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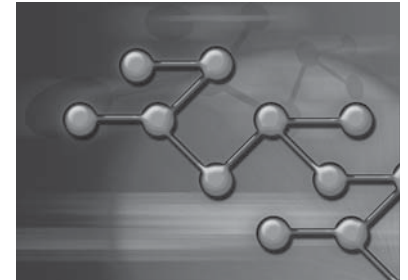
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Social Perception: Understanding Other People

3

Nobody outside of a baby carriage or a judge's chamber believes in an unprejudiced point of view.

—Lillian Helman

In July 1988, the U.S. guided missile frigate *Vincennes* was on patrol in the Persian Gulf. A state-of-the-art ship carrying the most sophisticated radar and guidance systems, the *Vincennes* became embroiled in a skirmish with some small Iranian naval patrol boats. During the skirmish, Captain Will Rogers III received word from the radar room that an unidentified aircraft was heading toward the ship. The intruder was on a descending path, the radar operators reported, and appeared to be hostile. It did not respond to the ship's IFF (identify friend or foe) transmissions, nor were further attempts to raise it on the radio successful. Captain Rogers, after requesting permission from his superior, ordered the firing of surface-to-air missiles; the missiles hit and destroyed the plane. The plane was not an Iranian fighter. It was an Iranian Airbus, a commercial plane on a twice-weekly run to Dubai, a city across the Strait of Hormuz. The airbus was completely destroyed, and all 290 passengers were killed.

Following the tragedy, Captain Rogers defended his actions. But Commander David Carlson of the nearby frigate *Sides*, 20 miles away, reported that his crew accurately identified the airbus as a passenger plane. His crew saw on their radar screen that the aircraft was climbing from 12,000 to 14,000 feet (as tapes later verified) and that its flight pattern resembled that of a civilian aircraft (*Time*, August 15, 1988). The crew of the *Sides* did not interpret the plane's actions as threatening, nor did they think an attack was imminent. When Commander Carlson learned that the *Vincennes* had fired on what was certainly a commercial plane, he was so shocked he almost vomited (*Newsweek*, July 13, 1992). Carlson's view was

Key Questions

As you read this chapter, find the answers to the following questions:

1. What is impression formation?
2. What are automatic and controlled processing?
3. What is meant by a cognitive miser?
4. What evidence is there for the importance of nonconscious decision making?
5. What is the effect of automaticity on behavior and emotions?
6. Are our impressions of others accurate?
7. What is the sample bias?
8. Can we catch liars?
9. What is the attribution process?
10. What are internal and external attributions?
11. What is the correspondent inference theory, and what factors enter into forming a correspondent inference?

backed up by the fact that the "intruder" was correctly identified as a commercial aircraft by radar operators on the *U.S.S. Forrestal*, the aircraft carrier and flagship of the mission (*Newsweek*, July 13, 1992).

What happened during the *Vincennes* incident? How could the crew of the *Vincennes* have "seen" a commercial plane as an attacking enemy plane on their radar screen? How could the captain have so readily ordered the firing of the missiles? And how could others—the crews of the *Sides* and the *Forrestal*, for instance—have seen things so differently?

The answers to these questions reside in the nature of human cognition. The captain and crew of the *Vincennes* constructed their own view of reality based on their previous experiences, their expectations of what was likely to occur, and their interpretations of what was happening at the moment—as well as their fears and anxieties. All these factors were in turn influenced by the context of current international events, which included a bitter enmity between the United States and what was perceived by Americans as an extremist Iranian government.

The captain and crew of the *Vincennes* remembered a deadly attack on an American warship the previous year in the same area. They strongly believed that they were likely to be attacked by an enemy aircraft, probably one carrying advanced missiles that would be very fast and very accurate. If this occurred, the captain knew he would need to act quickly and decisively. The radar crew saw an unidentified plane on their screen. Suddenly they called out that the aircraft was descending, getting in position to attack. The plane didn't respond to their radio transmissions. Weighing the available evidence, Captain Rogers opted to fire on the intruder.

The commander and crew of the *Sides* had a different view of the incident. They saw the incident through the filter of their belief that the *Vincennes* was itching for a fight. From their point of view, a passenger plane was shot down and 290 lives were lost as a result of the hair-trigger reaction of the overly aggressive crew.

These different views and understandings highlight a crucial aspect of human behavior: Each of us constructs a version of social reality that fits with our perception and interpretation of events (Jussim, 1991). We come to understand our world through the processes of social perception, the strategies and methods we use to understand the motives and behavior of other people.

This chapter looks at the tools and strategies people use to construct social reality. We ask, What cognitive processes are involved when individuals are attempting to make sense of the world? What mechanisms come into play when we form impressions of others and make judgments about their behavior and motives? How accurate are these impressions and judgments? And what accounts for errors in perception and judgment that seem to inevitably occur in social interactions? How do we put all of the social information together to get a whole picture of our social world? These are some of the questions addressed in this chapter.

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Impression Formation: Automaticity and Social Perception

The process by which we make judgments about others is called **impression formation**. We are primed by our culture to form impressions of people, and Western culture emphasizes the individual, the importance of "what is inside the person," as the cause of behavior (Jones, 1990). We also may be programmed biologically to form impressions of those who might help of hurt us. It is conceivable that early humans who survived were better at making accurate inferences about others, had superior survival chances—and those abilities are part of our genetic heritage (Flohr, 1987). It makes sense that they were able to form relatively accurate impressions of others rather effortlessly. Because grossly inaccurate impressions—is this person dangerous or not, trustworthy or not, friend or foe—could be life threatening, humans learned to make those judgments efficiently. Those who could not were less likely to survive. So, efficiency and effortlessness in perception are critical goals of human cognition.

Social psychologists interested in cognition are primarily concerned with how the individual tries to make sense out of what is occurring in his or her world under the uncertain conditions that are a part of normal life (Mischel, 1999). Much of our social perception involves automatic processing—forming impressions without much thought or attention (Logan, 1989). Thinking that is conscious and requires effort is referred to as **controlled processing**.

Automatic Processing

Automatic processing is thinking that occurs primarily outside consciousness. It is effortless in the sense that it does not require us to use any of our conscious cognitive capacity. We automatically interpret an upturned mouth as a smile, and we automatically infer that the smiling person is pleased or happy (Fiske & Taylor, 1991). Such interpretations and inferences, which may be built into our genetic makeup, are beyond our conscious control.

Running through all our social inference processes—the methods we use to judge other people—is a thread that seems to be part of our human makeup: our tendency to prefer the least effortful means of processing social information (Taylor, 1981). This is not to say we are lazy or sloppy; we simply have a limited capacity to understand information and can deal with only relatively small amounts at any one time (Fiske, 1993). We tend to be cognitive misers in the construction of social reality: Unless motivated to do otherwise, we use just enough effort to get the job done. In this business of constructing our social world, we are pragmatists (Fiske, 1992). Essentially we ask ourselves, What is my goal in this situation, and what do I need to know to reach that goal?

Although automatic processing is the preferred method of the cognitive miser, there is no clear line between automatic and controlled processing. Rather, they exist on a continuum, ranging from totally automatic (unconscious) to totally controlled (conscious), with degrees of more and less automatic thinking in between.

The Importance of Automaticity in Social Perception

Recall the work of Roy Baumeister discussed in Chapter 2. His work concluded that even small acts of self-control such as forgoing a tempting bite of chocolate use up our self-control resources for subsequent tasks. However, Baumeister and Sommer (1997)

impression formation
The process by which we make judgments about others.

controlled processing
An effortful and careful processing of information that occurs when we are motivated to accurately assess information or if our initial impressions or expectations are disconfirmed.

automatic processing
The idea that because of our limited information processing capacity, we construct social impressions without much thought or effort, especially when we lack the motivation for careful assessment or when our initial impressions are confirmed.

suggested that although the conscious self is important, it plays a causal and active role in only about 5% of our actions. This suggests that despite our belief in free will and self-determination, it appears that much if not most of our behavior is determined by processes that are nonconscious, or automatic (Bargh & Chartrand, 1999). Daniel Wegner and his coworkers showed that people mistakenly believe they have intentionally caused a behavior when in fact they were forced to act by stimuli of which they were not aware (Wegner, Ansfield, & Pilloff, 1998). Wegner and Whealey (1999) suggested that the factors that actually cause us to act are rarely, if ever, present in our consciousness.

Bargh (1997) wrote that automatic responses are learned initially from experience and then are used passively, effortlessly, and nonconsciously each time we encounter the same object or situation. For example, Chartrand and Bargh (1996) showed that when individuals have no clear-cut goals to form impressions of other people, those goals can be brought about nonconsciously. It is possible to present words or images so quickly that the individual has no awareness that anything has been presented, and furthermore the person does not report that he or she has seen anything (Kunda, 1999). But the stimuli can still have an effect on subsequent behavior. Employing this technique of presenting stimuli subliminally in a series of experiments, Chartrand and Bargh (1996) "primed" participants to form an impression of particular (target) individuals by presenting some subjects with words such as *judge* and *evaluate* and other impression-formation stimuli. These primes were presented on a screen just below the level of conscious awareness. Other experiment participants were not primed to form impressions subliminally. Soon thereafter, the participants in the experiment were given a description of behaviors that were carried out by a particular (target) individual but were told only that they would be questioned about it later. Chartrand and Bargh reported that those participants who were primed by impression-formation words (*judge*, *evaluate*, etc.) below the level of conscious awareness (subliminally) were found to have a fully formed impression of the target. Subjects not primed and given the same description did not form an impression of the target. Therefore, the participants were induced nonconsciously to form an impression, and this nonconsciously primed goal guided subsequent cognitive behavior (forming the impression of the target person presented by the experimenter).

Nonconscious Decision Making: Sleeping on It

Buying a can of peas at the grocery store usually doesn't strain our intellect. After all, peas are peas. While we might prefer one brand over another, we won't waste a lot of time on this decision. If the decision, however, involves something really important—what car should we buy, who should we marry, where shall we live—then we may agonize over the choice. But, according to new research, that is exactly the wrong way to go about it. For one thing, difficult decisions often present us with a dizzying number of facts and options. Four Dutch psychologists (Dijksterhuis, Bos, Nordgren, & van Baaren, 2006) suggest that the best way to deal with complex decisions is to rely on the unconscious mind. These researchers describe unconscious decision making or thought as thinking about the problem while your attention is directed elsewhere. In other words, "sleep on it."

In one part of their research, Dijkersterhuis and his co-researchers asked shoppers and college students to make judgments about simple things (oven mitts) and more complex things (buying automobiles). The shoppers, given the qualities of certain automobiles, were asked to choose the best car. The problems were presented quickly, and the researchers varied the complexity of the problems. For example, for some people,

the cars had 4 attributes (age, gasoline mileage, transmission, and handling), but for others, 12 attributes for each automobile were presented. Some participants were told to "think carefully" about the decisions, while others were distracted from thinking very much about their choices by being asked to do anagram puzzles. The results were that if the task was relatively simple (four factors), thinking carefully resulted in a more correct decision than when the person was distracted. But if the task became much more complex (12 factors), distraction led to a better decision.

What's the explanation? *Unconscious thought theory (UTT)* suggests that while conscious thought is really precise and allows us to follow strict patterns and rules, its capacity to handle lots of information is limited. So conscious thought is necessary for doing, say, math, a rule-based exercise, but may not be as good in dealing with complex issues with lots of alternatives (Dijksterhuis et al., 2006).

Should we always rely on our "gut" feelings when making complex and important life decisions? We do not have a complete answer as of yet to that question. For example, we don't know precisely how emotions or previous events might enter into the mix. There is, however, a growing body of research that gives us some confidence that too much contemplation about our loves and careers and other aspects of our lives that are important to us may not be helpful.

Social psychologist Timothy Wilson has examined these issues in novel, even charming ways. Wilson (2002) has argued, and demonstrated, that we have a "powerful, sophisticated, adaptive" unconscious that is crucial for survival but largely, to ourselves, unknowable. Fortunately Wilson and others have devised experimental methods to probe our unconscious. In one study, Wilson, Kraft, and Dunn asked one group of people to list the reasons why their current romantic relationship was going the way it was (described in Wilson, 2005). Then they were asked to say how satisfied they were with that relationship. A second group was just asked to state their "gut" reactions to the questions without thinking about it. Both groups were asked to predict whether they would still be in that relationship several months later. Now you might hypothesize that those who thought about how they felt would be more accurate in their predictions (Wilson, 2005). However, those who dug deep into their feelings and analyzed their relationships did not accurately predict the outcome of those relationships, while those who did little introspection got it pretty much right. Again there appears to be a kind of "wisdom" inherent in not thinking too much about complex issues and feelings. These findings and others about the power of the nonconcious mind raise the issue among cognitive psychologists about what precisely do we mean by *consciousness*.

Automaticity and Behavior

Just as impressions can be formed in a nonconscious manner, so too can behavior be influenced by nonconscious cues. That is to say, our behavior can be affected by cues—stimuli—that are either below the level of conscious awareness or may be quite obvious, although we are not aware of their effects upon us. Priming can also be used to affect perceptions nonconsciously. Psychologists have found that *priming*, "the nonconscious activation of social knowledge," is a very powerful social concept and affects a wide variety of behaviors (Bargh, 2006). For example, Kay, Wheeler, Bargh, and Ross (2004) found that the mere presence of a backpack in a room led to more cooperative behaviors in the group, while the presence of a briefcase prompted more competitive behaviors. The backpack or the briefcase is a "material prime," an object that brings out behaviors consistent with the "prime" (executives carry briefcases and compete;

backpackers climb mountains and cooperate). Similarly, "norms can be primed," as demonstrated by Aarts and Dijksterhuis (2003) in a study in which people who were shown photographs of libraries tended to speak more softly.

Priming affects our behavior in a wide variety of social situations. These "automatic activations," as Bargh (2006) notes, include the well-known "cocktail party effect." Imagine you are at a loud party and can barely hear the people that you are speaking with. Suddenly, across the room, you hear your name spoken in another conversation. Your name being spoken automatically catches your conscious attention without any cognitive effort.

In another example of nonconscious behavior, imagine a couple, married for a quarter of a century, sitting at the dinner table vigorously discussing the day's events. The dinner guest cannot help but notice how husband and wife mimic, clearly unconsciously, each other's gestures. When he makes a strong point, the husband emphasizes his comments by hitting the table with his open hand. His wife tends to do the same, though not quite so vigorously. Neither is aware of the gestures.

Indeed, there is evidence that such mimicry is common in social interaction (Macrae et al., 1998). Chartrand and Bargh (1999) termed this nonconscious mimicry the chameleon effect, indicating that like the chameleon changing its color to match its surroundings, we may change our behavior to match that of people with whom we are interacting.

Perception may also automatically trigger behaviors. Chartrand and Bargh (1999) had two people interact with each other; however, one of the two was a confederate of the experimenter. Confederates either rubbed their face or shook their foot. Facial expressions were varied as well, primarily by smiling or not. The participant and the confederate sat in chairs half-facing each other, and the entire session was videotaped and analyzed. Figure 3.1 shows the results of this experiment. Experimental subjects tended to rub their faces when the confederate did so, and the subjects tended to shake their foot when the confederate did. Frank Bernieri, John Gillis, and their coworkers also showed that when observers see two people in synchrony—that is, when their physical movements and postures seem to mimic or follow each other—the observers assume that the individuals have high compatibility or rapport (Bernieri, Gillis, Davis, & Grahe, 1996; Gillis, Bernieri, & Wooten, 1995).

In another experiment, Chartrand and Bargh showed the social value of such mimicry. For individuals whose partner mimicked their behavior, the interaction was rated as smoother, and they professed greater liking for that partner than did individuals whose partner did not mimic their expression or behavior. These experiments and others demonstrate the adaptive function of nonconscious behavior. Not only does it smooth social interactions, but it does away with the necessity of actively choosing goal-related behavior at every social encounter. Because our cognitive resources are limited and can be depleted, it is best that these resources are saved for situations in which we need to process social information in a conscious and controlled manner.

Automaticity and Emotions

If cognitive activity occurs below the level of conscious awareness, we can ask whether the same is true of emotion. We all know that our emotional responses to events often are beyond our conscious control. We may not be aware of why we reacted so vigorously to what was really a small insult or why we went into a "blue funk" over a trivial matter. Where we need conscious control is to get out of that bad mood or to overcome that reaction. It appears that our emotional responses are not controlled by a conscious
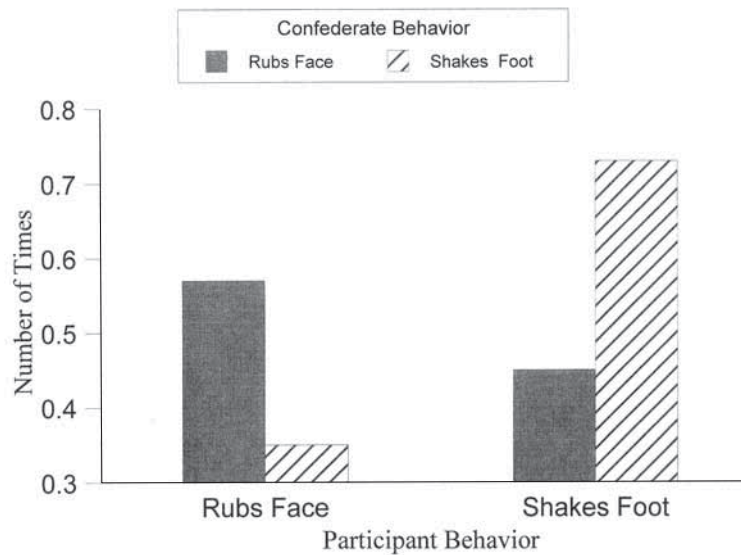
Figure 3.1   Behavior of research participants as it relates to the behavior of a confederate of the experimenter.

From Chartrand and Bargh (1999).

will (LeDoux, 1996). As Wegner and Bargh (1998) indicated, the research on cognition and emotion focuses primarily on what we do after we express an emotion, not on how we decide what emotion to express.

Sometimes we can be aware of what we are thinking and how those thoughts are affecting us but still not know how the process started or how we may end it. For example, have you ever gotten a jingle stuck in your mind? You can't say why the jingle started, nor can you get it out of your mind, no matter how hard you try. You think of other things, and each of these distractors works for a while. But soon the jingle pops up again, more insistent than ever. Suppressing an unwanted thought seems only to make it stronger.

This phenomenon was vividly demonstrated in an experiment in which subjects were told not to think of a white bear for 5 minutes (Wegner, 1989). Whenever the thought of a white bear popped into mind, subjects were to ring a bell. During the 5-minute period, subjects rang the bell often. More interesting, however, was the discovery that once the 5 minutes were up, the white bears really took over, in a kind of rebound effect. Subjects who had tried to suppress thoughts of white bears could think of little else after the 5 minutes expired. The study demonstrates that even if we successfully fend off an unwanted thought for a while, it may soon return to our minds with a vengeance.

Because of this strong rebound effect, suppressed thoughts may pop up when we least want them. A bigot who tries very hard to hide his prejudice when he is with members of a particular ethnic group will, much to his surprise, say something stupidly bigoted and wonder why he could not suppress the thought (Wegner, 1993). This is especially likely to happen when people are under pressure. Automatic processing takes over, reducing the ability to control thinking.

Of course, we do control some of our emotions but apparently only after they have surfaced. If our boss makes us angry, we may try to control the expression of that anger. We often try to appear less emotional than we actually feel. We may moderate our voice when we are really angry, because it would do us no good to express that emotion. However, as Richards and Gross (1999) showed, suppressing emotion

comes at a cost. These researchers demonstrated that suppressing emotions impairs memory for information during the period of suppression and increases cardiovascular responses. This suggests, as does Wegner's work, that suppressing emotions depletes one's cognitive resources.

Emotions: Things Will Never Get Better We can see now that nonconcious factors affect both our behavior and our emotions. Daniel Gilbert and his co-researchers have demonstrated in a series of inventive experiments that we are simply not very good in predicting how emotional events will affect us in the future. For one thing, we tend not to take into account the fact that the more intense the emotion, the less staying power it has. We tend to underestimate our tendency to get back to an even keel (homeostasis) to diminish the impact of even the most negative or for that matter the most positive of emotions. We think that if we don't get a particular great job or we are rejected by a person we'd love to date that it'll take forever to recover from it.

Gilbert, Lieberman, Morewedge, and Wilson (2004) were especially interested in how individuals thought they would respond emotionally (hedonically) to events that triggered very emotional responses. These researchers point out that when extreme emotions are triggered, psychological processes are stimulated that serve to counteract the intensity of emotions such that one may expect that intense emotional states will last a shorter time than will milder ones. How does this happen? Gilbert et al. (2004) note that people may respond to a highly traumatic event by cognitively dampening the depth of their feelings. So they note that a married person wanting to keep a marriage intact might rationalize her mate's infidelity but for a lesser annoyance—say, being messy— her anger lasts longer. In a series of studies, Gilbert et al. revealed people's forecasting of how individuals would feel after one of a number of bad things happened to them (being stood up, romantic betrayal, had their car dented). The more serious the event, as you would expect, the stronger the emotional response. But, as Gilbert et al. predicted, the stronger the initial emotional reaction, the quicker the emotion dissipated. Now this doesn't mean that people learn to love their tormentors, but the intensity of the emotion is much less than people forecast.

Controlled Processing

As mentioned earlier, controlled processing involves conscious awareness, attention to the thinking process, and effort. It is defined by several factors: First, we know we are thinking about something; second, we are aware of the goals of the thought process; and third, we know what choices we are making. For example, if you meet someone, you may be aware of thinking that you need to really pay attention to what this person is saying. Therefore, you are aware of your thinking process. You will also know that you are doing this because you expect to be dealing with this person in the future. You may want to make a good impression on the person, or you may need to make an accurate assessment. In addition, you may be aware that by focusing on this one person, you are giving up the opportunity to meet other people.

People are motivated to use controlled processing—that is, to allocate more cognitive energy to perceiving and interpreting. They may have goals they want to achieve in the interaction, for example, or they may be disturbed by information that doesn't fit their expectancies. Processing becomes more controlled when thoughts and behavior are intended (Wegner & Pennebaker, 1993).

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The Impression Others Make on Us: How Do We "Read" People?

It is clear then that we process most social information in an automatic way, without a great deal of effort. As we said earlier, perhaps only 5% of the time do we process it in a controlled and systematic way. What does this mean for accurate impression formation?

How Accurate Are Our Impressions?

How many times have you heard, "I know just how you feel"? Well, do we really know how someone else feels? King (1998) noted that the ability to recognize the emotions of others is crucial to social interaction and an important marker of interpersonal competence. King found that our ability to accurately read other individuals' emotions depends on our own emotional socialization. That is, some individuals have learned, because of their early experiences and feedback from other people, that it is safe to clearly express their emotions. Others are more conflicted, unsure, and ambivalent about expressing emotions. Perhaps they were punished somehow for emotional expression and learned to adopt a poker face. This personal experience with emotional expressivity, King reasoned, should have an effect on our ability to determine the emotional state of other people.

King (1998) examined the ability of people who were unsure or ambivalent about emotional expressivity to accurately read others' emotions. She found that compared to individuals who had no conflict about expressing emotions, those who were ambivalent about their own emotional expression tended to be confused about other people's expression of emotion. The ambivalent individuals, when trying to read people in an emotional situation or to read their facial expressions, quite often inferred the opposite emotion than the one the individuals actually felt and reported. Ambivalent individuals who spend much energy in being inexpressive or suppressing emotional reactions quite easily inferred that others also were hiding their emotions, and what they saw was not what was meant. This simply may mean that people who are comfortable with their own emotional expressiveness are more accurate in reading other people's emotional expressions.

King's work, then, suggests that in our ability to accurately read other people, much depends on our own emotional life. Consider another example of this: Weary and Edwards (1994) suggested that mild or moderately depressed people are much more anxious than others to understand social information. This is because depressives often feel that they have little control over their social world and that their efforts to effect changes meet with little success.

Edwards and his coworkers have shown that depressives are much more tuned to social information and put more effort into trying to determine why people react to them as they do. Depressives are highly vigilant processors of social information (Edwards, Weary, von Hippel, & Jacobson, 1999). One would think that depressives' vigilance would make them more accurate in reading people. Depressed people often have problems with social interactions, and this vigilance is aimed at trying to figure out why and perhaps alter these interactions for the better. But here again, we can see the importance of nonconscious behavior. Edwards and colleagues pointed out that depressed people behave in ways that "turn others off." For example, depressives have trouble with eye contact, voice pitch, and other gestures that arouse negative reactions in others. In fact, Edwards and colleagues suggested that all this effortful processing detracts depressed individuals from concentrating on enjoyable interactions.

Confidence and Impression Formation

Our ability to read other people may depend on the quality of our own emotional life, but the confidence we have in our impressions of others appears to depend, not surprisingly, on how much we think we know about the other person. Confidence in our impressions of other people is important because, as with other beliefs held with great conviction, we are more likely to act on them. If, for example, we are sure that our friend would not lie to us, we then make decisions based on that certainty. The commander of the *Vincennes* certainly was confident in his interpretation of the deadly intent of the aircraft on his radar screen.

However, confidence in our judgment may not necessarily mean that it is accurate. Wells (1995) showed that the correlation between accuracy and confidence in eyewitness identification is very modest, and sometimes there is no relationship at all. Similarly, Swann and Gill (1997) reported that confidence and accuracy of perception among dating partners and among roommates were not very good.

Gill and his colleagues found that when individuals were required to form a careful impression of an individual, including important aspects of the target's life—intellectual ability, social skills, physical attractiveness, and so forth—and they had access to information derived from a videotaped interview with the target person, they had high confidence in their judgments of the target. This is not surprising, of course. But what might be surprising is that confidence had no impact on the accuracy of the participants' judgment (experiment 1; Gill, Swann, & Silvera, 1998). In another series of studies, these researchers amply demonstrated that having much information about a target makes people even more confident of their judgments, because they can recall and apply information about these people easily and fluently. But, the judgments are no more accurate than when we have much less information about someone. What is most disturbing about these findings is that it is precisely those situations in which we have much information and much confidence that are most important to us. These situations involve close relationships of various kinds with people who are very significant in our lives. But the research says we make errors nevertheless, even though we are confident and possess much information.

Our modest ability to read other people accurately may be due to the fact that our attention focuses primarily on obvious, expressive cues at the expense of more subtle but perhaps more reliable cues. Bernieri, Gillis, and their coworkers showed in a series of experiments that observers pay much attention to overt cues such as when people are extraverted and smile a great deal. Bernieri and Gillis suggested that expressivity (talking, smiling, gesturing) drives social judgment but that people may not recognize that expressivity determines their judgments (Bernieri et al., 1996).

If at First You Don't Like Someone, You May Never Like Them

Certainly, this heading is an overstatement but probably not by much. Let's state the obvious: We like to interact with those people of whom we have a really positive impression. And, we stay away from those we don't like very much. That makes sense. But as Denrell (2005) has suggested, one problem with that approach is that there is a "sample bias," which happens when the level of interaction between people is determined by first impressions. This sample bias goes something like this: Imagine you are a member of a newly formed group, and you begin to interact with others in the group. You meet Person A, who has low social skills. Your interaction with him is limited, and your tendency, understandably, is to avoid him in the future. Now Person B is dif-

ferent. She has excellent social skills, and conversation with her is easy and fluid. You will obviously sample more of Person B's behavior than Person A's. As a result, potentially false negative impressions of Person A never get changed, while a false positive impression of B could very well be changed if you were to "sample" more of her behavior (Denrell, 2005).

An important point that Denrell (2005) makes, then, about impression formation is that if there are biases in the sampling (the kind and amount of interaction with somebody), then systematic biases in impression formation will occur. This may be especially true of individuals who belong to groups with which we have limited contact. We never get the opportunity to interact with those members in enough situations to form fair impressions based upon a representative sample of their behavior. Therefore, we never have enough evidence to correct a negative or a positive false first impression because we rarely interact again with a person with whom we have had a negative initial interaction (Plant & Devine, 2003).

Person Perception: Reading Faces and Catching Liars

When we say that we can "read" others' emotions, what we really mean is that we can "read" their faces. The face is the prime stimulus for not only recognizing someone but forming an impression of them as well. Recent neuroscience research has yielded a wealth of information about face perception and its neural underpinnings. For example, we know that human face processing occurs in the occipital temporal cortex and that other parts of the brain are involved in determining the identity of the person (Macrae, Quinn, Mason, & Quadflieg, 2005). We also know that we are quite good at determining basic information about people from their faces even under conditions that hinder optimal perception. For example, Macrae and his colleagues, in a series of three experiments, presented a variety of male, female, and facelike photographs, some in an inverted position, and in spite of the "suboptimal" presentation of these stimuli, their subjects could reasonably report the age and sex of the person. In this case, Macrae et al. suggest that acquisition of fundamental facial characteristics (age, sex, race) appears to be automatic.

So we know that getting information from faces is hard-wired in our brains and we know where that wiring is. But there is also evidence for the early start of facial perception. Even newborns have rudimentary abilities that allow them to distinguish several facial expressions, although it is only at the end of the first year that infants seem to be able to assign meaning to emotional expressions (Gosselin, 2005).

It Is Hard to Catch a Liar: Detecting Deception

If, as the research shows, we are not very good at reading people, even those with whom we have close relationships, then you might suspect that we are not very good at detecting lies and liars. In general, you are right. But some people can learn to be quite accurate in detecting lies. Paul Ekman and his coworkers asked 20 males (ages 18 to 28) to indicate how strongly they felt about a number of controversial issues. These males were then asked to speak to an interrogator about the social issue about which they felt most strongly. Some were asked to tell the truth; others were asked to lie about how they felt (Ekman, O'Sullivan, & Frank, 1999). If the truth tellers were believed, they were rewarded with $10; liars who were believed were given $50. Liars who were caught and truth tellers who were disbelieved received no reward. So, the

20 males were motivated to do a good job. Ekman and his colleagues filmed the faces of the 20 participants and found that there were significant differences in facial movements between liars and truth tellers.

The researchers were interested in whether people in professions in which detection of lies is important were better than the average person in identifying liars and truth tellers. Ekman tested several professional groups, including federal officers (CIA agents and others), federal judges, clinical psychologists, and academic psychologists. In previous research, the findings suggested that only a small number of U.S. Secret Service agents were better at detecting lies than the average person, who is not every effective at recognizing deception. Figure 3.2 shows that federal officers were most accurate at detecting whether a person was telling the truth. Interestingly, these officers were more accurate in detecting lies than truth. Clinical psychologists interested in deception were next in accuracy, and again, they were better at discerning lies than truth telling.

The best detectors focused not on one clue but rather on a battery of clues or symptoms. Ekman notes that no one clue is a reliable giveaway. Perhaps the most difficult obstacle in detecting liars is that any one cue or series of cues may not be applicable across the board. Each liar is different; each detector is different as well. Ekman found a wide range of accuracy within each group, with many detectors being at or below chance levels.

If people are not very good at detecting lies, then they ought not to have much confidence in their ability to do so. But as DePaulo and her colleagues have shown, people's confidence in their judgments as to whether someone else is telling the truth is not reliably related to the accuracy of their judgments (DePaulo, Charlton, Cooper, Lindsay, & Muhlenbruck, 1997). People are more confident in their judgments when they think that the other person is telling the truth, whether that person is or not, and men are more confident, but not more accurate, than are women. The bottom line is that we cannot rely on our feelings of confidence to reliably inform us if someone is lying or not. As suggested by the work of Gillis and colleagues (1998) discussed earlier, being in a close relationship and knowing the other person well is no great help in detecting lies (Anderson, Ansfield, & DePaulo, 1998). However, we can take some comfort in the results of research that shows that people tell fewer lies to the individuals with whom they feel closer and are more uncomfortable if they do lie. When people lied to close others, the lies were other-oriented, aimed at protecting the other person or making things more pleasant or easier (DePaulo & Kashy, 1999).

In a book by neurologist Oliver Sacks, *The Man Who Mistook His Hat for His Wife*, there is a scene in which brain-damaged patients, all of whom had suffered a stroke, accident, or tumor to the left side of the brain (aphasics) and therefore had language disorders, were seen laughing uproariously while watching a TV speech by President Ronald Reagan. Dr. Sacks speculated that the patients were picking up lies that others were not able to catch.

There is now some evidence that Sacks's interpretation may have been right. Etcoff, Ekman, and Frank (2000) suggested that language may hide the cues that would enable us to detect lying, and therefore those with damage to the brain's language centers may be better at detecting lies. The indications are that when people lie, their true intent is reflected by upper facial expressions, whereas the part of the face around the mouth conveys the false emotional state the liar is trying to project. It may be that aphasics use different brain circuitry to detect liars. For the rest of us, it's pretty much pure chance.
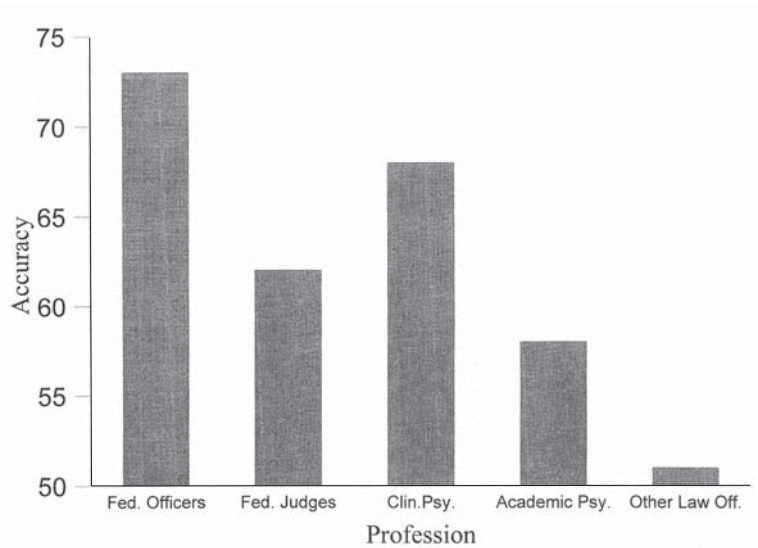
Figure 3.2 Accuracy of individuals in various professions in detecting who is deceptive.

Based on data from Ekman, O'Sullivan, and Frank (1999).

A recent examination of over 1,300 studies concerning lying has shown how faint the traces of deception are (DePaulo, Lindsay, Malone, Charlton, & Cooper, 2003). This massive review indicates that there are "158" cues to deception, but many of them are faint or counterintuitive—things that you might not expect. So, liars say less than truth tellers and tell stories that are less interesting, less compelling. The stories liars tell us, however, are more complete, more perfect. Clearly, liars think more about what they are going to say than do truth tellers. Cues that would allow us to detect lying are stronger when the liar is deceiving us about something that involves his or her identity (personal items) as opposed to when the liar is deceiving about nonpersonal things.

To illustrate the difficulties, consider eye contact. According to DePaulo et al. (2003) motivated liars avoid eye contact more than truth tellers and unmotivated liars. So, the motivation of the liar is important. To further complicate matters, other potential cues to lying, such as nervousness, may not help much in anxiety-provoking circumstances. Is the liar or the truth teller more nervous when on trial for her life? Perhaps nervousness is a cue in traffic court but maybe not in a felony court (DePaulo et al., 2003).

We know, then, that the motivation of the liar may be crucial in determining which cues to focus on. Those who are highly motivated may just leave some traces of their deception. DePaulo's question about what cues liars signal if they are at high risk and therefore highly motivated was examined by Davis and her colleagues (2005), who used videotaped statements of criminal suspects who were interviewed by assistant district attorneys (DAs). This was after the suspects had been interviewed by the police, who had determined that a crime had been committed by these individuals. These were high-stakes interviews because the assistant DAs would determine the severity of the charge based on the results of the interviews. All the criminals claimed some mitigating circumstances (Davis, Markus, Walters, Vorus, & Connors, 2005).

In this study, the researchers knew the details of the crimes so they, by and large, knew when the criminal was lying and could match his or her behavior (language and gestures) against truthful and deceitful statements. While the researchers determined that the criminals made many false statements, the deception cues were few, limited,

and *lexical* (e.g., saying no and also shaking the head no) (Davis et al., 2005, p. 699). The lady "doth protest too much, methinks," as William Shakespeare wrote in Act 3 of "Hamlet," has the ring of truth, for those criminals who did protest too much by repeating phrases ands vigorous head shaking were in fact lying. Curiously, nonlexical sounds (sighing, saying *umm* or *er*) were indicators of truth telling. This latter finding may relate to DePaulo et al.'s observation that liars try to present a more organized story then do truth tellers.

And sometimes, the liar may be a believer. True story: Not long ago an elderly gentleman was unmasked as a liar when his story of having won a Medal of Honor in combat during World War II was shown to be false. By all newspaper accounts, he was a modest man, but every Memorial Day he would wear his Medal and lead the town's parade. The Medal was part of his identity, and the town respected his right not to talk about his exploits. It is a federal crime to falsely claim to be a Medal of Honor winner. Those who questioned the man about his false claims came to understand that he had played the role for so long it truly became a part of him, and thus after a while, he was not being deceptive. He came to believe who he said he was.

The Attribution Process: Deciding Why People Act As They Do

We make inferences about a person's behavior because we are interested in the cause of that behavior. When a person is late for a meeting, we want to know if the individual simply didn't care or if something external, beyond his or her control, caused the late appearance. Although there is a widespread tendency to overlook external factors as causes of behavior, if you conclude that the person was late because of, say, illness at home, your inferences about that behavior will be more moderate than if you determined he or she didn't care (Vonk, 1999).

Each of the theories developed to explain the process provides an important piece of the puzzle in how we assign causes and understand behavior. The aim of these theories is to illuminate how people decide what caused a particular behavior. The theories are not concerned with finding the true causes of someone's behavior. They are concerned with determining how we, in our everyday lives, think and make judgments about the perceived causes of behaviors and events.

In this section, two basic influential attribution theories or models are introduced, as well as additions to those models:

- Correspondent inference theory

- Covariation theory

- Dual-process models

The first two, correspondent inference theory and covariation theory, are the oldest and most general attempts to describe the attribution process. Others represent more recent, less formal approaches to analyzing attribution.

Heider's Early Work on Attribution

The first social psychologist to systematically study causal attribution was Fritz Heider. He assumed that individuals trying to make sense out of the social world would follow

simple rules of causality. The individual, or perceiver, operates as a kind of "naïve scientist," applying a set of rudimentary scientific rules (Heider, 1958). **Attribution** theories are an attempt to discover exactly what those rules are.

Heider made a distinction between **internal attribution**, assigning causality to something about the person, and **external attribution**, assigning causality to something about the situation. He believed that decisions about whether an observed behavior has an internal (personal) or external (situational) source emerge from our attempt to analyze why others act as they do (causal analysis). Internal sources involve things about the individual—character, personality, motives, dispositions, beliefs, and so on. External sources involve things about the situation—other people, various environmental stimuli, social pressure, coercion, and so on. Heider (1944, 1958) examined questions about the role of internal and external sources as perceived causes of behavior. His work defined the basic questions that future attribution theorists would confront. Heider (1958) observed that perceivers are less sensitive to situational (external) factors than to the behavior of the individual they are observing or with whom they are interacting (the actor). We turn now to the two theories that built directly on Heider's work.

Correspondent Inference Theory

Assigning causes for behavior also means assigning responsibility. Of course, it is possible to believe that someone caused something to happen yet not consider the individual responsible for that action. A 5-year-old who is left in an automobile with the engine running, gets behind the wheel, and steers the car through the frozen food section of Joe's convenience store caused the event but certainly is not responsible for it, psychologically or legally.

Nevertheless, social perceivers have a strong tendency to assign responsibility to the individual who has done the deed—the actor. Let's say your brakes fail, you are unable to stop at a red light, and you plow into the side of another car. Are you responsible for those impersonal brakes failing to stop your car? Well, it depends, doesn't it? Under what circumstances would you be held responsible, and when would you not?

How do observers make such inferences? What sources of information do people use when they decide someone is responsible for an action? In 1965, Edward Jones and Keith Davis proposed what they called **correspondent inference** theory to explain the processes used in making internal attributions about others, particularly when the observed behavior is ambiguous—that is, when the perceiver is not sure how to interpret the actor's behavior. We make a correspondent inference when we conclude that a person's overt behavior is caused by or corresponds to the person's internal characteristics or beliefs. We might believe, for example, that a person who is asked by others to write an essay in favor of a tax increase really believes that taxes should be raised (Jones & Harris, 1967). There is a tendency not to take into account the fact that the essay was determined by someone else, not the essayist. What factors influence us to make correspondent inferences? According to correspondent inference theory, two major factors lead us to make a correspondent inference:

1. We perceive that the person freely chose the behavior.

2. We perceive that the person intended to do what he or she did.

attribution The process of assigning causes of behavior, both your own and that of others.

internal attribution The process of assigning the cause of behavior to some internal characteristic rather than to outside forces.

external attribution The process of assigning the cause of behavior to some situation or event outside a person's control rather than to some internal characteristic.

correspondent inference An inference that occurs when we conclude that a person's overt behavior is caused by or corresponds to the person's internal characteristics or beliefs.

Early in the Persian Gulf War of 1991, several U.S.-coalition aircraft were shot down over Iraq. A few days later, some captured pilots appeared in front of cameras and denounced the war against Iraq. From the images, we could see that it was likely the pilots had been beaten. Consequently, it was obvious that they did not freely choose to say what they did. Under these conditions, we do not make a correspondent inference. We assume that the behavior tells us little or nothing about the true feelings of the person. Statements from prisoners or hostages always are regarded with skepticism for this reason. The perception that someone has been coerced to do or say something makes an internal attribution less likely. The second factor contributing to an internal attribution is intent. If we conclude that a person's behavior was intentional rather than accidental, we are likely to make an internal attribution for that behavior. To say that a person intended to do something suggests that the individual wanted the behavior in question to occur. To say that someone did not intend an action, or did not realize what the consequences would be, is to suggest that the actor is less responsible for the outcome.

Covariation Theory

Whereas correspondent inference theory focuses on the process of making internal attributions, covariation theory, proposed by Harold Kelley (1967, 1971), looks at external attributions—how we make sense of a situation, the factors beyond the person that may be causing the behavior in question (Jones, 1990). The attribution possibilities that covariation theory lays out are similar to those that correspondent inference theory proposes. What is referred to as an internal attribution in correspondent inference theory is referred to as a person attribution in covariation theory. What is called an external attribution in correspondent inference theory is called a situational attribution in covariation theory.

Like Heider, Kelley (1967, 1971) viewed the attribution process as an attempt to apply some rudimentary scientific principles to causal analysis. In correspondent inference theory, in contrast, the perceiver is seen as a moral or legal judge of the actor. Perceivers look at intent and choice, the same factors that judges and jurors look at when assigning responsibility. Kelley's perceiver is more a scientist: just the facts, ma'am.

covariation principle The rule that if a response is present when a situation (person, object, or event) is present and absent when that same situation is absent, the situation is presumed to be the cause of the response.

According to Kelley, the basic rule applied to causal analysis is the **covariation principle**, which states that if a response is present when a situation (person, object, event) is present and absent when that same situation is absent, then that situation is the cause of the response (Kelley, 1971). In other words, people decide that the most likely cause of any behavior is the factor that covaries—occurs at the same time—most often with the appearance of that behavior.

As an example, let's say your friend Keisha saw the hit movie *Crash* and raved about it. You are trying to decide whether you would like it too and whether you should go see it. The questions you have to answer are, What is the cause of Keisha's reaction? Why did she like this movie? Is it something about the movie? Or is it something about Keisha?

In order to make an attribution in this case, you need information, and there are three sources or kinds of relevant information available to us:

1. Consensus information

2. Distinctiveness information

3. Consistency information

Consensus information tells us about how other people reacted to the same event or situation. You might ask, How did my other friends like *Crash*? How are the reviews? How did other people in general react to this stimulus or situation? If you find high

consensus—everybody liked it—well, then, it is probably a good movie. In causal attribution terms, it is the movie that caused Keisha's behavior. High consensus leads to a situational attribution.

Now, what if Keisha liked the movie but nobody else did? Then it must be Keisha and not the movie: Keisha always has strange tastes in movies. Low consensus leads to a person attribution (nobody but Keisha liked it, so it must be Keisha).

The second source or kind of data we use to make attributions is distinctiveness information. Whereas consensus information deals with what other people think, distinctiveness information concerns the situation in which the behavior occurred: We ask if there is something unique or distinctive about the situation that could have caused the behavior. If the behavior occurs when there is nothing distinctive or unusual about the situation (low distinctiveness), then we make a person attribution: If Keisha likes all movies, then we have low distinctiveness: There's nothing special about *Crash*—it must be Keisha. If there is something distinctive about the situation, then we make a situational attribution. If this is the only movie Keisha has ever liked, we have high distinctiveness and there must be something special about the movie. Low distinctiveness leads us to a person attribution; high distinctiveness leads us to a situational attribution. If the situation is unique—very high distinctiveness—then the behavior probably was caused by the situation and not by something about the person. The combination of high consensus and high distinctiveness always leads to a situational attribution. The combination of low consensus and low distinctiveness always leads to a person attribution.

The third source or kind of input is consistency information, which confirms whether the action occurs over time and situations (Chen, Yates, & McGinnies, 1988). We ask, Is this a one-time behavior (low consistency), or is it repeated over time (high consistency)? In other words, is this behavior stable or unstable? Consistency is a factor that correspondent inference theory fails to take into account.

What do we learn from knowing how people act over time? If, for example, the next time we see Keisha, she again raves about *Crash*, we would have evidence of consistency over time (Jones, 1990). We would have less confidence in her original evaluation of the movie if she told us she now thought the movie wasn't very good (low consistency). We might think that perhaps Keisha was just in a good mood that night and that her mood affected her evaluation of the movie. Consistency has to do with whether the behavior is a reliable indicator of its cause.

The three sources of information used in making attributions are shown in Figures 3.3 and 3.4. Figure 3.3 shows the combination of information—high consensus, high consistency, and high distinctiveness—that leads us to make a situational attribution. Go see the movie: Everybody likes it (high consensus); Keisha, who likes few, if any, movies, likes it as well (high distinctiveness of this movie); and Keisha has always liked it (high consistency of behavior).

Figure 3.4 shows the combination of information—low consensus, high consistency, and low distinctiveness—that leads us to a person attribution. None of our friends likes the movie (low consensus); Keisha likes the movie, but she likes all movies, even *The Thing That Ate Newark* (low distinctiveness); and Keisha has always liked this movie (high consistency). Maybe we ought to watch TV tonight.

Not surprisingly, research on covariation theory shows that people prefer to make personal rather than situational attributions (McArthur, 1972). This conforms with the (correspondence) bias we found in correspondence inference theory and highlights again the tendency toward overemphasizing the person in causal analysis. It also fits with our tendency to be **cognitive misers** and take the easy route to making causal attributions.

cognitive miser The idea suggesting that because humans have a limited capacity to understand information, we deal only with small amounts of social information and prefer the least effortful means of processing it.
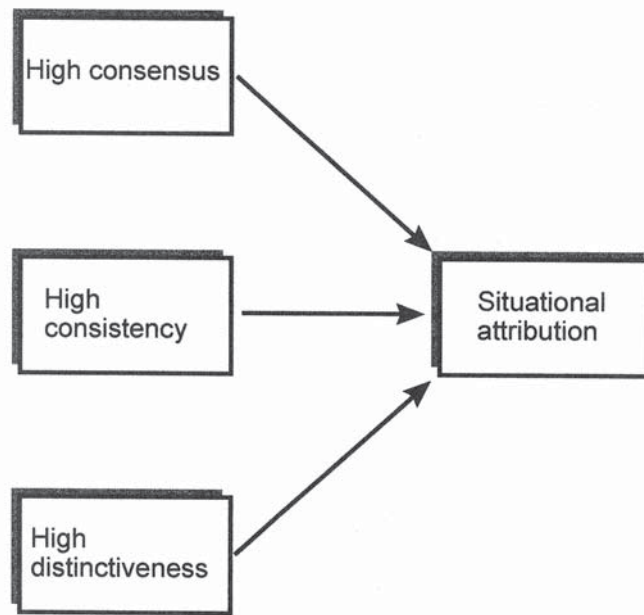
Figure 3.3 Information mix leading to a situational attribution.

Dual-Process Models

We have emphasized that people are cognitive misers, using the least effortful strategy available. But they are not cognitive fools. We know that although impression formation is mainly automatic, sometimes it is not. People tend to make attributions in an automatic way, but there are times when they need to make careful and reasoned attributions (Chaiken & Trope, 1999).

Trope (1986) proposed a theory of attribution that specifically considers when people make effortful and reasoned analyses of the causes of behavior. Trope assumed, as have other theorists, that the first step in our attributional appraisal is an automatic categorization of the observed behavior, followed by more careful and deliberate inferences about the person (Trope, Cohen, & Alfieri, 1991).

The first step, in which the behavior is identified, often happens quickly, automatically, and with little thought. The attribution made at this first step, however, may be adjusted in the second step. During this second step, you may check the situation to see if the target was controlled by something external to him. If "something made him do it," then you might hold him less (internally) responsible for the behavior. In such instances, an inferential adjustment is made (Trope et al., 1991).

What information does the perceiver use to make these attributions? Trope plausibly argued that perceivers look at the behavior, the situation in which the behavior occurs, and prior information about the actor. Our knowledge about situations helps us understand behavior even when we know nothing about the person. When someone cries at a wedding, we make a different inference about the cause of that behavior than we would if the person cried at a wake. Our prior knowledge about the person may lead us to adjust our initial impression of the person's behavior.

A somewhat different model was developed by Gilbert (1989, 1991) and his colleagues. Influenced by Trope's two-step model, they proposed a model with three distinct stages. The first stage is the familiar automatic categorization of the behavior (that action
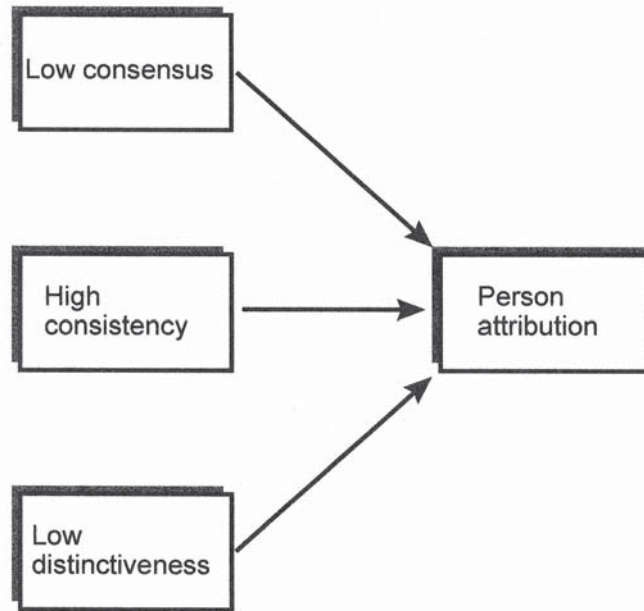
Figure 3.4 Information mix leading to a person attribution.

was aggressive); the second is characterization of the behavior (George is an aggressive guy); and the third, correction, consists of adjusting that attribution based on situational factors (George was provoked needlessly). Gilbert essentially divided Trope's first step, the identification process, into two parts: categorization and characterization. The third step is the same as Trope's inferential-adjustment second step.

For example, if you say "Good to see you" to your boss, the statement may be categorized as friendly, and the speaker may be characterized as someone who likes the other person; finally, this last inference may be corrected because the statement is directed at someone with power over the speaker (Gilbert, McNulty, Guiliano, & Benson, 1992). The correction is based on the inference that you had better be friendly to your boss. Gilbert suggests that categorization is an automatic process; characterization is not quite automatic but is relatively effortless, requiring little attention; but correction is a more cognitively demanding (controlled and effortful) process (Gilbert & Krull, 1988). Of course, we need to have the cognitive resources available to make these corrections. If we become overloaded or distracted, then we are not able to make these effortful corrections, and our default response is to make internal and dispositional attributions and to disregard situational information (Gilbert & Hixon, 1991; Trope & Alfieri, 1997).

Intentionality and Attributions

Malle (2006) has filled some gaps in our understanding of how individuals make attributions by considering the relationship between intentionality (did the individual intend to do what she actually did?) and judgments about the causes of a behavior. Judging intent has many implications for our sense of what defines blame and morality. The offender who cries, "I didn't know the gun was loaded," however falsely, is making a claim on our understanding of intentionality and blame. If I thought the gun was not loaded, I could not have meant to kill the victim, and hence, I am blameless, or should be held blameless legally, if not morally.

Malle asked, What constitutes ordinary folks' notions of what is an "intentional" action? The responses to Malle's question revealed four factors: *desire, belief, intention,* and *awareness. Desire* refers to a hope for a particular outcome; *belief* was defined as thoughts about what would happen before the act actually took place*; intention* meant that the action was meant to occur; and *awareness* was defined as "awareness of the act while the person was performing it" (Malle, 2006, p. 6). Further research, however, showed that there was a fifth component of ordinary notions of intentionality. We judge whether the person actually has the skill or ability to do what was desired. Thus, if I am a lousy tennis player, which I am, and I serve several aces in a row, it is clear that while I desired to do so, observers, knowing my skill level, will be unlikely to conclude that I intended to serve so well. Note here: There is a difference between attributions of intention and attributions of intentionality. An intention to do something is defined by wanting to do something (desire) and beliefs about which actions will provide me with the outcome that I want. But intentionality requires the first two components plus the skill or ability to be able to do what is desired as well as the intention to do it.

Malle offer us the following situation: A nephew plans to kill his uncle by running him over with his car. While driving around, the nephew accidentally hits and kills a man who turns out, unbeknownst to the nephew, to be his uncle. So what we have here is the comparison between actions performed as intended (he planned to kill the uncle) and actions that were unintended (he accidentally ran someone over who happened to be his uncle). Malle asked people to judge whether the killing was intentional murder or unintentional manslaughter.

There is no right answer here, but when people returned a murder verdict, it was because they concluded that the intent to murder had been there and the actual event, the accident, was less crucial than the attribution of the original murderous intent. Others who voted for "unintentional" manslaughter concluded that the action (running uncle over) was separate from the intent to murder (Malle, 2006).

While the circumstances of the case Malle has used are rather unusual, the results show that observers may make attributions based upon different interpretations of intent.

Attribution Biases

We know that individuals are not always accurate in determining what other people are really like. Although these attribution models assume people generally can make full use of social information, much of the time we take shortcuts, and we make a number of predictable errors. These errors or biases are examples of the cognitive miser as social perceiver. We deviate from the rules that a "pure scientist" would apply as outlined in the correspondent inference and especially the covariation models. Note, however, that some theorists argue that these biases are a consequence of the fact that people use a somewhat different attribution model than earlier theorists had assumed. In other words, there are no biases in the sense that people do something wrong in the way they make attributions; people just use the models in a different way than the earlier theorists thought they did.

Misattributions

A famous example of how our attributions may be misdirected is illustrated by a now classic experiment by Schachter and Singer (1962). Schachter and Singer demonstrated that two conditions are required for the production of an emotional response: physiologi-

cal arousal and cognitions that label the arousal and therefore identify the emotion for the person experiencing it. Schachter and Singer injected participants with epinephrine, a hormone that produces all the symptoms of physiological arousal—rapid breathing, increased heart rate, palpitations, and so on. Half these people were accurately informed that the injection would create a state of arousal, and others were told the injection was only a vitamin and would not have any effect. In addition, subjects in a control group were not given any drug.

Participants were then placed in a room to await another part of the experiment. Some subjects were in a room with a confederate of the experimenters, who acted in a happy, excited, even euphoric manner, laughing, rolling up paper into balls, and shooting the balls into the wastebasket. Others encountered a confederate who was angry and threw things around the room. All subjects thought that the confederate was just another subject.

Schachter and Singer (1962) argued that the physiological arousal caused by the injection was open to different interpretations. The subjects who had been misinformed about the true effects of the injection had no reasonable explanation for the increase in their arousal. The most obvious stimulus was the behavior of the confederate. Results showed that aroused subjects who were in a room with an angry person behaved in an angry way; those in a room with a happy confederate behaved in a euphoric way. What about the subjects in the group who got the injection and were told what it was? These informed subjects had a full explanation for their arousal, so they simply thought that the confederate was strange and waited quietly.

The research shows that our emotional state can be manipulated. When we do not have readily available explanations for a state of arousal, we search the environment to find a probable cause. If the cues we find point us toward anger or aggression, then perhaps that is how we will behave. If the cues suggest joy or happiness, then our behavior may conform to those signals. It is true, of course, that this experiment involved a temporary and not very involving situation for the subjects. It is probable that people are less likely to make misattributions about their emotions when they are more motivated to understand the causes of their feelings and when they have a more familiar context for them.

The Fundamental Attribution Error

One pervasive bias found in the attributional process is the tendency to attribute causes to people more readily than to situations. This bias is referred to as the **fundamental attribution error**.

If you have ever watched the television game show *Jeopardy,* you probably have seen the following scenario played out in various guises: A nervous contestant selects "Russian history" for $500. The answer is, "He was known as the 'Mad Monk.'" A contestant rings in and says, "Who was Molotov?" Alex Trebek, the host replies, "Ah, noooo, the correct question is "Who was Rasputin?" As the show continues, certain things become evident. The contestants, despite knowing a lot of trivial and not so trivial information, do not appear to be as intelligent or well informed as Trebek.

Sometimes we make attributions about people without paying enough attention to the roles they are playing. Of course, Trebek looks smart—and in fact, he may be smart, but he also has all the answers in front of him. Unfortunately, this last fact is sometimes lost on us. This so-called *quiz show phenomenon* was vividly shown in an experiment in which researchers simulated a TV game show for college students (Ross, Amabile, & Steinmetz, 1977). A few subjects were picked to be the questioners, not because

fundamental attribution error The tendency to automatically attribute the causes for another person's behavior to internal rather than situational forces.

they had any special skill or information but by pure chance, and had to devise a few fairly difficult but common-knowledge questions. A control group of questioners asked questions formulated by others. Members of both groups played out a simulation quiz game. After the quiz session, all subjects rated their own knowledge levels, as well as the knowledge levels of their partners.

Now, all of us can think of some questions that might be hard for others to answer. Who was the Dodgers' third baseman in the 1947 World Series? Where is Boca Grande? When did Emma Bovary live? Clearly, the questioners had a distinct advantage: They could rummage around in their storehouse of knowledge, trivial and profound, and find some nuggets that others would not know.

When asked to rate the knowledge levels of the questioners as opposed to the contestants, both the questioners and the contestants rated the questioners as more knowledgeable, especially in the experimental group in which the questioners devised their own questions. Only a single contestant rated herself superior in knowledge to the questioner.

The fundamental attribution error can be seen clearly in this experiment: People attribute behavior to internal factors, even when they have information indicating situational factors are at work. Because the questioners appeared to know more than the contestants, subjects thought the questioners were smarter. The great majority of participants failed to account for the situation.

The quiz show phenomenon occurs in many social situations. The relationship between doctor and patient or teacher and student can be understood via this effect. When we deal with people in positions of high status or authority who appear to have all the answers, we attribute their behavior to positive internal characteristics such as knowledge and intelligence. Such an attribution enhances their power over us.

Why We Make the Fundamental Attribution Error

Why do we err in favor of internal attributions? Several explanations have been offered for the fundamental attribution error, but two seem to be most useful: a focus on personal responsibility and the salience of behavior. Western culture emphasizes the importance of individual personal responsibility (Gilbert & Malone, 1995); we expect individuals to take responsibility for their behavior. We expect to be in control of our fates—our behavior—and we expect others to have control as well. We tend to look down on those who make excuses for their behavior. It is not surprising, therefore, that we perceive internal rather than external causes to be primary in explaining behavior (Forgas, Furnham, & Frey, 1990).

The second reason for the prevalence of the fundamental attribution error is the salience of behavior. In social situations as in all perception situations, our senses and attention are directed outward. The "actor" becomes the focus of our attention. His or her behavior is more prominent than the less commanding background or environment. The actor becomes the "figure" (focus in the foreground) and the situation, the "ground" (the total background) in a complex figure-ground relationship. A well-established maxim of perceptual psychology is that the figure stands out against the ground and thus commands our attention.

The perceiver tends to be "engulfed by the behavior," not the surrounding circumstances (Heider, 1958). If a person is behaving maliciously, we conclude that he or she is a nasty person. Factors that might have brought on this nastiness are not easily available or accessible to us, so it is easy, even natural, to disregard or slight them. Thus, we readily fall into the fundamental attribution error.

Correcting the Fundamental Attribution Error

So, are we helpless to resist this common misattribution of causality? Not necessarily. As you probably already know from your own experience, the fundamental attribution error does not always occur. There are circumstances that increase or decrease the chances of making this mistake. For example, you are less likely to make the error if you become more aware of information external to another person that is relevant to explaining the causes for his or her behavior. However, even under these circumstances, the error does not disappear; it simply becomes weaker. Although the error is strong and occurs in many situations, it can be lessened when you have full information about a person's reason for doing something and are motivated to make a careful analysis.

The Actor-Observer Bias

Actors prefer external attributions for their own behavior, especially if the outcomes are bad, whereas observers tend to make internal attributions for the same behavior. The **actor-observer bias** is especially strong when we are trying to explain negative behaviors, whether our own or that of others. This bias alerts us to the importance of perspective when considering attributional errors, because differing perspectives affect the varied constructions of reality that people produce.

actor-observer bias
An attribution bias showing that we prefer external attributions for our own behavior, especially if outcomes are negative, whereas observers tend to make internal attributions for the same behavior performed by others.

A simple experiment you can do yourself demonstrates the prevalence of the actor-observer bias (Fiske & Taylor, 1984). Using a list of adjectives such as those shown in Table 3.1, rate a friend on the adjectives listed and then rate yourself. If you are like most people, you will have given your friend higher ratings than you gave yourself.

Why these results? It is likely that you see your friend's behavior as relatively consistent across situations, whereas you see your own behavior as more variable. You probably were more likely to choose the 0 category for yourself, showing that sometimes

Table 3.1   Self-Test Demonstrating the Actor-Observer Bias

Rating Scale

−2	Absolutely does not describe
−1	Typically does not describe
0	Sometimes describes, sometimes does not
+1	Often describes
+2	Absolutely describes

	Friend	Self
Domineering	_____	_____
Controlling	_____	_____
Authoritative	_____	_____
Argumentative	_____	_____
Considerate	_____	_____
Aspiring	_____	_____
Extroverted	_____	_____
Amicable	_____	_____

you see yourself as aggressive, thoughtful, or warm and other times not. It depends on the situation. We see other people's behavior as more stable and less dependent on situational factors.

The crucial role of perspective in social perception situations can be seen in a creative experiment in which the perspectives of both observer and actor were altered (Storms, 1973). Using videotape equipment, the researcher had the actor view his own behavior from the perspective of an observer. That is, he showed the actor a videotape of himself as seen by somebody else. He also had the observer take the actor's perspective by showing the observer a videotape of how the world looked from the point of view of the actor. That is, the observer saw a videotape of herself as seen by the actor, the person she was watching.

When both observers and actors took these new perspectives, their attributional analyses changed. Observers who took the visual perspective of the actors made fewer person attributions and more situational ones. They began to see the world as the actors saw it. When the actors took the perspective of the observers, they began to make fewer situational attributions and more personal ones. Both observers and actors got to see themselves as others saw them—always an instructive, if precarious, exercise. In this case, it provided insight into the process of causal analysis.

The False Consensus Bias

false consensus bias
The tendency to believe that our own feelings and behavior are shared by everyone else.

When we analyze the behavior of others, we often find ourselves asking, What would I have done? This is our search for consensus information (What do other people do?) when we lack such information. In doing this, we often overestimate the frequency and popularity of our own views of the world (Ross, Greene, & House, 1977). The **false consensus bias** is simply the tendency to believe that everyone else shares our own feelings and behavior (Harvey & Weary, 1981). We tend to believe that others hold similar political opinions, find the same movies amusing, and think that baseball is the distinctive American game.

The false consensus bias may be an attempt to protect our self-esteem by assuming that our opinions are correct and are shared by most others (Zuckerman, Mann, & Bernieri, 1982). That is, the attribution that other people share our opinions serves as an affirmation and a confirmation of the correctness of our views. However, this overestimation of the trustworthiness of our own ideas can be a significant hindrance to rational thinking, and if people operate under the false assumption that their beliefs are widely held, the false consensus bias can serve as a justification for imposing one's beliefs on others (Fiske & Taylor, 1991).

Constructing an Impression of Others

After attributions are made, we are still left with determining what processes perceivers use to get a whole picture of other individuals. We know that automatic processing of social information is widely used. We also know how people make attributions and what their biases are in making those attributions. Let's see how they might put all this social influence together in a coherent picture.

The Significance of First Impressions

How many times have you met someone about whom you formed an immediate negative or positive impression? How did that first impression influence your subsequent

interactions with that person? First impressions can be powerful influences on our perceptions of others. Researchers have consistently demonstrated a **primacy effect** in the impression-formation process, which is the tendency of early information to play a powerful role in our eventual impression of an individual.

Furthermore, first impressions can, in turn, bias the interpretation of later information. This was shown in a study in which individuals watched a person take an examination (Jones, Rock, Shaver, Goethals, & Ward, 1968). Some of the observers saw the test-taker do very well at the start and then get worse as the test continued. Other observers saw the test-taker do poorly at the beginning and then improve. Although both test-takers wound up with the same score, the test-taker who did well in the beginning was rated as more intelligent than the test-taker who did well at the end. In other words, the initial impression persisted even when later information began to contradict it.

This **belief perseverance**, the tendency for initial impressions to persist despite later conflicting information, accounts for much of the power of first impressions. A second reason that initial impressions wear well and long is that people often reinterpret incoming information in light of the initial impression. We try to organize information about other people into a coherent picture, and later information that is inconsistent with the first impression is often reinterpreted to fit the initial belief about that person. If your first impression of a person is that he is friendly, you may dismiss a later encounter in which he is curt and abrupt as an aberration—"He's just having a bad day." We can see that our person schemas are influenced by the primacy effect of the social information together.

Schemas

The aim of social perception is to gain enough information to make relatively accurate judgments about people and social situations. Next, we need ways of organizing the information we do have. Perceivers have strategies that help them know what to expect from others and how to respond. For example, when a father hears his infant daughter crying, he does not have to make elaborate inferences about what is wrong. He has in place an organized set of cognitions—related bits of information—about why babies cry and what to do about it. Psychologists call these sets of organized cognitions **schemas.** A schema concerning crying babies might include cognitions about dirty diapers, empty stomachs, pain, or anger.

Origins of Schemas

Where do schemas come from? They develop from information about or experience with some social category or event. You can gain knowledge about sororities, for example, by hearing other people talk about them or by joining one. The more experience you have with sororities, the richer and more involved your schema will be. When we are initially organizing a schema, we place the most obvious features of an event or a category in memory first. If it is a schema about a person or a group of people, we begin with physical characteristics that we can see: gender, age, physical attractiveness, race or ethnicity, and so on.

We have different types of schemas for various social situations (Gilovich, 1991). We have self-schemas, which help us organize our knowledge about our own traits and personal qualities. Person schemas help us organize people's characteristics and store them in our memory. People often have a theory—known as an **implicit personality theory**—about what kinds of personality traits go together. Intellectual characteristics,

primacy effect The observation that information encountered early in the impression formation process plays a powerful role in our eventual impression of an individual.

belief perseverence The tendency for initial impressions to persist despite later conflicting information, accounting for much of the power of first impressions.

schema A set of organized cognitions that help us interpret, evaluate, and remember a wide range of social stimuli, including events, persons, and ourselves.

implicit personality theory A common person-schema belief that certain personality traits are linked together and may help us make a quick impression of someone, but there is no guarantee that initial impression will be correct.

for example, are often linked to coldness, and strong and adventurous traits are often thought to go together (Higgins & Stangor, 1988). An implicit personality theory may help us make a quick impression of someone, but, of course, there is no guarantee that our initial impression will be correct.

The Relationship between Schemas and Behavior

Schemas sometimes lead us to act in ways that serve to confirm them. In one study, for example, researchers convinced subjects that they were going to interact with someone who was hostile (Snyder & Swann, 1978). When the subjects did interact with that "hostile" person (who really had no hostile intentions), they behaved so aggressively that the other person was provoked to respond in a hostile way. Thus, the expectations of the subjects were confirmed, an outcome referred to as a **self-fulfilling prophecy** (Jussim, 1986; Rosenthal & Jacobson, 1968). The notion of self-fulfilling prophecies suggests that we often create our own realities through our expectations. If we are interacting with members of a group we believe to be hostile and dangerous, for example, our actions may provoke the very behavior we are trying to avoid.

This does not mean that we inhabit a make-believe world in which there is no reality to what we think and believe. It does mean, however, that our expectations can alter the nature of social reality. Consider the effect of a teacher's expectations on students. How important are these expectations in affecting how students perform? In one study, involving nearly 100 sixth-grade math teachers and 1,800 students, researchers found that about 20% of the results on the math tests were due to the teachers' expectations (Jussim & Eccles, 1992). Twenty percent is not inconsiderable: It can certainly make the difference between an A and a B or a passing and a failing grade. The researchers also found that teachers showed definite gender biases. They rated boys as having better math skills and girls as trying harder. Neither of these findings appeared to have been correct in this study, but it showed why girls got better grades in math. The teachers incorrectly thought that girls tried harder, and therefore rewarded them with higher grades because of the girls' presumed greater effort.

The other side of the self-fulfilling prophecy is **behavioral confirmation** (Snyder, 1992). This phenomenon occurs when perceivers behave as if their expectations are correct, and the targets then respond in ways that confirm the perceivers' beliefs. Although behavioral confirmation is similar to the self-fulfilling prophecy, there is a subtle distinction. When we talk about a self-fulfilling prophecy, we are focusing on the behavior of the perceiver in eliciting expected behavior from the target. When we talk about behavioral confirmation, we are looking at the role of the target's behavior in confirming the perceiver's beliefs. In behavioral confirmation, the social perceiver uses the target's behavior (which is partly shaped by the perceiver's expectations) as evidence that the expectations are correct. The notion of behavioral confirmation emphasizes that both perceivers and targets have goals in social interactions. Whether a target confirms a perceiver's expectations depends on what they both want from the interaction.

As an example, imagine that you start talking to a stranger at a party. Unbeknownst to you, she has already sized you up and decided you are likely to be uninteresting. She keeps looking around the room as she talks to you, asks you few questions about yourself, and doesn't seem to hear some of the things you say. Soon you start to withdraw from the interaction, growing more and more aloof. As the conversation dies, she slips away, thinking, "What a bore!"

You turn and find another stranger smiling at you. She has decided you look very interesting. You strike up a conversation and find you have a lot in common. She is inter-

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self-fulfilling prophecy
A tendency to expect ourselves to behave in ways that lead to confirmation of our original expectation.

behavioral confirmation
A tendency for perceivers to behave as if their expectations are correct and the targets then respond in ways that confirm the perceivers' beliefs.

ested in what you say, looks at you when you're speaking, and laughs at your humorous comments. Soon you are talking in a relaxed, poised way, feeling and acting both confident and interesting. In each case, your behavior tends to confirm the perceiver's expectancies. Because someone shows interest in you, you become interesting. When someone thinks you are unattractive or uninteresting, you respond in kind, confirming the perceiver's expectations (Snyder, Tanke, & Berscheid, 1977).

As can be seen, whether the perceiver gets to confirm her preconceptions depends on what the target makes of the situation. To predict the likelihood of behavioral confirmation, we have to look at social interaction from the target's point of view. If the goal of the interaction from the target's viewpoint is simply to socialize with the other person, behavioral confirmation is likely. If the goal is more important, then behavioral disconfirmation is likely (Snyder, 1993). Note that the decision to confirm or disconfirm someone's expectations is by no means always a conscious one.

Assimilating New Information into a Schema

Schemas have some disadvantages, because people tend to accept information that fits their schemas and reject information that doesn't fit. This reduces uncertainty and ambiguity, but it also increases errors. Early in the formation of a schema of persons, groups, or events, we are more likely to pay attention to information that is inconsistent with our initial conceptions because we do not have much information (Bargh & Thein, 1985). Anything that doesn't fit the schema surprises us and makes us take notice. However, once the schema is well formed, we tend to remember information that is consistent with that schema. Remembering schema-consistent evidence is another example of the cognitive miser at work. Humans prefer the least effortful method of processing and assimilating information; it helps make a complex world simpler (Fiske, 1993).

If new information continually and strongly suggests that a schema is wrong, the perceiver will change it. Much of the time we are uncomfortable with schema-inconsistent information. Often we reinterpret the information to fit with our schema, but sometimes we change the schema because we see that it is wrong.

The Confirmation Bias

When we try to determine the cause or causes of an event, we usually have some hypothesis in mind. Say your college football team has not lived up to expectations, or you are asked to explain why American students lag behind others in standardized tests. When faced with these problems, we may begin by putting forth a tentative explanation. We may hypothesize that our football team has done poorly because the coach is incompetent. Or we may hypothesize that the cause of American students' poor performance is that they watch too much TV. How do we go about testing these hypotheses in everyday life?

When we make attributions about the causes of events, we routinely overestimate the strength of our hypothesis (Sanbonmatsu, Akimoto, & Biggs, 1993). We do this by the way we search for information concerning our hypothesis, typically tending to engage in a search strategy that confirms rather than disconfirms our hypothesis. This is known as the **confirmation bias.**

One researcher asked subjects to try to discover the rule used to present a series of three numbers, such as 2, 4, 6. The question was, What rule is the experimenter using? What is your hypothesis? Let's say the hypothesis is consecutive even numbers. Subjects

confirmation bias
A tendency to engage in a search strategy that confirms rather than disconfirms our hypothesis.

could test their hypothesis about the rule by presenting a set of three numbers to see if it fit the rule. The experimenter would tell them if their set fit the rule, and then they would tell the experimenter what they hypothesized the rule was.

How would you test your hypothesis? Most individuals would present a set such as 8, 10, 12. Notice the set is aimed at confirming the hypothesis, not disconfirming it. The experimenter would say, Yes, 8, 10, 12 fits the rule. What is the rule? You would say, Any three ascending even numbers. The experimenter would say, That is not the rule. What happened? You were certain you were right.

The rule could have been any three ascending numbers. If you had tried to disconfirm your hypothesis, you would have gained much more diagnostic information than simply trying to confirm it. If you had said 1, 3, 4 and were told it fit the rule, you could throw out your hypothesis about even numbers. We tend to generate narrow hypotheses that do not take into account a variety of alternative explanations.

In everyday life we tend to make attributions for causes that have importance to us. If you hate the football coach, you are more likely to find evidence for his incompetence than to note that injuries to various players affected the team's performance. Similarly, we may attribute the cause of American students' poor performance to be their TV-watching habits, rather than search for evidence that parents do not motivate their children or that academic performance is not valued among students' peers. Of course, we should note that there may be times that confirmation of your hypothesis is the perfectly rational thing to do. But, to do nothing but test confirmatory hypotheses leaves out evidence that you might very well need to determine the correct answer.

Shortcuts to Reality: Heuristics

heuristics Handy rules of thumb that serve as shortcuts to organizing and perceiving social reality.

As cognitive misers, we have a grab bag of tools that help us organize our perceptions effortlessly. These shortcuts—handy rules of thumb that are part of our cognitive arsenal—are called **heuristics**. Like illusions, heuristics help us make sense of the social world, but also like illusions, they can lead us astray.

The Availability Heuristic

availability heuristic A shortcut used to estimate the frequency or likelihood of an event based on how quickly examples of it come to mind.

If you are asked how many of your friends know people who are serving in the armed forces in Iraq, you quickly will think of those who do. The **availability heuristic** is defined as a shortcut used to estimate the frequency or likelihood of an event based on how quickly examples of it come to mind (Tversky & Kahneman, 1973). If service in Iraq is uncommon in your community, you will underestimate the overall number of soldiers; if you live in a community with many such individuals, you will overestimate the incidence of military service.

The availability heuristic tends to bias our interpretations, because the ease with which we can imagine an event affects our estimate of how frequently that event occurs. Television and newspapers, for example, tend to cover only the most visible, violent events. People therefore tend to overestimate incidents of violence and crime as well as the number of deaths from accidents and murder, because these events are most memorable (Kahneman, Slovic, & Tversky, 1982). As with all cognitive shortcuts, a biased judgment occurs, because the sample of people and events that we remember is unlikely to be fair and full. The crew and captain of the *Vincennes* undoubtedly had the recent example of the *Stark* in mind when they had to make a quick decision about the Iranian airbus.

The Representativeness Heuristic

Sometimes we make judgments about the probability of an event or a person falling into a category based on how representative it or the person is of the category (Kahneman & Tversky, 1982). When we make such judgments, we are using the **representativeness heuristic**. This heuristic gives us something very much like a prototype (an image of the most typical member of a category).

representativeness heuristic A rule used to judge the probability of an event or a person falling into a category based on how representative it or the person is of the category.

To understand how this heuristic works, consider Steve, a person described to you as ambitious, argumentative, and very smart. Now, if you are told that Steve is either a lawyer or a dairy farmer, what would you guess his occupation to be? Chances are, you would guess that he is a lawyer. Steve seems more representative of the lawyer category than of the dairy farmer category. Are there no ambitious and argumentative dairy farmers? Indeed there are, but a heuristic is a shortcut to a decision—a best guess.

Let's look at Steve again. Imagine now that Steve, still ambitious and argumentative, is 1 of 100 men; 70 of these men are dairy farmers, and 30 are lawyers. What would you guess his occupation to be under these conditions? The study that set up these problems and posed these questions found that most people still guess that Steve is a lawyer (Kahneman & Tversky, 1982). Despite the odds, they are misled by the powerful representativeness heuristic.

The subjects who made this mistake failed to use base-rate data, information about the population as opposed to information about just the individual. They knew that 70 of the 100 men in the group were farmers; therefore, there was a 7 out of 10 chance that Steve was a farmer, no matter what his personal characteristics. This tendency to underuse base-rate data and to rely on the special characteristics of the person or situation is known as the base-rate fallacy.

Counterfactual Thinking

The tendency to run scenarios in our head—to create positive alternatives to what actually happened—is most likely to occur when we easily can imagine a different and more positive outcome. For example, let's say you leave your house a bit later than you had planned on your way to the airport and miss your plane. Does it make a difference whether you miss it by 5 minutes or by 30 minutes? Yes, the 5-minute miss causes you more distress, because you can easily imagine how you could have made up those 5 minutes and could now be on your way to Acapulco. Any event that has a negative outcome but allows for a different and easily imagined outcome is vulnerable to **counterfactual thinking**, an imagined scenario that runs opposite to what really happened.

counterfactual thinking The tendency to create positive alternatives to a negative outcome that actually occurred, especially when we can easily imagine a more positive outcome.

As another example, imagine that you took a new route home from school one day because you were tired of the same old drive. As you drive this unfamiliar route, you are involved in an accident. It is likely that you will think, "If only I had stuck to my usual route, none of this would have happened!" You play out a positive alternative scenario (no accident) that contrasts with what occurred. The inclination of people to do these counterfactual mental simulations is widespread, particularly when dramatic events occur (Wells & Gavanski, 1989).

Generally, we are most likely to use counterfactual thinking if we perceive events to be changeable (Miller, Turnbull, & McFarland, 1989; Roese & Olson, 1997). As a rule, we perceive dramatic or exceptional events (taking a new route home) as more mutable than unexceptional ones (taking your normal route). Various studies have found that it is the mutability of the event—the event that didn't have to be—that

affects the perception of causality (Gavanski & Wells, 1989; Kahneman & Tversky, 1982). People's reactions to their own misfortunes and those of others may be determined, in great part, by the counterfactual alternatives evoked by those misfortunes (Roese & Olson, 1997).

Positive Psychology: Optimism, Cognition, Health, and Life

positive psychology
The area of psychology that focuses on what makes people happy and how optimism and happiness affect how people think and act.

Social psychology, after years of studying interesting but rather negative behaviors such as violence and aggression, prejudice, and evil (Zimbardo, 2005), has turned its eyes, like Mrs. Robinson, to a more uplifting image, and that image is called **positive psychology.** Prodded by the arguments of Martin Seligman (Simonton & Baumeister, 2005), psychologists over the past decade have begun to study what makes people happy, how optimism and happiness affect how people think and act. The findings suggest that one manifestation of happiness—an optimistic outlook on life—has rather profound affects on our health, longevity, and cognition.

Optimism and Cognition

metacognition The way we think about thinking, which is primarily optimistic.

We seem to maintain an optimistic and confident view of our abilities to navigate our social world even though we seem to make a lot of errors. Perhaps this is because our **metacognition**—the way we think about thinking—is primarily optimistic. We know that in a wide variety of tasks, people believe they are above average, a logical impossibility because, except in Lake Wobegon, Garrison Keillor's mythical hometown, not everyone can be above average. So let's examine the possibility that the pursuit of happiness, or at least optimism and confidence, is a fundamental factor in the way we construct our social world.

Metcalfe (1998) examined the case for cognitive optimism and determined from her own research and that of others that in most cognitive activities individuals express a consistent pattern of overconfidence. Metcalfe found, among other results, that individuals think they can solve problems that they cannot; that they are very confident they can produce an answer when they are in fact about to make an error; that they think they know the answer to a question when in fact they do not; and they think the answer is on the "tip of their tongue" when there is no right or wrong answer.

It is fair to say that optimists and pessimists do in fact see the world quite differently. In a very clever experiment, Issacowitz (2005) used eye tracking to test the idea that pessimists pay more attention to negative stimuli than do optimists. College students were asked to track visual stimuli (skin cancers, matched schematic drawings, and neutral faces). The experimenter measured the amount of fixation time—the time students spent tracking the stimuli. Optimists showed "selective *inattention*" to the skin cancers. Optimists avert their gaze from the negative stimuli so they may, in fact, wear "rose-colored glasses," or rather they may take their glasses off when negative stimuli are in their field of vision. Such is the gaze of the optimist, says Issacowitz (2005).

Optimism and Health

We know that optimism is sometimes extraordinarily helpful in human affairs. Laughter and a good mood appear to help hospitalized patients cope with their illnesses (Taylor & Gollwitzer, 1995). An optimistic coping style also appears to help individuals recover

more rapidly and more effectively from coronary bypass surgery. Research demonstrates that optimistic bypass patients had fewer problems after surgery than pessimistic patients (Scheir et al., 1986). Following their surgery, the optimists reported more positive family, sexual, recreational, and health-related activities than did pessimistic patients.

Many individuals react to threatening events by developing **positive illusions**, beliefs that include unrealistically optimistic notions about their ability to handle the threat and create a positive outcome (Taylor, 1989). These positive illusions are adaptive in the sense that ill people who are optimistic will be persistent and creative in their attempts to cope with the psychological and physical threat of disease. The tendency to display positive illusions has been shown in individuals who have tested positive for the HIV virus but have not yet displayed any symptoms (Taylor, Kemeny, Aspinwall, & Schneider, 1992). These individuals often expressed the belief that they had developed immunity to the virus and that they could "flush" the virus from their systems. They acted on this belief by paying close attention to nutrition and physical fitness.

However, the cognitive optimism discussed by Metcalfe is different from that of AIDS or cancer patients. In these instances, optimism is both a coping strategy (I can get better, and to do so, I must follow the medical advice given to me) and a self-protective or even self-deceptive shield. Metcalfe argued that the cognitive optimism seen in everyday life, however, is not self-deceptive but simply a faulty, overoptimistic methodology. The result of this optimistic bias in cognition is that people often quit on a problem because they think they will get the answer, or they convince themselves they have really learned new material when in fact they have not. Optimism may simply be the way we do our cognitive daily business.

Positive emotions seem to not only help us fight disease, but some evidence suggests that these positive, optimistic emotions may forestall the onset of certain diseases. Richman and her colleagues studied the effects of *hope* and *curiosity* on hypertension, diabetes mellitus, and respiratory infections. They reasoned that if negative emotions negatively affected disease outcomes, then positive ones may be helpful. As is well known, high levels of anxiety are related to a much higher risk of hypertension (high blood pressure). This research studied 5,500 patients, ages 55 to 69. All patients were given scales that measured "hope" and "curiosity." Independently of other factors that affected the health of the patients, there was a strong relationship between positive emotions and health. The authors hypothesize that the experience of positive emotions bolsters the immune system. Also, it is reasonable to assume that people with hope and curiosity and other positive emotions may very well take steps to protect their health (Richman, Kubzansky, Kawachi, Choo, & Bauer, 2005). One way of looking at these studies is to observe that happy people are resilient. They take steps to protect their health, and they respond in a positive manner to threats and disappointments.

Optimism and Happiness

Diener and Diener (1996) found that about 85% of Americans rate their lives as above average in satisfaction. More than that, 86% of the population place themselves in the upper 35% of contentment with their lives (Klar & Gilardi, 1999; Lykken & Tellegren, 1996). It is clearly quite crowded in that upper 35%. Although 86% obviously cannot all be in the top 35%, Klar and Gilardi (1999) suggest that people feel this way because they have unequal access to other people's states of happiness compared to their own. Therefore, when a person says that he or she is really happy, it is difficult for him or her to anticipate that others may be quite so happy, and therefore most (although certainly not all) people may conclude that they are well above average.

positive illusions Beliefs that include unrealistically optimistic notions about individuals' ability to handle a threat and create a positive outcome.

The pursuit of happiness, enshrined no less in the Declaration of Independence, is a powerful if occasionally elusive motive and goal. But what factors account for happiness? Can it be the usual suspects: money, sex, baseball? Edward Diener's long-time research concerning happiness suggests that subjective factors (feeling in control, feeling positive about oneself) are more important than objective factors such as wealth (Diener, Suh, Lucas, & Smith, 1999). Yes, wealth counts, but not as much as one would think. For example, one of Diener's studies showed that Americans earning millions of dollars are only slightly happier than those who are less fortunate. Perhaps part of the reason those with more are not significantly happier than those with less is that bigger and better "toys" simply satiate, they gratify no more, and so one needs more and more and better and better to achieve a positive experience (Lyubomirsky & Ross, 1999). One's first automobile, as an example, may bring greater gratification than the one we buy if and when money is no object.

Knutson and his colleagues have examined how money affects our happiness. Knutson is a neuroscientist and is therefore interested in how the brain reacts both to the anticipation of obtaining money and actually having the money (Kuhnen & Knutson, 2005). The brain scans revealed that anticipation of financial rewards makes one happier than actually obtaining that reward. You may be just as happy anticipating future rewards as actually getting those rewards, and it saves the trouble. Money doesn't buy bliss, but it does buy a chunk of happiness. How much of a chunk? Economists have reported that money and sex may be partially fungible commodities (Blanchflower & Oswald, 2004). These researchers found that if you are having sex only once a month and you get lucky and increase it to twice a week, it is as good as making an extra $50,000 a year. This does not necessarily mean that you would give up $50,000 to have four times as much sex.

Lyubomirsky and Ross (1999) examined how happy and unhappy individuals dealt with situations in which they either obtained goals they wanted or were rejected or precluded from reaching those goals, such as admission to a particular college. In one study, these researchers examined how individuals dealt with either being accepted or rejected from colleges. Figure 3.5 shows what happened. Notice that happy participants (self-rated) show a significant increase in the desirability of their chosen college (the one that accepted them, and they in turn accepted), whereas unhappy (self-rated) participants show no difference after being accepted and, in fact, show a slight decrease in the desirability ratings of their chosen college. Furthermore, happy seniors sharply decreased the desirability of colleges that rejected them, whereas their unhappy counterparts did not.

These results, according to Lyubomirsky and Ross (1999), illustrate the way happy and unhappy individuals respond to the consequences of choices that they made and were made for them (being accepted or rejected). Happy seniors seemed to make the best of the world: If they were accepted to a college, well then, that was the best place for them. If they were rejected, then maybe it wasn't such a good choice after all. Unhappy people seem to live in a world of unappealing choices, and perhaps it seems to them that it matters not which alternative they pick or is chosen for them. It also appears that if unhappy people are distracted or stopped from ruminating—from focusing on the dark state of their world—they tend to respond like happy people: Obtained goals are given high ratings; unobtainable options are downgraded.

It may be a cliché but even a cliché can be true: Americans are generally optimistic. Chang and Asakawa (2003) found that at least European Americans held an optimistic bias (they expected that good things are more likely to happen to them) whereas Japanese had a pessimistic bias, expecting negative events. This cultural difference seems to project the notion that many Americans expect the best, while many Japanese expect the worst.
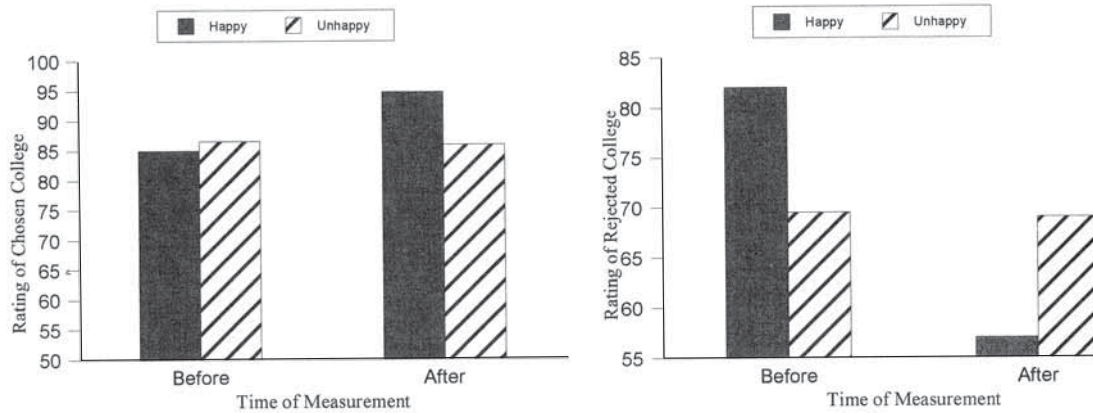
The Effects of Distressing and Joyful Events on Future Happiness

Lou Gehrig, the great Yankee first baseman afflicted with amyotrophic lateral sclerosis (ALS; also known as Lou Gehrig's disease), told a full house at Yankee Stadium in July 1939 that, all and all, he considered himself the luckiest man on the face of the earth. Gehrig spoke bravely and movingly, but surely he must have thought his luck had turned bad.

Perhaps not, according to Gilbert and his associates. Gilbert suggested that there is a "psychological immune" system, much like its physiological counterpart, that protects us from the ravages of bacterial and viral invasions. The psychological immune system fights off doom and gloom, often under the most adverse circumstances (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998).

In the classic movie *Casablanca* (which, no doubt, none of you may have seen) Humphrey Bogart's character "Rick" gallantly (foolishly, I thought) gives up Ingrid Bergman so that she can stay with her Nazi-fighting husband. Rick himself was heading down to Brazzaville to join the French fighting the Nazis (this was World War II, for those of you who have taken a history course). Will she regret giving up the dashing Rick? Was she happier with her husband? Gilbert (2006) suggests that either choice would have made her happy. Gilbert asks, Is it really possible that the now-deceased actor Christopher Reeve was really better off in some ways after his terrible and tragic accident than before, as Reeve claimed?

Gilbert says, yes, it is possible.

Gilbert and his colleagues suggested that the psychological immune system works best when it is unattended, for when we become aware of its functioning, it may cease to work. Gilbert notes that we may convince ourselves that we never really cared for our ex-spouse, but that protective cover won't last long if someone reminds us of the 47 love sonnets that we forgot we wrote. In an initial series of studies, Gilbert and colleagues asked their participants to predict their emotional reactions to both good and bad events. First, the subjects reported on their happiness. All individuals were asked if they were involved in a romantic relationship and whether they had experienced a breakup of a relationship. Those in a relationship who had not experienced a breakup ("luckies") were asked to predict how happy they would be 2 months after a breakup. Those who had been in a romantic relationship but were no longer

("leftovers") were asked to report how happy they were. Others not in a relationship ("loners") were asked to predict how happy they would be 6 months after becoming involved romantically.

First, we find that being in a romantic relationship means greater happiness than not being in one. Loners thought that 6 months after being in a relationship, they would be as happy as people in a romantic relationship. So loners were accurate in their predictions, because people in relationship report as much happiness as loners predicted they would experience if they were in a 6-month relationship. But, most interestingly, luckies were no happier than were leftovers. Luckies thought that if their relationship broke up, they would be very unhappy. But, those who experienced a breakup—the archly named leftovers—were in fact pretty happy, so the luckies were wrong.

The college students in the first study made grave predictions about the state of their happiness after the end of a romantic involvement. Gilbert and colleagues found that professors denied tenure and voters whose candidate lost an important election all overestimated the depth of their future unhappiness because of the negative outcome and, in fact, about 3 months later all were much at the same state of happiness that existed before the negative event. Indeed, Gilbert's research suggests that even more harmful events yield the same results.

One of the curious aspects of optimism is that we don't seem to quite know what will make us happy or how happy something will make us feel. Wilson, Meyers, and Gilbert (2003) reported that people may overestimate the importance of future events on their happiness. For example, these investigators found that supporters of George W. Bush overestimated how happy they would be when Mr. Bush won the election. Similarly, there is a "retrospective impact bias," which refers to overestimating the impact of past events on present happiness. People overestimate how durable their negative reactions will be (the "durability bias") and don't take into account that the psychological immune system tends to regulate our emotional state. Rather, they may explain their ability to bounce back afterward by saying something like, "I can deal with things better than I thought," to explain why they mispredicted their long-range emotional reactions. It appears that most of us can rely on this immune system to maintain a degree of stability in the face of life's ups and downs. Much research remains to be done, but it may be that there are significant individual differences in the workings of the psychological immune system, and that may account for different perceptions of happiness among individuals (Gilbert, 2006).

The Incompetent, the Inept: Are They Happy?

Kruger and Dunning (1999) found in a series of studies that incompetent people are at times supremely confident in their abilities, perhaps even more so than competent individuals. It seems that the skills you need to behave competently are the same skills you need to recognize incompetence. If incompetent people could recognize incompetence, they would be competent. Life is indeed unfair. For example, students who scored lowest in a test of logic were most likely to wildly overestimate how well they did. Those scoring in the lowest 12% of the test-takers estimated that they scored in the low 60s percentiles. In tests of grammar and humor, the less competent individuals again overestimated their performance.

The less competent test-takers, when given the opportunity to compare their performance with high-performing individuals, did not recognize competence: That is, the inept thought that their own performance measured up. The competent subjects, in contrast, when confronted with better performances, revised estimates of their own work in light of what they accurately saw as really competent performances by others.

These results, although intriguing, may be limited by a couple of factors. It may be that the nature of the tasks (which involved logic, grammar, and humor) was rather vague, so it may not have been intuitively clear to everyone what was being tested. Also, when you ask people to compare themselves to "average" others, they may have varying notions of what average is. In any event, we see an example of the false consensus effect here: Other people must be performing about as well as I am, so the 60% level (a bit better than average; remember Lake Woebegone) is okay. Alternately, if you go bowling and throw 20 straight gutter balls, the evidence is undeniable that you are inept.

Cognitive Optimism: An Evolutionary Interpretation

Clearly we humans do not judge the world around us and our own place in that world with a clear, unbiased eye. We have listed many cognitive biases, and the question arises as to what purpose these biases serve. Haselton and Nettle (2006) persuasively argue that these biases serve an evolutionary purpose. For example, males tend to overestimate the degree of sexual interest they arouse in females. Haselton and Nettle (2006) observe that this is an "adaptive" bias in that overestimation of sexual interest will result in fewer missed opportunities.

Consider the **sinister attribution error** that we discussed earlier—this is a kind of paranoid cognition in which certain individuals develop a rather paranoid perception style. When someone is new to a group, or is of a different racial or ethnic background than other members of the group, that individual is very attentive to any signs of discrimination, however subtle or even nonexistent they may be. These "paranoid" reactions are likely hard-wired in our brain, derived from ancestral environments when moving into a new group or new village required exquisite attention to the reactions of other people. One mistake and you might be asked to leave, or worse (Haselton & Nettle, 2006).

sinister attribution error The tendency for certain people to overattribute lack of trustworthiness to others.

Even the most extreme positive illusions may serve important evolutionary purposes. The adaptive nature of these illusions can be observed when individuals face diseases that are incurable. The illusion that one may "beat" the disease is adaptive in the sense that individuals may take active health-promoting steps that at the very least increase their longevity, even if they cannot beat the disease in the long term (Haselton & Nettle, 2006).

Bottom Line

Much of what we discussed in this chapter suggests that we, as social perceivers, make predictable errors. Also, much of what we do is automatic, not under conscious control. The bottom line is that we are cognitive tacticians who expend energy to be accurate when it is necessary but otherwise accept a rough approximation. Accuracy in perception is the highest value, but it is not the only value; efficiency and conservation of cognitive energy also are important. And so, we are willing to make certain trade-offs when a situation does not demand total accuracy. The more efficient any system is, the more its activities are carried out automatically. But when we are motivated, when an event or interaction is really important, we tend to switch out of this automatic, nonconscious mode and try to make accurate judgments. Given the vast amount of social information we deal with, most of us are pretty good at navigating our way.

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The *Vincennes* Revisited

The events that resulted in the firing of a missile that destroyed a civilian aircraft by the U.S.S. *Vincennes* are clear in hindsight. The crew members of the *Vincennes* constructed their own view of reality, based on their previous experiences, their expectations of what was likely to occur, and their interpretations of what was happening at the moment, as well as their fears and anxieties. All of these factors were in turn influenced by the context of current international events, which included a bitter enmity between the United States and what was perceived by Americans as an extremist Iranian government. The crew members of the *Vincennes* had reason to expect an attack from some quarter and that is the way they interpreted the flight path of the aircraft. This is true despite that fact that later analysis showed that the aircraft had to be a civilian airliner. The event clearly shows the crucial influence of our expectations and previous experience on our perception of new events.

Chapter Review

1. **What is impression formation?**

    Impression formation is the process by which we form judgments about others. Biological and cultural forces prime us to form impressions, which may have adaptive significance for humans.

2. **What are automatic and controlled processing?**

    Much of our social perception involves automatic processing, or forming impressions without much thought or attention. Thinking that is conscious and requires effort is referred to as controlled processing. If, however, we have important goals that need to be obtained, then we will switch to more controlled processing and allocate more energy to understanding social information. Automatic and controlled processing are not separate categories but rather form a continuum, ranging from complete automaticity to full allocation of our psychic energy to understand and control the situation.

3. **What is meant by a cognitive miser?**

    The notion of a cognitive miser suggests that humans process social information by whatever method leads to the least expenditure of cognitive energy. Much of our time is spent in the cognitive miser mode. Unless motivated to do otherwise, we use just enough effort to get the job done.

4. **What evidence is there for the importance of nonconscious decision making?**

    Recent research implies that the best way to deal with complex decisions is to rely on the unconscious mind. Conscious thought is really precise and allows us to follow strict patterns and rules, but its capacity to handle lots of information is limited. So conscious thought is necessary for doing, say, math, a rule-based exercise, but may not be as good in dealing with complex issues with lots of alternatives.

5. What is the effect of automaticity on behavior and emotions?

Behavior can be affected by cues that are below the level of conscious awareness. Evidence indicates that priming, "the nonconscious activation of social knowledge" is a very powerful social concept and affects a wide variety of behaviors. Recall the research showing that the mere presence of a backpack in a room led to more cooperative behavior in the group, while the presence of a briefcase prompted more competitive behaviors.

It has also become clear that often our emotional responses to events are not under conscious control. Researchers have demonstrated that we are not very good at predicting how current emotional events will affect us in the future. For one thing, we tend not to take into account the fact that the more intense the emotion, the less staying power it has. We tend to underestimate our tendency to get back to an even keel (homeostasis), to diminish the impact of even the most negative or for that matter the most positive of emotions. It appears that extreme emotions are triggered—psychological processes are stimulated that serve to counteract the intensity of emotions such that one may expect that intense emotional states will last a shorter time than will milder ones.

6. Are our impressions of others accurate?

There are significant differences among social perceivers in their ability to accurately evaluate other people. Those who are comfortable with their own emotions are best able to express those emotions and to read other people. Individuals who are unsure of their own emotions, who try to hide their feelings from others, are not very good at reading the emotions of other people.

Despite distinct differences in abilities to read others, most of us are apparently confident in our ability to accurately do so. This is especially true if we have a fair amount of information about that person. However, research shows that no matter the information at our disposal, our accuracy levels are less than we think. In part, this appears to be true because we pay attention to obvious cues but do not attend to more subtle nonverbal ones. We are especially incompetent at determining if someone is lying, even someone very close to us.

7. What is the sample bias?

The sample bias suggests that our initial interaction with individuals is crucial to whether any further interaction will occur. Imagine you are a member of a newly formed group, and you begin to interact with others in the group. You meet Person A, who has low social skills. Your interaction with him is limited, and your tendency, understandably, is to avoid him in the future. Now Person B is different. She has excellent social skills, and conversation with her is easy and fluid. You will obviously sample more of Person B's behavior than Person A's. As a result, potentially false negative impressions of Person A never get changed, while a false positive impression of B could very well be changed if you "sample" more of her behavior. That is, the initial interaction determines whether you will sample more of that person's behavior or not. This seems especially true for persons belonging to different racial or ethnic groups.

8. Can we catch liars?

   Not very well. A massive review of all the literature on detecting lies shows that while there are many cues to lying, they are unusual and unexpected cues and very subtle. When people lie about themselves, the cues may be a bit stronger, but it is still a guessing game for most of us.

9. What is the attribution process?

   The attribution process involves assigning causes for the behavior we observe, both our own and that of others. Several theories have been devised to uncover how perceivers decide the causes of other people's behaviors. The correspondent inference and the covariation models were the most general attempts to describe the attribution process.

10. What are internal and external attributions?

    When we make an internal attribution about an individual, we assign the cause for behavior to an internal source. For example, one might attribute failure on an exam to a person's intelligence or level of motivation. External attribution explains the cause for behavior as an external factor. For example, failure on an exam may be attributed to the fact that a student's parents were killed in an automobile accident a few days before the exam.

11. What is the correspondent inference theory, and what factors enter into forming a correspondent inference?

    Correspondent inference theory helps explain the attribution process when perceivers are faced with unclear information. We make a correspondent inference if we determine that an individual entered into a behavior freely (versus being coerced) and conclude that the person intended the behavior. In this case, we make an internal attribution. Research shows that the perceiver acting as a cognitive miser has a strong tendency to make a correspondent inference—to assign the cause of behavior to the actor and downplay the situation—when the evidence suggests otherwise.

12. What are covariation theory and the covariation principle?

    The covariation principle states that people decide that the most likely cause for any behavior is the factor that covaries, or occurs at the same time, most often with the appearance of that behavior. Covariation theory suggests that people rely on consensus (What is everyone else doing?), consistency (Does this person behave this way all the time?), and distinctiveness (Does this person display the behavior in all situations or just one?) information.

13. How do consensus, consistency, and distinctiveness information lead to an internal or external attribution?

    When consensus (Everyone acts this way), consistency (The target person always acts this way), and distinctiveness (The target person only acts this way in a particular situation) are high, we make an external attribution. However, if consensus is low (Nobody else behaves this way), consistency is high (The target person almost always behaves this way), and distinctiveness is low (The target person behaves this way in many situations), we make an internal attribution.

14. What is the dual-process model of attribution, and what does it tell us about the attribution process?

    Trope's two-stage model recognized that the initial stage of assigning causality is an automatic categorization of behavior; a second stage may lead to a readjustment of that initial categorization, especially when the behavior or the situation is ambiguous. Trope's model led theorists to think about how and when people readjust their initial inferences.

15. What is meant by attribution biases?

    Both the correspondent inference and covariation models emphasize that people often depart from the (causal) analysis of the attribution models they present and make some predictable errors in their causal analyses.

16. What is the fundamental attribution error?

    The fundamental attribution error highlights the fact that people prefer internal to external attributions of behavior. The fundamental attribution error may be part of a general tendency to confirm what we believe is true and to avoid information that disconfirms our hypotheses. This is known as the confirmation bias.

17. What is the actor-observer bias?

    The actor-observer bias occurs when observers emphasize internal attributions, whereas actors favor external attributions. That is, when we observe someone else, we make the familiar internal attribution, but when we ourselves act, we most often believe that our behavior was caused by the situation in which we acted. This seems to occur because of a perspective difference. When we observe other people, what is most obvious is what they do. But when we try to decide why we did something, what is most obvious are extrinsic factors, the situation.

18. What is the false consensus bias?

    The false consensus bias occurs when people tend to believe that others think and feel the same way they do.

19. What is the importance of first impressions?

    First impressions can be powerful influences on our perceptions of others. Researchers have consistently demonstrated a primacy effect in the impression-formation process, which is the tendency of early information to play a powerful role in our eventual impression of an individual. Furthermore, first impressions, in turn, can bias the interpretation of later information.

20. What are schemas, and what role do they play in social cognition?

    The aim of social perception is to gain enough information to make relatively accurate judgments about people and social situations. One major way we organize this information is by developing schemas, sets of organized cognitions about individuals or events. One type of schema important for social perception is implicit personality theories, schemas about what kinds of personality traits go together. Intellectual characteristics, for example, are often linked to coldness, and strong and adventurous traits are often thought to go together.

21. What is the self-fulfilling prophecy, and how does it relate to behavior?

Schemas also influence behavior, as is illustrated by the notion of self-fulfilling prophecies. This suggests that we often create our own realities through our expectations. If we are interacting with members of a group we believe to be hostile and dangerous, for example, our actions may provoke the very behavior we are trying to avoid, which is the process of behavioral confirmation. This occurs when perceivers behave as if their expectations are correct and the targets of those perceptions respond in ways that confirm the perceivers' beliefs.

When we make attributions about the causes of events, we routinely overestimate the strength of our hypothesis concerning why events happened the way they did. This bias in favor of our interpretations of the causes of behavior occurs because we tend to engage in a search strategy that confirms our hypothesis rather than disconfirms it. This is known as the confirmation bias.

22. What are the various types of heuristics that often guide social cognition?

A heuristic is a shortcut, or a rule of thumb, that we use when constructing social reality. The availability heuristic is defined as a shortcut used to estimate the likelihood or frequency of an event based on how quickly examples of it come to mind. The representativeness heuristic involves making judgments about the probability of an event or of a person's falling into a category based on how representative it or the person is of the category. The simulation heuristic is a tendency to play out alternative scenarios in our heads. Counterfactual thinking involves taking a negative event or outcome and running scenarios in our head to create positive alternatives to what actually happened.

23. What is meant by metacognition?

Metacognition is the way we think about thinking, which can be primarily optimistic or pessimistic.

24. How do optimism and pessimism relate to social cognition and behavior?

We tend to maintain an optimistic and confident view of our abilities to navigate our social world, even though we seem to make a lot of errors. Many individuals react to threatening events by developing positive illusions, beliefs that include unrealistically optimistic notions about their ability to handle the threat and create a positive outcome. These positive illusions are adaptive in the sense that people who are optimistic will be persistent and creative in their attempt to handle threat or illness. Most people think they are very happy with their lives, certainly happier than others. Happy and unhappy individuals respond differently to both positive and negative events. For example, happy individuals accepted by a college believe that it is the best place for them. If they are rejected, they think maybe it wasn't such a good choice after all. Unhappy people seem to live in a world of unappealing choices, and perhaps it seems to them that it doesn't matter which alternative they pick or is chosen for them. It seems that incompetents maintain happiness and optimism in part because they are not able to recognize themselves as incompetent.

Indeed, it is fair to say that optimists and pessimists do in fact see the world quite differently. In a very clever experiment, Issacowitz (2005) used eye tracking to test the idea that pessimists pay more attention to negative stimuli than do optimists. Positive emotions seem to not only help us fight disease but some evidence suggests that these positive, optimistic emotions may forestall the onset of certain diseases.

25. How do distressing events affect happiness?

Research also suggests that we may have a psychological immune system that regulates our reactions and emotions in response to negative life events. Social psychological experiments suggest that this psychological immune system—much like its physiological counterpart that protects us from the ravages of bacterial and vial invasions—fights off doom and gloom, often under the most adverse circumstances. So the effects of negative events wear out after a time, no matter how long people think the effects will last.

26. What does evolution have to do with optimistic biases?

Haselton and Nettle (2006) persuasively argue that these biases serve an evolutionary purpose. For example, males tend to overestimate the degree of sexual interest they arouse in females. This is an "adaptive" bias in that overestimation of sexual interest will result in fewer missed opportunities. Or, the illusion that one can "beat" a deadly disease may work to prolong life longer than anyone could possibly have expected.

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