Introduction

*The Crossroads of Psychology and Evidence Law*

The scene is familiar from courtroom trials on television: a lawyer puts a question to a witness and before the witness can answer another lawyer yells “objection,” hoping to prevent some item of evidence from being learned by the jury. What rules of the courtroom game give lawyers the right to make such objections? Why do such rules exist? What are the psychological rationales for the rules?

The backstory of the rules of evidence begins with rulemakers: the people who created and continue to shape the rules. Decades and centuries ago these were common law judges, but today they are judicial committees, legislatures, special commissions, and sometimes still judges in their role as interpreters of existing rules. In the United States, the rules of evidence used by federal courts and most state courts are embodied in the Federal Rules of Evidence. The story also involves judges who apply the rules, lawyers who argue how the rules should be applied, parties to cases, witnesses, and jurors. And, as we describe throughout this book, the story of the rules of evidence deeply involves psychology.

When creating a rule of evidence, the rulemakers often, and unavoidably, must act as applied psychologists. The rules of evidence reflect the rulemakers’ understanding—correct or incorrect—of the psychological processes affecting witnesses and the capabilities of factfinders. A “factfinder” is someone who listens to the trial evidence and decides which facts to believe. In the United States that is usually 6–12 jurors, but the trial factfinder can also be a judge, and often is. In order to fashion the rule, the rulemakers need to think about the dependability of the kind of evidence under consideration, which might involve concerns about the nature of human perception and memory. Other times they must ponder the ability of factfinders to comprehend the meaning of evidence, assess its soundness, and consider its implications for the factual issues
they need to resolve. In addition, rulemakers might need to consider whether certain kinds of inquiries by counsel are likely to help illuminate the strengths and weaknesses of the evidence, or whether judicial instructions can provide guidance when confronting problematic evidence. At the end of the day, rulemakers must predict how a given kind of evidence, presented and attacked in certain ways, is likely to influence factfinders, steering them away from misleading factual conclusions and moving them toward correct ones. All of these considerations put the rulemaker in the position of being a psychologist—an intuitive, amateur psychologist, but a psychologist nonetheless.

Similarly, when a trial judge, acting under an existing rule, makes a ruling on a disputed issue of evidence, often that judge, too, is acting as an applied psychologist. For example, the judge must try to predict how evidence will inform or mislead or otherwise influence the jury, and therefore whether it should be admitted or excluded. In contrast with rulemakers, however, the trial judge's focus is on a particular piece of evidence in the context of a specific trial, rather than on generic categories of evidence.

If we ask why we have the rules of evidence we have rather than other rules, a large part of the answer will be that they take into account the cognitive machinery and psychological processes possessed by witnesses and factfinders—or at least those processes as they are perceived by the rulemakers. The premises on which many of the rules of evidence are constructed, and the procedures in which they are embedded, are in large part a product of the rulemakers' beliefs about human psychology: beliefs about the way that people receive, store, and retrieve information, about how people make judgments and draw inferences from verbal and other reports about objects and events in social contexts, and about the organization and operation of the court as well as the larger society. Different underlying beliefs would have led to different rules than the ones we have.

And so, we can ask what the beliefs are that rulemakers have about the capacities and tendencies of witnesses, lawyers, jurors, and others. We can ask whether the rulemakers are correct in those beliefs, and in turn whether the rules they created achieve their purposes as well as they could, or whether different rules could achieve those goals more effectively. Rulemakers, being human, and relying heavily on intuition
to answer difficult questions about human psychology, will be wrong sometimes. (We are going to try to figure out which times.)

To be sure, rulemakers try to solve other problems as well. Trials are designed not only to be effective searches for truth, but also to serve other values, such as to give parties control over the presentation of their respective cases,\(^7\) to ensure that the adversarial battle is a fair fight, to protect certain relationships, to encourage repairs of dangerous situations, and so on. Some rules reflect those other concerns. Our trial system succeeds only if its procedures and results assure the parties and the public that the process produces reasonably accurate and acceptably just results.\(^8\)

This book focuses on the psychological beliefs reflected in the rules of evidence—beliefs about witnesses, about factfinders, and about the trial process—and how those beliefs have informed the development of the rules of evidence. It explores a number of important practices from evidence law about which psychology does, or could, have a lot to say to illuminate the underlying assumptions, and evaluates whether those assumptions are consistent with the psychological research or whether the law's goals for evidence doctrine could be achieved more successfully with a modified rule or a different rule or no rule at all.

This is a useful place to pause for a moment to address legal terminology. In this book, the noun “rule” refers to a rule of evidence: a directive to judges concerning how to treat a proffered type of evidence. Evidence “doctrine” is a widely adhered to body of principles concerning the law of a topic, in the present context how evidence is to be viewed and treated by courts. Evidence “law” is the broadest term. To borrow from *Black's Law Dictionary*, it refers to: “The aggregate of legislation, judicial precedents, and accepted legal principles; the body of authoritative grounds of judicial and administrative action; esp., the body of rules, standards, and principles that the courts of a particular jurisdiction apply in deciding controversies brought before them.”

The Psychology of Evidence Rules

Let's look at some concrete examples that illustrate the rulemakers’ concerns with different psychological processes and how those concerns are reflected in several rules.
An example of a rule that makes assumptions about the cognitive capacities of people is the excited utterance exception to the rule against hearsay, Rule 803(2) of the Federal Rules of Evidence, which allows hearsay statements when the out-of-court statement is made under the influence of a stressful event. This rule is rooted in the belief that people have limited cognitive capacity and that the stress of an arousing event consumes so much of their available cognitive resources that people lack sufficient residual capacity to invent falsehoods. Thus, an out-of-court statement made by someone exclaiming something in response to such an event was thought unlikely to be fabricated due to the very stress of the occasion, and therefore was dependable enough to be exempted from exclusion as hearsay. This rule—which is explicitly grounded in a cognitive theory—was suggested by John Henry Wigmore, the preeminent evidence scholar of the early twentieth century, was accepted as sound by some American judges, and later adopted by the drafters of the Federal Rules.

**Rule 803(2). Excited Utterance [Exception to the Rule against Hearsay]**

A statement relating to a startling event or condition, made while the declarant was under the stress of excitement that it caused.

If the rulemakers had believed that humans, as observers of events that later became issues at trial, had more expansive cognitive abilities, or could process thoughts and feelings in parallel—so that while part of the mind was reacting to the stimulus of a stressful incident, another part was busy constructing and evaluating advantageous lies—this hearsay exception would have found far less favor. Alternatively, if rulemakers believed that the same stress that Wigmore thought made a statement trustworthy had an even greater tendency to cause a person’s perception and interpretation of an event to be distorted, and for this reason the statement was therefore _undependable_, then there would be no excited utterance exception. This is one example of a set of rules and rulings that are concerned with the capacities and abilities of out-of-court observers and in-court witnesses, and where the rulemakers had to employ their best (though limited) knowledge about human cognition.

Other rules seem to be concerned jointly with the behavior of people in transactions that bring them to court and with the inferential ten-
dencies of jurors. The doctrines limiting the admissibility of character evidence—embodied in Rule 404(a)—are based on a belief that observers (in this case, factfinders) overattribute behavior to the assumed traits of the actor and overestimate the consistency with which people behave across time and different circumstances. These rules are concerned with whether, as actors, our behavior is driven by personality traits, how consistent our conduct is with those hypothesized traits; and, as perceivers of behavior, how strong our tendency is to attribute behavior to stable characteristics of people and to overlook inconsistency wrought by situational and other factors. The greater the extent to which our perceptions of consistency between traits and behavior overstate the reality of that consistency, the more sensible it is for rulemakers to adopt a rule that keeps such information from reaching factfinders. This example illustrates another class of rules that are concerned with how jurors respond to evidence, and where the rulemakers are employing their beliefs about both cognitive and social psychology.

Rule 404(a). Character Evidence

(1) Prohibited Uses. Evidence of a person's character or character trait is not admissible to prove that on a particular occasion the person acted in accordance with the character or trait.

(2) Exceptions for a Defendant or Victim in a Criminal Case. The following exceptions apply in a criminal case:
   (A) a defendant may offer evidence of the defendant's pertinent trait, and if the evidence is admitted, the prosecutor may offer evidence to rebut it;
   (B) subject to the limitations in Rule 412, a defendant may offer evidence of an alleged victim's pertinent trait, and if the evidence is admitted, the prosecutor may:
      (i) offer evidence to rebut it; and
      (ii) offer evidence of the defendant's same trait; and
   (C) in a homicide case, the prosecutor may offer evidence of the alleged victim's trait of peacefulness to rebut evidence that the victim was the first aggressor.

(3) Exceptions for a Witness. Evidence of a witness's character may be admitted under Rules 607, 608, and 609.
The doctrine of privileges (embodied in Rule 501), which protects communications between people in certain types of relationships from being disclosed in trials. The variety of privileges reflects beliefs about the importance of certain roles and relationships, coupled with the normative views of rulemakers concerning which relationships should be granted protection from intrusion by the legal process—and which should not. The decision to grant a privilege rather than to require evidence to be disclosed reflects a complex judgment about the nature of those relationships, the likely harm such relationships would suffer if their communications were subject to disclosure at trial, and the value society places on preserving those kinds of relationship notwithstanding the cost of foregoing evidence. Familiar privileged relationships are lawyer-client, doctor-patient, and spousal. More contested relationships are journalist-source and parent-child. In setting out the rule on privileges, a set of rules that contemplates the nature and functioning of relationships and organizations, the rulemakers are acting as sociologists and social psychologists.

**Rule 501. Privilege in General**

The common law—as interpreted by United States courts in the light of reason and experience—governs a claim of privilege unless any of the following provides otherwise:

- the United States Constitution;
- a federal statute; or
- rules prescribed by the Supreme Court.

But in a civil case, state law governs privilege regarding a claim or defense for which state law supplies the rule of decision.

*Authors’ note: Rule 502 defines the attorney-client privilege applicable in federal courts. As indicated by Rule 501, all other recognized privileges are borrowed from common law or state law.*

These examples illustrate how the rules of evidence are in part, some in large part, a product of the beliefs that rulemakers have about human psychology.
The Psychology of the Evidence Rulemakers

Often, when rulemakers adopt a general rule of evidence,\(^\text{12}\) they do so by trying to compare the optimal or ideal or proper inferences to be drawn from a class of evidence to how they imagine average jurors will interpret the evidence. If no discrepancy were expected between perfect decision making and the decision making of human factfinders, few rules of evidence would be needed. In concluding that a gap exists, rulemakers share the company of psychologists who have found whole classes of erroneous inferences and judgments that humans routinely make.\(^\text{13}\)

The figures in this section will deepen and expand one’s appreciation of the challenge that rulemakers face, and the multifaceted roles that psychological issues play, in thinking about evidence rules.

This gap between the ideal inference and the inference a jury is likely to make is depicted in Figure I.1. Box A represents ideal inferences, Box B represents the actual inferences jurors draw, and the arrow between them represents the gap between those two sets of inferences. When that gap is perceived as too large, a rule is likely to be developed to try to avoid or reduce the error, usually by excluding evidence.

The actual situation is much more complicated because the rulemakers are acting not only as amateur psychologists, but also as amateur
logicians, statisticians, and scientists of various kinds. Figure I.2 illuminates this problem.

The rulemakers cannot measure either the reality of perfect inferences or the reality of average jurors’ inferences or, of course, the gap between them. The rulemakers are actually comparing their estimate of the ideal inferences (Box A*) against their estimate of what the jurors’ inferences might be (Box B*). Their estimate of what the correct inference is from any given type of evidence is the product of their human, usually intuitive, judgment, and is not necessarily correct. Their estimation of what inferences jurors likely will draw from the evidence is a largely intuitive prediction about the decision making of other people—an exercise in predictive mind reading (or “metacognition”). In other words, the rulemakers behave as though they are assessing the gap between Box A and Box B (Gap 1), but all they have access to is their own reasoning and intuition, which has them assessing the gap between Box A* and Box B* (Gap 4).

The greater the gap between Box A and Box A* (Gap 2), the greater the error rulemakers are making about what the correct inference is from the evidence. The greater the gap (Gap 3) between what rulemakers think jurors think (Box B*) and what jurors actually think (Box B), the greater the error that rulemakers are making about the factfinders. Rulemakers (and judges) might be no better than jurors at drawing such inferences, so that the rulemakers are overestimating jurors’ misunderstanding of the evidence, and therefore have created a rule where one is not needed. Or jurors might be far worse at processing the evidence than the rulemakers realize, so that the rulemakers are underestimating the gap between correct inferences and the jurors’ inferences, and therefore have not created a rule where one would be useful.

Trying to evaluate the gap between Box A and Box A* for any given rule or any given item of evidence is beyond the scope of this book. This book examines instead the gap between the actual inferences that average people draw from evidence (Box B) and what rulemakers believe the inferences are that average people draw (Box B*), that is, Gap 3. To some extent we can also examine the gap between what judges think is the correct inference from evidence (Box A*) and the inferences actually drawn by average people (jurors) (Box B). In short, in this book we
will be learning about the psychology of rulemakers and judges as well as the psychology of witnesses and jurors.

The History and Purpose of Evidence Rules

This section provides some background on what the rules of evidence do and how they came into being and evolved. As you might already know—or can figure out by skimming the rules of evidence (which are provided in Appendix B at the back of this book)—after addressing a number of preliminary issues, the rules of evidence define relevant evidence (Rule 401) and declare evidence that is relevant to be admissible (Rule 402) and evidence that is not relevant to be inadmissible. Most of the remaining rules can be characterized as rules of exclusion, defining types of evidence that are inadmissible despite their relevance, along with rules that specify exceptions to those general rules of exclusion (i.e.,
types of evidence to be admitted despite a more general rule that would make them inadmissible).

**Rule 401. Test for Relevant Evidence**
Evidence is relevant if:
(a) it has any tendency to make a fact more or less probable than it would be without the evidence; and
(b) the fact is of consequence in determining the action.

**Rule 402. General Admissibility of Relevant Evidence**
Relevant evidence is admissible unless any of the following provides otherwise:
• the United States Constitution;
• a federal statute;
• these rules; or
• other rules prescribed by the Supreme Court.
Irrelevant evidence is not admissible.

*Why Do We Have Rules of Evidence?*

Why does our trial system have rules of evidence? And why are our rules of evidence so extensive and detailed?

A century ago, lawyers and legal scholars theorized that juries were the reason that rules of evidence had evolved in Anglo-American law. They noted that continental European countries, which used the “inquisitorial” system of trials (in which judges both investigate the facts of the case instead of lawyers and serve as factfinders instead of juries), had and have very brief evidence codes. On the other hand, English common law countries, which used the “adversarial” system of trials (in which opposing lawyers develop and present the evidence to third-party factfinders, typically lay jurors) had developed extensive rules regulating what evidence was to be admitted to and what excluded from trial. Prominent legal scholars, led by James Thayer, inferred from this situation that juries must be the reason why we have extensive rules of evidence. Where judges alone were factfinders, few rules existed. But where laypersons were factfinders, many specific rules were needed to filter
and shape the evidence to help those amateur factfinders reach correct verdicts. Simeon Baldwin—a law professor at Yale as well as a justice of the Connecticut Supreme Court and a member of Congress—put the matter bluntly, writing that, “for the most part, English Judges centuries ago” created rules of evidence “because they had to deal with juries composed of illiterate men of untrained minds, incapable of making nice discriminations as to the weight of testimony.”

But a more careful look at history has led to a different conclusion. By looking at when our rules of evidence grew into their voluminous form, scholars saw that the pivotal distinction was not whether judges or juries were deciding the cases, but whether evidence was presented through an adversarial or inquisitorial system of trial. Soon after lawyers in adversarial systems acquired their central role in investigating, developing, and presenting evidence in court, rules of evidence rapidly evolved to place more, and more detailed, constraints on what those lawyers could offer at trial. Because lawyers in an adversarial system are highly motivated to try to find evidence that supports their client’s position, to think about how best to present that evidence, and to argue as persuasively as possible in support of the desired evidence and the desired conclusions, limits had to be placed on what those lawyers would be permitted to do. The rules came into being to rein in the inevitable excesses of lawyers in an adversarial system. Juries were a constant—they existed before and after the advent of rules of evidence. Determinedly adversarial lawyering was the innovation that impelled further change, and extensive rules of evidence were that change.

The rules of evidence apply to bench trials (that is, when a judge tries a case without a jury) as well as to jury trials; so, in theory at least, judges are also being protected from the excesses of advocates. But it is less practical for judges to screen evidence from themselves than from jurors, and judges doubtless believe that they are not in great need of protection. Typically, they previously were trial lawyers and they understand advocacy. So perhaps it is more complete and accurate to suggest that adversarial processes without juries, or juries without adversarial processes, do not need extensive rules of evidence. But put the adversary process together with juries, and evidence rules become a necessary device for restraining lawyers, thereby protecting jurors from being deceived or misled.
As we will see in more detail in the next chapter, common law judges and their successors, rules drafting committees, have done a remarkably good job of reining in lawyers. In tandem with the rules of procedure, the rules of evidence place limits on the persuasive efforts of lawyers, making it quite difficult for them to use what psychological research has found to be the most powerful tools of influence and persuasion. At the same time, it should be noted that the rules of evidence also empower lawyers in certain ways. The rules can be used to control an opponent and, sometimes, even the judge. Like it or not, a judge must, for example, grant a lawyer's request to exclude a witness from the courtroom until the witness's turn comes to testify (unless limited exceptions apply), or exclude hearsay evidence, and certain other evidence, unless that evidence falls within an exception.

Evolution of the Rules

Our legal ancestors seem to have been more acutely aware of the contested nature of the assumptions underlying evidence doctrine than their modern descendants are. The declining awareness of the assumptions underpinning evidence doctrines is partly a consequence of the increasing crystallization and the eventual codification of the rules—into the Federal Rules of Evidence which, as noted above, are the law in both the federal courts, and most state courts of the United States. One of the purposes of this book is to bring those assumptions—those hypotheses about human beings and society—closer to the surface again for examination. Knowing the assumptions helps deepen one's understanding of the policies behind a rule and, therefore, when exceptions to a rule might sensibly be sought and permitted.

Judge-made rules of evidence are law, of course, but in that form they tend to be more debatable. Once a rule is codified into a statute by a legislature, however, its fundamental assumptions seem less vulnerable, and attention shifts to other matters: interpreting the rule's command, determining how different parts of the evidence code interact with each other, and navigating difficulties of application in concrete cases. Declining awareness of a rule's behavioral assumptions does not mean the assumptions have gone away, or that they are necessarily correct, but only that they have become less visible in discussions of the doctrine.
For example, at common law—when laws, including evidence rules, were made by judges, which was the situation at the time of the founding of the United States—anyone who stood to gain or lose from the outcome of a case was barred from testifying, and that included plaintiffs and defendants. Judges (the common law rulemakers) reasoned that parties were unavoidably biased in their own favor, would therefore be incapable of testifying to the unvarnished truth, and therefore a rule barring the testimony of parties was a sound one. The reasoning behind such rules, and therefore their limits, were discussed openly. By the latter half of the nineteenth century, the rule disqualifying interested parties from testifying had changed. The rule changed because the beliefs underlying the rule changed—beliefs about the power of the temptations of interested witnesses to lie, about the ability of the evolving adversary trial system to expose those biases to the jury, and about the ability of jurors to discount the testimony once they learn of a witness’s biases and interest in the outcome. Today, what was once prohibited is now routinely permitted, and concern that it would lead to inevitable deception of factfinders has evaporated.

Thus the rules of evidence as we know them today are the result of centuries of work by judges, lawyers, and eventually legislators. They are the product, over generations, of efforts by countless lawyers to insert or exclude various items of evidence and the rulings of countless judges concerning such efforts. They continue to change, however slowly, and those changes rest in part on changes in beliefs about the behavior of parties, witnesses, lawyers, and factfinders.

Debating the Nature of Evidence Rules

Simon Greenleaf’s three-volume Treatise on the Law of Evidence (1842–1853), which was a standard textbook in American law throughout the latter half of the nineteenth century, asserted that “[t]he student will not fail to observe the symmetry and beauty of this branch of the law . . . and will rise from the study of its principles convinced, with Lord Erskine, that ‘they are founded in the charities of religion, in the philosophy of nature, in the truths of history, and in the experience of common life.’” Half a century later, James Bradley Thayer, who succeeded Greenleaf in his Harvard professorship, responded to Greenleaf, writing, “[I]t would
be juster and more exact to say that our law of evidence is a piece of illogical, but by no means irrational, patchwork, not at all to be admired, nor easily to be found intelligible." Edward Cleary, an eminent mid-twentieth-century evidence scholar observed: “the rules of evidence largely have been constructed out of anecdotes and unsystematic observation, plus what hopefully passes for reason but could more honestly be labeled conjecture about human behavior.”

Beautiful or chaotic, most evidence scholars recognized that evidence rules had gone through many changes over time, and were in continuing need of change. Thayer argued for a more experimental view of evidence rules, one that would continually test their ability to meet contemporary needs and question their underlying assumptions. Today’s social and behavioral scientists would be entirely in agreement with that view. Indeed, among many legal commentators, “[t]here is no real debate over whether legal scholarship should make use of insights and methods from other disciplines.”

That evidence doctrine and trial procedures reflect the rulemakers’ beliefs about human cognitive abilities, decision making, and organization of the trial and society, leads to the corollary that improved foundational knowledge could lead to more effective rules and more satisfactory trials. Cleary, who was one of the drafters of the Federal Rules of Evidence, called for more use of the scientific method to help strengthen that foundation. In 1952, he wrote:

In the realm of honest searching after facts, nothing could be further removed from scientific method than the rules governing procedures used in courts. . . . In science a theory possesses a recognized provisional and tool-like character. If the empirical data collected do not support the theory, the theory is discarded. Since the law never collects any [systematic] empirical data, it is spared the embarrassment of having ever to discard a theory on that basis.

Cleary thought that evidence law was unusually well suited to a partnership with empirical social science:

Most substantive law is . . . filled with oughts and value judgments. . . . Evidence is almost unique in being primarily concerned with the is.
Other than some minor value judgments . . . the rules of evidence are constructed upon certain assumptions as to how people do in fact act under particular circumstances, rather than how they ought to act. 29

The customary approach of research psychologists seems entirely compatible with the approaches to evidence law suggested by the legal scholars just described.

How Psychologists Approach Problems Like Those Faced by Evidence Rulemakers

An empirical question is one that has to do with the nature of the material world—what is the actual nature of some thing or phenomenon, what are the causal interconnections, what works and what doesn’t, how accurate is a test?

Empirical questions need to be distinguished from various kinds of legal questions (e.g., are baby carriages forbidden by a rule that prohibits “vehicles” from entering the park on weekends?), or questions about logic (if the law has not yet declared the constitutionally required minimum number of jurors, but has held six to be above the minimum, does it follow that five cannot be below the minimum?), or morality (is it right to enrich oneself while some fellow citizens are too poor to feed their children?). Those are questions for which empirical inquiry cannot provide the answers.

Answering an Empirical Question: Example of Disregarding Evidence

When the answer to an empirical question is sought, how does one find it? How does one go about obtaining sound answers to questions such as the following: Does bleeding a patient through the application of leeches cure disease? Do astrological signs predict one’s future? Is each person’s handwriting (or fingerprint) unique? Do vaccines cause autism? Does it harm a witness’s credibility for the weaknesses in her testimony to be brought out on direct examination (by the very lawyer who called the witness to the stand)? When instructed to disregard inadmissible evidence, can jurors put that information out of their minds and decide the case as if they had never heard it?
Whereas rulemakers typically proceed by reaching a consensus on their assumptions, impressions, anecdotes, and reasoning about human behavior, psychologists proceed by trying to empirically test assumptions and theories. In other words, the approach generally taken by psychologists is the application of the scientific method. At bottom, the scientific method is an effort to obtain answers to questions about the nature and workings of the material world by designing ways to draw out an answer about the phenomena of interest from the world itself.\(^{30}\)

Suppose we want to know whether instructing jurors to disregard inadmissible evidence that nevertheless had been blurted out in a trial is an effective way to remove the impact of that evidence from the jurors’ decisions. One research possibility would be to design a study in which mock jurors hear testimony about a case. One randomly created group of mock jurors does not hear the damaging inadmissible evidence (the “not-hear” condition). Two other groups do hear the damaging inadmissible evidence: some jurors hear it with no objection; others hear an attorney objecting and the judge giving a standard instruction to disregard the evidence.

The subsequent decisions of jurors in the three different conditions could be compared to each other. How much impact did the inadmissible evidence have? We can find out by comparing the not-hear condition to the no-objection condition. If the evidence were inculpatory in a criminal case, we would expect to find more guilty verdicts in the no-objection condition. How much impact did the instruction to disregard have? We can find out by comparing the disregard condition to the other conditions. Did jurors’ decisions in the disregard condition look the same as in the no-objection condition, suggesting the instruction had no effect? Or did the objection lead to even more guilty verdicts, suggesting that the instruction underscored the inadmissible evidence and made a bad situation worse? Or did the instruction to disregard “work” and reduce the impact of the inadmissible evidence? If so, how much? Was the harm completely undone, so that decisions in the disregard condition looked just like those in the not-hear condition, indicating the instruction was completely effective? Or was it somewhere in between, indicating that the instruction was only partially successful?

You can imagine variations on such an experiment. If the standard instruction did not undo the damage of the inadmissible evidence, per-
haps a more innovative instruction would—built, perhaps, on other re-
search knowledge from psychology. Are you concerned that these are
mock trials and mock jurors? With additional effort, one could design
similar studies to take place in the setting of actual trials.

Many different questions about what happens when evidence is ad-
mitt ed or withheld could be asked through such empirical studies, and
many different research designs are possible to test those questions. The
results of such studies could inform rulemakers about the extent of suc-
cess or failure of existing rules, or suggest new and better rules.

Drawing on Basic Empirical Psychology Research

Another approach to using psychology in legal settings would be to
borrow from the findings of more basic empirical research, or from
theoretical knowledge about human perception, memory, and infor-
mation processing. That is, rather than conducting new experiments
on a specific legal-context question, knowledge can be borrowed from
other studies asking similar kinds of questions in different contexts.

To illustrate, let’s consider some general properties of the human
mind. One characteristic of our mental processing is that we seek
coherence—patterns, explanations, causes—and we sometimes find
them when they are not there. We are tricked by visual illusions and
sometimes still see them even though one part of our mind seems to be
telling the other part: “No, you know the two lines are the same length;
stop interpreting them as different.” We humans take little bits of in-
formation and put them together with other little bits and from them
we generalize: we make inductions, form categories, and even create
ster eotypes. Sometimes the bits of information in the world (bottom-
up knowledge) and things we already believe (top-down knowledge)
clash, and one gives way to the other. We quickly see disparate events
or objects or people as similar, but we are also good at distinguishing
instances—especially when context, knowledge, cognitive resources,
or motivation propel us to do so. These are very general processes and
are at work in many of our cognitive functions, including perception,
memory, judgment, reasoning, and language.

Among several large areas of basic psychology research discussed in
this book that have many applications to the legal world, two are mental
contamination and the dual systems theory of higher-order cognition. The first, mental contamination, is an umbrella term for some of the research about how knowledge or memory can affect reasoning—even when you don’t want it to. The second, the dual systems theory of higher-order cognition, is a theoretical account of judgment and thinking processes that has emerged after decades of debate about human reasoning competencies.

Mental Contamination

“Mental contamination” is not a commonly used term in psychology, but we use it here to label a category of basic research findings about how prior knowledge can bias future judgments in an unwanted manner. Normally, prior knowledge about what you are judging is a good thing. For example, you can better evaluate an athlete’s performance the more you know about the sport. However, sometimes even useful knowledge can lead us astray.

Mental contamination takes different forms in the legal system. Some of them have already been mentioned, and they come up in various rules of evidence. “Metacognition” is the ability to think about one’s own and others’ reasoning processes. As mentioned in conjunction with Figure I.2, judges often have to engage in metacognition when trying to figure out what inferences a jury will make from certain evidence. A major problem with this type of reasoning is that judges suffer from “the curse of knowledge”—that is, because they have been through many trials but jurors have not, they might be unable to evaluate the jury’s (lack of) understanding of complex testimony, arcane jury instructions, or other content or procedures that are much more familiar to the judge. These problems are particularly obvious when making balancing decisions under Rule 403, which permits judges to exclude all sorts of evidence when certain conditions are met, and when evaluating the usefulness of expert testimony.

Rule 403. Excluding Relevant Evidence for Prejudice, Confusion, Waste of Time, or Other Reasons

The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.
Another type of mental contamination is when you learn something that you shouldn’t know, and might even try not to use, but it affects your judgments anyway. One example, as described above, is that of trying to disregard inadmissible information. It turns out that jurors are not good at doing so, although there are factors that will make them better or worse at it. Judges apparently have the same problems as jurors do in disregarding inadmissible information,\textsuperscript{36} which has interesting implications for bench trials, in which judges in their role as triers of law will learn information that they should not be considering in their role as triers of fact.\textsuperscript{37} That is, when judges are deciding how to rule on various legal issues in a case—which they must do prior to trial as well as during trials—they inevitably learn facts that have a bearing on decisions they will need to make if they are serving also as a factfinder, without a jury. Another example is when evidence is admissible for one purpose but not for another purpose. In that case jurors may be instructed to use the evidence in some ways but not in others (i.e., to both remember and forget it). Such limiting instructions are often invoked with categorical exclusion rules and character evidence.

Knowing information in the present affects your judgments about what people knew or should have known in the past. The effect of this type of knowledge is called the “hindsight bias.”\textsuperscript{38} The most common legal example of this bias occurs when judging foreseeability (for example, in a negligence case). Imagine that some people try to iron their clothes while wearing them (and suffer serious burns). Once the manufacturer becomes aware of such misuse, it looks negligent for not realizing that a warning was necessary against that “foreseeable” misuse.\textsuperscript{39} Hindsight bias is a likely rationale for Rule 407, which excludes evidence of subsequent remedial measures. Hindsight bias can also create errors in appellate rulings of “harmless error” in which a court, knowing about pieces of evidence and what a jury decided after hearing that evidence, attempts to figure out what the jury would have decided had it not been exposed to the evidence in the first place.

\textit{Heuristics, Rationality, and Two Systems of Reasoning}

The previous section talked about how different kinds of knowledge, which should be irrelevant to a particular legal reasoning task, might
nevertheless affect that reasoning. This section is about how people reason more generally. In the 1950s, much psychology research focused on aspects of human reasoning processes that appeared logical, objective, and scientific. That view was shattered by the groundbreaking research of Kahneman and Tversky (beginning in the 1970s) showing that humans often come to conclusions that are inconsistent with the rules of logic and statistics. The 1980s and early 1990s created a cottage industry of “heuristics and biases” research—every cognitive and social psychologist wanted to discover a heuristic or bias of their very own. But the late 1990s and afterward saw researchers struggling to explain the reasons for these cognitive errors. As shown in countless demonstrations, people are not random in their thinking errors; rather, the errors are quite systematic. For that reason, much could be learned from the patterns of errors.

One theory that emerged from this research is that humans have two “systems” for reasoning. Many researchers had tried to explain unusual findings in disparate areas of psychology and had come to the conclusion that two different “types” of reasoning had been at work. Across the different areas, each of the two distinct types of reasoning seemed to have parallel commonalities with the two types proposed by other researchers. Table I.1 shows what emerged—the idea of two systems that have a set of correlated reasoning characteristics. The basic idea is that System 1 responds to information quickly, unconsciously, and by using heuristics. System 2 is slower, conscious, and reflective. Sometimes the two systems respond differently to stimuli. Then for someone to produce an answer generated from System 2, she would have to “override” the initial answer generated by the faster System 1. Analogous tables delineating the two systems vary a bit in content across authors, and some people argue that the systems have a biological and evolutionary basis whereas others think that is unnecessary for the distinction. There is still a lively debate about whether there really are two systems and what they encompass, but in this book we embrace the explanatory value of the theory. Some examples follow.

One might be tempted to summarize the heuristic and biases research by saying: people typically make quick intuitive judgments that lead them to the wrong answer. But that summary would be wrong in several important and applicable ways.
First, it’s not true that System 1 always leads to the wrong answer and System 2 always leads to the correct one. As we will see, there are potential bad consequences of using heuristics, but as Tversky and Kahneman noted early on, heuristics usually work; that is, System 1 often gets you to the right answer. And research has found that sometimes letting System 2 “overthink” a problem can lead to the wrong answer.

One type of System 1 reasoning that has been “rehabilitated” in recent years is emotion. Although, for millennia, philosophers and then psychologists characterized emotion as obstructing good reasoning, some current research demonstrates that emotion, itself, may provide reliable information as to what our responses should be and emotion may cause us to do “appropriate” processing of external information.47

Moreover, even under the same circumstances, different people come up with different answers; that is, not all people will respond with decisions made by the same system. People differ with respect to how deeply and critically they want to think about a problem before they respond to it. Thus, people who are high in “need for cognition” are more likely to use System 2 solutions than are people low in need for cognition. People also differ on how expert they are in the domains that they are reasoning about. The intuition of experts, if honed under certain conditions (e.g.,

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<table>
<thead>
<tr>
<th>Table 1.1. Characteristics of the Two Systems of Reasoning</th>
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<tbody>
<tr>
<td>System 1</td>
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<tr>
<td>Nonconscious</td>
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<tr>
<td>Implicit</td>
</tr>
<tr>
<td>Intuitive</td>
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<tr>
<td>Emotional</td>
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<tr>
<td>Heuristic</td>
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<tr>
<td>Peripheral</td>
</tr>
<tr>
<td>Fast</td>
</tr>
<tr>
<td>Automatic</td>
</tr>
<tr>
<td>Effortless</td>
</tr>
<tr>
<td>Does not require working memory/attention</td>
</tr>
<tr>
<td>“Old Mind”</td>
</tr>
<tr>
<td>Evolved early</td>
</tr>
<tr>
<td>Similar to animal cognition</td>
</tr>
</tbody>
</table>
use it frequently, get reliable feedback, etc.) is better than the intuition of novices.\textsuperscript{48}

Finally, there are circumstances in which System 2 reasoning is more likely to be “consulted”; for example, when there is motivation, time, and available cognitive resources. One of those circumstances is during the jury’s deliberation. Deliberating ideally includes taking time to reflect on the entire trial and to articulate rational reasons for one’s views. Thus, after deliberation the response of the jury as a whole will sometimes differ from the pre-deliberation responses of individual jurors.

**Psychological Foundations**

Subsequent chapters in this book draw on knowledge that comes largely from the two lines of information described above—specific empirical studies seeking to answer a specific question that arises in a legal context (e.g., the example of disregarding evidence described above in the section “Answering an Empirical Question”), and more basic research knowledge amassed by psychologists who did not have legal trials in mind when they designed their studies (e.g., the examples of metacognition and two systems of reasoning). Although the approaches of law and scientific psychology are different, the questions the fields are interested in sometimes have considerable overlap.

**Confluences, Collisions, and Collaborations**

The findings of psychological research were first introduced to the law early in the twentieth century, but that initial introduction soon fizzled owing to forces coming from within as well as outside of the fields. Psychological research on legal questions began flourishing again in the 1970s and 1980s, as cognitive and social psychologists began to study the types of mental processes that had been ignored when behaviorism (an approach to accounting for behavior that eschewed appeals to mental processes such as cognition and emotion) had been the dominant strategy in psychological research. Concern with psychological aspects of weaknesses in the trial process blossomed further in the 1990s, when new ways of analyzing DNA evidence left at crime scenes led to the exonerations of scores, and then hundreds, of prisoners who
had been erroneously convicted of crimes they did not commit. Much of what was going wrong had important psychological dimensions, involving various kinds of evidence: eyewitness identifications and testimony, confessions, false testimony, pattern-matching types of forensic identification evidence. Psychology research has lit the way to some improvements in police and trial procedures, and is being turned to for help in improving crime laboratories.

The first scholar to apply psychological findings and principles to legal problems was Hugo Münsterberg, a German American professor who had been recruited to Harvard in the late 1890s by the philosopher-psychologist William James. Münsterberg had been a student of Wilhelm Wundt, the father of experimental psychology, who founded the first formal psychological research laboratory at the University of Leipzig in 1879. In addition to his Ph.D. from Leipzig, Münsterberg also earned a medical degree from the University of Heidelberg. Münsterberg was quite interested in the application of psychological principles to practical problems, and he invented one field of applied psychology after another: applications of psychology to industry, to education, to medicine, to psychotherapy, to business, and to law.

Münsterberg conducted numerous experiments using his students, through which he uncovered problems that should be of great interest to the law, such as wide-ranging differences in the recall of people who had been observers of the same event. His 1908 book, *On the Witness Stand*, was a collection of a series of popular magazine articles that dealt with such topics as eyewitness perception and memory, influences on witness testimony, factors that produce false confessions, hypnotism and crime, jury decision making, and suggestions for testing the observations claimed by witnesses. Some of his suggestions were sound, others premature, and still others speculative. Nevertheless, many of these topics remain core research areas for psychologists interested in the law and Münsterberg’s efforts presaged an entire interdisciplinary movement.

Unfortunately for the development of a law and psychology collaboration, the great evidence scholar John Henry Wigmore took a strong dislike to Münsterberg’s book, and published a peculiar and hostile critique of it. Some evidence scholars today believe that Wigmore frightened off many potential interdisciplinary teams; Roger C. Park and Saks,
for instance, wonder “what [might] the body of psychology and evidence law scholarship . . . have developed into, and how much sooner, if the initial encounter had not been hobbled by the overreaching of its first important contributor and the overreaction of its first important critic?”

Despite Wigmore’s efforts to keep the law of evidence and scientific psychology apart, one noteworthy collaboration did nevertheless emerge, led by a young Yale law professor, Robert Hutchins, who in 1926 had just begun to teach evidence. Again, Wigmore tried to scuttle the effort, not only by warning Hutchins off directly, but also writing to Yale’s president to caution him about Hutchins. Undeterred, Hutchins formed a collaboration with Yale psychologist Donald Slesinger, and together they wrote prolifically on psychology and evidence law.

Their collaboration generated a series of law review articles in which they leveraged what was then known from psychological research to scrutinize evidence doctrine, identify weaknesses, and suggest improvements. Their articles addressed a number of evidence topics: spontaneous exclamations, memory, family relations, witness competency, state of mind to prove an act, state of mind in issue, and consciousness of guilt. They explained: “In this series, preliminary to experimental attack, the law of evidence is being analyzed in order to make explicit its psychological assumptions, and criticise them in light of those of modern psychology.” Their work grew out of a wider vision of law as a kind of applied psychology:

For centuries the law has been fumbling with what has only recently become the subject matter of psychology. Lawyers, judges, juries, legislators, and governmental officers have always vaguely known that their task was the prediction and control of human conduct. In performing this task they built up an empirical technique of regulation called the law, in every branch of which, from contracts to crimes, appear assumptions as to why and how people act in given situations. . . . Out of this technique of regulation has grown a rough and ready science of behavior which crystallized before the dawn of modern psychology.

Hutchins and Slesinger were not alone in their effort to analyze the law with help from empirical social science research. Other legal scholars of the 1920s and 1930s were energized by the advent of legal real-
Legal realism takes the view that law does not evolve in isolation from society but is influenced by the social, historical, political, economic, and other forces in society; and that it seeks to influence the society within which it is embedded—as well as to develop improved “legal technology” (legal rules that are more effective in achieving their goals). This description of law will strike many students today as obvious, but that is because the realists “won” the debate. When it emerged on the legal scene to challenge legal formalism—the largely nineteenth-century jurisprudential notion that the correct solutions to cases could be worked out purely by the careful application of a closed system of logic—realism was intensely controversial. The methods of the realists often involved undertaking empirical projects or borrowing knowledge from the social-behavioral-economic sciences. The early realists researched and reformed banking law, procedure, contracts, traffic regulation, and other areas of law. The book you are now reading fits right into the heart of legal realism.

Legal realism’s major projects waned during the Great Depression and World War II, although numerous realist lawyers played roles in the administration of President Franklin Roosevelt. Interdisciplinary projects have bloomed again in recent decades and some have substantially affected police and trial procedures. For example, the Arizona Supreme Court appointed a committee to determine ways to equip jurors to do their job better. The committee, which included not only lawyers but also behavioral scientists, looked into the literature of human decision making. Using research findings along with hunches, the committee developed a long list of reforms, many of which were adopted into law. Among these were providing jurors with trial notebooks containing key information; allowing jurors to take notes, ask witnesses questions, and discuss the case among themselves during the trial; and giving jurors instructions at times other than at the very end of a trial. Some of these practices, the impacts of which were controversial or remained in doubt, were tested in subsequent empirical studies. Among those studies were experiments on juries in the course of actual trials in Arizona, where judicial authorities permitted researchers to observe the jurors’ discussions and deliberations.

Relating to erroneous convictions, one of the most interesting findings has been that forensic scientists appear to be influenced by infor-
mation that is extraneous to the examination they are conducting, and sometimes reach conclusions driven by that extraneous information. One of the studies, conducted by research psychologist Itiel Dror and colleagues, presented fingerprint examiners with pairs of prints they had examined years earlier and had concluded were a positive match. On the occasion of the study, those prints were presented as a new case, and examiners were given extraneous information suggesting that the prints did not match. Three of five examiners switched their opinions from identification to exclusion. Findings of this kind, part of a substantial research literature on observer effects, has led to proposals for protocols requiring crime laboratory personnel to be shielded from extraneous information when conducting their examinations.70

One of the most successful recent illustrations of behavioral science research that has improved the capacity of trials to yield more accurate decisions71 is found in the psychology of perception and memory and specific research on eyewitness identification procedures. Several decades of research have produced thousands of studies on nearly every imaginable aspect of the problem of eyewitness accuracy.72 The insights from those studies have led to the development of a number of specific improvements in eyewitness identification procedures,73 such as preventing witnesses from influencing each others’ beliefs or officers from communicating information about the suspect’s appearance to the witness, conducting sequential lineups (presenting the suspect and foils one at a time rather than all at once) to prevent errors due to people’s tendency to make comparisons among those in the lineup and choose whoever comes closest to looking like the perpetrator, obtaining a statement of the witness’s degree of certainty of an identification when a witness believes s/he has identified the perpetrator, among others. These improvements generally have the effect of reducing the incidence of erroneous identifications while only minimally reducing the probability of obtaining correct identifications.74 The adoption of these and other procedures has been recommended to law enforcement agencies by the U.S. Department of Justice.75
Conclusion

The rules of evidence are designed to facilitate trial factfinding by controlling what evidence may or may not be presented to the factfinder. Those rules came into existence, and evolved over time, as a result of changes in trial process and structure—most notably by the rise of adversarial procedure in the trial system, whereby the power to control the marshaling and presentation of case facts shifted from judges to lawyers. Today, various refinements and reforms are undertaken to try to improve the job that the rules do. Trial judges must not only apply the rules, but in many instances they have the discretion to make rulings in light of their expectations of the impact they think the evidence will have on jurors. This is a dicey metacognitive task: one human trying to estimate the thought processes of other humans.

In all of this, evidence rulemakers have been and are, in effect, acting as applied psychologists. The rules of evidence reflect their understanding—right or wrong—of the psychological processes affecting witnesses, key participants in the legal transaction at issue, and the capabilities and limitations of lawyers and factfinders. If the rulemakers had different beliefs about those things, the rules would be other than what they are. Psychological research and methods provide an additional source of insight and assistance in that endeavor. Several rules—the excited utterance exception to the rule against hearsay (Rule 803(2)), the rules concerning character evidence (Rule 404(a)), and the rules governing privileged communications (Rule 501)—illustrate how principles of cognitive and social psychology underlie evidence doctrine more generally.

Psychologists and other social and behavioral scientists typically employ some version of the scientific method—empirically testing assumptions, theories, and hypotheses in an effort to evaluate which are the valid understandings of how people perceive, store, and retrieve information, and how information is transformed during those processes. To assess evidence rules, one could conduct experiments directly on a given rule, or borrow from existing knowledge developed in basic psychological research and see how well that knowledge supports existing or proposed evidence rules.
Fashioning evidence rules that “work”—that succeed in what the law hopes to accomplish—requires understanding the psychology of evidence law. And to understand the psychology of evidence law, we need to learn more about jurors—their role in trials and how they reason about the information they receive.

Overview of What Is to Come

For an overview of core concepts relating to evidence law discussed in this book and which chapters contain discussions of them, please see Appendix A.

In Chapter 1, “Judges versus Juries,” we compare the factfinding abilities of judges and juries, and try to understand their similarities and differences in light of psychological principles such as the two-systems theory. Interestingly, judges and juries tend to reach very similar decisions and, perhaps not surprisingly, they are susceptible to the same systematic cognitive errors.

Chapter 2, “Balancing Acts,” looks at the general rule for balancing the probative value of evidence against its prejudicial effects, as well as a number of categorical rules in which rulemakers have decided that the problem of the jury being misled is so great that judges must exclude all evidence that is defined as fitting within the rule’s ambit. The great psychological challenge for rulemakers and judges is that of metacognition: trying to conceive of what others (jurors) are thinking and feeling and how they will respond to evidence if it is presented to them.

Chapter 3, “Instructions to Disregard and to Limit Use,” deals with two different problems: that of undoing the damage of evidence that should not have reached the jury but did, and that of getting jurors to confine their consideration of evidence to permitted uses while at the same time refraining from employing evidence in forbidden uses. We examine psychological research on motivation, memory, and reasoning that might affect people’s desire and ability to perform such feats of cognitive skill when instructed to by judges, and ways the law could be more successful in achieving the aforementioned goals.

Chapter 4, “Witness the Witness,” examines the psychology of various tools the law uses to try to ensure that the information provided to the jury by witnesses can be correctly assessed as true, false, or somewhere
in between. Among these tools are the oath, exposure of witness demeanor (so jurors can assess witnesses’ nonverbal and noncontent verbal behavior), and cross-examination (so jurors can evaluate statements as they are tested by the opponent’s challenges to the testimony). We also describe the evolution of rules about who may testify and who may assert a privilege not to testify.

In Chapter 5, “Character Evidence,” we consider the psychological reasoning behind the complex of rules that govern when evidence of a person’s “character” may be admitted and when it must be excluded. This body of law has been said to be “archaic, paradoxical, and full of compromises and compensations. . . . But somehow it has proved a workable, even if clumsy, system.”76 In addition, psychological findings suggest that the rulemakers had latched onto some notions that are even more sound than they ever realized.

Chapter 6, “Hearsay and Exceptions,” focuses on the rationale for excluding some kinds of second-hand statements while allowing many others. A slowly growing body of psychological research suggests that jurors are better at assessing the weaknesses of out-of-court statements not subject to cross-examination than centuries of rulemakers have supposed. Most important, perhaps, psychology can help identify situations that are better or worse for reliability, for finding the truth, and for jurors’ understanding of the dangers of different types of hearsay evidence.

In Chapter 7, “Scientific and Other Expert Evidence,” we look at the steadily growing problem the law has in managing expert testimony. Expert evidence is potentially one of the most helpful sources of information factfinders might receive; yet, at the very same time, it presents a great risk of being incomprehensible, confusing, or misleading to both judges and juries. Rules of admission or exclusion have been of little help. When junky science is passed through to jurors, they are in a very weak position to separate the good from the bad. Cognitive psychology might guide the way to new and more helpful tools. But it is also possible that the problems presented by expert evidence cannot be solved without making radical—and unacceptable—changes to our system of trials.