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Krieger

PROBLEM SOLVING,

DECISION MAKING, AND

PROFESSIONAL JUDGMENT

A Guide for Lawyers and Policymakers

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9. BIASES IN PERCEPTION AND MEMORY

9.1 INTRODUCTION: STAGES OF INFORMATION PROCESSING

In the introduction to Part 2, we described the application of the *lens model* to a probabilistic environment. The preceding chapters on statistics were largely concerned with what inferences can appropriately be drawn from multiple fallible indicators—in particular, what inferences can be appropriately made about an entire population when the indicators are only a sample of the population. In those chapters we generally proceed from the assumption that the empiricist was accurate in perceiving and coding the sample data, and we introduced the statistics that best allows one to make inferences. Chapter 9 focuses on errors in perceiving and interpreting the events that provide the basis for such inferences.

Cognitive psychologists have likened a person making a judgment to an "information processor" that proceeds through a number of stages from the availability of information to the generation of a response to that information. The functional components of that information processor can be represented as shown in Figure 9.1.



FIGURE 9.1 MODEL OF INFORMATION PROCESSING.

Let us consider those components in turn. Every moment of our lives, we are bombarded with vast amounts of *information*, of which we *attend* to only a small fraction. We *encode* the information, structuring, evaluating, and interpreting it and transforming into some sort of mental representation. You might think of *perception* (not on the chart) as overlapping attention and encoding. We *store* information in memory and, on occasion, *retrieve* it from memory (i.e., become aware of it) and *process* it with respect to particular objectives. Our *response* to processing may be a factual judgment or inference, an evaluative judgment or opinion, a choice among alternatives or decision, or a solution to a problem.¹

This and the following chapter examine biases and distortions that can affect these stages of information processing. Although some of the psychological

1. See Verlin B. Hinsz, R. Scott Tindale, and David A. Vollrath, *The Emerging Conceptualization of Groups as Information Processors*, 43 *PSYCHOLOGICAL BULLETIN* 121 (1997).

phenomena considered cut across various stages, this chapter, on biases in perception and memory, centers around the first five stages, and Chapter 10, on biases in judgment, centers around the last two.

9.2 BIASES IN ACQUISITION, RETENTION, AND RETRIEVAL

We met at nine

We met at eight.

I was on time

No, you were late.

Ah yes! I remember it well.

We dined with friends

We dined alone.

A tenor sang

A baritone.

Ah yes! I remember it well.

That carriage ride

You walked me home.

You lost a glove

I lost a comb.

Ah yes! I remember it well.

That brilliant sky

We had some rain.

Those Russian songs

From sunny Spain

Ah yes! I remember it well.

—I Remember It Well (Duet from "Gigi")

Lyrics by ALAN JAY LERNER Music by FREDERICK LOEWE

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A large amount of any lawyer's time is focused on past events. It is the understanding and analysis of past events that give rise to legal liability—whether civil, administrative, or criminal—and that provide the basis for the predictions necessary for policy making and planning. By definition, understanding the past calls upon memory. In many contexts, however, memories tend to be highly fallible.

Our memory does not store complete representations of what was perceived, but only fragments of our *interpretations* of the relevant facts or events. Recollection requires reconstructing one's interpretation, often using (more or less) logical inferences to fill in missing details.² In *Eyewitness Testimony*, Elizabeth Loftus divides memory processes into three stages: *acquisition*, in which the information is entered; *retention*, the period between acquisition and the demand to "remember"; and *retrieval*, where one recollects the information.

2. ELIZABETH F. LOFTUS, *MEMORY: SURPRISING NEW INSIGHTS INTO HOW WE REMEMBER AND WHY WE FORGET* (Reading, MA: Addison-Wesley, 1980).

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though she focuses on visual memories, her observations apply to memories of all sorts.³

RETRIEVAL

Early on, in the acquisition stage, the observer must decide which aspects of the visual stimulus he should attend to. Our visual environment typically contains a vast amount of information, and the proportion of information that is actually perceived is very small. . .

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Once the information associated with an event has been encoded or stored in memory, some of it may remain there unchanged while some may not. Many things can happen to witnesses during this crucial retention phase. The witness may engage in conversations about the event, or overhear conversations, or read a newspaper story—all of these can bring about powerful and unexpected changes in the witness's memory.

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Finally, at any time after an event a witness may be asked questions about it. At this point the witness must recreate from long-term memory that portion of the event needed to answer a specific question. This recreation may be based both on information acquired during the original experience and on information acquired subsequently. In other words, both the acquisition and the retention stages are crucial to what happens during the retrieval. The answer the person gives is based on this recreation.

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. . . Events at any one or several of the stages can be the cause of . . . retrieval failure. The information may simply not have been perceived in the first place—a failure at the acquisition stage. The information might have been accurately perceived, but then is forgotten or interfered with during the retention stage. And finally, information may have been accurately perceived in the first place but may have become inaccessible [or distorted] during questioning—a failure at the retrieval stage.

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9.3 BIASES IN THE ACQUISITION OF INFORMATION

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Before turning to more complex issues involving the acquisition of information, we should note that some problems simply arise from perceptual inadequacies that are fairly universal. For example, we tend to be quite inaccurate in judging time, speed, and distance,⁴ and we systematically overestimate the duration of events. More generally, Dolly Chugh and Max Bazerman describe what they call

INSIGHTS INTO HOW WE
'esley, 1980).

3. ELIZABETH F. LOFTUS, *EYEWITNESS TESTIMONY* 21 (Cambridge, MA: Harvard University Press, 1979) [hereafter LOFTUS].

4. Participants in one experiment were told in advance that they would be asked to judge the speed of a car. The car was moving at 12 miles per hour, and their estimates ranged from 10 to 50 miles per hour. LOFTUS 29.

bounded awareness—the phenomenon where “individuals fail to see, seek, use, or share highly relevant, easily accessible, and readily perceivable information during the decision-making process.”⁵ Because our cognitive power is limited, we can focus only on a small part of everything that goes on around us—often only on one thing at a time.

Mr. Hill was so engrossed in the call that he ran a red light and didn't notice Linda Doyle's small sport utility vehicle until the last second. He hit her going 45 miles per hour. She was pronounced dead shortly after. Later, a policeman asked Mr. Hill what color the light had been. “I never saw it,” he answered.⁶

Much of our daily experience involves multitasking, but we aren't as good at multitasking as we would like to believe. Most of the time, we just don't notice things that are not in our mental field of vision. Sometimes this can be embarrassing—when we've lost the thread of a discussion by doing e-mail tasks at meetings or browsing the Web during class; sometimes it's dangerous—drivers cannot give full attention to the road when talking even on a hands-free phone. Eyewitness's descriptions of crimes are notoriously unreliable, especially when their attention is riveted to the stress-inducing event. Elizabeth Loftus uses the term “weapon focus” to describe an assault victim's attention to the brandished weapon to the exclusion of other details, including features of the assailant. Chugh and Bazerman characterize the misalignment of available information of which one is unaware with the information needed for a decision as a *focusing failure*.

9.4 THE BIASING EFFECT OF SCHEMAS, EXPECTATIONS, THEORIES, AND INTERESTS

Section 1.5.2 introduced the idea that all of our perceptions are mediated by schemas or expectations: when we perceive a stimulus from our environment, our first task is to fit that information into some existing knowledge structure represented in memory. This is essential and inevitable—and a hazard for the careful empiricist. In a classic experiment, Jerome Bruner and Leo Postman briefly

5. Dolly Chugh and Max H. Bazerman, *Bounded Awareness: What You Fail to See Can Hurt You*, 6 *MIND & SOCIETY* 1–18 (2007).

6. Matt Richtel, *DRIVERS AND LEGISLATORS DISMISS CELLPHONE RISKS*, *NEW YORK TIMES*, July 19, 2009, <http://www.nytimes.com/2009/07/19/technology/19distracted.html?hp>.

showed participants five playing cards, one of which was a three of hearts colored black.⁷ A vast majority of the participants engaged in "perceptual denial," confidently recalling that the card was a normal three of hearts. The phenomenon of illusory correlation described in Section 5.7 exemplifies the same tendency.

Elizabeth Loftus reports on an accident where hunters killed a companion: "One of the men . . . saw something moving and said to his friend, 'That's a deer, isn't it?' The friend replied that he thought so too, and the first man shot at the deer. The deer pitched forward and cried out—a sound which seemed like the cry of a wounded deer. The hunters fired more shots to bring it down." Loftus explains:⁸

The hunters who eagerly scanned the landscape for a deer perceived the moving object as a deer. They expected to hear the cry of a deer and they heard their friend's cry that way . . . Yet a policeman testified that when he later saw a man under the same conditions he perceived the object as a man . . . [T]he policeman knew he was supposed to be looking at a man; thus, he perceived the object he saw as a man.

Consider these more complex examples:

9.4.1 They Saw a Game

A 1951 football game between Dartmouth and Princeton was unusually rough, with injuries sustained by members of both teams. Psychologists Albert Hastorf and Hadley Cantril asked students from each school—some of whom had seen the game and some a film of it—to fill out a questionnaire noting any infractions of the rules, and characterize them as "mild" or "flagrant."⁹

Nearly all *Princeton* students judged the game as "rough and dirty"—not one of them thought it "clean and fair." And almost nine-tenths of them thought the other side started the rough play. . . . When Princeton students looked at the movies of the game, they saw the Dartmouth team make over twice as many infractions as their own team made. And they saw the Dartmouth team make over twice as many infractions as were seen by Dartmouth students. When Princeton students judged these infractions as "flagrant" or "mild," the ratio was about two "flagrant" to one "mild" on the Dartmouth team, and about one "flagrant" to three "mild" on the Princeton team.

As for the Dartmouth students, while the plurality of answers fell in the "rough and dirty" category, over one-tenth thought the game was "clean and

7. Jerome S. Bruner and Leo Postman, *On the Perception of Incongruity: A Paradigm*, 18 *JOURNAL OF PERSONALITY* 206 (1949).

8. ELIZABETH F. LOFTUS AND KATHERINE KETCHAM, *WITNESS FROM THE DEFENSE: THE ACCUSED, THE EYEWITNESS, AND THE EXPERT WHO PUTS MEMORY ON TRIAL* (New York: St. Martin's Press, 1991).

9. Albert H. Hastorf and Hadley Cantril, *They Saw a Game: A Case Study*, 49 *JOURNAL OF ABNORMAL PSYCHOLOGY* 129 (1954).

fair" and over a third introduced their own category of "rough and fair" to describe the action. Although a third of the Dartmouth students felt that Dartmouth was to blame for starting the rough play, the majority of Dartmouth students thought both sides were to blame . . .

When Dartmouth students looked at the movie of the game, they saw both teams make about the same number of infractions. And they saw their own team make only half the number of infractions the Princeton students saw them make. The ratio of "flagrant" to "mild" infractions was about one to one when Dartmouth students judged the Dartmouth team, and about one "flagrant" to two "mild" when Dartmouth students judged infractions made by the Princeton team.

Granted that the students' perceptions of fault were biased in favor of their own schools' teams, what explains the difference in perceptions? Hastorf and Cantril answer:

It seems clear that the "game" actually was many different games and that each version of the events that transpired was just as "real" to a particular person as other versions were to other people . . .

. . . An "occurrence" on the football field or in any other social situation does not become an experiential "event" unless and until some significance is given to it. And a happening generally has significance only if it reactivates learned significances already registered in what we have called a person's assumptive form-world.

At the very least, people interpret the same ambiguous information in different ways: I see the tackle as gratuitously violent while you see it as hard-hitting but fair. At the worst, from all the events going on in the environment, we sometimes notice those that are significant from our egocentric positions, and fail to notice those that don't.

9.4.2 The Hostile Media Phenomenon

Essentially the same phenomenon surfaces in a quite different context: people who differ in their perceptions and recollections and interpretations of contentious events inevitably have very different views of what constitutes "fair" news coverage of those events. In 1985, Robert Vallone, Lee Ross, and Mark Lepper conducted an experiment in which participants who had previously identified themselves as pro-Arab, pro-Israeli, or neutral viewed extensive samples of media coverage of the massacre of Palestinians in Lebanese refugee camps by allies of Israel.¹⁰

10. Robert P. Vallone, Lee Ross, and Mark R. Lepper, *The Hostile Media Phenomenon: Biased Perception and Perceptions of Media Bias in Coverage of the Beirut Massacre*, 49 *JOURNAL OF PERSONAL AND SOCIAL PSYCHOLOGY* 577 (1985).

The pro-Arab participants saw the media as biased toward Israel; the pro-Israeli participants saw the news programs as biased against Israel. The pro-Arab participants thought that the programs applied lower standards to Israel than to other countries, that they did not focus enough on Israel's role in the massacre, and that the editors made a positive case for Israel and were biased in its favor. Pro-Israeli participants thought that the programs applied a higher standard to Israel, focused too much on Israel's role, made a negative case against Israel, and were biased against Israel. Furthermore, participants who deemed themselves more knowledgeable or more emotionally involved had stronger perceptions of bias.¹¹ Neutrals were about midway between the partisans. (Viewers who thought themselves knowledgeable thought the main source of bias was what was *omitted*, particularly that the media did not provide the full context.)

Just as Hastorf and Cantril believed that Dartmouth and Princeton students had seen different football games, Vallone, Ross, and Lepper concluded that "the pro-Arab and pro-Israeli participants 'saw' different news programs—that is, they disagreed about the very nature of the stimulus they had viewed." For example, the groups reported that a higher percentage of the references to Israel were, respectively, favorable or unfavorable. And each believed that the programs would lead an undecided or ambivalent viewer to favor the opposing position. The authors offer this analysis of the phenomenon:

Our results highlight two mechanisms—one apparently evaluative or cognitive, the other apparently more perceptual in nature—that combine to produce the partisans' conviction that they have been treated unfairly. According to the first mechanism, in which opposing partisans believe, respectively, that the truth is largely "black" or largely "white," each complain about the fairness and objectivity of mediated [i.e., media] accounts that suggest that the truth might be at some particular hue of gray. According to the second mechanism, opposing partisans further disagree about the color of the account itself: One side reports it to be largely white (instead of the blackish hue that the other side thinks it should be), the other side reports it to be largely black (instead of the whitish hue that the first side thinks it should be), and both sides believe the discrepancy between the mediated account and the unmediated truth to be the intended result of hostile bias on the part of those responsible.

We note that our results do not permit us to speak authoritatively about either the source or the depth of the perceptual bias we have claimed to document; nor, obviously, do they shield us from the age-old difficulties of

11. While knowledgeable neutral participants did not perceive a bias one way or the other, unknowledgeable neutrals more closely resembled the pro-Israeli than pro-Arab groups. The authors note that American public opinion tends to be pro-Israeli and that the neutrals may be more pro-Israeli than they realize.

ruling out all cognitive interpretations for an ostensibly perceptual phenomenon. Do partisans pay more attention when their side is being attacked? Do they remember such information more, perhaps because they are frustrated and annoyed by the absence of any sufficiently forceful rebuttals to such attacks? The exact mechanism remains unclear, but we believe that it is not simply a matter of differing standards or criteria in labeling particular facts, arguments, or images as pro-Israeli or anti-Israeli. Perhaps our most important, and interesting, finding in this regard is the tendency for both groups to assert that neutral viewers will turn against their side when they view the media coverage. This finding is further evidence that the specific content and overall "hue" of the report is indeed perceived differently by the partisans, even when they would wish the truth to be otherwise, for partisans surely would prefer to believe, and perhaps even expect that non-partisans would assimilate mixed information in a manner congruent with the partisans' view of the truth.

The authors suggest that their analysis may apply to perceptions of other types of mediation, including spouses' perceptions of family counselors, or labor and management's perceptions of government arbitrators.

9.4.3 Why Cases Don't Settle When They Should¹²

In many civil cases, the parties pay inordinately high litigation costs before settling or they do not settle at all. Some scholars have explained the phenomenon in terms of disputants' uncertainty about the judge or jury. An alternative explanation, put forward by Linda Babcock and her colleagues is that litigants' predictions of judicial decisions are systematically biased in a self-serving manner.

To test this hypothesis, Babcock et al. gave law and business-school students detailed testimony in a case involving a claim for damages in a motorcycle-automobile accident. The participants were informed that the same materials had been given to a judge who had decided how much, if anything, to award to the plaintiff. They were asked (1) what they thought was a fair settlement from the viewpoint of a neutral third party and (2) their best guess of the amount the judge would award. They were also instructed to negotiate a settlement: The defendant was given \$10 cash (with each \$1 worth \$10,000 in the real world). If they could not reach a settlement in a half hour, the judge's verdict would be imposed on them.

The major experimental manipulation was that the participants in one group were assigned roles as plaintiffs or defendants *before* reading the testimony,

12. Linda Babcock, George Loewenstein, Samuel Issacharoff, and Colin Camerer, *Biased Judgments of Fairness in Bargaining*, 85 *AMERICAN ECONOMIC REVIEW* 1337 (1995); Linda Babcock and George Loewenstein, *Explaining Bargaining Impasse: The Role of Self-Serving Biases*, 11 *JOURNAL OF ECONOMIC PERSPECTIVES* 109 (1997). Abstract available at SSRN: <http://ssrn.com/abstract=11367>.

ostensibly perceptual phenomenon: their side is being attacked? Do perhaps because they are frustrated by the often forceful rebuttals to such claims. We hear, but we believe that it is not the content of the evidence in labeling particular facts, but the source, Israeli. Perhaps our most important finding is the tendency for both groups to be biased in their assessments of their side when they view the evidence. The specific content and source are processed differently by the partisans, and this is true, otherwise, for partisans surely expect that non-partisans would be more objective and congruent with the partisans' perspective.

These findings apply to perceptions of other parties, such as family counselors, or labor arbitrators.

High litigation costs before settlement have explained the phenomenon of plea bargaining or jury. An alternative explanation is that litigants' predictions are biased in a self-serving manner.

Law and business-school students predicted higher damages in a motorcycle accident. They were informed that the same materials were involved, and, if anything, to award to the plaintiff. The amount was a fair settlement from their best guess of the amount they would receive to negotiate a settlement: The amount was \$10,000 in the real world). In the real world, the judge's verdict would be

that the participants in one group predicted higher damages before reading the testimony,

Issacharoff, and Colin Camerer, *AN ECONOMIC REVIEW* 1337 (1995); *Bargaining Impasse: The Role of Self-Interest* 109 (1997). Abstract available at

answering the questions, and negotiating, while those in the second group first read the testimony and answered the questions and were then assigned roles before they negotiated.

The assessment of what would be a fair judgment by plaintiffs and defendants who had been assigned roles before reading the testimony diverged by \$19,756 on average; their predictions of the judicial outcome diverged by \$18,555. Moreover, 28 percent of the parties in this group failed to settle. By contrast, plaintiffs and defendants in the second group did not diverge significantly in their assessments of either of fairness or the judicial outcome, and only 6 percent failed to settle. Apparently, knowing one's role in advance causes one to encode the facts in a way that is self-serving and that leads to undue optimism about the assessments likely to be made by third parties.

Not only students, but experienced litigators and negotiators are prone to this self-serving bias. Whereas purely economic analyses attribute the failure to settle to strategic behavior, the authors suggest: "Perhaps disputants are not trying to maximize their expected outcome, but only trying to achieve a fair outcome. However, what each side views as fair tends to be biased by self-interest, which reduces the prospects for settlement."

Merely informing disputants about the prevalence of self-serving bias had no effect on their bias. Is it possible to counter the bias? Babcock et al. did a follow-up experiment in which the participants, after being assigned roles and reading the testimony, were instructed:

Disputants don't always think carefully about the weaknesses in their own case: they are therefore surprised when the judge's ruling is worse than their expectations. For plaintiffs, this means that the judge's award is often less than their expectations. For defendants, this means that the judge's award is often greater than their expectations. Therefore, please think carefully about the weaknesses in your case. In the space below, please list the weaknesses in your own case.

Being asked to assess the weaknesses of one's own case had a significant effect. When given the debiasing instruction, plaintiffs' and defendants' predictions of the judge's award differed by only \$5000, and the litigants reached settlement much more quickly. The authors suggest that a debiasing procedure could be built into court-mandated pretrial settlement conferences.

9.5 DISTORTIONS IN RETENTION AND RETRIEVAL

It isn't so astonishing, the number of things that I can remember, as the number of things I can remember that aren't so.

—MARK TWAIN, *A BIOGRAPHY*¹³

13. [Http://www.twainquotes.com/Memory.html](http://www.twainquotes.com/Memory.html).

For any reader who doesn't recall the phenomenon of forgetting, consider this a reminder. Of particular interest in this section are events that distort the content of what is remembered. Distorted recollections are often exacerbated by people's overconfidence in the correctness of their memories.

It is useful to treat retention and retrieval together, because *intermediate* retrievals are among the major sources of distortion of *ultimate* retrievals, including those that have legal consequences. A witness's ultimate retrieval may take place when she testifies at trial, but her recollections may be distorted by questions posed earlier by investigators or in a deposition, or by chatting with friends about the event.

One group of biases results from the phenomenon of *memory binding*, in which different components of an event, or different events, are bound together.¹⁴ For example, a Ryder employee who observed Timothy McVeigh rent a van two days before the 1995 bombing of the Federal Building in Oklahoma City recalled there being two men. One was tall and fair, and fit McVeigh's description; the other was short, stocky, dark-haired, and had a tattoo. It turned out that a day after McVeigh rented the van (alone), two men, who matched the descriptions of McVeigh and his supposed companion, came in to rent a van. As Daniel Schacter explains: "People recall correctly a fact they learned earlier, or recognize accurately a person or object they have seen before, but misattribute the *source* of their knowledge."¹⁵

More broadly, experiences after an event can distort one's recollection of the event. For example, people who read an inaccurate newspaper description of an event they personally witnessed are prone to incorporate the inaccuracies into their recollections.¹⁶ Leading or misleading questions can also distort recollection. Elizabeth Loftus and colleagues showed participants photos of a car-pedestrian accident involving a red Datsun. One group saw the car at a "stop" sign; the other saw the car at a "yield" sign. Within each group, half the participants were asked "Did another car pass the red Datsun while it was stopped at the 'stop' sign?" and half were asked "Did another car pass the red Datsun while it was stopped at the 'yield' sign?" Finally, after performing some unrelated intervening tasks designed to put temporal distance between the intermediate and ultimate retrieval, the participants were shown slides depicting the red Datsun either at a "stop" or "yield" sign and asked which comported with the original photo. Of participants who had originally seen a "stop" sign and had been asked whether the car was stopped at a "stop" sign, 75 percent responded correctly. Of participants who had been asked the misleading intermediate question—"Did another car pass the red Datsun while it was stopped at the

14. DANIEL L. SCHACTER, *THE SEVEN SINS OF MEMORY: HOW THE MIND FORGETS AND REMEMBERS* 94 (New York: Houghton Mifflin, 2001) [hereafter SCHACTER].

15. SCHACTER 93.

16. LOFTUS 55.

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'yield' sign."—only 41 percent (less than chance) responded correctly.¹⁷ Based on this and other experiments, Loftus concludes that "casually mentioning a nonexistent object during the course of questioning can increase the likelihood that a person will later report having seen that nonexistent object."

In another study, Loftus and her colleagues showed participants a film of a traffic accident, and then asked either: "About how fast were the cars going when they *smashed into* each other?" or: "About how fast were the cars going when they *hit* each other?" The former question elicited a higher estimate. A week later, without having viewed the film again, the participants were asked, "Did you see any broken glass?" In fact, the film did not show any broken glass. However, about twice as many participants who had previously been asked the *smashed* question recalled seeing broken glass than those who had been asked the *hit* question.

Leading questions (which invite a particular answer) can distort memory. "Did you see *the* broken headlight?" elicits more inaccurate recollections that a headlight was in fact broken than "Did you see *a* broken headlight?" About a year after an El Al cargo plane crashed on take-off into an Amsterdam apartment, Dutch psychologists conducted a survey, asking "Did you see the television film of the moment the plane hit the building?" Fifty-five percent of the respondents said that they had seen the film and recalled details about the plane's speed and angle and whether it was on fire. In fact, there was no television coverage of the crash. Also, consistent with the anchoring and adjustment bias (described in Section 10.1), witnesses have different recollections when asked how *tall*, or how *short*, the suspect was.¹⁸ Loftus concludes:

Any time after a witness experiences a complex event, he may be exposed to new information about that event. The new information may come in the form of questions—a powerful way to introduce it—or in the form of a conversation, a newspaper story, and so on. The implication of these results for courtroom examinations, police interrogations, and accident investigations is fairly obvious: interrogators should do whatever is possible to avoid the introduction of "external" information into the witness's memory.

Indeed, it is not only external suggestions that may distort one's recollection. People who are asked to *guess* about the details of an event they witnessed are likely to turn their guess into an erroneous answer when queried later. Indeed, one's own intervening thoughts and remarks can serve as powerful anchors in subsequent recollections.¹⁹

Another source of distortion comes from retrieving a past event through *familiarity* rather than by *recollection*. Schacter writes: "Recollection involves

17. *Id.* 58.

18. *Id.* 95 ff.; SCHACTER 112, 115.

19. LOFTUS 83 ff.

calling to mind specific details of past experiences . . . Familiarity entails a more primitive sense of knowing that something has happened previously, without dredging up particular details . . . A strong sense of general familiarity, together with the absence of specific recollections, adds up to a lethal recipe for misattribution." Schacter reports on a study of police lineup procedures that invite such misattribution:²⁰

In standard lineup procedures, witnesses are shown a number of suspects; after seeing them all, they attempt to identify the culprit . . . [U]nder such conditions, witnesses tend to rely on relative judgments; they choose the person who, relative to the others in the lineup, looks most like the suspect. The problem is that even when the [culprit] is not in the lineup, witnesses will still tend to choose the person who looks most like him. Witnesses rely on general similarities between a face in the lineup and the actual culprit, even when they lack specific recollections.

How can one guard against such distortions? Schacter proposes some specific techniques for interviewing witnesses.²¹ With respect to our own memories, he suggests cultivating a *distinctiveness heuristic*, under which we demand recollections of distinctive details of an experience before we are willing to say we remember it.²² This would help prevent adding imagined facts to a recalled experience, which often happens when we rely only on familiarity.

9.6 THE AVAILABILITY HEURISTIC—AND A DETOUR INTO METACOGNITION

The heuristics and biases agenda, begun in the 1970s by the psychologists Amos Tversky and Daniel Kahneman, continues to inform much psychological research today, especially in social psychology and judgment and decision making (JDM). The heuristics identified by Tversky and Kahneman are based on processes that operate unconsciously and automatically in System 1, and that tend to be insufficiently corrected by the conscious analytic processes of System 2.²³ We discussed the representativeness heuristic in detail in Section 8.3. Here we consider the *availability* heuristic. While representativeness involves *categorizing*, availability involves *noticing*.

Imagine that you have been considering buying a new car for some time. After poring through *Consumer Reports* and some auto magazines, you decide that the Volvo sedan is just what you want—comfortable, safe, a good maintenance

20. SCHACTER 44, 97.

21. *Id.* 119.

22. *Id.* 103.

23. *See* on Section 1.6.1.

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record; all in all, a great buy. The evening before you plan to purchase the car, you are at a dinner party where a guest describes his terrible experience with the Volvo he bought last year—a real lemon, which has spent more time in the shop than on the road.²⁴ How much will this one anecdote influence your decision compared to all the research you have done?

What Kahneman and Tversky call the *availability heuristic* leads people to make judgments of probability and causation based on how readily events come to mind because they are vivid, imaginable, or otherwise perceptually salient. Thus, in attributing the cause of the problems at Terra Nueva, residents will more likely be influenced by vivid stories of tenants' illnesses and media coverage of "foam insulation syndrome" elsewhere in the country than in epidemiological evidence.

In one experiment, two groups of participants were given samples of the heights of a number of individuals and asked to estimate the proportion of people over 6' tall. Twenty percent of the individuals in both samples were over 6' tall, but one group had several very tall outliers. The participants estimated that this sample had more individuals over 6' tall. By the same token, participants estimated that a sample of people that included some criminals contained more criminals when some of them had committed heinous offenses than a similar sample with the same number of criminals who had only committed minor offenses.²⁵ What impressions do you imagine various media audiences have of the number of people with extreme versus moderate views on issues such as abortion, gun control, and gay marriage?

Consider the following problem:

In four pages of a novel (about 2000 words), how many words would you expect to find that have the form

- _____ n _ ? (five letters, then n, then another letter)
- _____ i n g ? (four letters, then ing)

What were your estimates? In between-subjects experiments, people usually say that they expect more words of the second kind than of the first. But, of course, this cannot be true, since *ing* is a subset of *_n_*. By the same token, people estimate that there are more "dairy products" than "white foods" in a supermarket.

These are logical errors—akin to the error made in the example of Linda the (feminist) bank teller in Section 8.3. Most people understand that there cannot be more instances of a subset than of the set of which it is a part. The errors arise from people's tendency to estimate the frequency or probability of an event by how readily examples come to mind. (Consider how people would respond to the

24. RICHARD E. NISBETT AND LEE ROSS, HUMAN INFERENCE: STRATEGIES AND SHORTCOMINGS IN SOCIAL JUDGEMENT. (Englewood Cliffs, NJ: Prentice Hall, 1980).
 25. *Id.* 74-75.

question: "How many white foods are there in a supermarket?—and by the way don't forget dairy products.") It is easy to see why using availability as a proxy for frequency can be a useful strategy—if events happen more often, we tend to recall instances of such events more easily. But events can come to our attention and/or be retrieved more readily for many reasons other than the frequency of their occurrence.

9.6.1 How the Availability Heuristic Works; Metacognition

The availability heuristic can work through two different processes, reflecting the different ways that you could make estimates of these sorts. In estimating whether words that have *n* as the second-to-last letter are more or less frequent than words that end in *ing*, you might rely on the *recalled content*, i.e., on the actual number of words with each ending that come to mind. Or you might rely on the *ease or difficulty of recalling* words with each of the endings.

People often use the latter process. In one experiment, participants were asked to recall either six or twelve instances in which they had behaved assertively and then assess their own assertiveness. Those who had been asked to respond to six instances found the task relatively easy, and tended to rate themselves as being assertive. Those who had been asked to recall twelve instances managed to do so, but found the task relatively difficult, and therefore their rating of their self-assertiveness decreased even though they had twice as many examples before them.²⁶

Analogously, participants who were given quite specific symptoms—e.g., muscle aches, severe headaches—of a made-up disease, believed that they were more likely to contract the disease than those given less concrete symptoms—e.g., a general sense of disorientation, a malfunctioning nervous system.²⁷ The specific symptoms were easier to imagine than the vague ones.²⁸

These studies illustrate the phenomenon of *metacognition*—that is, cognitions about one's cognitive experience. While most theories of human judgment focus

26. Norbert Schwarz and Leigh Ann Vaughn, *The Availability Heuristic Revisited: Ease of Recall and Content of Recall as Distinct Sources of Information*, in THOMAS GILOVICH, DALE GRIFFIN, AND DANIEL KAHNEMAN, *HEURISTICS AND BIASES, THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 103 (New York: Cambridge University Press, 2002).

27. Steven J. Sherman, Robert B. Cialdini, Donna F. Schwartzman, and Kim D. Reynolds, *Imagining Can Heighten or Lower the Perceived Likelihood of Contracting a Disease: The Mediating Effect of Ease of Imagery*, in THOMAS GILOVICH, DALE GRIFFIN, AND DANIEL KAHNEMAN, *HEURISTICS AND BIASES, THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 98 (2002).

28. The authors of the study suggest that this has implications for preventive health, such as persuading people to have immunization shots or to take measures against hypertension: "The health profession might increase . . . compliance by making vivid presentations of the medical problems and by describing symptoms and consequences . . . in easy-to-imagine terms." Note, however, that unless this actually leads to changes in health behavior, it may just increase people's anxiety.

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on how people evaluate the *content* of the information they are exposed to, theories about metacognition hinge on the fact that people also make judgments by evaluating features of the *experience of thinking*. In particular, experiencing the processing of information as easy or difficult can significantly influence our judgments of the content of that information. Of course people's prior assumptions or expectations about the ease or difficulty of a task are also relevant. For example, when the people who listed twelve examples of assertive behavior were made aware of the objective fact that listing twelve examples was not an easy task, they were less likely to attribute their experienced difficulty to lack of assertiveness.²⁹

9.6.2 Other Phenomena Resulting from Evaluation of Metacognitive Experiences

The ease with which new or recalled information can be processed is often referred to as *processing fluency*. In addition to explaining some aspects of the availability heuristic, processing fluency, and metacognition generally, have been linked to judgments that extend beyond matters of probability. We take a brief detour to explore these phenomena.

9.6.2.a Fluency as a Source of Judgments of Truth and Liking Familiar information tends to be easier to process than novel information. This can lead people to infer that easy-to-process information was already seen before and then to conclude that "if it seems they heard it before, there's probably something to it."³⁰ (Along similar lines, people are more likely to endorse statements whose objective truth is difficult to ascertain when the statements are presented in an easy-to-read format than rather than one that is difficult to read.³¹)

Ease of processing also affects people's liking for things they encounter. Psychologist Robert Zajonc coined the term *mere exposure effect*, which refers to the robust finding that people like things better simply because they have already seen them before. For example, people liked meaningless symbols better after they had been exposed to them briefly. (The use of product placements in movies assumes the effectiveness of mere exposure—though it isn't clear whether the goal is to increase liking or merely to make the product in question the mindless default option.) People need not be aware of the prior exposure: even subliminal exposure, too brief to be consciously noticeable, sufficed to enhance people's later liking of symbols and objects to which they had been exposed.³² Indeed, subliminal exposures are protected from metacognitive correction.

29. Norbert Schwarz, *Metacognitive Experiences in Consumer Judgment and Decision Making*, 14 *JOURNAL OF CONSUMER PSYCHOLOGY* 332–348 (2004).

30. *Id.* at 340.

31. Rolf Reber, and Norbert Schwarz, *Effects of Perceptual Fluency on Judgments of Truth*, 8 *CONSCIOUSNESS AND COGNITION* 338–342 (1999).

32. Robert B. Zajonc, *Feeling and Thinking: Preferences Need No Inferences*, 3 *AMERICAN PSYCHOLOGIST* 151–75 (1980); Sheila T. Murphy and Robert B. Zajonc, *Affect, Cognition, and Awareness: Affective Priming with Optimal and Suboptimal Stimulus Exposures*, 64 *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY* 723–39 (1993).

The mere exposure effect can have serious public policy consequences. Since we are constantly bombarded with facts, figures, and information, it is crucial for consumers and citizens to discern between true and false assertions. While the mere exposure effect robustly suggests that information that is frequently repeated tends to stick, experiments conducted by Norbert Schwarz and his colleagues indicate that the ability to distinguish between the truth and falsehood of that repeated information fades with time.³³ Their study also indicates that memory of context—which we use to retroactively determine whether a piece of information is true or false—declines when one is engaged in cognitively demanding tasks, while familiarity is hardly affected by such tasks.

Not only repeated false claims about an individual, product, or policy, but efforts to debunk them, can contribute to their apparent truthfulness by heightening their availability. For a vivid example of this, consider Richard Nixon's statement, "I am not a crook," in rebutting claims that he was involved in the Watergate break-in.

9.6.2.b Using Metacognitive Monitoring to Repair Judgment Biases People sometimes use metacognition to try to correct for what they perceive as biases. For example, how common is the name Kennedy? When people are asked to make such estimates, they might rely on the availability heuristic based on how easily the name comes to mind. However, people's awareness that the name of a prominent political family appears so often in the media may lead to self-correction of the heuristic. In a recent experiment, when asked to estimate the frequency of names which happened to be the names of prominent celebrities (e.g., politicians and musicians), participants estimated that the names were much less frequent than they actually were. In other words, they overcorrected for the bias caused by the availability heuristic.³⁴

Metacognitive correction of perceived biases can have especially important implications in the domain of justice. Research done by Duane Wegener and Richard Petty³⁵ suggests that people can use metacognition to identify potentially biasing factors and attempt to remove bias from their perceptions and judgments. Wegener and Petty posited that when trying to prevent bias or debias initial perceptions (e.g., when on jury duty), people consult their own metacognitive beliefs about how various biasing factors might influence their perceptions.

33. E.g., Ian Skurnik, Carolyn Yoon, Denise C. Park, and Norbert Schwarz. *How Warnings About False Claims Become Recommendations*. 31, *JOURNAL OF CONSUMER RESEARCH*, 713–724 (2005).

34. Daniel M. Oppenheimer, *Spontaneous Discounting of Availability in Frequency Judgment Tasks*, 15 *PSYCHOLOGICAL SCIENCE* 100–05 (2004).

35. Reported in Duane T. Wegener, and Richard E. Petty, *The Flexible Correction Model: The Role of Naive Theories of Bias in Bias Correction*, in *ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY* 29, (M. Zanna ed., 1997).

In one experiment, Petty and his colleagues asked college students to judge whether a person accused of the crime of rape was guilty or not. Participants in the control group were presented with ambiguous information that led them to be uncertain as to whether or not the defendant had committed the crime.³⁶ A second group read the same ambiguous information but also learned that the defendant had pled guilty to a prior crime of rape. A third group read the ambiguous information but also learned that the defendant had pled guilty to a prior crime of burglary.

Participants were then asked to give two judgments: their own personal opinion of the defendant's guilt, and the verdict that they would render if they were a juror. When giving their own opinions, participants were more likely to consider the defendants with prior records (rape and burglary) guilty than the defendant with no prior record. Perhaps they regarded some people as "criminal types." When acting as jurors and rendering verdicts, however, there was no difference between the defendant with the burglary and the defendant with no record. However, more participants judged the defendant with the prior rape conviction to be guilty. The researchers concluded that when trying to be good jurors, people may correct for biases due to factors they perceive as irrelevant to making an impartial judgment (prior burglary conviction for a rape suspect), but not for biases due to information they perceive as relevant (prior rape conviction for a rape suspect) even when instructed to disregard it.

People may also correct for biases that they believe resulted from stereotypes or from their mood at the time they made a judgment. But there is evidence that attempts to suppress stereotypical thinking may actually increase stereotyping, and that people sometimes *overcorrect*, for example, leading to a less favorable evaluation of a candidate when they are in a good mood.³⁷

9.6.3 Availability, Vividness, and Inference

Richard Nisbett and Lee Ross note that "vivid information is more likely to be stored and remembered than pallid information," and thus more likely to be

36. Richard E. Petty, Duane T. Wegener, and Monique A. Fleming, "Flexible Correction Processes: Perceived Legitimacy Of Bias And Bias Correction," paper presented at the annual meeting of the Society for Experimental Social Psychology (Sturbridge, MA: 1996).

37. Leonard Berkowitz et al., *On the Correction of Feeling-Induced Judgmental Biases* 131, in *FEELING AND THINKING: THE ROLE OF AFFECT IN SOCIAL JUDGMENTS* (New York: Cambridge University Press, 2000); Linda M. Isbell and Robert S. Wyer, Jr., *Correcting for Mood-Induced Bias in the Evaluation of Political Candidates: The Roles of Intrinsic and Extrinsic Motivation*, 25 *PERSONALITY & SOC. PSYCHOL. BULL.* 237 (1999). See also Ehud Guttel, *Overcorrection*, 93 *Geo. L.J.* 241 (2004) (noting that the legal system sometimes corrects for overcorrection); C. Neil Macrae et al., *Out of Mind But Back in Sight: Stereotypes on the Rebound*, 67 *J. PERSONALITY & SOC. PSYCHOL.* 808 (1994).

retrieved at some later date and to affect later inference."³⁸ Factors that contribute to the vividness of information include:

- *Emotional interest.* Events in which we or people we know are involved have more emotional interest than those involving strangers.
- *Concreteness.* Even events involving strangers can be emotionally gripping if they are described in sufficient detail to prompt imagery. Compare "Jack was killed by a semi-trailer that rolled over his car and crushed his skull" to "Jack sustained fatal injuries in a car accident." Concrete descriptions have more information, which, even if redundant or irrelevant to the attribution of causation, is more likely to be remembered. Statistics may be the least concrete form of information.
- *Direct experience.* First-hand information has more salience than the reports of others. By the same token, a face-to-face recommendation is likely to be more effective than the same recommendation in writing.

In addition to its availability, vivid information is more likely to recruit additional information from one's memory and people are more likely to rehearse, or mull over, vivid information, making it even more memorable.

The normative problem of using vividness, and availability more generally, as criteria for inference is that they are not always strongly correlated with their evidential value. This is illustrated by a number of experiments in which vividness caused participants to generalize from obviously biased samples. For example, Ruth Hamill, Timothy Wilson and Richard Nisbett showed participants a videotape interview of a prison guard, which depicted him as either humane or brutal. Some were told that the guard was typical, some that he was highly atypical. When later asked to generalize about prison guards, both groups of participants concluded that prison guards generally tended to be like the one they had seen in the interview.³⁹ Vivid anecdotal evidence, can have a powerful effect on people's perceptions.

9.6.4 Vividness and the Media

With a summer season framed by a shark attack on a boy in Florida two days after the Fourth of July and the death of a man on Labor Day on the Outer Banks of North Carolina, the danger from sharks could easily be seen as rising dramatically.

This is being seen as the "Summer of the Shark" as Time magazine put it in a July 30 cover story bristling with images of razor-sharp teeth . . .

38. NISBETT AND ROSS, *supra* at 45.

39. Ruth Hammill, Timothy DeCamp Wilson, and Richard E. Nisbett, *Insensitivity to Sample Bias: Generalizing from Atypical Cases*, 39 JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY 578-89 (1980).

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*But notwithstanding the bloody attacks . . . scientists said the new fears were overblown. There is no rampage. If anything, they say, the recent global trend in shark attacks is down, even as news media attention soars.*⁴⁰

. . . [Y]ou cannot talk sensibly about shark attacks this summer unless you talk first of the sheer number of humans who flock to the beaches in the summertime. Shark attacks will drop off precipitously now that Labor Day has come, because there will be less human flesh in the water to be bitten . . .

Twenty-eight children in the United States were killed by falling television sets between 1990 and 1997 . . . [T]hat is four times as many people as were killed by great white sharks in the 20th century. Loosely speaking, this means that "watching 'Jaws' on TV is more dangerous than swimming in the Pacific."⁴¹

In the aftermath of the terrorist attacks of September 11, 2001, on the World Trade Center and on the Pentagon, and the SARS epidemic in Toronto in 2003, Neal Feigenson and his colleagues studied Americans' and Canadians' perceptions of the two risks.⁴²

Canadians estimated the percentage chance that they would become seriously ill or die from SARS within the next year as 7.43%, and the percentage chance that they would suffer a similar outcome from terrorism as 6.04%, a significant difference. By contrast, Americans estimated the percentage chance that they would become seriously ill or die from SARS within the next year as 2.18%, and the percentage chance that they would suffer a similar outcome from terrorism as 8.27%, also a significant difference.

The authors estimate that the probability of a Canadian's contracting SARS was in fact less than .0008 percent and (albeit more speculatively) that the probability of an American dying from terrorism within the year was about .001 percent. They explain the different perceptions in terms of "systematically different media coverage of those risks, making those risks differently available to them":

[A] sampling of national and local print coverage of SARS and terrorism indicates that Canadian media sources devoted about 40% more articles to SARS than American media sources did, while more than 14 times as many articles about terrorism appeared in American as opposed to Canadian print media. These threat by country interactions roughly parallel the national patterns of respondents' perceptions of SARS and terrorism risks.

40. William J. Broad, *Scientists Say Frenzy Over Shark Attacks Is Unwarranted*, NEW YORK TIMES, Sept. 5, 2001.

41. *The Statistical Shark*, NEW YORK TIMES, Sept. 6, 2001.

42. Neal Feigenson, Daniel Bailis, and William Klein, *Perceptions Of Terrorism And Disease Risks: A Cross-National Comparison*, 69 MO. L. REV. 991 (2004).

Paul Slovic and his colleagues have conducted numerous surveys of people's estimates of the frequency of causes of death. The social scientists found a strong correlation between media coverage—especially the coverage of spectacular events—and errors in estimation. "In general, rare causes of death were overestimated and common causes of death were underestimated. . . . [A]ccidents were judged to cause as many deaths as diseases, whereas diseases actually take about 15 times as many lives. Homicides were incorrectly judged to be more frequent than diabetes and stomach cancer. Homicides were also judged to be about as frequent as stroke, although the latter annually claims about 11 times as many lives. Frequencies of death from botulism, tornadoes and pregnancy (including childbirth and abortion) were also greatly overestimated."⁴³

Chip Heath and his colleagues studied media coverage of mad cow disease outbreaks in France to see how language frames affect the public's perception of risk.⁴⁴ Monthly beef consumption was affected more by the number of articles that referred to the disease as "mad cow" than by articles that referred to the disease by one of its scientific names, such as bovine spongiform encephalopathy (BSE.). The "mad cow" articles tended to deal less with the scientific research conducted on the disease and more with its sensational personal and social ramifications, whereas the BSE articles were more likely to include technical content and cite current studies. The authors conclude that "mad cow," which was used far more often than the scientific names, made the public more risk averse in consuming beef. (Policy makers' responses seemed more closely aligned with scientific reports in the media, suggesting a degree of deliberation independent of their constituents' fears.)

Returning to the earlier discussion of fluency as a source of judgment, research by Hyunjin Song and Norbert Schwarz suggests that people perceive objects, diseases, foods, etc. with difficult to pronounce names to be more risky or threatening than those with familiar-sounding names.⁴⁵ In particular, when people were asked to rate the dangerousness of a food additives named magnalroxate versus hnegripitrom, or roller-coaster rides named Chunta versus Vaiveahtoishi the latter, more difficult-to-pronounce additives and rides were judged to be more dangerous. The researchers conclude that easy-to-pronounce or seemingly familiar names can be processed fluently, which gives rise to the belief that one has "heard it before," and therefore to the belief that it is relatively safe.

43. Paul Slovic, Baruch Fischhoff, and Sarah Lichtenstein, *Rating the Risks*, in PAUL SLOVIC, *THE PERCEPTION OF RISK* 105 (London: Earthscan Publications, 2000).

44. Marwan Sinaceur, Chip Heath, and Steve Cole, *Emotional and Deliberative Reactions to a Public Crisis: Mad Cow Disease in France*, AMERICAN PSYCHOLOGICAL SOCIETY 247–54 (2005), <http://faculty-gsb.stanford.edu/heath/documents/PsychSci-Mad%20Cow.pdf>.

45. Hyunjin Song, and Norbert Schwarz, *If It's Difficult to Pronounce, It Must Be Risky*, 20 ASSOCIATION FOR PSYCHOLOGICAL SCIENCE 135–38 (2009).

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9.7 EGOCENTRISM: A PARTICULAR MEMORY BIAS IN ACQUISITION AND/OR RETRIEVAL

The duet from *Gigi* quoted in Section 9.2 exemplifies how participants or observers may recall the same event differently even when there is no ostensible reason for the difference. Beyond this, people's recollections and judgments tend to be clouded by an egocentric bias. When married couples estimate their proportionate contribution to household tasks, the sum exceeds 100 percent.⁴⁶ So too of collaborators' estimates of their contributions to joint projects, such as this book. While the phenomenon may be partially explained by self-serving motives or having inflatedly positive views of oneself, it extends to negative behaviors as well. Spouses report *causing*, as well as resolving, most of the problems in their relationship,⁴⁷ and people are prone to overestimate their own errors and unattractive behaviors.⁴⁸

One plausible explanation for the egocentric bias is that our own actions are more readily accessible to our memories than the actions of others. Furthermore, our recollection of behaviors may be guided by a theory of one's own behavior. Rather than go through the laborious process of recalling particular activities, we ask ourselves, "how often do I do this kind of thing?" and take the further shortcut of looking to our disposition by asking, "am I the sort of person who does this?" Of course, we might ask the same questions about the other person. But either because we find it "difficult or time consuming to retrieve two separate pieces of information and combine them to procedure a single judgment," or because we anchor on our own contributions and then (insufficiently) adjust for the other's, it is our own behavior that dominates.⁴⁹

Even when an individual holds himself accountable for an outcome vis-à-vis others, the question remains open whether the outcome was due to internal factors such as skill or its absence, or to external factors, such as bad luck. In an analysis of newspaper accounts of sporting events, Richard Lau and Dan Russell found that players attributed good outcomes to their skill 75 percent of the time, but took responsibility for bad outcomes only 55 percent of the time. Sportswriters—who one might expect to have more distance—were less likely than players or coaches to attribute wins to internal factors, but even sportswriters

46. Michael Ross and Fiore Sicoly, *Egocentric Biases in Availability and Attribution*, 37 JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY 322 (1979).

47. See Linda Babcock et al., *Biased Judgments and Fairness in Bargaining*, 85 AMERICAN ECONOMIC REVIEW 1337, 1337–38 (1995).

48. NISBETT AND ROSS, *supra* at 76; Justin Kruger and Thomas Gilovich, *Naive Cynicism, in Everyday Theories of Responsibility Assessment: On Biased Perceptions of Bias*, 76 JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY 743–53 (1999).

49. Suzanne C. Thompson and Harold H. Kelley, *Judgments of Responsibility for Activities in Close Relationships*, 41 JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY 469 (1981).

were more likely to provide internal attributions for their home teams' wins than for losses.⁵⁰

Egocentrism is often correlated with self-servingness. Among people working different amounts of time in a joint enterprise, those who work more believe they should be paid more, while those who work less believe that both parties should be paid equally. People may come to self-serving results indirectly, by disproportionately valuing the particular task they contribute to the joint enterprise (e.g., washing the laundry compared to sweeping the floors). But people often believe they are entitled to a greater share than others even in the absence of joint activities. For example, in a simulation of a commons problem involving fishing associations that needed to reduce their harvests to preserve the stock of fish for long-run profits, participants believed they were entitled to a greater portion of the catch than the others.⁵¹

9.7.1 Debiasing Egocentrism

If egocentrism is rooted in the accessibility of one's own actions or interests, then having an individual consider other people's perspective should bring their sense of fairness more into line. And it does—though with an important and unfortunate kicker. For example, when debate team participants were just asked to allocate their contributions to a joint effort, their net allocations summed to 156 percent; when they were asked to think about others' contributions, the sum was a mere 106 percent.⁵²

And now the kicker: While putting yourself in the other person's shoes often brings your perception of fairness closer to reality, it does not reduce selfish behavior, and in some cases may increase it—presumably because adopting the other person's perspective leads you to believe that the other person will act in an egocentric and self-interested way, which you then counter by taking more yourself. Thus in the fishing associations example, instructing participants to look at the commons problem from other associations' point of view reduced, although did not totally eliminate, egocentric assessments of what they deemed to be their fair share.⁵³ But that instruction actually *increased* the amount of the harvest the

50. Richard R. Lau and Dan Russell, *Attributions in the Sports Pages*, 39 *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY* 29 (1980).

51. Kimberly A. Wade-Benzoni, Ann E. Tenbrunsel, and Max H. Bazerman, *Egocentric Interpretations Of Fairness In Asymmetric, Environmental Social Dilemmas: Explaining Harvesting Behavior and the Role of Communication*, 67 *ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES* 111–26 (1996).

52. Eugene M. Caruso, Nicholas Epley, and Max H. Bazerman, *The Good, The Bad, And The Ugly Of Perspective Taking In Groups*, in E. A. Mannix, M. A. Neale, & A. E. Tenbrunsel, (series eds), *Research On Managing Groups And Teams*, 8 *ETHICS IN GROUPS* 201–224 (London: Elsevier, 2006).

53. Eugene M. Caruso, Nicholas Epley, and Max H. Bazerman. *When Perspective Taking Increases Taking: Reactive Egoism in Social Interaction*, 91 *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY* 972 (2006).

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participants actually took in the simulation. In a sense, cynicism about the other participants resulted in *reactive egoism*.⁵⁴

9.7.2 The Recollection of One's Own Past Beliefs, Feelings, and Events

Herein lies a difficulty in any autobiographical sketch which purports to deal with one's mental development. It is a story of oneself in the past, read in the light of one's present self. There is much supplementary inference—often erroneous inference—wherein "must have been" masquerades as "was so."

—C. LLOYD MORGAN, *HISTORY OF PSYCHOLOGY IN AUTOBIOGRAPHY* (1930)⁵⁵

Research suggests that emotions may not be stored directly in memory but rather "are reconstructed based on memories of the emotion-eliciting circumstances."⁵⁶ Reconstructions may go beyond emotions to involve the memories of attitudes and even actions. Michael Ross⁵⁷ argues that such memories are based on people's implicit theories of human stability and change. All things being equal, we think that attitudes are consistent over time. For this reason, when we infer past attitudes from present ones, we tend to exaggerate their consistency. For example, participants whose views changed about school busing to achieve desegregation or about the health effects of vigorous physical exercise misremembered their earlier views; university students whose attitudes toward a dating partner had changed over several months recalled their earlier impression as being more consistent with their current attitudes than was the case. Furthermore, because we tend to seek consistency in attitudes and behavior, a change in attitudes can produce inaccurate recollection of behaviors. Thus, when experimenters caused participants to believe that regularly brushing their teeth was not as important as they had thought, they recalled less brushing than they actually had done.

While a belief in personal consistency is the norm, we also have theories of change. So, for example, people who have engaged in education and self-improvement programs tend to exaggerate the difference between their past and the present knowledge or behavior. In an experiment involving a program to improve study skills, students recalled their original assessment of their study skills to be worse than they had originally reported and reported greater improvement than the facts warranted. They not only overpredicted the resulting

54. Kruger and Gilovich; Epley, Caruso, and Bazerman. However, selfish behavior was reduced when the group project was structured or characterized as cooperative rather than competitive.

55. Quoted in Michael Ross, *Relation of Implicit Theories to the Construction of Personal Histories*, 96 *PSYCHOLOGICAL REVIEW* 341 (1989).

56. *Id.*

57. *Id.*

improvement in their grades, but subsequently recalled the new grades as being higher than they actually were.

9.8 CONCLUSION: NAÏVE REALISM

*How narrow his vision, how cribbed and confined!
How prejudiced all of his views!
How hard is the shell of his bigoted mind!
How difficult he to excuse!*

*His face should be slapped and his head should be banged;
A person like that ought to die!
I want to be fair, but a man should be hanged
Who's any less liberal than I.*

—Broadmindedness, in Franklin P. Adams, *Something Else Again* (1920)

The biases in the acquisition and recollection of information outlined above are exacerbated by three related convictions that people have about their perceptions and judgments and the perceptions and judgments of other people. These are the elements of what Lee Ross has termed *naïve realism*:⁵⁸

1. I see actions and events as they are in reality. My perceptions and reactions are not biased: rather, they are an unmediated reflection of the "real nature" of whatever it is I am responding to.
2. Other people, to the extent that they are willing and able to see things in a similarly objective fashion, will share my perceptions and reactions.
3. When others perceive some event or react to it differently from me, they (but not I) have been influenced by something other than the objective features of the events in question. Their divergent views probably result from an unwarranted ideological rigidity or a self-serving bias that I am not influenced by. The more extreme the view is in divergence from my own, the stronger their bias probably is.

Naïve realism can be especially pernicious in the context of disagreement or conflict. It has the practical implications that:

- Partisans tend to overestimate the number of others who agree with their views—the *false consensus* effect—or at least overestimate the number who

58. Lee Ross and Donna Shestowsky, *Contemporary Psychology's Challenge to Legal Theory of Practice*, 97 *Nw. U. L. Rev.* 1081 (2003).

the new grades as being

would agree with them if apprised of the "real" facts; partisans therefore assume that disinterested third parties would agree with them.

- Partisans tend to see viewpoints that differ from their own as highly revealing both of personal dispositions (for example, gullibility, aggressiveness, pessimism, or charitableness) and of various cognitive and motivational biases. In fact, differences in judgment often reflect differences in the way a given issue or object of judgment is perceived and construed rather than a difference in the perceivers' values or personality traits.
- When partisans acknowledge the influence of particular features of their experience or identity, they see it not as a bias but as a source of enlightenment, while they see the other parties unique experiences or identities as a source of bias.
- Partisans on both sides of an issue will typically perceive evenhanded media to be biased against them and to favor their adversaries. They are apt to see the same hostile bias in the efforts and decisions of evenhanded third-party mediators or arbitrators.
- Partisans will be polarized and extreme in their view of others. Once they believe a person to be biased, they tend to discount his views entirely, and will underestimate areas of agreement and underestimate the prospects of finding "common ground" through discussion or negotiation.

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Information outlined above have about their perceptions of other people. These 577:58

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We have seen that being asked to articulate the weaknesses of one's own position may counter perceptual biases in some situations. A broader hope of this book is that students and readers who understanding those biases and the phenomena of naïve realism will be less likely to fall into their traps. But we should be among the first to admit that the hope does not rest on much of an empirical foundation.

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