CHAPTER 2

SOCIAL COGNITION

Contents

Social Cognition

This chapter is about how people think about other people. **Social cognition** is a broad term that describes a focus on the way perceivers encode, process, remember, and use information in social contexts in order to make sense of other people's behavior (where a **social context** is defined as any real or imagined scenario including reference to self or others). We have placed this chapter on social cognition near the start of the book because it is central to many of the other chapters later on. The way that we organize and use social information is an essential element in our understanding of intergroup and interpersonal processes, social identity and prejudice, attitudes and conformity. Below we will examine the strategies and the shortcomings of social inference, the way in which we categorize others and use cognitive "shortcuts" to clarify and understand all of the information that constantly bombards our senses. We will see how an understanding of social thought has evolved from seeing people as only cold, logical and rational information processors, to a recognition that we are often inclined to go on "gut feeling" and "intuition" when making judgments about others.

SOCIAL INFERENCE

The Naïve Scientist

Let us begin with common sense. Humans are rationale creatures; we are able to solve complex mathematical problems, use sophisticated logic to construct arguments, and we are cogent, balanced, and analytical. It should therefore follow that we apply these principles to everyday social thought and action. This was the view of social cognition that characterized early theorizing. This highly influential view was presented by Heider (1958), who argued that people are motivated by two primary needs: 1) the need to form a coherent view of the world and 2) the need to gain control over the environment. Heider believed that this desire for consistency and stability, the ability to predict and control, makes us behave like **naive scientists**, rationally and logically testing our hypotheses about the behavior of others. In particular, this need to **attribute** causes to effects (for example, observed behaviors and events) and to create a meaningful, stable world where things make sense was the basis for a theoretical approach that became highly influential in how social psychologists viewed social cognition. This set of ideas and models can be referred to as **attribution theory**.

Attribution theory

Heider (1958) believed that we have a basic need to attribute causality because this ascribes meaning to our world, making it clear, definable, and predictable, thereby reducing uncertainty. This need, Heider argued, is a major driving force in human social inference. A clever
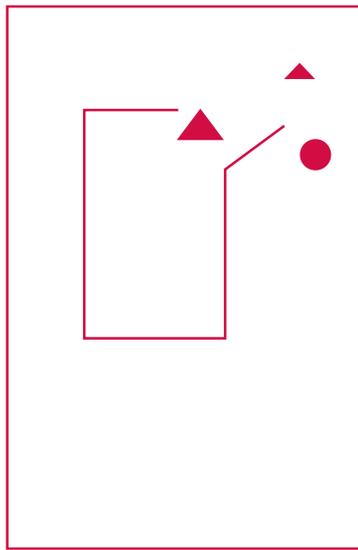
- Participants were asked to interpret a moving picture- film in which three geometric figures (a large triangle, a small triangle, and a disc) were shown moving in various directions and at various speeds in and around a rectangle which could be opened or closed with a "door".

- Out of 34 participants, only one participant described the film in geometrical terms (e.g., "A large triangle enters a rectangle and moves around."

- All other participants described the movements of actions of animate beings, mostly humans but, in two cases, as birds.

- Example response: "A man has planned to meet a girl and the girl comes along with another man. The first man tells the second to go. The second man shakes his head. Then the two men have a fight."

Figure 2.1   An illustration of the picture-film used in the Heider and Simmel (1944) study

experiment illustrated this basic need. Heider and Simmel (1944) asked participants to simply describe the movement of abstract geometric shapes. They found a general tendency to describe the movement in ways indicative of human intentions and motives (see Figure 2.1). This readiness to ascribe human intentionality to things that we know have little or no capacity for such intention is a common characteristic of how we think (just think about how people talk to their pets as if they can understand them).

Types of Attribution

This apparent desire to attribute causality was the basis for a great deal of work that attempted to model the ways in which humans try to explain the actions of themselves and others. To understand these models we first need to define different types of attribution. We can refer to this as defining the **locus of causality**.

The main distinction that can be made between types of attribution is internal-external. An **internal attribution** is any explanation that locates the cause as being internal to the person such as personality, mood, abilities, attitudes, and effort (also known as a person attribution). An **external attribution** is any explanation that locates the cause as being external to the person such as the actions of others, the nature of the situation, social pressures, or luck (also know as a situation attribution). Imagine you are in a supermarket, and at the checkout the assistant is rude to you. How do you explain his behavior? Given that you do not know him or, to be more precise, you don't have access to his thoughts and feelings, you can only infer a cause from his behavior. You might come to the conclusion that he is a rude and unpleasant person (a dispositional, internal attribution). Alternatively, you might think he is just

having a bad day – maybe he has just had an argument with his partner (a situational attri-
bution). Similarly, imagine your college professor is in a particularly good mood in class one
day – singing, joking – behavior that is definitely different from the norm. Do you think her
personality might have suddenly changed (a dispositional attribution), or would you infer
some other cause (perhaps she has just got a paper accepted to a leading journal), a situa-
tional cause. We will discuss how people arrive at either of these different types of attribu-
tion later on, but for now it is just important to note that there are fundamentally two different
ways that behavior can be explained: by internal or by external causes.

As well as this fundamental distinction between internal and external attributions, it is
possible to further sub-divide types of inference along two other independent dimensions:
stability and **controllability** (Weiner, 1982; 1986). Stability refers to the extent to which
causes are relatively stable and permanent (e.g. natural ability) versus temporary and
fluctuating (e.g. being drunk). Controllability refers to the extent to which causes can be
influenced by others (e.g. effort) versus the extent to which they are random (e.g. luck).
Together, these three dimensions appear to be the typical ways in which people explain
events (Meyer & Koebl, 1982) in both individualist and collectivist countries (Hau &
Salili, 1991). However, for our purposes, we only need to focus on the most common and
clearest distinction: internal versus external causes. How people arrive at either an internal
or external attribution is the focus of the next section.

Making Attributions

In the previous section we classified the types of attribution people can make, the conclusions
that we can arrive at when trying to explain someone else's behavior. But how do people reach
that conclusion, what are the thought processes involved? This is what social *cognition* is all
about. In this section we discuss the two main models of attribution process that emerged from
research in the 1970's: *Correspondent Inference Theory* and the *Co-variation Model*.

Correspondent Inference Theory

According to Jones and Davis (1965), when making social inferences people *try* to make a
correspondent inference. In other words, they tend to infer that the action of an actor
corresponds to, or is indicative of, a stable personality characteristic. The idea is that people
prefer internal, dispositional attributions over external, situation attributions because the
former type of knowledge is more valuable with regard to making predictions about
behavior. A dispositional attribution such as "rude" is a judgment that the person in
question has a particular set of personality attributes, which are assumed to be stable and
do not change over time. In contrast a situation attribution – such as explaining behavior
as being down to a transitory mood – is by definition a variable and changeable cause. The
former, being stable and unchanging, is a much more valuable conclusion (if valid) for pre-
dicting future behavior. For example, attributing a shop assistant's rudeness to an internal
cause – his grumpy personality – is useful because we can then assume he will always be

grumpy when we visit the shop, and so we should avoid his till. If we can find dispositional causes for behavior these help us to fulfil what Heider (1958) argued is our basic drive towards coherence and clarity, stability and a predictable world.

According to Jones and Davis (1965) we assess whether there is a correspondence between behavior and personality (i.e. arrive at a correspondent inference or, in other words, a dispositional attribution) by processing three key types of information: *social desirability, choice*, and *non-common effects*.

Social desirability information refers to whether the behavior observed is consistent with, or counter to, social norms. An internal, dispositional attribution is more likely when socially undesirable behaviors are observed. People have a tendency to go along with social norms – to adhere to the majority viewpoint – because they wish to avoid exclusion and ridicule for standing out and being different from the crowd (we discuss this normative social influence in detail in Chapter 5). As such, behavior that is socially desirable does not tell us much about people's personalities because they may simply be going along with the group norm, which may or may not coincide with their own personal point of view. In contrast, someone who exhibits socially undesirable behavior – who goes against the social norm – is much more likely to be displaying behavior that corresponds to an underlying personality trait, because the behavior cannot be attributed to the person simply conforming to the majority.

According to Jones and Davis, another type of information that social perceivers seek in order to make a correspondent inference is whether the behavior in question was freely **chosen** or not. An internal, dispositional attribution is more likely when the person being observed has *freely chosen* the given behavior. Again, this makes a lot of sense; if behavior has been freely chosen then it is much more likely to be the result of an underlying personality characteristic or attitude, rather than a result of coercion, threat, or inducements.

When a behavior has a unique consequence, rather than having a range of possible other consequences, we can refer to it as having **non-common effects**. An internal, dispositional attribution is more likely when the outcome of a behavior has a unique (or non-common) effect. For instance, a punch has really only one possible outcome so it is more likely to be attributed to an internal, dispositional cause.

Although there is some evidence to support the idea that people use these three types of information outlined above to attribute causality to others' behavior (e.g. Jones & Harris, 1967), ultimately the theory has declined in popularity due to some clear limitations. In particular, the model is limited to *single instances* of behavior and focuses on *internal attributions*. The latter point is especially important. It is very easy to think of the many times that we have put someone's behavior down to bad luck, or them having a bad day. People clearly and consistently make external attributions as well as internal. The model we turn to next directly addresses these limitations and is arguably the most influential of the attribution theories.

The Co-variation Model

Kelley's (1967) co-variation model accounts for *multiple* behaviors. Importantly, it also details the processes that result in *external* as well as internal attributions. According to Kelley, causality is attributed using the **co-variation principle**. This principle states that for something to be the cause of a particular behavior it must be *present* when the

behavior is *present* and *absent* when the behavior is *absent* (i.e., it must covary). From multiple potential causes we ascribe causality to the one that *co-varies* with the behavior to the greatest extent – acting, as Heider (1958) would say, exactly like naïve scientists.

The co-variation model states that three types of information are crucial for arriving at an internal or external attribution: *consensus, consistency*, and *distinctiveness* information. When observing someone's behavior in a particular social context, the combined impact of these three types of information will determine what type of attribution is made. **Consensus** information is the extent to which other people in the scene react in the same way as the target person. **Consistency** information is the extent to which the target person reacts in the same way on different occasions. **Distinctiveness** information is the extent to which the target person reacts in the same way in other social contexts (see Figure 2.2).

TYPE OF INFORMATION	EXAMPLE	IMPLICATION
Consensus information	**High:** Everyone is wearing a dodgy sweater	**Situation**
The extent to which the target and audience behave in the same way	**Low:** Only our professor is wearing a dodgy sweater	Disposition
Consistency information	**High:** Your professor wears the dodgy sweater in every lecturer	Disposition
The extent to which the target behaves in the same way on different occasions	**Low:** Your professor is only wearing the dodgy sweater today	Situation
Distinctiveness information	**High:** Your professor only wears the dodgy sweater in this lecture.	Situation
The extent to which the target behaves in the same way in other situations	**Low:** Your professor wears the dodgy sweater around campus.	Disposition
Note: **Dispositional attribution** Any explanation that locates the cause as being internal to the person *(personality, mood, attitudes, abilities, effort)* **Situational attribution** Any explanation that locates the cause as being external to the person *(actions of others, the nature of the situation, luck)*		

Figure 2.2   Kelley's co-variation model: Using consensus, consistency and distinctiveness information to explain why your professor is wearing a dodgy sweater

Independently, the presence or absence of each of these types of information has implications for whether a dispositional or situational attribution will be more likely. The presence of consensus information (if everyone else is behaving in the same way as the target person) implies a situational cause, whereas the *absence* of consensus information implies a dispositional cause. The presence of consistency information (the target person behaves in the same way over and over again) implies a dispositional cause, while the *absence* of consistency information implies a situational cause. The presence of distinctiveness information (the target person acts in the same way in many different contexts) implies a dispositional cause, but the *absence* of distinctiveness information implies a situational cause.

Here's an example to illustrate. Imagine you are sitting in class one day and your professor walks in wearing an unusual and particularly garish multi-colored sweater, sporting on its front a picture of a large happy badger. As naïve scientists we like to have a stable and predictable world, so you would be compelled to try to figure out why your professor has chosen to wear such a strange garment. According to the co-variation model, you would assess whether the three types of information outlined above are present or absent.

First: consensus. Is everyone wearing the same type of sweater or is it only your professor? If it is only your professor you're likely to begin to make an internal, dispositional attribution: no-one else is behaving in the same way (i.e. wearing a strange sweater), so the cause of this strange behavior is likely to be something uniquely to do with your professor, and not the situation (otherwise other people would also be affected by whatever the cause might be – such as a new fashion – and would also be wearing a dodgy sweater).

Second: consistency. Is this the first time your professor has worn this sweater, or does he do it every week? If he wears this weird sweater every week, then you're going to be even more inclined to make a dispositional attribution. If he is only wearing it this week then you might think he's having only a temporary fashion crisis – perhaps his washing machine has broken (a situational attribution) and the peculiar sweater is the only one he has left that is clean.

Third: distinctiveness. Does your professor wear this sweater in different classes? Do you see him around campus sporting similarly ill-advised sweaters? If you do, again you're going to be more inclined to make a dispositional attribution (i.e. your professor has chronic fashion problems, or perhaps an enduring badger fixation). This is because the behavior is not distinctive to the current situation (which would make it likely that it is something in the immediate context that is making your professor wear the sweater).

In sum, if your professor wears bad badger sweaters consistently over time and in different contexts, and he is the only person to be doing so, then you're going to make a dispositional attribution and conclude that he has terrible fashion sense (or a badger fixation). But anyway, enough of the authors' fashion dilemmas, back to attribution theory …

It is important to note that the pattern of presence or absence across the three types of information is not always as clear-cut as in the above illustration. The way the information is combined is not simply additive, but depends on an interaction of the different elements. The important point here is that people really are acting like *naïve scientists* if they attribute causality in this way: seeking out and assessing these three types of information, then weighing them all up to conclude either an internal or external attribution.

There is evidence that, when given all the relevant information, and the time within which to make a judgment, people can make attributional decisions in the way outlined by

Kelley's co-variation model (Kassin, 1979; McArthur, 1972). However, the model appears to be far from being universally applicable. For instance, while people do use all three types of information, they are not equally attended to (Chen, Yates, & McGinnies, 1988); people pay more attention to the target person information (consistency and distinctiveness information) than to information relating to the other people in the context (consensus information; Windschild & Wells, 1997). Perhaps more importantly, although people follow these rules and deduce causality logically in some circumstances, these appear to only be circumstances where *all* the information is laid out for participants to clearly see and when participants have the *time* to work out a likely cause in the complex way described above. However, when some information is missing (e.g. there is no distinctiveness information available), people can *still* make attributions. This implies that there are *alternative* ways in which people can make these sorts of judgments.

Summary

So far in this chapter we have seen how people can act like **naïve scientists**. We like a stable and predictable world, and explaining other people's behavior as being down to **internal, dispositional** causes or **external, situational** causes is one way of achieving this. **The correspondent inference model** proposes that people try to infer a dispositional cause for behavior because such attributions are most valuable for making predictions. Three types of information are relevant here: whether the behavior in question is **socially desirable**, **chosen or non-chosen**, and has a **unique** effect. However, this model is limited in focusing only on dispositional attributions. The co-variation model is more flexible, able to account for both internal and external attributions. According to Kelley's **co-variation model**, people combine **consensus**, **consistency** and **distinctiveness** information to arrive at an internal or external attribution.
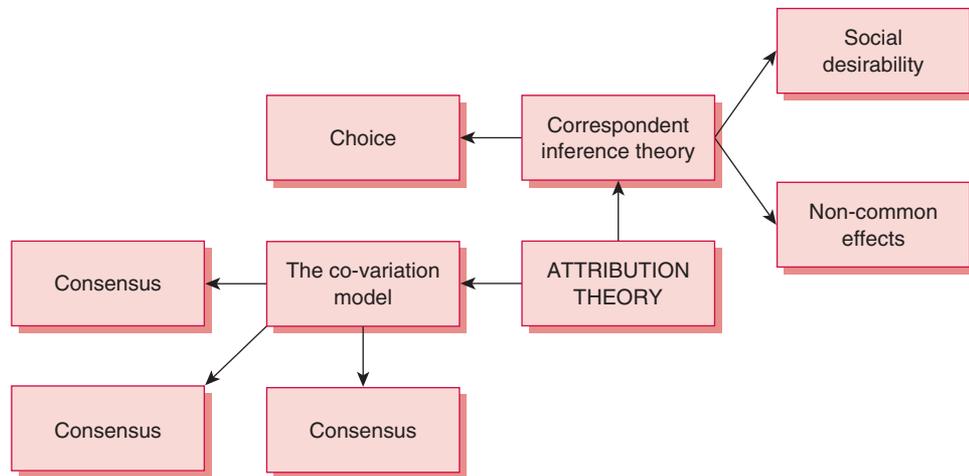

Figure 2.3   Memory Map

Attributional Biases

Kelley's model is an *idealized* account of how people make causality judgments. People can, but often do not, look for and combine the three types of information outlined above. Can any of us say we routinely perform the sorts of complex, attention-demanding calculations that are required by the co-variation model? Rather than being such logical and rational creatures, it feels more like we often make assessments about other people by things like "gut feeling" and "intuition". Certainly, we don't always spend much time or effort arriving at many of the impressions we form about people we meet on a daily basis.

The idea that we take shortcuts in social judgment, rather than always going through complex processes like that outlined above, began to gain weight when attribution researchers started to observe a number of systematic "errors" people were making when asked to make assessments of causality in psychology experiments. These errors or biases were not random, but appeared to be made with such regularity as to suggest the existence of alternative psychological strategies being engaged. In the next section we'll document some of these biases. This will lead us to an important shift in theorizing that arose from dealing with the shortcomings of the naïve scientist account.

Attributional biases describe the tendency in particular contexts to make one type of attribution – internal or external – over another. The attributions made in this way are not necessarily wrong, but they are made in a much quicker and less careful way than the elaborate processes detailed by the models discussed in the previous section. We will here consider three of the most documented biases: *the fundamental attribution error, the actor-observer bias*; and *self-serving attributions*.

The Fundamental Attribution Error

All other things being equal, people have a general tendency to make *internal* rather than external attributions, even when there are clear potential situational causes (Ross, 1977). The error is illustrated in a study by Jones and Harris (1967). Participants were instructed to read essays that had been written by fellow students and that were either pro- or against Fidel Castro's rule in Cuba. Participants were told that the writers had either chosen the essay topic themselves, or had been told which one (pro- or anti–Castro) to write by the experimenter. Participants were subsequently asked to guess what attitude the person who had written the essay had towards Castro. In the choice condition participants reasonably assumed the writer had written an essay that reflected their own opinions. However, participants *also* thought the essay reflected the writer's true opinion in the no-choice condition. In other words, even though there was a clear contextual cause for the behavior observed (the experimenter's instruction to write one essay or another), which should logically reduce the probability that the essay reflected the writer's own attitude, participants still made an internal attribution. They paid no attention to the possible discounting information and assumed the essay reflected the writer's opinion (see Figure 2.4).
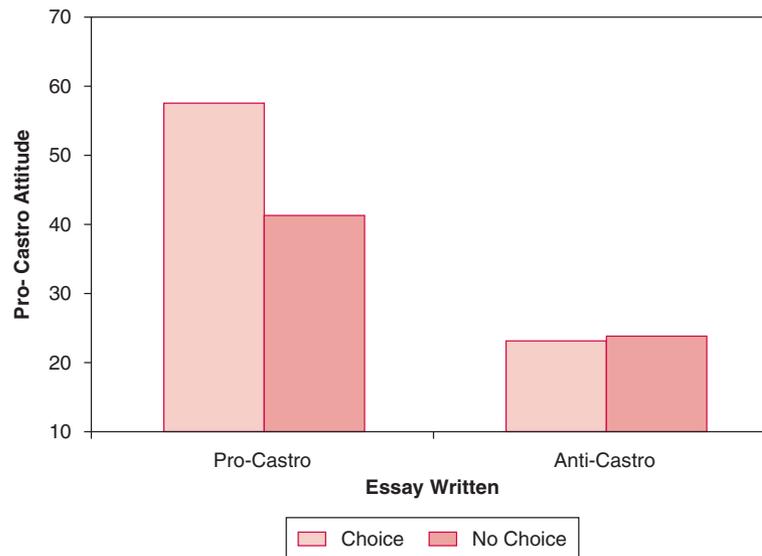
Figure 2.4   The fundamental attribution error. Data from Jones and Harris (1967)

The reason why the fundamental attribution error occurs appears to be **perceptual salience**. The person being observed is the most perceptually salient aspect of the situation (i.e. moving, talking, etc.) and so an internal (person) attribution becomes much more accessible (Taylor & Fiske, 1975). What is important to note here is that something much simpler (i.e. what appears to capture attention the most) determines the social judgment, not a complex naïve scientist-like thought process. The idea that people use simple rules of thumb such as perceptual salience to arrive at social judgments is reinforced by the observation of another attribution bias, the actor-observer bias.

The Actor-Observer Bias

Let's go back to our irritable shop assistant. In this scenario, in line with the fundamental attribution error, we would be likely to conclude a dispositional attribution, and decide that the shop assistant was simply not a nice person. But imagine a time before when you have been rude to someone. On this basis do you consider yourself a rude and unpleasant person? Probably not. You probably consider yourself to be a nice person who was rude because of a specific (external) – and justifiable – reason, for example stress from work pressures. This tendency to attribute other people's behavior to *internal* causes and our own behaviors to *external* causes is called the actor-observer effect (Jones & Nisbett, 1972).

Storms (1973) carried out an experiment that neatly illustrated this bias. In an apparent "conversation task" two participants were allocated to observer roles and two as actors who would simply have a five-minute conversation with each other. In a subsequent phase participants were required to attribute causality (that is, judge whether the opinions expressed reflected the speakers' stable personality or some other contextual determinant). Storms found that observers emphasized *dispositional* factors when explaining the actors' behaviors, while actors emphasized *situational* factors when explaining their *own* behavior. The explanation for this is again *perceptual salience*. The actors' attention was directed away from themselves; they were looking at the situation. Correspondingly, this made a situation attribution more salient or accessible to them. Observers' attention was focused on the actor, making an explanation focused on the actor – an internal, dispositional attribution – more salient or accessible. Further support for the idea that it was simply perceptual salience that was driving these effects comes from the observation that the actor-observer bias was reversed when the actors were shown videotapes of their *opposite perspective* before making attributions. When the actors saw their own faces during the task, their attention shifted to be focused on themselves and not the situation, which led to them making an internal attribution.

Self-Serving Attributions

As well as cognitive-perceptual processes providing an inferential shortcut in attribution judgments, motivations can also bias attributions. Imagine you do well in your social psychology exam. Are you likely to attribute your success to luck, a fluke, or are you likely to feel quite proud, and attribute your success to the effort you put in? According to the self-serving attribution bias it's the latter. Olson and Ross (1988) argue that we are more likely to make internal attributions for our successes (e.g., "I'm intelligent") and external attributions for failures (e.g. "it was a particularly hard exam") because making attributions in this way protects and maintains our **self-esteem**. Internally attributing success and externally attributing failure both boosts our feelings of self-worth and protects us from feeling bad when we don't do well. This type of bias can also work at a group level; we tend to attribute our group's successes to internal factors and other group's successes to external factors (Hewstone, 1990). Such group-serving attributions help to bolster the positive view we hold of the groups we belong to (relative to other groups), and therefore help us to feel good by association. In Chapter 6 we'll see how such own-group bias can contribute to prejudice and discrimination between groups.

Summary

People have a basic desire to make sense of the world, to understand it and to be able to predict what will happen. In order to satisfy this desire people make **attributions** – they try to work out cause and effect, they operate like **naïve scientists**. People can be rationale and logical in making social inferences. They can look for information relating to **consensus, consistency** and **distinctiveness**, they can combine these sources of information

```
┌─────────────────┐        ┌─────────────────┐        ┌─────────────────┐
│   ATTRIBUTION   │───────▶│  ATTRIBUTIONAL  │───────▶│   Self-serving  │
│     THEORY      │        │      BIASES     │        │   attributions  │
└─────────────────┘        └─────────────────┘        └─────────────────┘
         ▲                          │
         │                          ▼
┌─────────────────┐        ┌─────────────────┐
│     SOCIAL      │        │       The       │
│    COGNITION    │        │   fundamental   │
│                 │        │   attribution   │
└─────────────────┘        └─────────────────┘
```
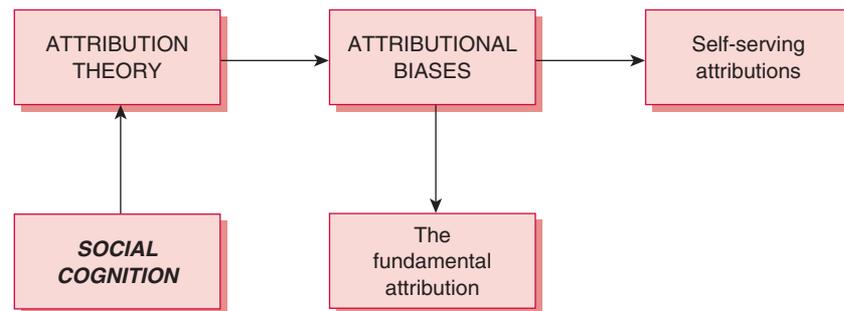
Figure 2.5 Memory Map

in complex ways, and they can arrive at an **internal** or **external** attribution. However, people do not always engage in such a complex, effortful, and time-consuming process when making social judgments, as the observation of biases in attribution shows us. The **fundamental attribution error** shows how we are typically inclined towards making an **internal**, dispositional attribution, at least with respect to others' behaviors. For our own behavior, however, we tend to make **external**, situation attributions (**the actor-observer bias**). The explanation for these biases is that people sometimes tend to rely on simpler cues for making attributions, like **perceptual salience**. This is much simpler than those complex processes outlined by **correspondent inference theory** or the **co-variation model**.

The observation of documented attributional bias is critical to how psychologists' under-standing of social inference built upon the early work on attribution theory. It became clear that people are not *always* naïve scientists, but that sometimes they just do not want (or cannot) engage in the long, time-consuming complex processes that were specified by early attribution models. It appeared that a new perspective was needed to understand the social cognition of the social perceiver, and it is this perspective that is the focus of the next section.

The Cognitive Miser

Far from being naïve scientists, rationally and logically devoting our time and cognitive effort to analysing our social worlds, Fiske and Taylor (1991) argued that we are quite the opposite, that in fact we are **cognitive misers**. As cognitive misers we are reluctant to expend cognitive resources and we look for any opportunity to avoid engaging in the sort of effortful thought that the attribution models of Jones and Davis (1965) and Kelley (1967) proposed. According to Fiske and Taylor our mental processing resources are highly valued, so we engage in numerous ways to save time and effort when trying to understand the social world. In this next section we will discuss some of the ways in which

we do this and illustrate how people can be remarkably adept at making reasonably accurate inferences without having to engage in a great deal of cognitive processing.

Heuristics

People save time and effort in making judgments by using **heuristics** (Tversky & Kahneman, 1974). Heuristics are timesaving mental shortcuts that reduce complex judgments to simple rules of thumb. They are quick and easy, but can result in biased information processing (Ajzen, 1996), which is one of the ways of identifying that they have been used instead of more time-consuming, but more accurate, strategies. Below we outline two of the most commonly used types of heuristics: *representativeness* and *availability*.

The Representativeness Heuristic

The **representativeness heuristic** is the tendency to allocate a set of attributes to someone if they match the prototype of a given category (Kahneman & Tversky, 1973). It is a quick-and-easy way of putting people in to categories. For instance, if you arrive at a hospital in need of help, you'll look for the person wearing a white coat and stethoscope, because these specific attributes indicate that the person is (representative of) a doctor. Similarly, when you enter your lecture class you might very quickly identify your professor as being the one with the dubious fashion sense and slightly unkempt looking hair. Later on we will talk at greater length about the use of representativeness information in the context of *social categorization*, but for now it is important to note one important drawback of using this mental shortcut. While assessing representativeness to a category prototype may often be a good way of making inferences about someone, like any heuristic it is prone to error. In particular, there is the **base rate fallacy**, which is the tendency to ignore statistical information (base rates) in favor of representativeness information. For example, even if you told someone that gender is uncorrelated with managerial and administrative roles in some corporation (i.e. that there are an equal number of men and women at different levels of power), they would probably still be more likely to attribute more of the managerial (high power) roles to men than women, because such roles are more representative of men than women.

The Availability Heuristic

The **availability heuristic** is the tendency to judge the frequency or probability of an event in terms of how easy it is to think of examples of that event (Tversky & Kahneman, 1973). It is related to the concept of **accessibility**, which is the extent to which a concept is readily brought to mind (see Chapter 3 on attitudes). The difference is that availability can refer to one's subjective experience of accessibility – the awareness that something is accessible – whereas accessibility is typically regarded as an objective measure of how quickly something can be brought to mind, without explicit awareness being a necessary component.

The availability heuristic can be illustrated with varied examples from everyday life. For instance, you might feel more trepidation about taking a flight if you have just heard about
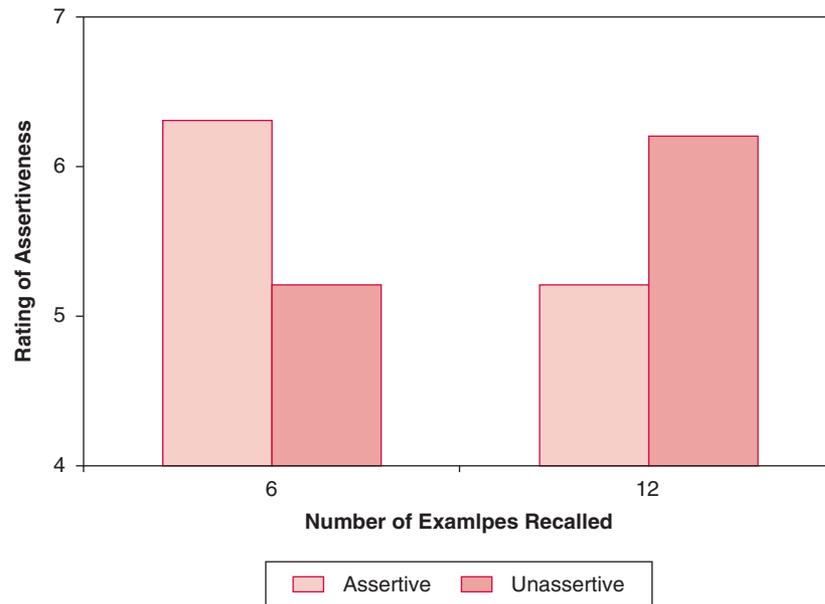
Figure 2.6   Evidence for the availability heuristic. Data from Schwartz et al. (1991)

a horrific plane crash. In this example, your assessment of how likely it is that the plane journey will be a safe one will be influenced by the availability of information to the contrary. A neat experiment illustrates this heuristic. Schwarz and colleagues (1991) asked participants to recall 12 or six examples of when they had been either assertive or unassertive. After having completed this task participants were then asked to rate their own assertiveness. Counter to what one might logically expect, participants who recalled six examples of their own assertive behavior subsequently rated themselves as *more* assertive than people who had recalled 12 examples of their own assertive behavior. The same effect occurred for people who recalled examples of unassertive behavior: those who recalled six examples of unassertive behavior rated themselves less assertive (more unassertive) than those who recalled 12 examples of unassertive behavior, see Figure 2.6.

These findings are really quite different from what one might expect. Surely someone who can recall more examples of assertive behavior should regard themselves as *more* assertive than someone who can only recall a few examples. Similarly, someone who can recall more examples of when they have been unassertive should logically then rate themselves as *more* unassertive. In contrast, the more examples of assertive or unassertive behavior people were asked to generate, the less assertive or unassertive respectively they perceived themselves to be.

The explanation for this effect lies with the availability heuristic. The key is in thinking about how easy or difficult the task might be to people. On average people don't normally

spend much time listing the number of times they are assertive or unassertive in their lives. As such, being asked to list assertive or unassertive behaviors might be something they are not used to and, one imagines, is a task that gets more difficult after the first two or three examples that come to mind. We can assume that being asked to recall 12 examples of assertive or unassertive behavior would be more *difficult* that being asked to recall six examples of assertive or unassertive behavior. While doing this task, it is therefore reasonable that people recognized that they were finding it difficult to come up with examples of assertive or unassertive behavior after the first few that came to mind, and that this realization should be much greater when participants had to labor on and come up with 12 examples. As they tried to think of 12 examples of behavior, participants will have eventually become aware that such examples were not coming easily to mind. In other words, there were no more examples *available* to them. They therefore concluded that they must not be particularly assertive or unassertive (depending on what type of behavior they had been instructed to generate). In sum, it seems that people attend to the *difficulty* of retrieving instances of certain behaviors and not just the content.

The False Consensus Effect

The availability heuristic is an important explanatory mechanism that we will see again several times in the course of this book. It is also responsible for a highly robust bias called the **false consensus effect** (Gross & Miller, 1997). This is the tendency to exaggerate how common one's own opinions are in the general population.

Ross, Greene, and House (1977) illustrated this effect by asking participants whether they would walk around campus for 30 minutes wearing a sandwich board advertising a cafeteria. Whether they agreed or not, the experimenter then asked them how many other students asked would make the same choice as they did. Ross et al. found that whatever choice the participant made, they estimated that the *majority* of other people would agree with them and make the same choice. Clearly, this consensus estimate is not objectively possible. If, for example, 70 per cent of people support one political party, then 30 per cent must not – you cannot have 50 per cent of people *not* supporting this party. There must therefore be a *false consensus,* whereby people believe that everybody usually agrees with them. The *availability heuristic* provides the explanation for the false consensus effect. Our own self-beliefs are easily recalled from memory, making them most available when we are asked to judge whether others agree with us. This makes it likely that our judgments of others' attitudes and opinions will, at least to some extent, be influenced by our own.

The Anchoring Heuristic

It is often the case that a distinction is made between the availability heuristic and another called the **anchoring heuristic.** Anchoring is the tendency to be biased towards the starting value (or anchor) in making quantitative judgments (Wyer, 1976). There have been a number of illustrations of this effect. Plous (1989) carried out a survey during the Cold War in which he asked the same question in two slightly different ways. For half of the

participants he asked whether they thought there was a greater than 1 per cent chance of a nuclear war occurring soon, and for the other half he asked whether they thought there was a less than a 90 per cent chance of a nuclear war occurring soon. Both questions asked for a quantitative estimate of probability, so one imagines how the question asked should not have an impact on the judgments made. In fact, there is quite a considerable effect of the anchor provided in the question. Participants who received the 1 per cent question anchor estimated a 10 per cent chance of a nuclear war occurring, while those who received the 90 per cent anchor estimated a 25 per cent chance of a nuclear war occurring. A similar effect was observed by Greenberg et al. (1986), who found in a mock jury study that participants asked to consider first a harsh verdict were subsequently harsher in their final decision than participants asked first to consider a lenient verdict.

In sum, it appears that our judgments on a range of issues are significantly influenced by the point at which we start our deliberations. While the anchoring heuristic has often been considered to be distinct from the availability heuristic, in essence it comes down to the same psychological mechanism. The starting point or anchor exerts an impact on judgment because it is the most available source of information relevant to the issue at hand. Either way, this bias has some clearly important implications for a range of social contexts from the way in which lawyers structure questions in the courtroom (to elicit particular answers), to the way that opinion pollsters gauge attitudes.

The Motivated Tactician

In this section we have seen how heuristics are sometimes used in social judgment over and above more rational, logical, but time-consuming ways of thinking. In other words, people can sometime be *cognitive misers* rather than *naïve scientists*, preferring ease and speed over accuracy.

As we noted above in our discussion of attribution theory, participants can and do use the complex systems outlined by models proposed by Jones and Davis (1965) and Kelley (1967), but this only appears to be the case under certain conditions. Other times people seem to revert to making quick and easy judgments using mental shortcuts like availability or representativeness, or relying on simple cues like perceptual salience (which can also be considered a type of availability). These heuristic shortcuts are much less accurate than using more rational, logical modes of thought, but they do approximate a response that is often within acceptable parameters. So what determines whether people will adopt one of these strategies over the other? When are people naïve scientists and when are they cognitive misers?

According to Kruglanski (1996) people are *flexible* social thinkers who choose between multiple cognitive strategies (i.e. speed/ease vs. accuracy/logic) based on their current *goals, motives,* and *needs.* Kruglanski argued that people are neither exclusively cognitive misers nor naïve scientists, but in fact **motivated tacticians**. Put another way, people are strategic in their allocation of cognitive resources and as such can decide to be a cognitive miser or a naïve scientist depending on a number of factors. Macrae, Hewstone, and Griffiths (1993)
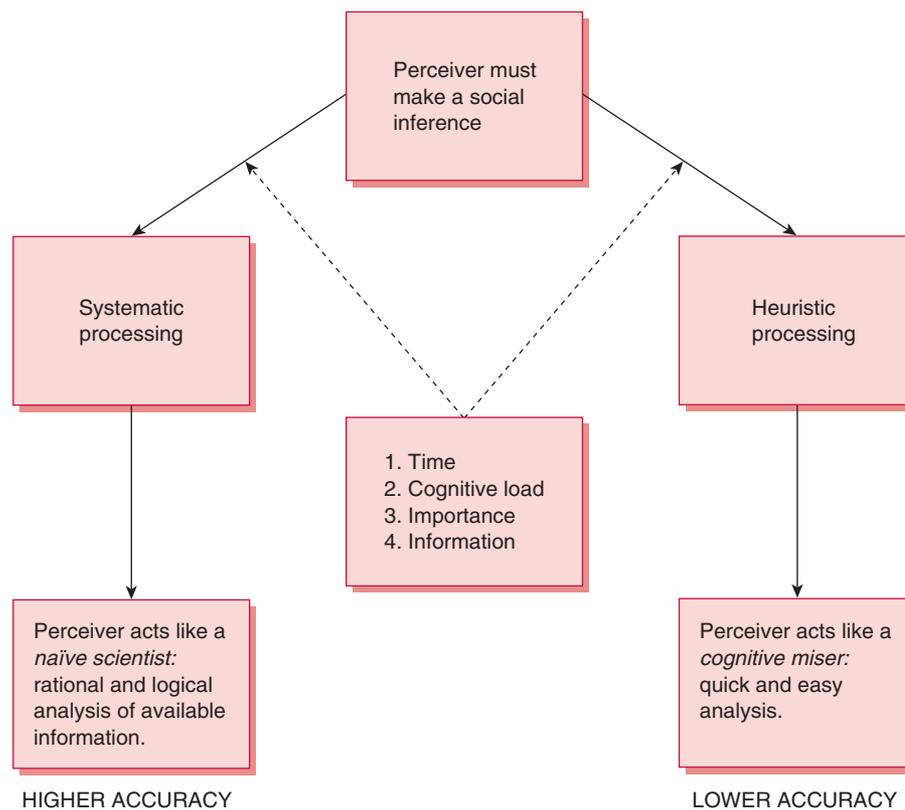
Figure 2.7 The motivated-tactician: conditions of heuristic versus systematic processing

outline a number of factors that determine whether people will adopt logical, rationale, and time-consuming processing strategies in social inference, or whether they will go for a quick and easy, but quite possibly adequate, solution (see Figure 2.7).

First, people will be more likely to be a cognitive miser when they are short of **time**, than when they have plenty of it. This makes sense. Heuristics are quick and easy, they save time, therefore, when we have to make a quick decision. So although it is less accurate, heuristics may be the best option open to use in order to make a judgment that at least approximates an adequate response. Second is **cognitive load**. Heuristics do not require much thought – they can be made off the cuff, simply made from a "gut instinct" or intuition (or, what we would *now* call, availability). In contrast, the naïve scientist approach requires a lot of thought, analysis, and contemplation. If we are busy with lots on our mind, we're unlikely to devote much time to social perception, and are much more likely to use

heuristics because, again, they approximate a right answer without having to give the issue at hand much thought. Third is **importance**. Heuristics are useful for providing estimates, but they cannot match more logical, rational, and detailed analyses. If a decision we have to make is important to us (e.g. whether to go for that new job) then we are much less likely to use a heuristic and much more likely to be a naïve scientist. Fourth, and final, is **information** level. As we noted in our discussion of attribution theory, people can and do make use of complex attribution rules in forming impressions, combining consensus, consistency, and distinctiveness information in elaborate ways, but *only* when they have all the necessary pieces of information. If we don't have all the facts then sometimes it is simply impossible for us to be naïve scientists; we may simply not have enough information to be able to rationally and logically make a detailed analysis of the issue at hand. In such situations the only recourse is to use a heuristic shortcut to approximate the correct response.

Summary

What do we know so far about social cognition? We have seen how people can be **naïve scientists** and engage in complex attribution calculations based on combining information relating to **consensus**, **consistency** and **distinctiveness**. But we have also seen how in many cases people do not use these complex rules, and do not go through an elaborate process when forming an impression of others. Instead a number of attribution "errors" are apparent, such as the **fundamental attribution error, the actor-observer bias**, and **self-serving attributions**, all of which indicate a reliance on more basic information, for example external cues like **perceptual salience**, and internal motivations like **self-esteem** maintenance. This reliance on simple cues to make quick and easy judgments is indicative of a different approach to social inference, the **cognitive miser** perception. Cognitive misers use a number of heuristics to short-cut long and elaborate mental processes. These include the **representativeness** and **availability** heuristics, which can lead to biases like the **false consensus effect** and the **anchoring** of quantitative judgments. There are a number of factors that determine whether we use these heuristic or systematic strategies of social inference, whether we act like naïve scientists or cognitive misers. In fact we are more like **motivated tacticians**, choosing between **ease** and **speed** and **accuracy**, depending upon things like **time, cognitive load, importance** and the amount of **information** available.

From what we have discussed so far it is clear that we use heuristics routinely and consistently. Just think for a moment. In your daily life how often do you have plenty of *time*, have *nothing else* to think about, regard every issue as *important* and self-relevant, and have all the *information* needed to make a detailed analysis? Not that often. Heuristic thought is used a great deal in social perception. In this second half of the chapter we move on to consider a unique heuristic that has received considerable attention from social psychologists because it is particularly important for understanding how people think, feel, and behave. It is a heuristic that defines attitudes and social behavior, and a heuristic that we will see time and again throughout this book: *social categorization*.
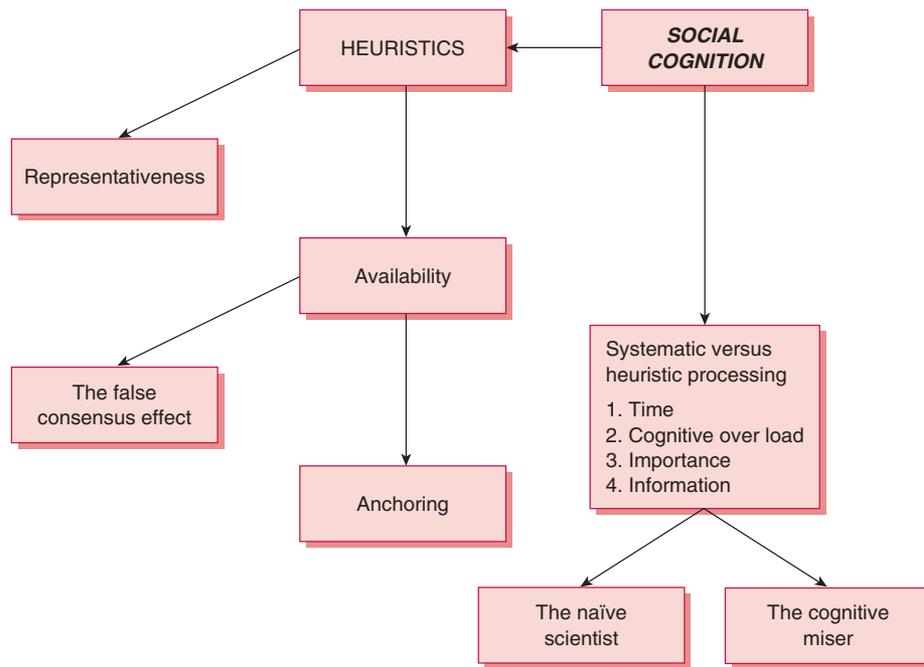
Figure 2.8   Memory Map

SOCIAL CATEGORIZATION

Basic Principles

Before considering some of the characteristics of **social categorization** as a heuristic, let us first define exactly what categorization is. Categorization is "the process of understanding what something is by knowing what other things it is equivalent to, and what other things it is different from" (McGarty, 1999: 1). This definition captures the key qualities of categorization that will be important in this chapter and others in the book. Categorization is a way of classifying some collection of objects, events, opinions, attitudes, concepts or people. It is a way of labelling some group of things as being all related to each other in some way, all linked and interconnected to a greater or lesser extent (e.g. "dogs", "furniture", "weather", "women", "World War 2", "vegetables", "manchester united"), and a way of comparing one thing to another (e.g. "British" versus "French", "dogs versus cats", "rock" versus "pop").

The way that researchers have conceptualized categorization has evolved over time. The view used to be that there was a precise definition of category boundaries (Smith & Medin, 1981). Bruner, Goodnow, and Austin (1956), for instance, postulated that category

membership was determined via defined features (i.e. an animal with three body divisions, six legs, an external skeleton, and a rapid reproductive system is therefore an insect). If just one of these attributes was missing the animal was quite simply something else.

It soon became clear, however, that a rigid system of all-or-nothing categorization does not capture the flexibility and fluidity of human perception. Many categories have uncertain or **"fuzzy" boundaries** (Rosch, 1978) and do not fit in with a strict classification system (e.g. a dog is more "pet-like" than an iguana, despite having the same "pet" attributes). A more flexible view of categorization argues that it is not defined attributes that determine category membership, but members can be more or less *typical* of a category (Labov, 1973). Importantly, typicality is variable; group members can be highly typical or highly atypical of a category. What defines typicality is the prototype of the category. **Prototypes** are the most representative members of a category (Barsalou, 1991); categorization of less typical members may be slower or prone to error because they are less *available.* In other words, we can conceptualize the extent to which a category member is prototypical of that category to the extent that it is easy to bring to mind. Think for a moment about an item of fruit. We bet you thought of an apple or an orange (for 99 per cent of you at least). We're pretty certain you did not think of a kiwi fruit, and almost certainly not a tomato. Apples and oranges are highly prototypical of the category "fruit", and are easy to bring to mind. In contrast, kiwi fruit and tomatoes, while still members of the fruit category, are quite atypical, and so are brought to mind far less easily. The high probability of people bringing prototypical group members to mind when categorizing others can lead to errors. The prototype of the category "engineers", for instance, is a male, which may lead to errors in categorization when encountering a female engineer.

Category content

So categories are defined by prototypes. When we are dealing with social categories, we can refer to prototypes as **stereotypes**. But how do prototypes and stereotypes form in the first place? Why do we come to perceive some characteristics as typical of certain categories and some not? Social learning and exposure clearly play a role (we discuss these in more detail below). But there is another way in which specifically *negative* stereotypes can come to be associated with *minority* groups. This is something called the **illusory correlation**. Illusory correlation describes the belief that two variables are associated with one another when in fact there is little or no actual association (Hamilton & Gifford, 1976). In their classic experiment, Hamilton and Gifford asked participants to read information about people from two made-up groups, group A and group B. Twice as much information was provided about Group A (the majority) than Group B (the minority). In addition, twice as much of the information provided for both groups involved desirable behaviors rather than undesirable behaviors.

Despite there being no *actual* correlation between group membership and the proportion of positive or negative information provided, in a subsequent phase where participants were asked to attribute the behaviors they had seen to the two groups, more of the undesirable negative behaviors were attributed to Group B, the minority group, than Group A, the majority

group. Participants therefore perceived an illusory correlation – they believed that negative behaviors were more characteristic of the smaller group than the bigger group.

Hamilton and Gifford explained this effect with reference to the notion of **shared distinctiveness**. Half as many total behaviors were used to describe the minority group compared to the majority group. There were, overall, half as many negative behaviors as positive behaviors. Because both the minority group characteristics and negative characteristics were relatively *infrequent*, both were distinctive and stood out. Consistent with the use of the *representativeness* heuristic, the low number of negative behaviors came to be seen to be representative of the smaller group. These findings show how heuristics can, in some part, account for the development of negative stereotypes that come to be regarded as stereotypical of minority groups.

Category structure

As we discussed above, categories are defined by prototypes. Prototypes are a representation of the most typical member of the category – the easiest example to bring to mind or the most available. However, as Rosch (1978) noted, categories have fuzzy boundaries, and if categorizing someone depends upon assessing their *representativeness* to the prototype then category structure needs to reflect this variability in typicality. Categories do indeed vary not only in content, but also in *structure* – in terms of the degree of intra-category variability. When the category is **heterogeneous** it is perceived to be made up of many different sorts of people. When it is **homogeneous** it is perceived to be made up of only a few types of people who are all very similar to each other.

In Chapter 6 we will discuss how categorizing people into ingroups and outgroups leads to an attenuation of intra-category variability, but here it is just important to note that on average this tendency to perceive group members as all similar to each other in intergroup contexts appears to be more apparent in the way we think about *outgroups*, compared to the way we think about ingroups, a tendency referred to as the **outgroup homogeneity effect** (OHE; Jones, Wood, & Quattrone, 1981). This effect is not only revealed in simple variability judgments (e.g. Park & Judd, 1990) but also perceptual judgments. Shapiro and Penrod (1986), for instance, found that white people found it difficult to tell Japanese faces apart, and Japanese people found it difficult to tell white faces apart. The outgroup homogeneity effect is also apparent in terms of how people structure their memory for groups. People simply remember *more* about someone they encounter from their own group than from another group (Park & Rothbart, 1982; see Figure 2.9).

There are several explanations for the OHE. The first, and most obvious, is that we have a more detailed and varied impression of our own social category compared to others because, quite simply, we have more experience of people within our own category – we are more **familiar** with them (Linville, Fischer, & Salovey, 1989). For example, you are probably able to think about more different types of people who attend your social psychology class than people who attend the engineering class down the hall. Although this seems reasonable it cannot, however, be the whole story. First, the OHE is observed for groups that people should have equal levels of exposure to, such as gender (Crisp &
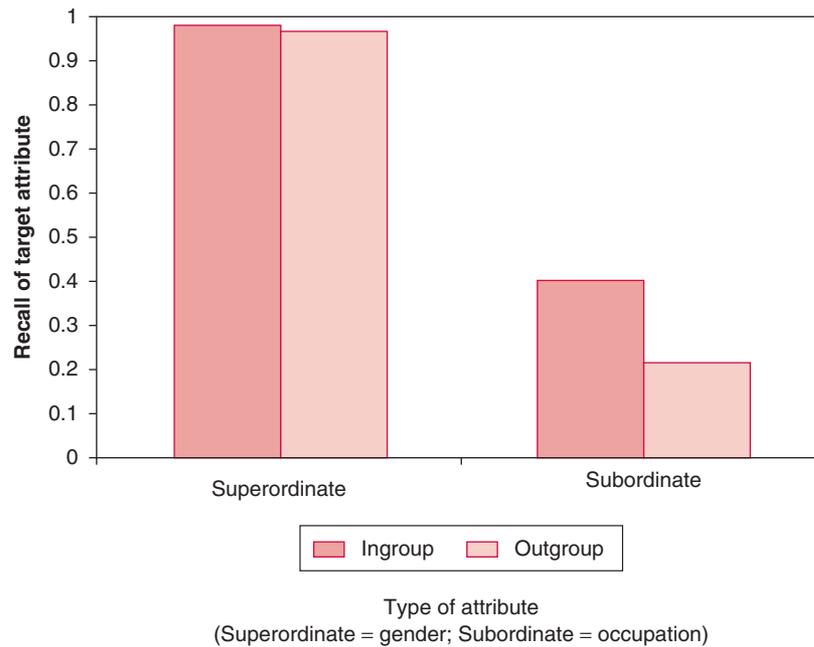
Type of attribute
(Superordinate = gender; Subordinate = occupation)

Figure 2.9   Memory for category labels and more detailed information as a function of ingroup or outgroup membership. Data from Park and Rothbart (1982).

Hewstone, 2001; Park & Rothbart, 1982). Second, the OHE is observed even for artificial groups created in the laboratory (Wilder, 1984), where there is no prior contact and even when group membership is totally anonymous. Finally, with increasing ingroup familiarity the OHE should increase, but often it does not (Brown & Wootton-Millward, 1993).

Why Do We Categorize?

So we know what categories are, what they contain, and how they are structured. But why would we want to use them? Categories are in some ways the ultimate heuristic. They can be applied to all aspects of our lives, from the food we buy in supermarkets, through to whether we like pubs or clubs, café's or restaurants, what careers we chose, where we live and what we wear. In all of these cases categorization does two things. First, it saves us time and cognitive processing; it allows us to be a cognitive miser (Fiske & Taylor, 1991). Stereotyping is fast and provides a lot of information about people we do not know (Gilbert & Hixon, 1991), thereby *freeing up* cognitive resources for other tasks (Macrae, Milne, & Bodenhausen, 1994). Expending cognitive resources as cheaply as possible

enables more pressing concerns to be dealt with (Gilbert, 1989). Second, categorization clarifies and refines our perception of the world. Once a category is activated we tend to see members as possessing all the traits associated with the stereotype (Wyer, 1988). As such, categorization provides *meaning* (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), it reduces uncertainty (Hogg, 2000), and helps us to predict social behavior (Heider, 1958), providing prescriptive norms for understand ourselves in relation to others (Hogg, 2002).

When Do We Categorize?

Given that categorization is a type of heuristic, allowing us to conserve cognitive resources and act like a cognitive miser, the four conditions of heuristic use that we have discussed earlier should all encourage the use of categorization as a way of forming a quick and easy impression of a person (i.e. when we are short of time and cognitive resources, the person is not important to US, and there is little information available).

There are, however, several factors that tend to evoke the use of categorization even if we don't consciously *choose* to employ it as a strategy of social inference. Put another way, sometimes we are not motivated tacticians, but we will be compelled to categorize without realizing it. There are three key factors that determine whether a category will be activated without our awareness. These are **temporal primacy** (we categorize on the basis of the features we encounter first; Jones & Goethals, 1972), **perceptual salience** (when difference become salient, e.g. the sole male on a room of females; Taylor et al., 1977), and **chronic accessibility** (categorization in terms of some categories – race, age, gender – is so common that it can become automatized; Bargh & Pratto, 1986; Fiske & Neuberg, 1990). Interestingly, even when we are trying our hardest not to use categories to think about other people, ironically, this can lead us to use them even more without knowing it. This is because the very act of trying to suppress a category stereotype means we have to first, on some level, think about it. We discuss evidence for this stereotype suppression and rebound effect in Text Box 2.1.

TEXT BOX 2.1

When Stereotypes Rebound

We are always thinking of things that we probably shouldn't be thinking about. We might, for example, have the desire to tell a disliked work colleague what we *really* think of them or be tempted to eat fried bacon and eggs for breakfast even though we are trying to lead a healthy lifestyle. We often deal with these types of situations by actively pushing unwanted thoughts out of our mind. However, a series of studies (e.g. Wegner, 1994) showed that trying to suppress such thoughts can, ironically, increase the extent that those thoughts spring to mind once we stop actively trying to suppress them. Macrae, Bodenhausen, Milne, and Jetten (1994) investigated the use of suppression as a strategy to avoid using stereotypes.
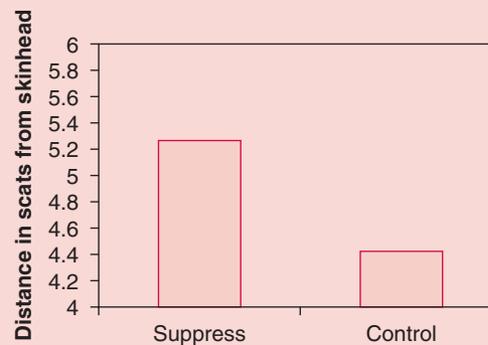
TEXT BOX 2.1   (CONTINUED)

STUDY 1: THE EFFECT OF STEREOTYPE SUPPRESSION ON STEREOTYPING

Undergraduate students were shown a photograph of a male skinhead and were asked to spend 5 minutes writing a paragraph about a typical day in the life of that individual. In the *suppression* condition, participants were asked to actively avoid trying to think about the person in the photo in a stereo-

typical manner, whereas in the *control* condition, participants were given no such instructions. After this initial task, participants were then asked to write a second paragraph about a different male skinhead, but this time without being given any explicit instructions.

In the first passage, participants who had been asked to suppress stereotypes appeared to do so effectively, writing significantly less stereotyped paragraphs than

participants in the control condition. However, suppressors showed significantly *more* stereotyping than control participants when writing the second paragraph.
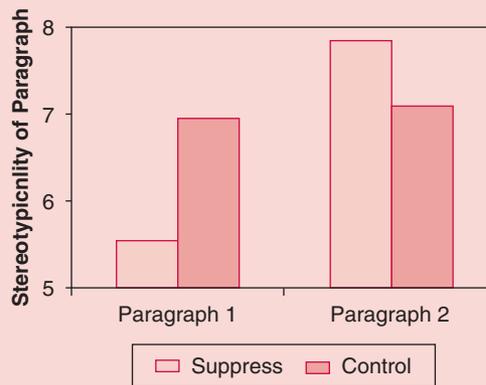
STUDY 2: THE EFFECT OF STEREOTYPE SUPPRESSION ON BEHAVIOR

Study 1 revealed that suppressors show more stereotyping than non-suppressors once they were no longer actively trying to suppress their stereotypes. But does this have implications for *behavior* towards members of stereotyped groups? In a second study, participants were once

again instructed to either suppress stereotypes or not while writing a paragraph about a skinhead. This time, after writing the paragraph, they were taken into a different room ostensibly to actually meet the skinhead in the photograph (although this was not, in fact, going to happen). In the room, there was a row of eight chairs, and on the first chair, there was a bag and jacket. The researcher remarked that they belonged to

(Continued)

TEXT BOX 2.1   (CONTINUED)

the person in the photograph, who would return in a moment, and that the participant should sit down and wait for his return.

Participants who had suppressed their stereotypes in the paragraph showed more discriminatory behavior, sitting further away from the skinhead's chair than those who had not suppressed their initial stereotypes.

INTERPRETING THE FINDINGS

To suppress a stereotype, it is necessary to conduct a monitoring process, scanning consciousness for any trace of the stereotype. This has the unfortunate consequence of actually *increasing its accessibility*. As a result, when an individual is no longer actively trying to suppress their stereotype, encounters with someone who is a member of the stereotyped category will result in greater stereotyping and stereotype-consistent behavior than if no attempt had been made to suppress the stereotype.

Most people know that stereotypes – particularly negative ones – are socially unacceptable and attempt to avoid using them.

In sum, the important thing to note here is that we do not always choose to employ a heuristic over a systematic strategy. Instead, something like perceptual salience (which we also discussed earlier) can sometimes mean categories affect our judgments of others without us even realizing it. We discuss these implicit effects on impression formation in more detail in Chapter 6.

Consequences of Categorization

Categorization typically leads to heightened accessibility of **stereotype consistent** information and selective encoding of subsequently acquired target information. Cohen (1981), for instance, showed participants a videotape of a woman having a birthday dinner. Participants were told that she was either a waitress or a librarian. In the former case, participants subsequently had better recall for seeing the woman on the videotape *drinking beer* (behavior associated more with the category *waitress*). In the latter case participants subsequently had better recall of the woman *wearing glasses* (behavior associated more with the category *librarian*). This illustrates how stereotypes can influence our attention and what we remember from any social scene. For both groups of participants the videotape was the same, but simply being told that the person they were about to see was a either a librarian or waitress led participants to remember what they saw in a completely different way. The categorization information made them evaluate the scene through two alternative lenses.

Categorization and prejudice

These stereotype-consistent biases do not only apply to relatively neutral categories like "librarian" but also to more important social distinctions, such as those formed on the basis of race or ethnicity. Gaertner and McLaughlin (1983) found that white participants were faster to name positive words ("smart", "ambitious") after they had seen the racial category "white" compared to "black". People also recall more positive than negative information about someone in their own group, but more negative than positive information about someone in another group (Howard & Rothbart, 1980). These positive versus negative stereotypes associated with different social groups are therefore highly divisive, and can contribute to continuing problems of racial prejudice and discrimination, a topic we discuss in depth in Chapter 6.

Despite the power of stereotypes to bias perception towards stereotype-consistent interpretations, there are some exceptions to this rule, and sometimes **stereotype-inconsistent** information is better remembered (Hastie & Kumar, 1979). Inconsistent information is salient and attention-grabbing, so for this reason it is sometimes well remembered. However, the process of recognizing and remembering inconsistent information requires *cognitive effort*. Cognitive overload – a condition that encourages the use of heuristics – leads people to use categories and associated stereotypes, thereby reducing memory for inconsistent information (Srull, 1981). Even if stereotype inconsistent information is remembered, it will often be remembered as an *exception* to the rule, a "**subtype**" (Hewstone, Macrae, Griffiths, Milne, & Brown, 1994) of the overall stereotype (e.g. the one librarian who *does* drink beer). Subtyping can actually preserve and perpetuate the overall stereotype by negating the impact of stereotype-disconfirming information (it does not have to challenge the existing stereotype if it is placed in a new subcategory). Having said this, if enough stereotype-inconsistent information is subtyped, the number of exceptions will eventually be too great for the overall stereotype to remain insulated, leading to a re-definition of the category prototype. We discuss how these processes lead to stereotype change in more depth in Chapter 6.

Categorization and Unconscious Behaviour

When people think about categories they can unconsciously begin to act in line with the stereotype associated with those categories, a phenomenon known as **behavioural assimilation** (Bargh et al., 1996). Bargh and colleagues conducted several studies that established the behavioral assimilation effect. In a classic experiment they observed that priming stereotypes of "elderly people" made participants subsequently walk more slowly; in other words, it made them *act* like an elderly person. Full details of this study can be found in Text Box 2.2. In another experiment participants were judged to have behaved in a more hostile manner when a computer error occurred during a study after they had been **subliminally primed** with photographs of African Americans (for whom there is an associated stereotype of "hostile") than if they had been subliminally primed with photographs of Caucasian faces. In none of these studies did participants express any knowledge that they had been primed by the category in question, nor had any awareness of its influence on their subsequent behavior.

TEXT BOX 2.2

Thinking About Old People Can Make you Walk More Slowly

In a classic study, Bargh, Chen, and Burrows (1996) investigated whether priming participants with a social category (elderly) would lead participants to behave in line with the traits stereotypically associated with that category.

METHOD

Undergraduate students completed a "scrambled sentence" task, making grammatically correct sentences out of a series of randomly ordered words, supposedly as a test of language proficiency. In the *elderly* condition, words related to the elderly stereotype were embedded in the task, such as "old", "lonely", "grey", "sentimental" and "wise" whereas in the *control* condition, neutral words, such as "thirsty", "clean", and "private" were embedded in the task. After completing this task, participants were told that the experiment was over and were directed to the elevator down the hall. A confederate sitting in a chair in the hall used a hidden stopwatch to time how long the confederate took to walk from the experimental room to the elevator.

RESULTS

Participants who had been primed with the elderly stereotype walked significantly more slowly from the experimental room to the elevator than participants in the control condition.

INTERPRETING THE FINDINGS

Priming participants with a social category (elderly) that is associated with a particular stereotypical trait (slowness) increases the extent to which participants behave in line with that trait, a phenomenon known as *behavioural assimilation*. Critically these findings emerged despite the fact that the words associated with elderly did not include any reference to slowness. It appears that the category 'elderly' increased accessibility of stereotypes associated with the category, including slowness. But why does activating a particular stereotype lead people to behave in line with that stereotype? Psychologists have argued that stereotypical behavioral responses are mentally represented in a similar way to other social information like trait concepts, stereotypes and attitudes. Supporting this idea, the same area of the premotor cortex is active when humans perceive an action and when they perform that action themselves (Buccino et al., 2001).
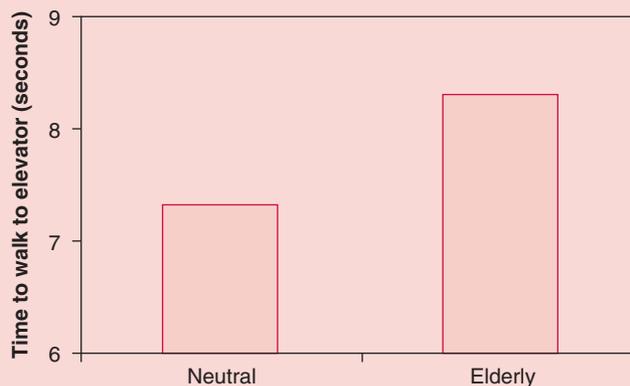
Activating category information may influence behavior as well as impression formation because behavioral responses are mentally represented in a similar way to other social information like trait concepts, stereotypes and attitudes (Chartrand & Bargh, 1999; Dijksterhuis & van Knippenberg, 1998). Indeed, there is neuropsychological evidence for this link; the same area of the pre-motor cortex is active when humans perceive an action and when they perform that action themselves (Buccino et al., 2001).

Subsequent research by Dijksterhuis and van Knippenberg (1998) demonstrated that the behavioral assimilation effect can occur also on more complex social behaviors. They found that participants who imagined a typical *professor* (associated with the stereotype "intelligent") subsequently outperformed those who imagined a typical *secretary*, on a general knowledge task. In explaining how priming can influence complex behaviors, Dijksterhuis and van Knippenberg (1998) argued that although intelligence is an abstract concept rather than a concrete behavior, behavioral representations are likely to be hier-archically structured, whereby the abstract concept "intelligence" is associated with a series of behavioral patterns, such as *concentration*, *careful consideration* of information and *systematic thinking*. Thus, although priming would not have changed participants' actual level of intelligence or knowledge, it may have temporarily induced participants to behave differently in their reaction to the multiple choice task. Priming participants with "intelligent" may have, for example, subconsciously induced concentration, led to the use of more varied strategies and additional cues, and increased confidence, all of which may have affected performance.

Categorization and Self-efficacy

The type of behavioral assimilation effects outlined above can adversely impact on our academic performance, when negative performance stereotypes define our own groups. **Stereotype threat** is defined as the predicament felt by people in situations where they could conform to negative stereotypes associated with their own group membership (Steele, 1997). The result of this fear of conforming to threatening stereotypes is that individuals may underperform on a task associated with the threatened domain. For example, women may underperform on a math test or African Americans may underper-form on an intelligence test because they are aware that there is a stereotype that their category is not supposed to be as good as a comparison category on such tasks (e.g. mathematics ability is a dimension upon which men and women are stereotypically expected to differ). Steele and Aronson (1995), for example, found that African Americans underperformed on a test when they were told it was indicative of intelli-gence, but they also found that simply asking African Americans to state their race before taking a test reduced the students' subsequent performance. More details of these effects can be found in Text Box 2.3.

T E X T   B O X   2 . 3

### Stereotype Threat and Gender Identification

Numerous studies have demonstrated the *stereotype threat* effect. This is where individuals who are made aware of a negative stereotype associated with a group to which they belong suffer from impaired performance on relevant tasks. Schmader (2002) extended research on stereotype threat by investigating one factor that might make people more or less susceptible to stereotype threat effects: the extent to which an individual identifies with a particular group.

METHOD

At the beginning of the semester, female and male participants indicated how important their gender identity was to them. At a later date, they came to the laboratory to undertake a difficult maths test. A male researcher informed participants that he was developing a maths exam, and was interested in each individual's performance on the test, which he would be comparing with the performance of other students. Participants were then assigned to one of two conditions. In the *gender identity relevant* condition, the researcher went on to inform participants that he was inter-ested in how women performed on the test compared to men, and that he would be using their score as an indication of their gender's general maths ability. In the *gender identity irrelevant* condition, participants received no further instructions.

RESULTS

Where gender identity was not made relevant to performance, there were no significant differences between men and women's performance on the maths test, regardless of whether gender was an important part of participants' identity. In contrast, when gender identity was made relevant to perfor-mance, a stereotype threat effect occurred: women performed significantly worse than men on the maths test. However, this effect *only* occurred if participants highly identified with their gender group.
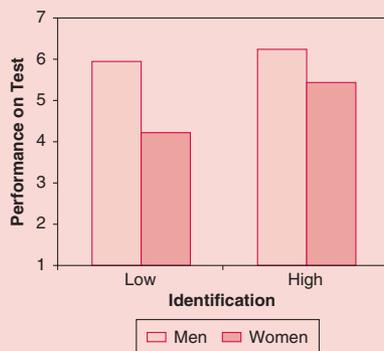
GENDER IDENTITY NOT RELEVANT
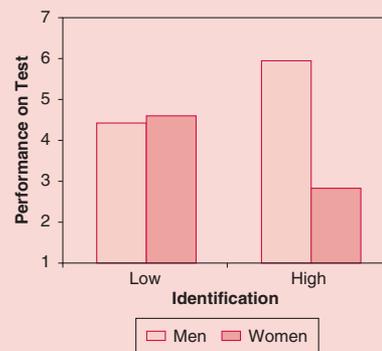
GENDER IDENTITY RELEVANT

TEXT BOX 2.3 (CONTINUED)

INTERPRETING THE FINDINGS

According to social identity theorizing, individuals conform more to their group's norms when (a) that group identity is salient and (b) when they are accustomed to thinking about themselves as a group member (i.e. they are a high identifier). In this study, women for whom gender identity was not particularly important did not feel threatened by having a negative stereotype about their group made salient, so their performance on the maths test did not suffer. In contrast, when gender identity was a central part of their self-concept there was a stereotype threat effect: they performed worse on the maths test. This finding makes sense according to what we know about group norms and social identity. The female participants were aware of the stereotype that women were not as good as men on maths tests. The threat (a state comparison between women and men), primed their female identity, especially for female participants who were used to thinking about their female identity (high identifiers). This led these participants to act in line with their group norm: they actually performed worse than normal on the maths test.

Dual Process Theories

In this last section we discuss models that have attempted to provide an integrative framework within which to understand all of the impression formation processes that we have discussed above. Brewer's (1988) **dual process theory** and Fiske and Neuberg's (1990) **continuum model** both consider impression formation to comprise two distinct processes: *categorization* and **individuation**. Brewer argues that either a heuristic (category) versus systematic (individuated) approach is used when forming impressions of others, and this distinction maps directly on to the cognitive miser versus naïve scientist approaches we have discussed in this chapter. Fiske and Neuberg's model is similar and conceptualized as a *continuum* where one extremity is category-based (heuristic) processing and the other is attribute-based (systematic) processing. On this continuum people can be perceived as a representative of a group, or as an individual separate from any category membership (see Figure 2.10).

A continuum of category — attribute impression formation

Categorization   Individuation

>>>   *Decategorization*   >>>

Figure 2.10   A continuum of impression formation

Fiske and Neuberg argue that people begin the process of impression formation by adopting a cognitive miser mode of processing: they try to fit the target person to a category (for instance, using the *representativeness* heuristic). If, however, there is not a good fit between the category and target then perceivers will shift towards an individuated mode of perception, moving along the continuum, and invoking an attribute-based approach. Similarly, Brewer argues that the mode of perception will change from the use of category-based heuristics to a systematic, individuated mode of perception under conditions that either favor, or do not favor, one over the other.

This switch in processing from using categorization to individuation can be termed **decategorization**. If decategorization has occurred the target person should be primarily defined as an individual rather than as a group member, which should remove category-based bias. Previous research has found decategorization to be associated with less stereotyping and less unfair attribution of negative characteristics because the judgment is made on an appreciation of individual, personal merit, rather than pre-conceived stereotypic expectancies (e.g. Brewer & Miller, 1984; Krueger & Rothbart, 1988). Decategorization also allows the perceiver to develop a more personalized and less homogeneous perception of ingroup and outgroup members (Ensari & Miller, 2001; Fiske & Neuberg, 1989), reducing outgroup homogeneity and de-biasing social perception. We discuss ways in which social psychologists have capitalized on the idea of this continuum model, developing ways of encouraging decategorization and reductions in stereotyping and bias, in Chapter 6.

Summary

In this section we have discussed **social categorization**, an extremely well-used heuristic. Categories are ways of putting people and things into different boxes, and come with expectations, **prototypes**, or **stereotypes** about what the typical member of that category will be like. Stereotypes can form when people perceive an **illusory correlation** between negative attributes and group size. Category structures can also be biased, as illustrated by the **outgroup homogeneity effect**, the tendency to perceive outgroup members as all similar to each other. People use categories and stereotypes because, as heuristics, they are fast and provide a lot of information about people we do not know. Categories can become salient for reasons of **temporal primacy**, **perceptual salience** or **chronic accessibility**. Categorization, while cognitively useful, can have a damaging effect on societies due to their tendency to be biased and lead to prejudice. This is because category activation can lead to heightened accessibility of **stereotype-consistent** information and selective encoding of negative information (especially of minority group members). Thinking about categories can also lead us to behave in line with stereotypes associated with those categories, without any awareness we are doing this. This type of **behavioral assimilation** can occur when thinking about either categories we are members of or categories we are not members of. Finally, if we are members of a category that possesses a negative performance stereotype, in contexts where our category membership is salient, we may be adversely affected by this stereotype. This tendency is called **stereotype threat**.
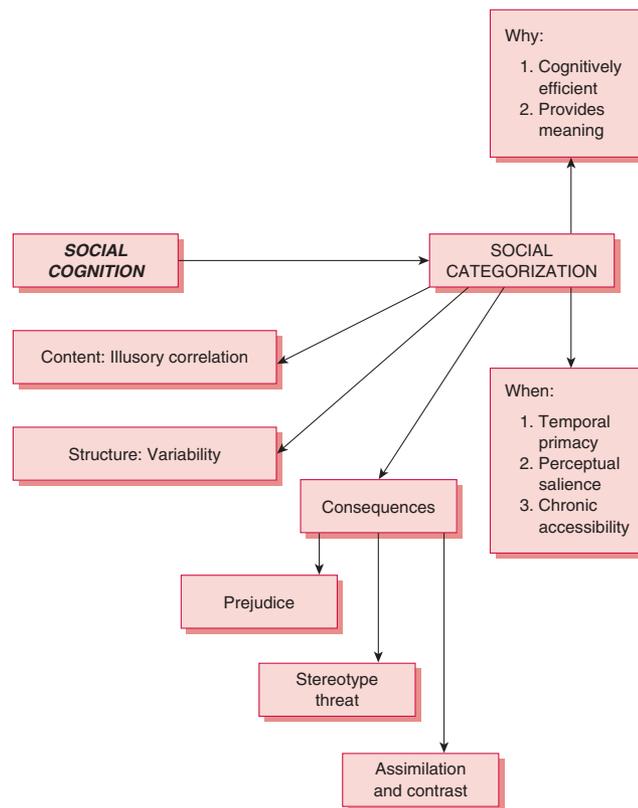
Figure 2.11   Memory Map

SUMMARY

In this chapter we have discussed how people can be naïve scientists, rationally and logically taking their time to process information about others in a careful and systematic way. Alternatively, they can be cognitive misers, choosing – or being implicitly compelled – to use strategies of social inference that favor ease and speed, but which at best only approximate an accurate reflection of social reality and, at worst, propagate the existence of unfair negative stereotypes about particular groups. We have seen how people can be **naïve scientists** and engage in complex **attribution** calculations based on combining information relating to **consensus, consistency** and **distinctiveness**. But we have also seen how in many cases people do not use these complex rules, and do not go through an elaborate process when forming an impression of others. Instead a number of attribution "errors" are
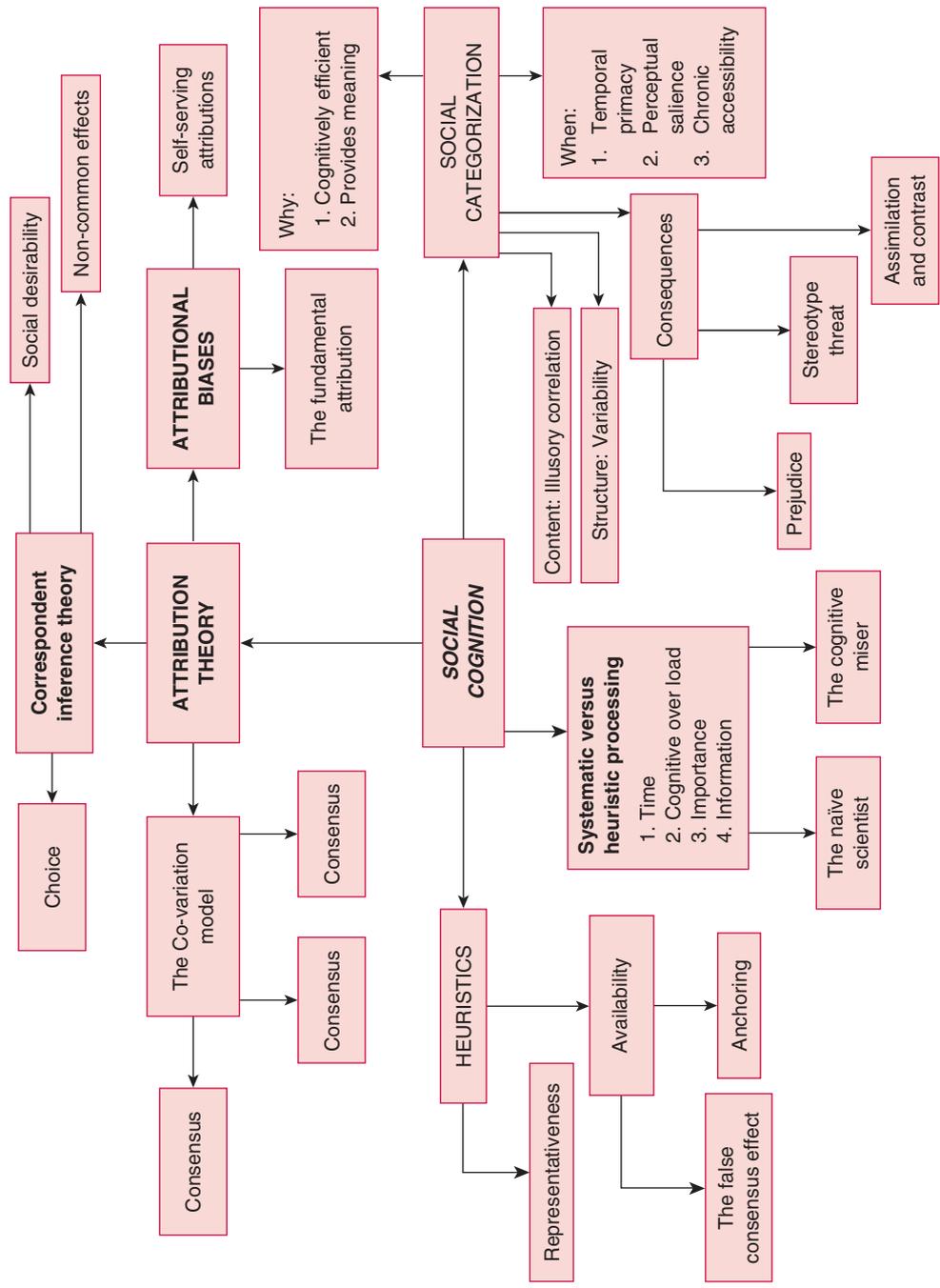
Figure 2.12 Memory Map

apparent, such as the **fundamental attribution error, the actor-observer bias**, and **self-serving attributions**, all of which indicate a reliance on more basic information: external cues like perceptual salience, or internal motivations like self-esteem maintenance. Reliance on these simple cues to make quick and easy judgments are illustrative of the **cognitive miser approach**, and **heuristics** such as **representativeness** and **availability** show how pervasive these strategies can be. We have seen how perceiver motivations as they relate to time, cognitive busyness, importance and information can determine which strategy is adopted, but also how contextual factors like temporal primacy or distinctiveness can implicitly orient us to using heuristic strategies like social categorization.

Finally, we have discussed the use of **social categorization** as one of the most wide-ranging heuristics used in social perception. We have also discussed how the representativeness heuristic can explain how **illusory correlations** develop, biasing the category content used to define minority groups. We have seen how categories vary around **prototypes**, and how prototypicality – stereotypicality – can be defined by the availability heuristic. **Familiarity** can cause **outgroup homogeneity**, which compounds the extent to which outgroup members are seen to conform to stereotypical characteristics. In this chapter we have also discussed how activation of categories leads to biased processing in favor of stereotype-consistent information (and how stereotype-inconsistent information is subtyped so as to insulate the overall stereotype from change), how **stereotypes** can influence our behavior, and how awareness of the negative stereotypes that define our own groups can sometimes have a negative impact on even our academic performance. Finally, we have discussed **dual-process models** that bring together the cognitive miser and naïve scientist approaches–showing how impression formation can rely on heuristic, categorical processing, or more systematic individuated processing, and how encouraging **decategorization** may be a means of countering all of the negative impacts of categorization that we have discussed in this chapter.

Suggested Further Reading

Fiske, S.T. & Taylor, S.E. (1991). *Social cognition (2nd ed.)*. New York: McGraw-Hill.

Hewstone, M. (1989). *Causal attribution: From cognitive processes to collective beliefs*. Oxford: Blackwell.

Kunda, Z. (1999). *Social cognition*. Cambridge, MA: MIT Press.

Key Questions

How do people explain their own and other people's behaviors?

Are people cognitive misers or naïve scientists?

How does categorization bias social perception?