motivated tactician is nowhere near as deliberate as the goals viewpoint seemed to imply. Currently, with a heavy emphasis on unconscious associations, cued in the barest fraction of a second, people are viewed as *activated actors*. That is, social environments rapidly cue perceivers' social concepts, without awareness, and almost inevitably cue associated cognitions, evaluations, affect, motivation, and behavior (e.g., Dijksterhuis & Bargh, 2001; Fazio & Olson, 2003; Greenwald et al., 2002; Macrae & Bodenhausen, 2000). This latest look emphasizes rapid reactions, variously viewed as implicit, spontaneous, or automatic indicators of responses unconstrained by perceiver volition (see Chapters 3–4 and 10–13). These interpretations remain controversial, but one thing is clear: People's motives affect surprisingly unconscious responses. Using ever-faster and more precise methods for presenting stimuli at speeds outside awareness and neuroscience measures of neural responses from the earliest moments of perception, we are rapidly learning just how much occurs in the first moments of social perception. At the same time, social cognition is not simply returning to the cognitive miser view (i.e., fast but not very good). The current view combines the cognitive economy view with a view that incorporates motivation and affect at every stage, even the

preconscious ones. The farther upstream we go, the more we realize that cognition, affect, and behavioral readiness are inseparable.

In summary, social psychology has always been cognitive in the broad sense of positing important steps that intervene between observable stimulus and observable response. One early, major set of theories viewed people as consistency seekers, and motivation played a central role in driving the whole system. With the rise of social cognition research, new views emerged. In one major wave of research, psychologists view people as naive scientists. These psychologists regard motivation mainly as a source of error. In another recent view, psychologists see people as cognitive misers and locate errors in the inherent limitations of the cognitive system, saying almost nothing about motivation. More recently, motivational influences on cognition have reemerged in a revitalized view of the social thinker as a motivated tactician. Finally, researchers are currently realizing the limited degree of conscious choice in engaging automatic and controlled processes. With an emphasis on the functioning social thinker-feeler-actor, current work views people as activated actors, influenced by their social environments at even earlier stages than previously understood.

WHAT IS SOCIAL COGNITION?

The study of social cognition does not rely on any one theory. The field concerns how people make sense of other people and themselves. All social cognition research shares some basic features: unabashed mentalism, orientation toward process, cross-fertilization between cognitive and social psychologies, and at least some concern with real-world social issues (for other reviews, see Augustinos & Walker, 1995; Bless, Fiedler, & Strack, 2004; Kunda, 1999; Macrae & Bodenhausen, 2000; Moskowitz, 2005; and cf. Hastie & Carlston, 1980; Ostrom, 1984; S. E. Taylor, 1981b, on these points).

Mentalism

The first of these assumptions, an unabashed commitment to mentalism (cognition), has just been discussed at some length. *Mentalism* is the belief in the importance of mental representations and processes. The cognitive elements people naturally use to make sense of other people constitute the “what” of social cognition. Mental representations are cognitive structures that both represent one’s general knowledge about a given concept or stimulus domain and one’s memory for specific experiences. For example, your general knowledge about a new friend may be organized into a view of him as independent but not a loner, friendly but not saccharine, and athletic but not a star. A concept (e.g., this person) includes both relevant attributes (e.g., independent, friendly, athletic) and the relationships among the attributes (e.g., what his independence has to do with his friendliness). General knowledge about ourselves and others provides us with the expectations that enable us to function in the world; as noted, thinking is (mostly) for doing. People also have specific memories for unique events. Both types of representation appear in Chapter 4 on mental representation. People also have mental representations of self (Chapter 5), attitude objects (Chapter 9), and outgroups (Chapter 10), among other significant social cognitions.

Cognitive Processes in Social Settings

The second basic assumption in research on social cognition concerns cognitive process; that is, how cognitive elements form, operate, and change over time. A process orientation follows from the fundamental commitment to cognition: concern with cognitive elements that intervene between observable stimulus and observable response requires an explanation of *how* one gets from S to R. Recall that behaviorists explicitly avoided discussion of internal processes because they were concerned with predicting a publicly observable response from a publicly observable stimulus. In that sense, they were response or outcome oriented rather than process oriented.

But outcome orientations arose elsewhere too. The early methodology of research on consistency theories, for example, was more outcome oriented than process oriented. Although the researchers originally theorized and made assumptions about process, they focused empirically on predicting outcomes from stimuli. For example, inconsistency was manipulated (stimulus) and the resulting attitude change measured (outcome). Later psychologists conducting consistency research did attempt to measure the intervening processes, but the initial thrust of the research methods was outcome oriented. One of the recent shifts in attitude research and in social psychology generally has been away from outcome-oriented approaches and toward examinations of process.

In social cognition research, theories are now available to describe and tools are available to measure various implicit but hitherto unexamined assumptions about process. Social cognition research attempts to measure the stages of social information processing. That is, when a person confronts a social stimulus, several steps occur before he or she makes a response. Social cognition, and now social neuroscience, analyzes these processes from the earliest moments.

Cross-Fertilization

So far we have described two themes in social cognition research and in this book: a commitment to cognition or mentalism and a commitment to process analysis. The third theme, cross-fertilization between cognitive and social psychology, addresses another feature of social cognition research. Although social psychology has always been cognitive, it has not always had purely cognitive neighbors from whom it can borrow new approaches. Borrowing relatively fine-grained cognitive and cognitive neuroscience theory and methods has proved fruitful for social psychological research. Not only do researchers specify the steps in a presumed process model, but researchers attempt to measure the steps in some detail. For example, the first new wave social cognition research relied heavily on measuring milliseconds of reaction time. The most recent social cognitive neuroscience relies on detailed brain imaging techniques. Borrowing measures from other areas of psychology enriches social psychology's home-grown methods, as we will see. Various traditional and newer experimental methods enable researchers to support differing aspects of process models: for example, attention, memory, and inference.

Real-World Social Issues

The fourth theme of social cognition research is application to the real world. Social psychologists have a long tradition of addressing important contemporary

issues. Early research provided insights into crowd behavior, propaganda, anti-Semitism, military morale, and other social issues. In keeping with this tradition, research in social cognition informs us about important issues. It applies the often heavily cognitive theory and method to real-world social problems. Throughout this book, we illustrate the ways social cognition can guide work in areas such as psychotherapy, health care, the legal system, stereotyping, advertising, political campaigns, strangers helping strangers, and romantic involvements. All these applications illustrate the flexibility of social cognition research and demonstrate how some otherwise highly technical or abstract ideas generalize outside the laboratory.

Social cognition applications to real-world issues define some boundary conditions for cognitive processes. That is, the research reveals phenomena that do not lend themselves to a purely cognitive analysis; other factors must be considered in many interpersonal settings of consequence. For example, how does cognition trade off accuracy and efficiency? How does social information processing operate in situations of intense personal involvement? How do social cognitions translate into voting behavior? How does the neuroscience of social cognition relate to the social problems of people with autism?

This book addresses the four major themes of social cognition research: unabashed mentalism in the study of cognitive representations of people, a commitment to fine-grained analyses of cognitive process, cross-fertilization between cognitive and social theory and methods, and a commitment to real-world social issues.

PEOPLE ARE NOT THINGS

As we review research on social cognition, the analogy between the perception of things and the perception of people becomes increasingly clear. The argument is made repeatedly: Principles that describe how people think in general also describe how people think about people. Many theories of social cognition have developed in ways that undeniably build on fundamental cognitive principles. Nevertheless, in borrowing such principles we discover fundamental differences when applying them to cognition about people. After all, cognitive psychology is relatively more concerned with processing information about inanimate objects and abstract concepts, whereas social psychology is more concerned with processing information about people and social experience.

At this point you already may be saying, "Wait, you can't tell me that the way I think about mental arithmetic or about my coffee cup has anything to do with the way I think about my friends." The wisdom or folly of applying the principles of object perception to the perception of people has been debated for some time (Heider, 1958; Higgins, Kuiper, & Olson, 1981; Krauss, 1981; Schneider, Hastorf, & Ellsworth, 1979; Tagiuri & Petrullo, 1958). Some of the important differences between people and things as targets of perception include the following:

- People intentionally influence the environment; they attempt to control it for their own purposes. Objects, of course, are not intentional causal agents.
- People perceive back; as you are busy forming impressions of them, they are doing the same to you. Social cognition is mutual cognition.

- Social cognition implicates the self because the target is judging you, because the target may provide you with information about yourself, and because the target is more similar to you than any object could be.
- A social stimulus may change upon being the target of cognition. People worry about how they come across and may adjust their appearance or behavior accordingly; coffee cups obviously do not.
- People's traits are nonobservable attributes that are vital to thinking about them. An object's nonobservable attributes are somewhat less crucial. Both a person and a cup can be fragile, but that inferred characteristic is both less important and more directly seen in the cup.
- People change over time and circumstance more than objects typically do. This can make cognitions rapidly obsolete or unreliable.
- The accuracy of one's cognitions about people is harder to check than the accuracy of one's cognitions about objects. Even psychologists have a hard time agreeing on whether a given person is extraverted, sensitive, or honest, but most ordinary people easily could test whether a given cup is heat resistant, fragile, or leaky.
- People are unavoidably complex. One cannot study cognitions about people without making numerous choices to simplify. The researcher has to simplify in object cognition too, but fewer distortions may result. One cannot simplify a social stimulus without eliminating much of the inherent richness of the target.
- Because people are so complex, and because they have traits and intents hidden from view, and because they affect us in ways objects do not, social cognition automatically involves social explanation. It is more important for an ordinary person to explain why a person is fragile than to explain why a cup is.

For these reasons, social cognitive psychology will never be a literal translation of cognitive psychology. It profits from theories and methods adapted to new uses, but the social world provides perspectives and challenges that are dramatic, if not unique, features of thinking about other people and oneself.

BRAINS MATTER

The Decade of the Brain in the 1990s acknowledged the exciting and crucial roles of neural systems in a variety of human processes, including social ones. Social psychophysiology was not new, of course (e.g., Cacioppo & Berntson, 1992; Shapiro & Crider, 1969). The current palpable excitement among researchers and the public stems partly from the invention and popularity of functional magnetic resonance imaging (fMRI) techniques, which yield images of the brain at work. These techniques allow researchers to place a person into an MRI magnet, provide the person some stimuli, and observe blood flow to distinct areas of the brain, providing clues as to their possible functions in different tasks. The fMRI techniques are developing increasingly precise indicators of spatial location in the brain. These are complemented by older techniques, such as electroencephalograms (EEG) and facial electromyography (EMG), as well as new techniques being developed as we write. EEG provides only approximate spatial

locations (noninvasive electrodes are distributed over the surface of the skull) but extremely precise temporal information. The facial EMG (electrodes at crucial locations on the face) can detect micromovements of facial muscles not yet visible to observers but potentially indicative of facial expressions.

Added to these techniques are measures of cardiovascular activity and palmer sweat, which measure various forms of arousal. Assessments of cardiovascular activity provide information about physiological arousal. Social neuroscientists who are especially interested in stress processes also often assess hypothalamic pituitary adrenal (HPA) functioning, especially changes in cortisol in response to threat or stressful tasks. Elevations in cortisol or disruptions in its diurnal rhythm have been tied to stressful events and to psychosocial states. For example, social threat predicts elevated cortisol responses to stressful tasks (Dickerson & Kemeny, 2004), and psychosocial resources such as a strong sense of self have been tied to lower cortisol responses to stress (Creswell et al., 2005). Social neuroscientists make use of a broad array of immune measures as well, including those that assess numbers of different types of immune cells and those that assess immunological functioning. The immune system is responsive to stress and other threats (Dickerson, Kemeny, Aziz, Kim, & Fahey, 2004); assessing immunologic functioning in conjunction with resources, such as optimism or a sense of personal control, can help identify those aspects of social cognition that protect against stress and psychological distress (Reed, Kemeny, Taylor, & Visscher, 1999; Segerstrom, Taylor, Kemeny, & Fahey, 1998). Taken together, these measures open new doors into the life of the social mind.

For social cognition researchers, the possibilities also allow dissociating distinct social cognitive processes on the basis of distinct neuroscientific responses. Relevant to our assertion that “people are not things,” recent studies demonstrate distinct neural systems activating in social perception compared to object perception. In one early study (Castelli, Happé, Frith, & Frith, 2000), people watched a large red triangle and a small blue triangle under one of three labels for the animation: interaction with feelings and thoughts, random movement, or simple interaction. Independently, the animated movements also on different trials resembled scripts involving either mental inferences (e.g., persuading, bluffing), simple goals (e.g., chasing, dancing), or straightforward physical movement (e.g., floating, bouncing off walls). When the movements involved attributing a (quasi-human) mental state to the triangles, distinct activation patterns emerged, among them, medial prefrontal cortex (mPFC), superior temporal sulcus (STS or temporoparietal junction), and fusiform gyrus (FFA).⁴ This study is exciting because it was one of the first to show something special about perceiving an entity as having intentions and personality, dubbed a “theory of mind” effect. Note how this study fits our earlier distinctions between people and things.

A related study (Mitchell, Heatherton, & Macrae, 2002) supports this distinction, also at the neural systems level. Undergraduates saw a series of adjective-noun pairs and had to decide if the adjective “could ever be true of” the noun. The nouns named people (e.g., David, Emily) or objects (e.g., shirt, mango),

⁴The Castelli et al. study also showed activation to temporal poles and the extrastriate cortex (occipital gyrus). The Mitchell et al. study described next activated the intraparietal sulcus. We focus on the other areas for simplicity here.

and the adjectives included typical person descriptors (e.g., assertive, nervous) and relevant object descriptors (e.g., patched, seedless). Neural activity differed when people made these semantic judgments about people and objects. Brain activity associated with people included some of the same areas previously seen by Castelli et al. (2000) and others for social cognitive responses: medial prefrontal cortex (mPFC), superior temporal sulcus (STS), and fusiform gyrus (FFA).

These areas of the brain (mPFC and STS) appear frequently throughout this book when people are generally engaged in social cognition (mPFC) or judgments of intent and trajectory (STS). The mPFC in particular appears to have a unique role in social cognition across many studies (Amodio & Frith, 2006). What's more, the FFA particularly responds to faces or other objects in one's domains of expertise, such as birds for a birdwatcher and cars for a car expert (Farah, 1994; Gauthier, Skudlarski, Gore, & Anderson, 2000). The main point, made by the Mitchell et al. (2002) study, as in the prior one, is the dissociation (separation) between the social and the nonsocial neural activation patterns. Moreover, in these two studies and others (e.g., Mitchell, Macrae, & Banaji, 2005), some of the same areas are implicated in social cognition. One exciting possibility is that these areas link to reward systems in the brain, accounting for the attraction people have to social interaction and belonging (S. T. Fiske, 2004; Baumeister & Leary, 1995).

What is also exciting about these findings is the provocative possibility that social cognition could be the default, resting state (Iacoboni, et al., 2004). In many social neuroscience studies, the characteristically social "activations" often emerge as relatively little change from a supposedly neutral baseline (e.g., staring at the fixation point between trials). In contrast, object judgments often create *deactivations* from the baseline. This study suggested that the neutral condition may not be neutral at all, but instead people spontaneously engaging in social cognition (What's that experimenter doing now? I hope she knows what she's doing. Will my friends wait for me for lunch? Why didn't my roommate wake me up as promised?). Suppose for the moment that much of people's random thinking concerns other people, engaging relatively active social systems in the brain. When the experimenter makes people do mental arithmetic or other nonsocial tasks, the social cognition processes shut down, so these "socially implicated" areas shut down. In contrast, when people look at social stimuli, their activation in these areas does not change much from baseline because they were already thinking about other people. This is essentially Iacoboni et al.'s (2004) argument. They compared people watching film clips of two people interacting compared with a single person engaged in everyday activities or a resting baseline. They found activations even relative to baseline in the dorsal part of the mPFC, as well as in the STS and FFA. And similarly, in the Mitchell et al. study, for example, the socially relevant regions were generally marked by relatively little change from baseline brain activity for person judgments along with significant deactivations for object judgments. Other studies that intensify social thinking above social daydreaming do find activations above baseline (Harris, Todorov, & Fiske, 2005).

As the evidence accumulates for the unique neural status of thinking about other people's dispositions and states, researchers are learning much about what makes social cognition special. Some of the more intriguing recent findings using these neural criteria suggest that people can think about dogs as people (Mitchell, Banaji, & Macrae, 2005) more easily than they can think about drug addicts and

the homeless as people (Harris & Fiske, 2006). That is, people's default response to an outgroup that elicits disgust (as evidenced by typical ratings of homeless and addicted people) activates neural patterns typical of disgust (e.g., insula) but not neural patterns typical of social cognition to ingroups and even other outgroups (e.g., mPFC). On the other hand, people readily attribute psychological states (anthropomorphize) to dogs (Mitchell, Banaji, & Macrae, 2005), at least as indexed by mPFC and "yes" responses to trait terms ("curious") as potentially applicable to a dog. While interpreting the activation of the vast mPFC is rapidly developing, it clearly is implicated in cognition that is emphatically social.

In discussing the importance of the social brain, we should clarify its context. People sometimes mistakenly pit biological explanations against cultural explanations, rehashing the nature–nurture debate. Although individual researchers tend to be drawn to distinct levels of analysis, brains and cultures are not competing explanations for the same phenomena.

First, our brains are predisposed to pick up our cultures as they socialize us. For example, as just hinted, social thinking activates particular neural configurations. Moreover, social exclusion recruits neural systems linked to the experience of physical pain (Eisenberger, Lieberman, & Williams, 2003). That is, people who are ostracized—even from a simple video game with strangers—activate the anterior cingulate cortex (ACC), and this activation is dampened by activation of the right ventral prefrontal cortex (rvPFC). These patterns also occur for physical pain. Adding to the evidence for this parallel, people's baseline sensitivity to physical pain predicts their sensitivity to social pain, and experiencing social pain sensitizes people to physical pain (Eisenberger, Jarcho, Lieberman, & Naliboff, 2006). As we increasingly understand the neural correlates of social life, we will see how sensitive our brains are to social cues.

Second, cultural information is stored in our brains. As Chapter 4 indicates, mental representations of social information are complex and distinctly characterized by features that differ from nonsocial representations.

Third, people's brains change physically depending on their cultural experience. For example, taxi drivers have larger posterior hippocampus areas (associated with spatial memory storage) the longer they drive, as a function of their learning street locations (Maguire et al., 2000). As these examples indicate, our brains dwell in particular cultural experiences, and both matter to social cognition.

CULTURES MATTER

Exciting new cultural comparisons have been forcing social cognition researchers to reexamine the entire basis of our field. Many of the basic assumptions about how people think about other people turn out to be culturally bounded, challenging long-held assumptions. Many of these comparisons to date contrast American or Canadian with Japanese, Chinese, or Korean undergraduates. Even with these limited comparisons, some provocative findings are emerging. For example, cultures vary in thinking about causality more analytically (Westerners) or holistically (East Asians), as Chapter 6 will show (Nisbett, Peng, Choi, & Norenzayan, 2001). This affects, for example, how people decide whether people or social circumstances are responsible for actions taken, which has implications for law, morality, social roles, and more.

As another example, configurations of beliefs differ across cultures (Leung & Bond, 2004). Cultures with general beliefs in social cynicism assume that power displays elicit compliance, and accordingly, people endorse such influence strategies (Fu et al., 2004). The same goes for variations in beliefs about religiosity, reward for effort, and fate control; that is, people endorse influence strategies that fit their culture's expectations about what makes people tick. Given globalization of business, education, and politics, social cognitive insights into cultural variation are crucial for people to understand each other's assumptions about interaction.

One of the most striking social cognitive differences in cultures compares the self as more independent and autonomous (Westerners) or more interdependent and harmonious (East Asians) (e.g., Markus & Kitayama, 1991; see Chapter 5). The implications of this distinction range from self-definition, to self-esteem, to life tasks, to the roles of others—all critical to social cognition.

All of these cultural patterns relate to each other, as we will see. While the contrasts are real, so are the similarities and so are the places between the extremes. At their best, cultural comparisons create interesting complexity, not stereotypes or caricatures. As social cognition research outgrows its original Western (North American and European) boundaries and simultaneously reaches into the brain, it extends its cultural reach as well.

Summary

The study of social cognition concerns how people make sense of other people and themselves. It focuses on people's everyday understanding both as the phenomenon of interest and as a basis for theory about people's everyday understanding. Thus it concerns both how people think about the social world and how they think they think about the social world. It also draws heavily on fine-grained analyses provided by cognitive theory and method.

Two general approaches to social cognition date back to early modern philosophy. The elemental approach begins with ideas as elements that become linked into increasingly complex compounds. People form associations between ideas by the ideas' repeated contiguity in space or time. Early psychologists used introspective analysis as a method to break down their memory processes into those basic elements.

Gestalt psychologists adopted a holistic approach. They focused on the mind's active construction of reality rather than on objective descriptions of the stimulus field. They also focused on the person's experience of dynamic wholes rather than elements. Lewin and Asch imported such ideas to social psychology. Asch focused on Gestalt impressions. Lewin emphasized that the perceived environment—that is, the psychological field—predicts behavior and that one must consider the entire dynamic equilibrium of forces acting on an individual. The psychological field is the joint product of person and situation, and of motivation and cognition.

Cognition has not always been prominent in experimental psychology. When introspection proved to be a weak basis for an empirical science, cognition fell into disfavor with psychologists. Behaviorists dominated psychology for decades, insisting on an observable stimulus, an observable response, and no intervening cognitions. Later, behaviorist approaches seemed inadequate to explain language; at the same time, information processing theories and computer-aided theory and technology paved the way for the reemergence of cognition in experimental psychology.

In social psychology, however, cognition has always been a respectable idea. The causes of social interaction predominantly lie in the perceived world, and the results of social interaction are thoughts as well as feelings and behavior. In addition, social

psychologists have always been cognitive in their view of the thinker who reacts to the perceived stimulus and generates a substantially cognitive response. They have viewed the social thinker at some times as a consistency seeker, motivated to reduce perceived discrepancies; at other times, they have seen the social thinker as a naive scientist who makes every effort to ferret out the truth, with motivation contributing mainly error. Subsequently, social psychologists regarded the social thinker as a cognitive miser who attempts to increase or maintain the efficiency of a capacity-limited cognitive apparatus, and they had little to say about motivation. This viewpoint was followed by a view of the social perceiver as a motivated tactician, which gained acceptance as researchers documented the flexibility of the social perceiver. Currently, with emphasis shifting to ever-faster, more immediate responses, as well as their effects on overt behavior, researchers tend to emphasize social perceivers as activated actors, heavily influenced by social environments.

Social cognition, as an area of study, emphasizes unabashed mentalism, social settings, cross-fertilization, and real-world social issues. Social cognition departs from the general principles of cognition in some ways: compared to objects, people are more likely to be causal agents, to perceive as well as being perceived, and to involve intimately the observer's self. People are difficult targets of cognition; because they adjust themselves upon being perceived, many of their important attributes (e.g., traits) must be inferred, and the accuracy of observations is difficult to determine. People frequently change and are unavoidably complex as targets of cognition. Hence those who study social cognition must adapt the ideas of cognitive psychology to suit the specific features of cognitions about people.

Some of the most exciting recent developments include work on social cognitive affective neuroscience, adding to insights about the special status of emphatically social cognition at the neural level, with particular systems implicated in uniquely social cognitive processes. Complementing that work are insights from cultural psychology, examining variations in the way humans solve the challenge of making sense of each other in a variety of settings.