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# Through the Eyes of Jurors: The Use of Schemas in the Application of "Plain-Language" Jury Instructions

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# Through the Eyes of Jurors: The Use of Schemas in the Application of “Plain-Language” Jury Instructions

SARA GORDON\*

*“Through the Eyes of Jurors” is the first law journal article to consider all of the major cognitive psychology studies that examine how “schemas,” or the preexisting notions jurors have about the law, shape jurors’ use of jury instructions, even when those jurors are given “plain-language” instructions. This Article examines the social science research on schema theory in order to advance our understanding of how schemas continue to influence jurors’ use of jury instructions, even when those jurors are given “plain language” instructions.*

*A significant body of legal literature has examined jurors’ use and understanding of jury instructions, and many scholars have recommended methods to improve juror comprehension of instructions. This Article takes that analysis a step further, and argues that even when given “plain-language” jury instructions, jurors will still be influenced by their preconceived ideas of what the “law” is—in other words, by the preexisting schemas they have for legal concepts. Furthermore, these schemas are often legally incorrect, and findings from the social sciences suggest that—even when given plain-language jury instructions with the correct legal standard—jurors may still apply these legally inappropriate schemas. This Article synthesizes the results and underlying theories derived from those findings in order to examine the impact these schemas have on jury decisionmaking, and on jurors’ use of jury instructions, and to identify ways lawyers and judges can counteract inappropriate existing schemas and activate legally appropriate schemas before jurors are introduced to the facts they are expected to interpret. Specifically, courts should use principles of cognitive and educational psychology to develop jurors’ schemas for the applicable legal concepts to make their schemas better organized and therefore more accessible. Such schemas would allow for more thoughtful judgment and better, more accurate decisionmaking.*

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## INTRODUCTION

Assume that you serving on a jury deciding a capital case. The defendant, John Smith, is on trial for murder. You are satisfied that the evidence has established guilt, but you must also recommend a sentence. You have two options: the death penalty and life without parole. You know what “death penalty” means, but what about “life without parole”? Does it mean exactly what it says—that under no circumstances will Smith ever be released? Or might he be released anyway, perhaps for demonstrating good behavior in prison or if the prison becomes overcrowded? The jury instruction does not answer the question, so you are left to your own preexisting understanding. Your answer may be a matter of life or death for Smith because you may think that the only way to protect the public from future danger is to impose the death penalty.

In fact, even if a jury instruction assures you that a sentence of life without parole means that Smith will never be freed, cognitive research indicates that you may still choose death in order to prevent future danger. In other words, you may continue to adhere to your preexisting idea even if a jury instruction clearly and directly sets out a different answer. Thus, there is a lot at stake when we study the effectiveness of jury instructions.

In the past several decades, much of the social science research on juries has focused on jurors’ ability to remember, understand, and apply

the judge's instructions correctly, and studies have almost universally returned results finding that, by and large, jurors are confused by jury instructions and often disregard them.<sup>1</sup> In one empirical study of juror confusion, researchers tested the extent to which jurors understood pattern jury instructions commonly used in civil and criminal cases and found that the jurors understood less than half the content of the tested instructions.<sup>2</sup> Because of this lack of jury understanding, much of the literature about jury instructions has focused on ways to improve juror comprehension. Among other suggested reforms, scholars have encouraged the use of psycholinguistic principles to rewrite instructions to improve vocabulary, syntax, and organization to make the instructions simpler and more comprehensible to jurors.<sup>3</sup>

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1. See, e.g., Phoebe C. Ellsworth & Alan Reifman, *Juror Comprehension and Public Policy: Perceived Problems and Proposed Solutions*, 6 PSYCHOL. PUB. POL'Y & L. 788 (2000); Amiram Elwork et al., *Juridic Decisions: In Ignorance of the Law or in Light of It?*, 1 LAW & HUM. BEHAV. 163 (1977); David U. Strawn & Raymond W. Buchanan, *Jury Confusion: A Threat to Justice*, 59 JUDICATURE 478 (1976).

2. Walter W. Steele, Jr. & Elizabeth G. Thornburg, *Jury Instructions: A Persistent Failure to Communicate*, 67 N.C. L. REV. 77, 78 (1988). For an extensive collection of cases documenting juror misunderstanding, see *id.* at 79–83. In a study designed to learn the extent to which jurors referred to the instructions during deliberations, the authors discovered that most jurors try to use the instructions but are often confused by their meaning. *Id.* at 78. In that study, people called for jury service watched a videotaped reenactment of a murder trial; 25% of the jurors' deliberations cited material from the instructions, and jurors made seven incorrect statements about the meaning of the judge's instructions, only one of which was corrected by other jurors. *Id.* at 84 (citing REID HASTIE ET AL., *INSIDE THE JURY* (1983)). In another study by Strawn and Buchanan, 116 people summoned for jury service but not chosen for a jury were divided into two groups. Strawn & Buchanan, *supra* note 1, at 480. One group heard a twenty-five minute videotape of instructions in a burglary case. *Id.* Even after hearing the instructions, however, many of these jurors either misunderstood or did not accept certain instructions. *Id.* Despite instructions to the contrary, 43% believed that circumstantial evidence was of no value, and 23% believed that when faced with equal evidence of a defendant's guilt or innocence, the defendant should be convicted. *Id.* at 481. Jurors also misunderstood words in the instructions; only 51% understood the word "demeanor." *Id.* at 481–82.

3. Psycholinguistics applies the theories of experimental psychology to the problems of language processing and comprehension. Robert P. Charrow & Veda R. Charrow, *Making Legal Language Understandable: A Psycholinguistic Study of Jury Instructions*, 79 COLUM. L. REV. 1306, 1308 (1979); see Elwork et al., *supra* note 1, at 165–69; Joel D. Lieberman & Bruce D. Sales, *What Social Science Teaches Us About the Jury Instruction Process*, 3 PSYCHOL. PUB. POL'Y & L. 589, 623–27 (1997). Other commonly proposed reforms have focused on encouraging active participation by jurors by allowing jurors to take notes and ask questions of the courts and witnesses. See, e.g., COUNCIL FOR COURT EXCELLENCE DISTRICT OF COLUMBIA JURY PROJECT, *JURIES FOR THE YEAR 2000 AND BEYOND: PROPOSALS TO IMPROVE THE JURY SYSTEMS IN WASHINGTON, D.C.* (1998); The Honorable B. Michael Dann, "Learning Lessons" and "Speaking Rights": *Creating Educated and Democratic Juries*, 68 IND. L.J. 1229, 1251–56 (1993). Several studies have examined the impact of allowing jurors to take notes and to ask questions. Jurors will generally take notes when given the opportunity, and one study found that jurors who took notes felt they participated more during deliberation. Victor E. Flango, *Would Jurors Do a Better Job if They Could Take Notes?*, 63 JUDICATURE 436, 442 (1980); Larry Heuer & Steven Penrod, *Increasing Juror Participation in Trials Through Note Taking and Question Asking*, 79 JUDICATURE 256, 258 (1996). Jurors who were allowed to ask questions generally asked three or fewer questions and focused on the definition of key legal terms. Laurence J. Severance & Elizabeth F. Loftus, *Improving the Ability of Jurors to Comprehend and Apply Criminal Jury Instructions*,

Less attention has been paid, however, to why jurors are not always guided by even the clearest jury instructions.<sup>4</sup> A large part of the answer may be the power of a juror's own "preconstructions, preferred meanings, rhetorical and ideological dimensions."<sup>5</sup> The purpose of this Article is to examine the impact these preconstructions, or "schemas," have on jury decisionmaking and on jurors' use of jury instructions, and to identify ways lawyers and judges can both counteract inappropriate existing schemas and activate legally appropriate schemas before jurors are introduced to the facts they are expected to interpret.

Specifically, I recommend that courts use principles of cognitive and educational psychology to develop jurors' schemas for the relevant legal concepts to make those schemas more flexible and better organized, and therefore allow for more accurate and more efficient decisionmaking. This prescription balances the competing goals of maintaining juries that represent a reasonable cross section of their communities (a jury of peers), and of ensuring that those jurors are prepared and competent to analyze the law and facts that they will encounter in a trial. Because jurors are legal novices, they view and interpret both the law and the facts differently than lawyers and judges,<sup>6</sup> and most jury instructions do not do enough to help jurors compensate for this lack of expertise or develop appropriate schemas for legal concepts—especially given the time constraints imposed by a typical trial. Moreover, because they are typically drafted by lawyers (or committees of lawyers)<sup>7</sup> who are already legal experts, the instructions are often not drafted with novices in mind or using principles that will best ensure novices fully comprehend the law.

I propose that the goal of jury instructions should be two-fold: first, to give jurors the applicable law, and second, to help jurors correct existing schemas and develop new and legally correct schemas before they are exposed to the evidence in a trial. Although it would be impossible—and contrary to the idea of a representative jury—to bring jurors' legal knowledge to the level of lawyers and judges in such a short period of time, the instructions can incorporate principles of educational psychology to help jurors develop new schemas efficiently and therefore maximize learning. Moreover, these reworked instructions should be given to jurors

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17 LAW & SOC'Y REV. 153, 170–71 (1982). It is less clear whether note taking and asking questions influence juror comprehension of the instructions.

4. See discussion *infra* Part II.

5. PETER GOODRICH, LEGAL DISCOURSE: STUDIES IN LINGUISTICS, RHETORIC AND LEGAL ANALYSIS 204 (1987).

6. See Fleurie Nieuwstein et al., *Expertise-Related Differences in Conceptual and Ontological Knowledge in the Legal Domain*, 20 EUR. J. COGNITIVE PSYCHOL. 1043 (2008); see also discussion *infra* Part IV.A.

7. 89 C.J.S. Trial § 809 (2012); Peter Tiersma, *The Rocky Road to Legal Reform: Improving the Language of Jury Instructions*, 66 BROOK. L. REV. 1081, 1085 (2001).

before the introduction of evidence. This will assist jurors in developing appropriate schemas for the legal concepts at issue before they are asked to apply those concepts to the facts in the trial.

Part I of this Article first discusses the use of jury instructions, as well as the role of schemas, in how people view, interpret, and remember information. Once established, schemas influence what information people notice and how they interpret that information. Jurors are therefore usually unable to separate existing schemas (which may or may not be legally correct) from their use and application of jury instructions.<sup>8</sup> This Part also discusses the difference between expert schemas (those held by lawyers and judges) and novice schemas (those typically held by jurors). Part II reviews the social science literature on how schemas affect jurors' use of both pattern jury instructions and instructions rewritten according to psycholinguistic principles. Part III then discusses the importance of the representative jury (a jury of peers) in the American legal system. This Article does not suggest that we should abandon that system in favor of the use of "special juries" of experts, but instead recommends that courts help lay juries develop expertise in the applicable law in order to create legally appropriate schemas. Finally, Part IV recommends methods to correct jurors' existing schemas and develop new schemas that are better organized and more accessible, allowing for more thoughtful judgment and better, more uniform decisionmaking. Educational psychology principles inform this discussion and help illuminate how to more efficiently teach jurors to use relevant legal concepts and overcome schema perseverance.

### I. JURY INSTRUCTIONS AND SCHEMAS

Jury instructions play an important role in all stages of the trial process. These instructions are generally culled from the applicable statutes and case law and drafted by attorneys or advisory committees.<sup>9</sup> Instructions tell jurors about the applicable law and give them a mechanism with which to interpret the facts they have seen in a trial: Instructions are meant to ensure uniformity in verdicts and are typically given at the beginning of a trial, as needed throughout the trial, and at the end of closing arguments.<sup>10</sup> Jurors are generally given the most extensive instructions at the end of a trial—including a recitation of the applicable law and how that law should apply to the facts.<sup>11</sup> Instructions, therefore,

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8. See generally SUSAN T. FISKE & SHELLEY E. TAYLOR, *SOCIAL COGNITION* 180–81 (1984).

9. 89 C.J.S. *Trial* § 809 (2012); Tiersma, *supra* note 7, at 1084.

10. Different types of instructions address the different things the jury is asked to consider. Some instructions tell jurors how to evaluate evidence and weigh the credibility of witnesses, some explain the burden of proof, and others provide definitions and elements of crimes or claims. NEIL VIDMAR & VALERIE P. HANS, *AMERICAN JURIES: THE VERDICT* 161 (2007).

11. Although there are few laws regulating the use and timing of instructions, the judge's authority to manage a trial effectively allows for instructions at any point. Neil P. Cohen, *The Timing of Jury Instructions*, 67 TENN. L. REV. 681, 684 (2000). As Cohen notes, Rule 51 of the Federal Rules of

are the crucial link between how a juror perceives and understands the facts they are told and how they use those facts to reach a verdict, but jurors do not typically receive these guiding principles until after they have seen the evidence.<sup>12</sup> When jurors do finally receive instructions, they are often full of language taken from statutes and cases that may have different meanings to the lawyers who wrote the instructions than they do to the jurors who are being asked to use them. While they may be written plainly, they do not generally offer much guidance to jurors about how to apply them to the facts they have just heard in order to reach a decision.

Several models attempt to explain how jurors use the facts and law to come to a decision, and most recognize that jurors rely to some extent on their understanding of how the world works in reaching a decision about the facts. The most prominent of these is the story model of juror decisionmaking that suggests that in order to make sense of all of the evidence they are asked to evaluate, jurors construct a story of what they think happened.<sup>13</sup> In this model, jurors use instructions to derive lists of the features of individual crimes or claims. If the story they have constructed shares enough features with the instructions, they will find the defendant guilty, and if it is missing too many requirements, they will find the defendant innocent.<sup>14</sup>

Even with this model as a guide, however, it can still be difficult to determine precisely how jurors are using jury instructions to interpret the facts because the rules of evidence generally limit inquiry into the validity of jurors' decisionmaking processes.<sup>15</sup> As noted above, several studies have shown improved comprehension of plain-language jury instructions,

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Criminal Procedure gives the judge discretion to "instruct the jury before or after argument, or both," and Rule 30 of the Federal Rules of Criminal Procedure allows the court to "instruct the jury before or after the arguments are completed or at both times." *Id.* at 686. Some studies have examined the benefit of providing jurors with instructions at the beginning and the end of a trial—instead of only at the end—in order to provide jurors with a cognitive framework of the law and help them to better retain and understand the evidence. One study showed that the timing of the instruction produced modest improvement in juror comprehension but did not improve recall of evidence or affect the jury's verdict. See Larry Heuer & Steven D. Penrod, *Instructing Jurors: A Field Experiment with Written and Preliminary Instructions*, 13 LAW & HUM. BEHAV. 409, 424–26 (1989).

12. Imagine you were asked to make chocolate chip cookies and given a list of ingredients to mix together and, only once you had done that, were you told the precise amount of each ingredient to use, as well as the order in which you should add them to the batter. This is how jurors, ignorant of the precise technicalities of the law and the elements of claims, may experience their role at a standard trial. They know generally what the claim or crime is that they are being asked to consider, but have not been taught its basic principles or given any guidance about how to consider the vast amounts of evidence they will hear at the trial.

13. Nancy Pennington & Reid Hastie, *A Cognitive Theory of Juror Decision Making: The Story Model*, 13 CARDOZO L. REV. 519, 519–20 (1991).

14. Peter W. English & Bruce D. Sales, *A Ceiling or Consistency Effect for the Comprehension of Jury Instructions*, 3 PSYCHOL. PUB. POL'Y & L. 381, 382 (1997).

15. FED. R. EVID. 606(b).

but this alone does not tell us the extent to which jurors rely on those new instructions, or the extent to which they use some combination of the instructions and other factors in reaching a decision about the facts. Studies suggest it is almost certainly the latter. In addition to the instructions they receive, some jurors might also rely on their opinions of the lawyers<sup>16</sup> or be swayed by strong opinions voiced by fellow jurors.<sup>17</sup> Others might make a decision based on their “gut.” But what all of them are probably doing, whether they know it (and most probably do not), is using schemas to interpret and make sense of the information they have heard during the trial to help them come to a verdict.

A “schema” is a cognitive framework or concept that helps individuals organize and interpret information.<sup>18</sup> For example, a schema for a party would contain ideas that are true about parties in most cases: Parties are social events where people come together to have fun and often involve drinking, eating, talking, and dancing. If someone were to attend a party, this schema would be used as a general framework that would shape their expectations of the event and guide their behavior once they were there.<sup>19</sup> Similarly, while all trees are different from each other and possess a variety of different characteristics (different colors, shapes, numbers of branches), we can easily recognize a type of tree we have never encountered before as a tree because we have a schema for trees.

Schemas are a type of cognitive shortcut—we rely on them to organize information and our past experiences so we can better and more

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16. Adam Trahan & Daniel M. Stewart, *Examining Capital Jurors' Impressions of Attorneys' Personal Characteristics and Their Impact on Sentencing Outcomes*, 7 *APPLIED PSYCHOL. CRIM. JUST.* 93, 99 (2011) (noting that jurors in capital trials form impressions of attorneys based on physical characteristics, such as attractiveness, hygiene, and dress, and that these impressions have some influence on sentencing decisions); *see id.* at 102 (“Jurors who formed negative impressions of the defense attorneys were more likely to sentence their clients to death than those who reacted favorably toward the defense counsel.”).

17. MARK COSTANZO, *PSYCHOLOGY APPLIED TO LAW 151* (2004) (noting potential jurors judged to be “strong” are more often well educated and articulate and have a higher occupational status than their fellow potential jurors); *see* Samuel H. Solomon, *How Jurors Make Decisions*, *DOAR LITIGATION CONSULTING* 5 (May 2012) (noting that jurors often look to other jurors with “perceived or real subject matter expertise,” and advising attorneys to explore the backgrounds of jurors who might have such expertise and to address them subtly during the trial).

18. *See* discussion *infra* Part I.

19. MARTHA AUGOSTINOS & IAIN WALKER, *SOCIAL COGNITION: AN INTEGRATED INTRODUCTION* 33 (1995). Definitions for schemas are varied. Susan Fiske and Shelley Taylor describe a schema as “a cognitive structure that represents organized knowledge about a given concept or type of stimulus.” FISKE & TAYLOR, *supra* note 8, at 140, while Reid Hastie defines schemas broadly to include “almost any of the abstract hypotheses, expectations, organizing principles, frames, implicational molecules, scripts, plans, or prototypes that have been proposed as abstract mental organizing systems or memory structures.” Reid Hastie, *Schematic Principles in Human Memory*, in 1 *SOCIAL COGNITION: THE ONTARIO SYMPOSIUM* 39, 39 (E. Tory Higgins et al. eds., 1981). Moreover, some scholars also use the term “knowledge structures” to refer to schemas. Niveltstein et al., *supra* note 6, at 1046.



efficiently understand new experiences.<sup>20</sup> Schemas can be quite useful because they allow us to quickly interpret vast amounts of information and help us deal with confusing, missing, or unknown information.<sup>21</sup> However, these frameworks can also influence what information we notice (we tend to notice information that fits into existing schemas and ignore that which does not), as well as what information we remember (we similarly tend to remember information that is consistent with established schemas and have more difficulty recalling that which is not).<sup>22</sup> Of course, schemas can also be rigid or based on incomplete information and, in these circumstances, might require reassessment.<sup>23</sup>

The process of schema development begins in early childhood. As we encounter things for the first time, we integrate the new information, activity, or concept into our memory by incorporating it into our schemas.<sup>24</sup> A schema, therefore, represents an individual's accumulated knowledge, beliefs, and experiences. Once developed, schemas are available for application to new situations, and this application process is automatic.<sup>25</sup> We do not see a furry object with four legs and a tail, we see a cat; the cat schema is automatically activated by incoming information. This process occurs unintentionally and unconsciously, and the process does not interfere with other mental activity.<sup>26</sup> Schemas therefore allow us to process information efficiently: Because we know what to expect, we do not have to approach each person or situation we encounter as completely novel. As Fiske and Taylor note, the "most fundamental principle suggested by schema research is that people simplify reality; they do so in part by interpreting specific instances in light of the general case."<sup>27</sup>

Before one can understand the significant impact that schemas have on jurors' use of instructions, it is important to briefly recap the different types of schemas, as well as how people use them to interpret information. People have schemas for everything, including themselves, other people, the roles people play in society, and different types of events or activities.<sup>28</sup> Furthermore, both priming and framing influence which schemas will be activated and applied in any given situation.<sup>29</sup>

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20. DOROTHY G. SINGER & TRACEY A. REVENSON, *A PIAGET PRIMER: HOW A CHILD THINKS* 17 (1978).

21. AUGUSTINOS & WALKER, *supra* note 19, at 32–33.

22. *See generally* FISKE & TAYLOR, *supra* note 8, at 180–81.

23. AUGUSTINOS & WALKER, *supra* note 19, at 33. A stereotype is a type of schema, in that it organizes information about a particular group. *Id.* at 208; *see infra* note 38 (on stereotypes).

24. SINGER & REVENSON, *supra* note 20, at 17.

25. PAUL BREST & LINDA HAMILTON KRIEGER, *PROBLEM SOLVING, DECISION MAKING, AND PROFESSIONAL JUDGMENT: A GUIDE FOR LAWYERS AND POLICY MAKERS* 18 (2010).

26. *Id.* at 18.

27. FISKE & TAYLOR, *supra* note 8, at 141.

28. *Id.* at 149.

29. *Id.* at 175. Priming is the idea that more recently and frequently activated ideas will come more easily to mind, while framing refers to the ways in which speakers shape messages for listeners. *See discussion infra* Part I.B.

Once established, schemas persevere, sometimes even in the face of conflicting or contradictory information.<sup>30</sup> Finally, as legal novices, jurors often have undeveloped or incorrect schemas for the legal concepts they are asked to apply in a typical trial.

#### A. DIFFERENT TYPES OF SCHEMAS: SELF, PERSON, ROLE, AND EVENT

Most social science research focuses on four main categories of schemas: self schemas (information about one's own personality, appearance, and behavior), person schemas (information about the traits and goals of others), role schemas (information about the role someone plays in society, such as age, race, sex, or profession), and event schemas or scripts (information about what usually happens in a particular setting or event).<sup>31</sup> All of these schemas influence and guide how we perceive, remember, and make inferences about new information.<sup>32</sup>

How a person sees herself and what she feels her personality is depends on her self-schema—the beliefs and ideas she has about herself.<sup>33</sup> People are either schematic or aschematic on particular attributes or personality dimensions.<sup>34</sup> If an attribute is important to someone, or she thinks of herself as embodying strong components of that trait (“I am very political” or “I am outgoing”), she is said to be schematic as to that attribute. Conversely, if the person does not have a strong view of herself with regard to a particular trait, or it is less important to her (“Being athletic is not important to me—I don't think about it one way or another”), then she is aschematic as to a particular trait. Like other schemas, once formed, self schemas are resistant to change.

Unlike self schemas, person schemas organize our knowledge about other people. Person schemas are generally broken down into personality traits and goals, both of which determine what information is relevant to a given person or type of person.<sup>35</sup> For example, a schema for the trait “brave” might include what brave people do (charge into burning buildings) and examples of brave people (police officers, World War II resistance fighters). Goal schemas are a joint function of the goals dictated by a specific situation and how those possible goals fit the particular person in the situation.<sup>36</sup>

Role schemas organize our knowledge about the roles people play in society and our expectations for appropriate behavior based on those

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30. FISKE & TAYLOR, *supra* note 8, at 171.

31. *Id.* at 149.

32. *Id.* at 150.

33. ZIVA KUNDA, *SOCIAL COGNITION: MAKING SENSE OF PEOPLE* 452 (1999).

34. *Id.* at 453.

35. FISKE & TAYLOR, *supra* note 8, at 150.

36. *Id.*

roles.<sup>37</sup> For example, someone would expect her accountant to ask to see a copy of her prior tax returns, but she would be surprised if her doctor made the same request; conversely, she would be shocked if her accountant attempted to take her temperature. The characteristics that shape role schemas can develop through the effort or achievement of the individual (such as a person's experience or profession), or through immutable characteristics (such as race, sex, or age). All of these characteristics have corresponding role-based expectations for appropriate behavior, organized in the observer's mind as role schemas.<sup>38</sup>

Event schemas, also known as scripts, are structures that describe the appropriate or expected sequence of events in well-known situations like a visit to a doctor's office, a restaurant, or a sporting event.<sup>39</sup> These schemas contain beliefs about the sequence of actions and events that typically occur in particular situations; they allow us to abstract procedures and complex sequences of behaviors from our everyday experiences and apply those to our understanding of new experiences.<sup>40</sup> In one study designed to determine if there were widely shared scripts for different types of robberies, subjects were asked to write a list of actions describing a typical act of a robbery of a convenience store.<sup>41</sup> Ninety-six percent included "enter store," 90% included "look around (once in store)," 90% included "go to the cash register," 99% included "demand money," and 96% included "exit store."<sup>42</sup> A majority of the subjects in the study therefore held similar beliefs about the sequence of actions that typically occurred in a convenience store robbery.

The research on schemas—whether self, person, role, or event—indicates they all affect our perception of new information, our inferences based on that information, and our memories and retrieval of stored information.<sup>43</sup> Schemas "guide our information seeking. Not only do schema[s] tell us what to see, but they also tell us where to see it."<sup>44</sup> We do not notice or attend to all of the information we encounter, but only

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37. *Id.* at 159.

38. *Id.* at 160. A stereotype is a type of role schema, one that comprises our knowledge, beliefs, and expectations about a particular social group. David L. Hamilton & Jeffrey W. Sherman, *Stereotypes*, in *HANDBOOK OF SOCIAL COGNITION* 168 (Robert S. Wyer, Jr. & Thomas K. Srull eds., 2d ed. 1994). Social stereotypes exist for all groups, not just racial minorities, and correspond to the beliefs and expectations we have about particular groups. We have role schemas and stereotypes for teachers, gang members, ball players, religious fundamentalists, and politicians. Once a person is categorized, she becomes another example of the schema and is assigned the characteristics and traits of others within her same social group. FISKE & TAYLOR, *supra* note 8, at 161.

39. JEAN MATTER MANDLER, *STORIES, SCRIPTS, AND SCENES: SCHEMA THEORY* 75 (1984).

40. *Id.*

41. Valerie Fisher Holst & Kathy Pezdek, *Scripts for Typical Crimes and Their Effects on Memory for Eyewitness Testimony*, 6 *APPLIED COGNITIVE PSYCHOL.* 573, 578–79 (1992).

42. *Id.*

43. FISKE & TAYLOR, *supra* note 8, at 150.

44. David E. Rumelhart, *Schemata and the Cognitive System*, in *HANDBOOK OF SOCIAL COGNITION*, *supra* note 38, at 161, 179–80.

deal with that which is important or useful, and schemas tell us what is important or useful.<sup>45</sup> Next, schemas allow us to draw inferences about what happened in the past and what is likely to happen in the future.<sup>46</sup> Finally, schemas help determine what we remember about what happens around us. We are more likely to remember schema-relevant or schema-consistent information and to disregard that which does not fit into an existing schema.<sup>47</sup>

#### B. SCHEMA ACTIVATION: PRIMING AND FRAMING

After schemas have developed, they are available for use in new situations, existing in a sort of resting state, waiting to be cued.<sup>48</sup> But what determines which of the many relevant and available schemas will be activated in a particular situation? When meeting a new co-worker, a person could characterize her as a Southerner, a professor, a woman, or a colleague. Although she may be all of these things, a variety of factors influence the schemas that will be activated and applied when the person meets the new co-worker, among them the recency with which a schema has been activated in the past and the frequency with which it has been activated (the *priming effect*).<sup>49</sup> Likewise, the way in which the encounter has been *framed* also influences what schemas are activated.<sup>50</sup>

Priming has a powerful influence on which schemas are activated in particular situations. Ideas that have been recently and frequently activated will be more easily recalled than those that have not.<sup>51</sup> Similarly, schema activation is determined partly by how recently or frequently a particular schema has been activated in the past.<sup>52</sup> Moreover, once a schema is activated, or “primed,” for one purpose, it becomes more accessible, and its likelihood of being used in the interpretation and organization of subsequent information is similarly increased.<sup>53</sup> If the person in the previous paragraph had watched *Gone With the Wind* on television the night before, for example, she would be more likely to characterize her new colleague as a Southerner, in addition to characterizing her as a professor.

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45. Shelley E. Taylor & Jennifer Crocker, *Schematic Bases of Social Information Processing*, in 1 SOCIAL COGNITION: THE ONTARIO SYMPOSIUM 89, 90 (E. Tory Higgins et al. eds., 1981).

46. *Id.* at 97–98.

47. *Id.* at 98.

48. FISKE & TAYLOR, *supra* note 8, at 175.

49. Thomas K. Srull & Robert S. Wyer, Jr., *The Role of Category Accessibility in the Interpretation of Information About Persons: Some Determinants and Implications*, 37 J. PERSONALITY & SOC. PSYCHOL. 1660, 1661 (1979); see FISKE & TAYLOR, *supra* note 8, at 181.

50. FISKE & TAYLOR, *supra* note 8, at 181.

51. *Id.* at 231.

52. *Id.* at 181.

53. Srull & Wyer, *supra* note 49, at 1661–62.

Exposure to words, people, or physical objects can activate schemas, even without the perceiver's conscious awareness.<sup>54</sup> In one study, subjects believed they were participating in a sentence scrambling exercise. Subjects were first told to ask the experimenter for a second task after they had completed the sentence scramble.<sup>55</sup> Researchers then primed the subjects with words associated with being "rude" (such as "aggressively," "disturb," "intrude," "obnoxious," and "bluntly"), words associated with being "polite" (such as "respect," "unobtrusively," "cordially," and "behave"), or neutral words (such as "send," "clear," "gives," "flawlessly," and "practiced").<sup>56</sup> After subjects completed the sentence scramble, researchers measured how many seconds it took the subjects to interrupt a conversation between the experimenter and a confederate and ask for the second task.<sup>57</sup> The subjects exposed to the rude priming conditions interrupted significantly faster (averaging 326 seconds) than the participants in the polite (558 seconds) or neutral (519 seconds) groups.<sup>58</sup> In a similar study, participants exposed to words related to the elderly (such as "Florida," "bingo," and "retired") were timed walking to the elevator after completing the sentence scramble.<sup>59</sup> They walked more slowly than those participants who had been exposed to neutral words (such as "thirsty," "clean," and "private").<sup>60</sup> The words, therefore, activated schemas that in turn actually influenced the behavior of the subjects.

Like priming, the framing of information activates schemas that influence the categories we apply and the inferences and decisions we make. "Framing is the process by which a communication source constructs and defines a social or political issue for its audience."<sup>61</sup>

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54. BREST & KRIEGER, *supra* note 25, at 315. Of course, listeners can be primed by more than one message. If a listener is more influenced by the first message she hears, this is the result of the *primacy effect*; if instead, the listener is more influenced by the second, different message, this is the result of the *recency effect*. Curtis P. Haugtvedt & Duane T. Wegener, *Message Order Effects in Persuasion: An Attitude Strength Perspective*, 21 J. CONSUMER RES. 205, 205 (1994). In studies measuring the point in a trial at which jurors are most influenced by incriminating evidence of the defendant's guilt, the results have been mixed, with some studies finding a larger primacy effect, and others a more significant recency effect. Kristi A. Costabile & Stanley B. Klein, *Finishing Strong: Recency Effects in Juror Judgments*, 27 BASIC & APPLIED SOC. PSYCHOL. 47, 56 (2005). It does seem that the recency effect might slightly outweigh the primacy effect—in other words, jurors are more likely to be influenced by information they hear most recently—though this could be due to the jurors' ability to remember that information because they heard it most recently. *Id.* at 56.

55. John A. Bargh et al., *Automaticity of Social Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action*, 71 J. PERSONALITY & SOC. PSYCHOL. 230, 234 (1996).

56. *Id.*

57. *Id.*

58. *Id.*

59. *Id.* at 236.

60. *Id.*

61. Thomas E. Nelson et al., *Toward a Psychology of Framing Effects*, 19 POL. BEHAV. 221, 221 (1997).

Cognitive linguist George Lakoff offers a definition that is closer to a traditional definition of schemas, describing frames as “the mental structures that allow human beings to understand reality—and sometimes to create what we take to be reality.”<sup>62</sup> People use frames to understand the facts they encounter; as Lakoff notes, facts “need a context.”<sup>63</sup> Frames help contextualize and influence our understanding of everything from social institutions (in a frame for a local school board, there are elected officials who make important decisions about educational policy) to individual words (“pro-choice” or “pro-life”). The activation of a particular frame can predispose people to particular preferences and decisions.<sup>64</sup>

Frames also help shape and define issues. “An issue-defining frame characterizes the problem, assigns blame, and constrains the possible solutions. . . . [Frames] block relevant concerns if those concerns are outside of the frame.”<sup>65</sup> Is it a “war on terror” or a “war for oil”? Framing played a big role in shaping public opinion over the Obama Administration’s proposed rule requiring religiously affiliated organizations’ insurance companies to pay for free birth control for those organizations’ employees. In one national poll, when asked if employers should be required to offer free birth control to employees, respondents favored the rule by a margin of 53% to 33%.<sup>66</sup> But when the same respondents were asked whether the government should mandate that the Catholic Church and other religiously affiliated hospitals and colleges offer birth control paid for by the institutions’ insurance companies, respondents opposed the rule by a margin of 45% to 38%.<sup>67</sup> In other words, when the issue was framed as one of access to birth control, respondents approved of the rule, but they disapproved of the same rule when it was framed as an attack on religious freedom.<sup>68</sup>

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62. GEORGE LAKOFF, THINKING POINTS: COMMUNICATING OUR AMERICAN VALUES AND VISION 25 (2006); see Danielle Kie Hart, *In a Word*, 41 SW. L. REV. 215, 217 (2012) (“A ‘frame’ is variously defined as: a structured understanding[] of the way aspects of the world function[,] an interpretive schema that enable[s] individuals to locate, perceive, identify, and label occurrences within their life space and the world at large[,] a central organizing idea for making sense of relevant events and suggesting what is at issue[,] and a central organizing idea or story line that provides meaning; it suggests what the controversy is about, the essence of the issue[.] At its most basic, therefore, a ‘frame’ is a tool that enables people to make sense of the world around them.” (alterations in original) (footnotes omitted) (internal quotation marks omitted)).

63. LAKOFF, *supra* note 62, at 10.

64. James N. Druckman, *The Implications of Framing Effects for Citizen Competence*, 23 POL. BEHAV. 225, 228–29 (2001) (discussing Tversky and Kahneman’s experiment, in which subjects changed their preferences for an identical program to combat a disease by 50% depending on whether the program was framed in terms of saving lives or the number of people dying).

65. LAKOFF, *supra* note 62, at 31–32.

66. Gerald F. Seib, *Birth-Control Rule Debate Intensifying*, WALL ST. J., Mar. 16, 2012, <http://online.wsj.com/article/SB10001424052702303717304577279831635250306.html>.

67. *Id.*

68. My own use of the words “access” and “attack” in this sentence further frame the issue.

The framing of an issue can constrain people's abilities to solve problems, and jurors are just as susceptible to this effect as anyone else. As Brest and Krieger note, a "particular frame inevitably provides only one of a number of possible views of reality and implicitly blocks the consideration of alternative perspectives with other possible solutions."<sup>69</sup> The problem, as the authors describe it, is that the decisionmaker thinks she is seeing all sides of the problem because the frame itself "is often invisible: You have the illusion that you're seeing the world 'just as it is,' and it is difficult to imagine that there could be another way to view it."<sup>70</sup>

### C. THE PERSEVERANCE EFFECT, CONFIRMATION BIAS, AND BIASED ASSIMILATION

Schemas are resilient; once formed, people's beliefs about themselves, others, and the things they see in the world are often unaffected—or only slightly affected—by logical challenges.<sup>71</sup> This is known as the "perseverance effect": Schemas help us process information more efficiently, and that benefit would be lost if people changed their schemas to fit every new situation.<sup>72</sup> Once schemas are established, they persist, often in the face of evidence to the contrary or explicit instructions to disregard them, and there even appears to be a biological basis for this perseverance effect.<sup>73</sup>

In fact, schemas persevere even when people are told the evidence in support of the schema is false.<sup>74</sup> In a study demonstrating this effect, subjects were asked to review two suicide notes and determine which one was real and which was fake.<sup>75</sup> After completing the task, the subjects were given false feedback: Irrespective of actual performance, some were told they had performed much better than average, while others were told they performed the same as, or worse than average.<sup>76</sup> The subjects were then "debriefed," at which point it "was carefully explained that their putative performance had been determined before they entered the

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69. BREST & KRIEGER, *supra* note 25, at 35.

70. *Id.* In discussing the effect of frames on outcomes, the authors describe an experiment where American college students, Israeli pilots, and their flying instructors played a Prisoner's Dilemma type game, where participants choose whether to participate or defect. Those who were told the exercise was a "Wall Street Game" were more likely to defect than those who were told it was "Community Game." *Id.* (citing Varda Liberman et al., *The Name of the Game: Predictive Power of Reputations Versus Situational Labels in Determining Prisoner's Dilemma Game Moves*, 30 PERSONALITY & SOC. PSYCHOL. BULL. 1175, 1175–85 (2004)).

71. Craig A. Anderson, *Inoculation and Counterexplanation: Debiasing Techniques in the Perseverance of Social Theories*, 1 SOC. COGNITION 126, 126 (1982).

72. *Id.* at 127.

73. See *infra* text accompanying notes 102–108.

74. Lee Ross et al., *Perseverance in Self-Perception and Social Perception: Biased Attributional Processes in the Debriefing Paradigm*, 32 J. PERSONALITY & SOC. PSYCHOL. 880, 880 (1975).

75. *Id.* at 882.

76. *Id.*

experiment, that they had received feedback unrelated to their actual performance, and that the deception had been necessary in terms of the purported rationale for the study.”<sup>77</sup> Despite this thorough debriefing, subjects who were initially told they performed above average continued to believe that their performance had been above average and that their future performance on a similar task would similarly remain above average.<sup>78</sup> In fact, “the greater the subject’s apparent initial success, the higher were the scores she estimated for past and future performances.”<sup>79</sup>

Furthermore, when people draw causal connections among pieces of information, the perseverance effect becomes even stronger.<sup>80</sup> In a study on debiasing,<sup>81</sup> subjects were given case histories of two firefighters.<sup>82</sup> Each case history included information about the firefighter’s preference for risk and his job performance.<sup>83</sup> Some subjects were led to believe in a positive relationship between risk preference and firefighting ability (those with high risk preference were successful firemen, while those with low risk preference were unsuccessful), while others were led to believe in a negative relationship (those with high risk preference were unsuccessful, while those with low risk preference were successful).<sup>84</sup> Subjects then wrote an explanation of the relationship about which they had learned.<sup>85</sup>

When later debriefed and told that the case histories were fictitious and that there was no relationship between risk preference and success as a firefighter, subjects continued to hold their initial beliefs: Those initially told of a positive relationship tended to keep that belief, and those initially told of a negative relationship were more likely to keep that belief, even in the face of disconfirming evidence.<sup>86</sup> More significantly, however, subjects whose explanations referred to causal scenarios (that is, “firefighting is risky, so people who prefer risk will be better firefighters”) displayed more perseverance in their initial theories than those whose explanation just restated the information in the case history.<sup>87</sup>

When faced with information that might challenge their existing schemas, this perseverance effect is so strong that people tend to devote less attention to examining the contradictory information<sup>88</sup> or ignore those

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77. *Id.* at 884.

78. *Id.*

79. *Id.*

80. Anderson, *supra* note 71, at 127.

81. “Debiasing” is the correction or removal of bias. Jonathan St. B.T. Evans et al., *Debiasing by Instruction: The Case of Belief Bias*, 6 EUR. J. COGNITIVE PSYCHOL. 263, 264 (1994).

82. Anderson, *supra* note 71, at 127.

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.* at 127–28.

88. Peter H. Ditto & David F. Lopez, *Motivated Skepticism: Use of Differential Decision Criteria*



inconsistencies or exceptions.<sup>89</sup> This tendency is known as “confirmation bias,” and it affects the ways in which people seek out and evaluate information.<sup>90</sup> Furthermore, due to a phenomenon known as “biased assimilation,” when people evaluate new information, that evaluation is influenced by the extent to which the information is consistent or inconsistent with the person’s expectations about the information.<sup>91</sup> In other words, when “we come across evidence that supports our desired conclusions, we may accept it at face value. But when we come across comparable evidence that challenges our desired conclusions, we may evaluate it more critically and work hard to refute it.”<sup>92</sup>

In a study examining confirmation bias and biased assimilation, opponents and proponents of capital punishment read about two studies: One suggested that capital punishment was effective as a deterrent, and the other suggested that it was not effective.<sup>93</sup> Both opponents and proponents of capital punishment thought the study that confirmed their beliefs was more effective than the study that disconfirmed their beliefs.<sup>94</sup> In a similar study, researchers found that when examining evidence that is incompatible with their prior beliefs, people invest greater effort in evaluating the incompatible evidence than in evaluating any compatible evidence, and they devote their efforts toward refuting arguments challenging their own position.<sup>95</sup>

Furthermore, attempting to prevent schema activation—or telling people to disregard schemas—does not appear to diminish the effect of schemas on decisionmaking.<sup>96</sup> In a study examining this effect, Vicki Smith attempted to prevent schema application by withholding from jurors the name of the crime with which the defendant was charged.<sup>97</sup> Smith’s hypothesis was that without the retrieval cue (the name of the crime), the subjects would not be able to access schemas about that crime

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for *Preferred and Nonpreferred Conclusions*, 63 J. PERSONALITY & SOC. PSYCHOL. 568, 569 (1992).

89. Dieter Frey, *Recent Research on Selective Exposure to Information*, 19 ADVANCES IN EXPERIMENTAL SOC. PSYCHOL. 41, 42 (1986).

90. JENNIFER K. ROBBENOLT & JEAN R. STERNLIGHT, *PSYCHOLOGY FOR LAWYERS: UNDERSTANDING THE HUMAN FACTORS IN NEGOTIATION, LITIGATION, AND DECISION MAKING* 15 (2012).

91. *Id.*

92. KUNDA, *supra* note 33, at 230.

93. Each argument included a description of the design of the study and was followed by criticisms of the study itself and rebuttals of those criticisms. Charles G. Lord et al., *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY & SOC. PSYCHOL. 2098, 2100–01 (1979).

94. Furthermore, the “net effect of exposing proponents and opponents of capital punishment to identical evidence—studies ostensibly offering equivalent levels of support and disconfirmation—was to increase further the gap between their views.” *Id.* at 2105.

95. This result is known as the “prior belief effect.” Kari Edwards & Edward E. Smith, *A Disconfirmation Bias in the Evaluation of Arguments*, 71 J. PERSONALITY & SOC. PSYCHOL. 5, 5, 14 (1996).

96. Vicki L. Smith, *When Prior Knowledge and Law Collide: Helping Jurors Use the Law*, 17 LAW & HUM. BEHAV. 507 (1993).

97. *Id.* at 532.

and would instead have to rely on the jury instructions for guidance.<sup>98</sup> The results showed, however, that when jurors were not given the crime name, they simply applied their own crime name and accessed their schema for that crime.<sup>99</sup> In the same study, Smith explicitly told jurors to disregard their preexisting notions of the crime and to rely only on the judge's instructions.<sup>100</sup> This did not work either. The instruction had no effect on decisionmaking, and subjects relied on their preexisting knowledge of the crime.<sup>101</sup>

Finally, it seems that the perseverance effect may be biologically based.<sup>102</sup> In a 2005 study, researchers wanted to determine the extent to which people pay attention to and assimilate evidence that is consistent with their beliefs about the objects under consideration, and the extent to which they treat inconsistent evidence as erroneous.<sup>103</sup> Earlier studies in behavioral and cognitive neuroscience indicated that different brain networks are invoked during learning<sup>104</sup> than during error detection and conflict monitoring.<sup>105</sup> The authors found that when people considered evidence that was consistent with their beliefs, the brain regions associated with learning and memory were significantly activated. When the evidence was inconsistent with their beliefs, areas associated with error detection and conflict resolution were activated.<sup>106</sup> The authors concluded from this that people's beliefs and expectations may act as a "biological filter,"

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98. *Id.*

99. *Id.*

100. *Id.*

101. *Id.*; see Anderson, *supra* note 71. In his discussion of the results of the firefighter experiment, Anderson noted that we could try to prevent jurors from creating causal explanations or theories, but [s]uch a suggestion is as undesirable as it is impossible. Many of our theories are quite useful, both as information organizers and as predictive tools. The problem lies not in our propensity to create theories, but in our underestimation of how easy it is to create plausible theories for any particular set of events we wish to explain.

Anderson, *supra* note 71, at 128.

102. Researchers have recently been able to expand the scope of the study of decisionmaking using advanced functional brain imaging techniques, including functional magnetic resonance imaging ("fMRI"). Using these new techniques, researchers can observe first-hand how the brain responds during complex reasoning. Jonathan A. Fugelsang & Kevin N. Dunbar, *A Cognitive Neuroscience Framework for Understanding Causal Reasoning and the Law*, LAW AND THE BRAIN 161 (Semir Zeki & Oliver Goodenough eds., 2006). In these studies, subjects typically participate in one task that involves a specific reasoning process (deductive reasoning or analogical reasoning), and a second control task that contains most of the same visual and cognitive stimulation, but not the specific reasoning process. Researchers can then contrast the areas of the brain activated during the specific reasoning task and the control task to measure unique brain activity associated with the specific reasoning task. *Id.* Fugelsang and Dunbar approached their research slightly differently by using fMRI to examine the areas of the brain that are activated when subjects are presented with evidence that is either consistent or inconsistent with their own beliefs. *Id.*

103. *Id.* at 161.

104. *Id.* (citing various studies).

105. *Id.* (citing various studies).

106. *Id.* at 162.

causing the person to employ learning mechanisms when confronted with evidence consistent with their beliefs, and error detection mechanisms when that evidence is inconsistent.<sup>107</sup>

That jurors do not evaluate evidence in a vacuum will come as no surprise to judges or lawyers or to anyone who has served on a jury. What is perhaps surprising is that this inability to separate personal beliefs from evidence is so pervasive and in fact has a neural signature. People, therefore, may be unable to set aside beliefs and expectations when making decisions or judgments. Furthermore, other findings have demonstrated that people may be similarly unable to measure the extent to which beliefs and expectations influenced their evaluation of statistical evidence.<sup>108</sup>

#### D. EXPERT V. NOVICE SCHEMAS

In many cases, jurors have limited exposure to legal concepts through television and movies and little actual legal knowledge.<sup>109</sup> So while these legal novices have schemas for ideas and concepts they have encountered in the past, they will not typically have appropriate schemas<sup>110</sup> for any of the legal concepts or rules they will hear during a trial. This is in contrast to the judge, lawyers, and often the parties, who will have more developed schemas for the concepts in the trial. Generally, well-developed schemas (expert schemas) tend to be more complex, better organized, and therefore more accessible, allowing for more thoughtful judgment and better decisionmaking.<sup>111</sup>

Similarly, mature schemas are likely to be more complex and more organized than immature ones.<sup>112</sup> In a study investigating how conceptual knowledge structures (or schemas) differ between novices and experts, researchers compared the approaches of novices (first-year law students)

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<sup>107.</sup> *Id.*

<sup>108.</sup> *Id.* at 163.

<sup>109.</sup> Of course, this is not always the case. In many states, even judges are required to sit on juries when called, though they are sometimes granted hardship exemptions. Jean Guccione, *More Judges Answering Call for Jury Duty*, L.A. TIMES, June 3, 2001, <http://articles.latimes.com/2001/jun/03/local/me-6028>. Most notably, Justice Elena Kagan was recently called for jury duty in D.C. Superior Court, though her number was not called and she was released from service. Keith L. Alexander, *Elena Kagan Not Selected for Jury Duty*, WASH. POST, Jan. 20, 2011, <http://voices.washingtonpost.com/crime-scene/keith-l-alexander/elena-kagan-reports-for-jury-d.html>. This practice raises other issues of “strong” jurors and their impact on juror decisionmaking that are beyond the scope of this Article.

<sup>110.</sup> Though they may have inappropriate schemas gleaned from television and other sources, much has been made in the law and the media of this “CSI Effect.” See, e.g., Simon A. Cole & Rachel Dioso-Villa, *Investigating the ‘CSI Effect’ Effect: Media and Litigation Crisis in Criminal Law*, 61 STAN. L. REV. 1335 (2009); Jeffrey Toobin, *The CSI Effect: The Truth About Forensic Science*, THE NEW YORKER (May 7, 2007), available at [http://www.newyorker.com/reporting/2007/05/07/070507fa\\_fact\\_toobin](http://www.newyorker.com/reporting/2007/05/07/070507fa_fact_toobin).

<sup>111.</sup> FISKE & TAYLOR, *supra* note 8, at 173.

<sup>112.</sup> *Id.*

and experts in civil law to two tasks: a card-sorting task and a concept-elaboration task.<sup>113</sup> The card-sorting task, which asked participants to sort different cards into groups based on different legal concepts, was designed to provide insight into “differences in the organisation of conceptual knowledge of individuals at different levels of expertise.”<sup>114</sup> The concept-elaboration task, which asked participants to list everything they knew about a particular topic in a short amount of time (two to three minutes), was designed to provide insight into the participants’ depth of knowledge about the concepts and associations they made with other concepts.<sup>115</sup>

As expected, the experts’ schemas were highly developed and elaborate, which allowed them to “effectively and efficiently interpret information or problems that they [were] confronted with.”<sup>116</sup> In contrast, the novices, who lacked these developed mental frameworks for the law, employed problem schemas that consisted of “loosely linked, incomplete, and sometimes incorrect knowledge.”<sup>117</sup> The novices’ schemas were also less easily activated than the experts’, and—when activated—the novices’ schemas were less efficient at problem solving:<sup>118</sup> “All other things being equal, greater complexity moderates judgment. The more variety one has encountered, the more complex the issues, the less clear-cut it all seems, and the less extreme one’s judgment.”<sup>119</sup>

Knowledge, therefore, becomes more structured and more accessible with increasing expertise.<sup>120</sup> When asked to group similar concepts in the card-sorting task, experts used the same central legal concepts to create clusters, while novices strung concepts together somewhat randomly and reported no meaningful connections between the concepts.<sup>121</sup> As a result of this better organization, experts notice, recall, and use information that is inconsistent with their schemas more than novices do,<sup>122</sup> while the novices’ simpler, less-developed schemas limit them to more obvious, schema-

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113. Nieselstein et al., *supra* note 6, at 1047.

114. *Id.*

115. *Id.*

116. *Id.* at 1046.

117. *Id.*

118. *Id.* As expected, in the card-sorting task, experts used more central concepts when clustering concepts, while novices ordered their concepts more randomly. *Id.* at 1055. In the concept-elaboration task, experts used more legal definitions in their explanations of a particular concept, including examples from cases, while novices used more everyday examples. *Id.* at 1056.

119. FISKE & TAYLOR, *supra* note 8, at 173–74.

120. Nieselstein et al., *supra* note 6, at 1058.

121. *Id.* This suggests that the schemas of novices, even when analyzing the same information, are very different from each other. Individuals with greater expertise in law, however, have a more similar knowledge base—and therefore more similar schemas—than those with less expertise. *Id.*

122. FISKE & TAYLOR, *supra* note 8, at 174.

consistent material.<sup>123</sup> Experts are therefore better able to moderate inconsistencies and to make more focused judgments and decisions.<sup>124</sup>

## II. WHY WE NEED TO GO BEYOND “PLAIN-LANGUAGE” INSTRUCTIONS

Because most jurors have some prior knowledge of the law (and because some may have quite a bit), they approach jury instructions with an established schema in place—though it may not be a legally correct schema—and their interpretation of the instructions they receive is necessarily influenced by that schema. For example, when people in a study were asked to list characteristics of robbery, 75% said that “something of value is taken,” 73% said that the “perpetrator is armed,” and 31% said that the crime “occurs in a home/apartment.”<sup>125</sup> Robbery does involve the taking of property from the victim by force or threat of force, but it does not require that the property be valuable, that the perpetrator be armed, or that the location be someone’s home.<sup>126</sup>

An individual juror might therefore have a schema for robbery that includes an armed perpetrator. Due to the perseverance effect, that schema will influence the facts the juror notices and remembers when she is presented with the evidence, and the schema will not always go away when the juror enters the jury room to make a decision. This result occurs even if—before she begins deliberations—the juror has been given plainly written jury instructions that do not include an armed perpetrator.<sup>127</sup> This is especially true because the juror will not typically receive the instructions containing the legally correct definition of robbery until *after* she has seen—and likely already begun to evaluate—all of the evidence in the case. That evidence will therefore have been viewed within the context of her preexisting (and incorrect) schema for robbery.

Moreover, because the average juror has little experience in “the law,” even plain-language instructions can contain unfamiliar terms, or terms used in a way with which the juror has no experience. Thus the juror faces an additional hurdle: She must first familiarize herself with the “official” use of legal language before she can begin to interpret the plain-language instructions she has been given.<sup>128</sup> This is especially difficult in law because precise language is so important. Judges and lawyers share a common language gained through legal education and practice, but jurors often lack that shared understanding and instead

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<sup>123.</sup> *Id.*

<sup>124.</sup> *Id.*

<sup>125.</sup> Vicki L. Smith, *Prototypes in the Courtroom: Lay Representations of Legal Concepts*, 61 J. PERSONALITY & SOC. PSYCHOL. 857, 868 (1991).

<sup>126.</sup> *Id.* at 861.

<sup>127.</sup> Shari Seidman Diamond, *Instructing on Death: Psychologists, Juries, and Judges*, 48 AM. PSYCHOLOGIST 423, 429–30 (1993).

<sup>128.</sup> Lars Lindahl, *Deduction and Justification in the Law: The Role of Legal Terms and Concepts*, 17 RATIO JURIS. 182, 182 (2004).

incorporate their everyday knowledge and understanding of concepts into their interpretation and application of legal rules to the facts of a particular case.<sup>129</sup>

Furthermore, some concepts in the law function as “intermediate” concepts, which means that their meaning is flexible and determined by the situation or the facts.<sup>130</sup> For example, the legal term “ownership” has a different meaning in the context of an inheritance (which obliges the owner to pay inheritance taxes) than in the context of a bicycle received from a friend as a gift (which does not oblige the owner to pay taxes). The context (facts) determines the legal result and corresponding rights and responsibilities. Moreover, the individual juror likely has a schema for ownership that is different than either of these legal definitions. Similarly, because jurors are presented with arguments from all sides of an issue in an adversarial setting, the language and concepts they are expected to understand are fluid, and can often be interpreted in different ways. Schemas further compound this interpretative problem because they influence the jury at every stage of the trial—from the attention jurors give the evidence and how they interpret the information they see at trial, to the way they interpret and apply the jury instructions to that information.

While rewritten jury instructions have improved juror comprehension, schema theory—and specifically the perseverance effect—tells us that jurors will still apply existing schemas to those rewritten instructions.<sup>131</sup> Interestingly, there is little in the social science literature examining the impact of schemas on jury decisionmaking when jury instructions have been rewritten and made clearer. In one of the few studies examining schemas and jury instructions, Smith concluded that poor juror comprehension was not the result of poorly drafted instructions, but the result of the jurors’ prior knowledge of the law and preexisting knowledge frameworks (schemas) interfering with those instructions.<sup>132</sup> Jurors did not discard these frameworks when presented with conflicting

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129. Dan Simon’s scholarship on cognitive coherence suggests that when jurors are asked to apply instructions they cannot understand to a set of ambiguous facts, jurors will seek to impose coherence on the complex task in front of them. Dan Simon, *A Third View of the Black Box: Cognitive Coherence in Legal Decision Making*, 71 U. CHI. L. REV. 511, 517 (2004). In doing so, they will reduce the decision to one of two alternatives, one of which is supported by strong considerations and one by weak considerations. *Id.* at 516. “Coherence-based reasoning posits that the mind shuns cognitively complex and difficult decision tasks by reconstructing them into easy ones, yielding strong, confident conclusions.” *Id.* at 513. In other words, instead of attempting to decipher confusing and complex instructions, jurors will instead distill the complex decision into a simpler decision about which they can feel more confident.

130. Nieselstein et al., *supra* note 6, at 1047.

131. See Diamond, *supra* note 127, at 429–30.

132. Smith, *supra* note 125, at 868. Smith argued that jurors have preexisting mental representations of the elements of various crimes, but that those concepts do not include the correct legal definitions of the crimes. *Id.* (robbery example).

jury instructions, but instead relied on those frameworks when making a decision.<sup>133</sup> That study was later criticized by Peter English and Bruce Sales, who argued that the study presented participants with standard pattern jury instructions, instead of instructions that had been rewritten to increase comprehension.<sup>134</sup> English and Sales concluded that while jurors may rely in part on schemas when given incomprehensible instructions, the study did not show that jurors will do this when given instructions revised according to psycholinguistic principles.<sup>135</sup> In other words, given clear instructions, they concluded, jurors might be more likely to follow the law rather than their preexisting ideas.<sup>136</sup>

Other researchers have used schemas to explain jury decisions, even though juror comprehension of instructions was not controlled.<sup>137</sup> In one study, mock jurors given “not guilty by reason of insanity” instructions were no more likely to convict or acquit than jurors told to rely on common sense.<sup>138</sup> The authors concluded that this was the result of the jurors’ preconceived constructs or beliefs (schemas) about sanity and insanity.<sup>139</sup> These constructs, the authors felt, were very strong and often more powerful than any new information the jurors might learn through jury instructions. The authors suggested that drafters should pay attention to these constructs and develop a new insanity test that incorporates both psychological and legal definitions of insanity, as well as common sense beliefs.<sup>140</sup>

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133. *Id.*

134. English & Sales, *supra* note 14, at 381.

135. *Id.* at 390.

136. *Id.*

137. *See, e.g.*, Norman J. Finkel & Sharon F. Handel, *How Jurors Construe “Insanity”*, 13 LAW & HUM. BEHAV. 41 (1989) [hereinafter Finkel & Handel, *How Jurors*]; Norman J. Finkel & Sharon F. Handel, *Jurors and Insanity: Do Test Instructions Instruct?* 1 FORENSIC REP. 65 (1988) [hereinafter Finkel & Handel, *Jurors and Insanity*].

138. Finkel & Handel, *Jurors and Insanity*, *supra* note 137, at 76–77.

139. *Id.*

140. Finkel & Handel, *How Jurors*, *supra* note 137, at 44; Finkel & Handel, *Jurors and Insanity*, *supra* note 137, at 67. In a similar study, James Ogloff attempted to determine whether jurors used preexisting schemas in determining what elements are important in a determination of legal insanity. *See generally* James R.P. Ogloff, *A Comparison of Insanity Defense Standards on Juror Decision Making*, 15 LAW & HUM. BEHAV. 509 (1991). Participants were given one of two widely used insanity instructions—the M’Naghten or the broader American Law Institute (“ALI”) insanity instructions. Both standards had low juror comprehension rates (30.3% for the M’Naghten and 31.4% for the ALI standards). Lieberman & Sales, *supra* note 3, at 620. The study showed, however, that the standard did not affect the number of guilty versus not-guilty-by-reason-of-insanity verdicts. Ogloff, *supra*, at 522. Given the low comprehension rate, it appeared that instead of relying on the instructions, jurors used schemas to identify elements important in determining insanity, but like the definition of robbery, those schematic elements did not match the legal definition of insanity. *Id.* at 524. For example, participants considered “expert psychiatric testimony” and “defendant’s intent to harm” as the most important factors. *Id.* at 521 tbl.4. However, neither framework appears in either the M’Naghten or ALI instructions. Furthermore, jurors who were not given any insanity instructions made similar verdict choices to those given either set of instructions. *Id.* at 523. Ogloff recommended either developing new standards consistent with jurors’ schemas about insanity, or rewriting the instructions

Finally, one study suggests that jurors will continue to adhere to preexisting ideas (schemas) even when instructions are written clearly.<sup>141</sup> In that study, researchers compared rates of death sentence imposition when “jurors were told that if the defendant were not sentenced to death, he would spend an unspecified amount of time in prison or would receive life without the possibility of parole” (“LWOP”).<sup>142</sup> Although the authors expected to find fewer death sentences when the LWOP condition was present (because jurors could be certain that defendants would not go free), the frequency of death sentences was almost identical in the two conditions.<sup>143</sup> Data from a manipulation check suggested that the LWOP instruction was clear, but it appeared that jurors who were told the defendant would receive LWOP relied on their preexisting beliefs that LWOP did not really mean a life sentence.<sup>144</sup> This prior belief was so strongly held that jurors discounted even a clear jury instruction to the contrary.<sup>145</sup>

Of course, it is not surprising that even rewritten jury instructions have a potential vulnerability. As Smith points out, colloquial “terms carry colloquial baggage, some possibly correct, some incorrect. Wholesale replacement of legal terms with simple language may activate a host of associated concepts that are useful for everyday decisionmaking but are legally incorrect or irrelevant.”<sup>146</sup> In other words, even plain-language instructions may contain terms that have different meanings to different people, or contain everyday terms that have a specific legal meaning.

### III. THE IMPORTANCE OF THE REPRESENTATIVE JURY AND SPECIAL JURIES AS MODELS FOR IMPROVEMENT

The term “American jury system” includes many distinct jury systems. Each state, the federal government, and the District of Columbia have their own courts, laws, practices, and multiple jury systems.<sup>147</sup> Moreover, jury systems differ in criminal cases and civil matters. All of these systems, however, share some important characteristics. The Sixth Amendment to the Constitution provides that in “all criminal prosecutions, the accused shall enjoy the right to a speedy and public

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to make them more clear. *Id.* at 527.

141. Phoebe C. Ellsworth & Alan Reifman, *Juror Comprehension and Public Policy: Perceived Problems and Proposed Solutions*, 6 PSYCHOL. PUB. POL’Y & L. 788, 800 (2000) (discussing Shari S. Diamond and Jonathan D. Casper’s unpublished study on understanding juries and their adherence to preexisting schemas despite clear jury instructions).

142. *Id.*

143. *Id.*

144. *Id.*

145. *Id.* at 800–01.

146. Smith, *supra* note 125, at 869. Smith’s findings and conclusions were later criticized by Peter English and Bruce Sales. See English & Sales, *supra* note 14.

147. RANDOLPH N. JONAKAIT, *THE AMERICAN JURY SYSTEM I* (2003).



trial, by an impartial jury of the State and district wherein the crime shall have been committed . . . .”<sup>148</sup> In civil cases in federal court, the right to a jury trial is governed by the Seventh Amendment, which provides that in “Suits at Common Law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved . . . .”<sup>149</sup> This constitutional right to a jury trial in civil cases only applies to federal cases, but most states afford jury trials in civil matters for cases above the level of the small claims court.<sup>150</sup>

A fundamental feature of the trial by jury is the requirement that the pool of potential jurors should be comprised of a reasonable cross section of the community, or a “jury of peers.” Stemming from the Magna Carta,<sup>151</sup> this ancient notion continues to reverberate today and has many goals, among them improving fact finding, reducing prejudice, and promoting the legitimacy of the legal system.<sup>152</sup> In 1968, the Supreme Court noted that providing “an accused with the right to be tried by a jury of his peers gave him an inestimable safeguard against the corrupt or overzealous prosecutor and against the compliant, biased, or eccentric judge.”<sup>153</sup> In practice, courts have often fallen short of this ideal. Women and minorities have historically been excluded from juries and only began serving in substantial numbers in the latter half of the twentieth century.<sup>154</sup> Moreover, until the second half of the twentieth century, jury service was limited to land owners, further limiting the number of eligible jurors.<sup>155</sup>

Despite this shaky start, the country eventually moved toward a representative jury, one “drawn from a cross-section of the community.”<sup>156</sup> This egalitarian tradition of a jury composed of a cross section of the community argues against juries with special skills or special qualifications, although there are examples of such “special juries.”<sup>157</sup> A special jury is one composed of citizens with relevant specialized knowledge that will

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148. U.S. CONST. amend VI. The Supreme Court has limited this right by holding that the Sixth Amendment does not guarantee jury trials for “petty” offenses, or those carrying a potential punishment of less than six months’ imprisonment. See *Baldwin v. New York*, 399 U.S. 66, 68 (1970). Since 1968 this constitutional right to a jury trial has applied to both state and federal criminal trials. *Duncan v. Louisiana*, 391 U.S. 145 (1968).

149. U.S. CONST. amend VII.

150. See *Juries In-Depth: Right to a Jury Trial*, AM. JUDICATURE Soc’y, [http://www.ajs.org/jc/juries/jc\\_right\\_overview.asp#criminal](http://www.ajs.org/jc/juries/jc_right_overview.asp#criminal) (last visited Mar. 15, 2013).

151. The Magna Carta required that “charges against barons should be heard by other barons, their ‘peers,’ rather than by the king.” VIDMAR & HANS, *supra* note 10, at 66.

152. *Id.* at 74–75.

153. *Duncan v. Louisiana*, 391 U.S. 145, 156 (1968).

154. VIDMAR & HANS, *supra* note 10, at 66.

155. JAMES OLDHAM, TRIAL BY JURY: THE SEVENTH AMENDMENT AND ANGLO-AMERICAN SPECIAL JURIES 176 (2006).

156. *Thiel v. S. Pac. Co.*, 328 U.S. 217, 220 (1946).

157. For an excellent discussion of the historical development and current status of the special jury, see OLDHAM, *supra* note 155.

help them to more efficiently solve the facts of a case.<sup>158</sup> The earliest known special jury convened in 1351, when a jury composed of cooks and fishmongers was called to decide the case of a defendant charged with selling bad food.<sup>159</sup> Another well-known form of the special jury was the “jury of matrons,” all-woman juries assembled in cases in which a convicted woman awaiting execution “pleaded her belly,” or claimed to be pregnant.<sup>160</sup> The jury of matrons determined the truth of the claim and decided whether the execution should be stayed until the child was born.<sup>161</sup>

The idea of using experts to resolve disputes has an extensive history in the United States. Arbitrators are perhaps the best-known example, but experts also make decisions as administrative judges and in specialty courts.<sup>162</sup> There is also a large body of legal literature discussing the constitutionality of dispensing with the jury in complex civil litigation and instead employing special juries.<sup>163</sup> Although at one time about half of the states had some form of special jury statute, today only Delaware has a specific statute allowing for special juries in complex civil cases, although even there it has become exceedingly rare to call a special jury as many special jury requests are rejected due to insufficient complexity.<sup>164</sup> Even a Delaware court noted that special juries are “contrary to fundamental concepts of jury trial and would substitute a method of selection which is inconsistent with established principles of justice.”<sup>165</sup>

As James Oldham notes, the “idea of drawing exclusive special juries from specialized lists seems to be anachronistic today. Elite special juries surely are antithetical to the hard-fought, long-delayed goal of opening up jury service to everyone.”<sup>166</sup> Oldham argues that there is still a place for special juries, however, and that while the cross section requirement meets the goal of keeping citizens involved “in the business of democracy,” the special jury serves equally compelling goals, such as dealing effectively with complex cases.<sup>167</sup> However, he concedes that, for

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158. VIDMAR & HANS, *supra* note 10, at 68.

159. *Id.*

160. *Id.*

161. *Id.* (noting that, while the use of special juries was fairly common in England in the 1700s, their use declined and was abolished in 1949).

162. OLDHAM, *supra* note 155, at 196. Neither private arbitrators nor administrative judges must submit questions of fact to a jury, though specialty courts still must do so. *Id.*

163. See, e.g., Morris S. Arnold, *A Historical Inquiry into the Right to Trial by Jury in Complex Civil Litigation*, 128 U. PA. L. REV. 829 (1980); Patrick Devlin, *Jury Trial of Complex Cases: English Practice at the Time of the Seventh Amendment*, 80 COLUM. L. REV. 43, 80 (1980); Kenneth S. Klein, *The Myth of How to Interpret the Seventh Amendment Right to a Civil Jury Trial*, 53 OHIO ST. L.J. 1005, 1007 (1992).

164. OLDHAM, *supra* note 155, at 199.

165. *Bradley v. A. C. & S. Co., Inc.*, 1989 WL 70834 (Del. Super. Ct. May 23, 1989).

166. OLDHAM, *supra* note 155, at 177.

167. *Id.*

the most part, the argument that a “complexity exception” can be read into the Seventh Amendment has not succeeded.<sup>168</sup>

In addition to the constitutional hurdles, specialized juries composed of experts are contrary to ideals of a representative jury of peers and may not promote more accurate fact finding. The representative jury is based on the premise that the ordinary citizen is capable of sorting out the details of most lawsuits. As Vidmar and Hans note, the “idea of a representative jury is a compelling one. A jury of people with a wide range of backgrounds, life experiences, and world knowledge will promote accurate fact-finding.”<sup>169</sup> Diverse groups are likely to hold diverse perspectives on the evidence, thereby encouraging more thorough debate.<sup>170</sup> Moreover, research suggests that diverse juries are better fact finders.<sup>171</sup>

Abandoning the representative jury system in favor of a system of special juries of experts is an extreme solution, and one that is unlikely to find broad support in the courts. Furthermore, there are great benefits to a representative jury that would be lost in such a system. A compromise position, therefore, is a representative system that attempts to better educate lay jurors to make them more like experts, but without abandoning the many benefits those lay jurors bring to the evaluation of evidence. We can come closer to achieving this ideal by attempting to correct and develop the schemas jurors bring with them to trials in order to make their decisionmaking processes more efficient, flexible, and legally accurate.

#### IV. RECOMMENDATIONS: HOW TO CORRECT OLD SCHEMAS AND CREATE NEW ONES

Findings in social science suggest that jurors bring existing schemas for legal concepts to trials, many of which may be incorrect or undeveloped.<sup>172</sup> Furthermore, jurors are not typically aware of the extent to which these schemas can influence their decisionmaking. Because—plain or not—jurors cannot separate schemas from their use of jury instructions, the goal of jury instructions should be two-fold: first, to give jurors the applicable law, and second, to help jurors correct existing schemas and develop new and legally correct schemas before they are exposed to the evidence in a trial.

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168. *Id.* at 196. Of course, the complexity exception is not without its supporters. Notably, Judge Richard Posner has stated that he would favor a complexity exception in certain “complex commercial cases.” Jeffrey Cole, *Economics of Law: An Interview with Judge Posner*, 22 *LITIG.* 23, 66 (1995). He noted: “It’s unfair really to put people through the task of trying to understand a subject which people of higher education and intellectual attainment spend a lifetime studying with imperfect understanding.” *Id.* at 67.

169. VIDMAR & HANS, *supra* note 10, at 74.

170. *Id.*

171. *Id.* at 74–75 (citing various studies).

172. Smith, *supra* note 125, at 868.

This approach does not envision a system in which we attempt to turn jurors into something approximating attorneys, a feat that would be both impossible given the time frame and contrary to our system of a representative jury. Furthermore, some studies suggest that as attorneys gain experience, they actually become *worse* at evaluating cases because they become so rooted in their own preconceptions—or schemas—for what the law is and should be.<sup>173</sup> Instead, these reworked instructions should try to create schemas in jurors that function more like those of experts in that they are better organized, and therefore more accessible, allowing for more thoughtful judgment and better decisionmaking. In this way, we can capture the advantages and ideals of the lay juror, while at the same time ensuring more accurate, consistent, and legally appropriate decisionmaking.

We do not—and should not—expect jurors to entirely remove past experience and common sense from the equation when making decisions about verdicts. While jurors might have traditionally been seen as “blank slates” who could simply be instructed to base their decisions solely on the permissible evidence and the appropriate legal standard, the social science research on both jurors<sup>174</sup> and other human decisionmakers<sup>175</sup> does not support this view.

In fact, we *instruct* jurors to take past experiences into account in certain contexts. For example, jurors are told to use common sense in judging the credibility of witnesses,<sup>176</sup> and the doctrine of jury nullification allows jurors to acquit criminal defendants who are technically guilty when the jury feels the law is either immoral or wrongly applied to the defendant.<sup>177</sup> Moreover, studies of jury behavior indicate that preexisting beliefs often play a role in the jury deliberation process.<sup>178</sup> However, because many jurors have undeveloped or incorrect schemas for the legal concepts they will be asked to apply in a trial, we should correct jurors’

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173. RANDALL KISER, *BEYOND RIGHT AND WRONG: THE POWER OF EFFECTIVE DECISION MAKING FOR ATTORNEYS AND CLIENTS* 22 (2010) (citing various studies). Indeed, Kiser notes that attorneys, like other highly successful people, “deflect criticism, rarely change their opinions, [and] resist feedback . . . . [They] lack self-awareness and resist behavioral changes required to improve their problem-solving skills.” *Id.* at 285.

174. *See, e.g.*, Pennington & Hastie, *supra* note 13, at 519.

175. *See, e.g.*, Paul T. P. Wong & Bernard Weiner, *When People Ask “Why” Questions, and the Heuristics of Attributional Search*, 40 *J. PERSONALITY & SOC. PSYCHOL.* 650, 661–62 (1981).

176. *See, e.g.*, 2.260 *Credibility of Witnesses*, MASSACHUSETTS CRIMINAL MODEL JURY INSTRUCTIONS (2009) (instructing jurors to “look at all the evidence, drawing on your own common sense and experience of life”).

177. VIDMAR & HANS, *supra* note 10, at 227. As James Oldham describes the process of jury nullification, the doctrine stems from the idea that the “the jury should have the power to decide the law by ignoring it.” OLDHAM, *supra* note 155, at 25.

178. Vicki L. Smith & Christina A. Stuebaker, *What Do You Expect?: The Influence of People's Prior Knowledge of Crime Categories on Fact-Finding*, 20 *LAW & HUM. BEHAV.* 517, 528–29 (1996) (finding that jurors’ prior knowledge about the elements of crimes influences information processing and decisionmaking).

misunderstandings about the law and create legally appropriate and accurate schemas *before* jurors are told about the facts of the case. To do this, we need to efficiently train jurors to use the law and facts, and educational psychology can help inform this effort. Additionally, we can help jurors overcome the schema-perseverance effect and reduce bias by asking them to be aware of their own decisionmaking processes.

#### A. DEVELOPING JURORS' SCHEMAS TO MAKE THEM LEGALLY ACCURATE

One of the goals of jury instructions should be to develop novice jurors' schemas for the legal concepts they are about to apply to the facts during the trial. We can increase efficient learning in several ways, both by giving jurors simple and straightforward explanations of the legal concepts they will be asked to apply, and by allowing jurors to study worked examples of those legal concepts and build new schemas before they are asked to interpret law and facts. In turn, these schemas will be more structured and more accessible to the jurors during the trial and during deliberations, leading to better judgment and better outcomes.

Juror schema development and learning must be efficient—not only because the nature of a trial does not allow for drawn-out juror education—but also because efficient learning leads to better learning outcomes with less mental effort.<sup>179</sup> All human learning relies on both working memory and long-term memory.<sup>180</sup> When people are in learning mode, new information is processed in the working memory and forms schemas that are then stored in long-term memory.<sup>181</sup> Working memory is mainly a storage place for conscious processing; it does not have the capacity to store more than limited amounts of information.<sup>182</sup> If we ask jurors to learn too much too quickly (that is, all of the law and the facts they are being asked to interpret), we will overwhelm their working memory and shut down new learning.<sup>183</sup> This is especially true because, as novices, jurors have fewer developed schemas for the concepts they are learning, and they can easily be overwhelmed with the cognitive demands of building new schemas.<sup>184</sup>

To help jurors counteract inappropriate preexisting schemas and activate legally appropriate ones, we should provide them with pre-trial explanations of the applicable law. Traditionally, the only instruction that jurors receive on the applicable law are the jury instructions themselves, and typical instructions are taken from statutes or cases; even pattern jury

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179. RUTH CLARK ET AL., EFFICIENCY IN LEARNING: EVIDENCE-BASED GUIDELINES TO MANAGE COGNITIVE LOAD 27 (2006).

180. *Id.* at 28.

181. *Id.*

182. *Id.* at 29.

183. *Id.*

184. *Id.* at 32.

instructions, intended to be clearer and more accessible for the average layperson, are still written by lawyers—experts—in language that makes sense to experts.<sup>185</sup> But experts and novices do not deal with new information or learn in the same way, and when experts serve as instructors, “they often overload their learners by failing to compensate for the much more limited schemas of the learners.”<sup>186</sup> Because the novice does not have relevant schemas for the law, the pre-trial explanation should serve the role that existing schemas would serve for the expert, or the lawyers and judges.<sup>187</sup>

Moreover, this explanation should move beyond the jury instructions themselves and give new jurors a brief, introductory overview of the legal issues. The explanation should incorporate strategies for teaching novice learners—including tactics like organizing sentences that preview and then review the content of the explanation, definitions and examples of unfamiliar terms, explicit statements that require minimal inferences, and headers to signal paragraph topics.<sup>188</sup> These “pre-instructions” will help give jurors an overview of the applicable law and help them redefine and better develop their schemas for the issues they are about to examine during the trial. As a result, jurors’ schemas will be more accessible, and jurors will be more flexible in their thinking and less swayed by unconscious biases.

Furthermore, novices will learn more efficiently if they are given worked examples or a step-by-step explanation of the solution to a problem that help them build new schemas.<sup>189</sup> Because novices lack

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185. 89 C.J.S. *Trial* § 809 (2012); Tiersma, *supra* note 7, at 1088.

186. CLARK ET AL., *supra* note 179, at 33.

187. *Id.* at 251.

188. *Id.* at 259.

189. *Id.* at 32, 190. In fact, some states do include examples in some types of jury instructions. For example, the state of Connecticut explains the difference between direct and circumstantial evidence this way:

Circumstantial evidence of an event is the testimony of witnesses as to the existence of certain facts or evidence or the happening of other events from which you may logically conclude that the event in question did happen. By way of example, let us assume that it is a December night and you’re preparing to retire for the evening. You look out the window and you see it is snowing. You wake up the next morning, come to court, and testify that the night before it was snowing in the area of your house. That is direct evidence of the fact that it snowed the night before. You saw it and you came into court and testified to that fact.

Now assume that it is another December night, the weather is clear, there is no snow on the ground, and you retire for the evening. You wake up the next morning, you look out the window and you see snow on the ground and footprints across your lawn. You come into court and you testify to those facts. The evidence that the night before there was no snow on the ground and the next morning there was snow on the ground and footprints across your lawn is direct evidence. That direct evidence, however, is circumstantial evidence of the fact that some time during the night it snowed and that some time thereafter someone walked across your lawn.

*Criminal Jury Instructions: 2.4-1 Direct and Circumstantial Evidence*, STATE OF CONN. JUDICIAL BRANCH

schemas for new concepts, they need learning environments that compensate for that deficiency; this type of learning environment would provide schema substitutes by optimizing jurors' limited working memories in ways that free working memory for learning. The use of examples is especially helpful for novice learners—like the average juror—who know little about the legal issue they are being asked to analyze because the examples will help them develop schemas and accelerate expertise.<sup>190</sup> If jurors have a worked example to study just prior to solving a similar problem (that is, the problem of how the law applies to the particular facts in a trial), this will give them an analogy to use when solving the problem, thus freeing up more working memory capacity for schema development.<sup>191</sup>

The Arkansas Model Jury Instruction 501 for “Proximate Cause” is an example of a pattern jury instruction that could be rewritten to include both an introductory explanation to the legal issue, as well as worked examples of how the law would apply to a particular set of facts. The instruction states: “The law frequently uses the expression ‘proximate cause,’ with which you may not be familiar. When I use the expression ‘proximate cause,’ I mean a cause which, in a natural and continuous sequence, produces damage and without which the damage would not have occurred.”<sup>192</sup>

Of course, “proximate” and “cause” are words that are familiar to most jurors, but the term “proximate cause” has a legal definition that is much different than its common usage. The legal concept of proximate cause is really one of policy and whether there is enough of a connection between the act and the harm that it is fair to hold the defendant liable for the harm: To satisfy proximate cause, it must have been reasonably foreseeable that the harm would result from the action.<sup>193</sup> Because of this

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(June 13, 2008), <http://www.jud.ct.gov/ji/criminal/part2/2.4-1.htm>. This is likely to be more helpful to a juror than the Ninth Circuit’s Pattern Criminal Jury Instructions, which provide:

Evidence may be direct or circumstantial. Direct evidence is direct proof of a fact, such as testimony by a witness about what that witness personally saw or heard or did. Circumstantial evidence is proof of one or more facts from which you could find another fact. You should consider both kinds of evidence. The law makes no distinction between the weight to be given to either direct or circumstantial evidence. It is for you to decide how much weight to give to any evidence.

3.8 *Direct and Circumstantial Evidence*, NINTH CIRCUIT MODEL CRIMINAL JURY INSTRUCTIONS (Mar. 2006), <http://archive.ca9.uscourts.gov/web/sdocuments.nsf/o/daf5c7758d60a2ed882564b4000844cf?OpenDocument>. Comments to the pattern jury instruction do note that it may be helpful to include an illustrative example. *Id.*

190. CLARK ET AL., *supra* note 179, at 193–94, 201.

191. *Id.* at 193.

192. 501 *Proximate Cause—Concurring Proximate Cause—Definition*, ARKANSAS MODEL JURY INSTRUCTIONS—CIVIL (updated Nov. 2011).

193. *Palsgraf v. Long Island R.R. Co.*, 248 N.Y. 339, 352 (1928) (“[B]ecause of convenience, of public policy, of a rough sense of justice, the law arbitrarily declines to trace a series of events beyond a certain point.”).

difference between its common usage and its legal usage, jurors will likely need a corrected schema for this term, and examples of how the term plays out in the legal context will be helpful in creating a legally appropriate schema for “proximate cause.” Jurors should be told the rule and the reasoning for the proximate cause requirement and given an example of how the rule can be used to solve a specific problem before they are told about the facts of the present case. Here is a hypothetical:

*Rule and reasoning for “proximate cause”:* The next requirement for negligence is that the defendant’s action be the “proximate cause” of the plaintiff’s injury. Proximate cause means that at the time he took the action, the defendant must have been reasonably able to predict that the harm to the plaintiff would result from his action; in other words, the harm must have been reasonably foreseeable. This requirement is in addition to the requirement that the defendant’s actions be the “cause in fact” of the plaintiff’s injury (see previous instruction on “cause in fact”). We have this requirement because we do not think it is fair to hold people liable for every consequence of their actions, if that consequence is too improbable or far-reaching.

*You should find proximate cause in the following example:* If Margot throws a book at Steve’s head, it is reasonably foreseeable that Margot’s action could proximately cause Steve harm. Furthermore, if Margot throws a book at Steve’s head, but it misses and knocks an object off of the shelf, which then hits Steve in the head, it is also reasonably foreseeable that Margot’s action could proximately cause Steve harm. Therefore, in both situations, when Margot threw the book, she proximately caused Steve’s harm.

*You should NOT find proximate cause in the following example:* Margot, driving carelessly, crashes into Steve’s car. Margot didn’t know that the car contained a bomb, which exploded when she hit it. Several blocks away, a mother carrying her baby, Chad, is startled by the explosion and drops Chad. In this situation, Chad cannot recover against Margot because Chad’s injury is so removed from Margot’s action that her harm was not reasonably foreseeable. Margot’s action was not the proximate cause of Chad’s injury. Note that in this example Margot has been negligent (because she was driving carelessly), and her careless driving is the “cause in fact” of Chad’s injury (because if she hadn’t been negligent, the crash and the explosion would not have occurred). However, we do not want to hold Margot liable for Chad’s injury because it is so improbable and far-reaching that it would not be fair.<sup>194</sup>

As noted above, this explanation should be given before the presentation of evidence. Because jury instructions are typically given after the presentation of evidence and just prior to deliberation, jurors have already had the evidence framed for them and have already been primed to view it in a particular (or several different) ways.<sup>195</sup> These

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194. See generally *id.*; see also STEVEN L. EMANUEL, EMANUEL LAW OUTLINES: TORTS 148–49 (8th ed. 2009).

195. See discussion on priming and framing *supra* Part I.B.



primes and frames activate schemas that, as noted above, may or may not be legally correct or appropriate. In many cases, they are likely activating schemas in jurors that include misconceptions about the law and, once activated, these schemas will persevere throughout the trial and into deliberations. If courts incorporated a more neutral, pre-trial explanation of the law, this neutral and legally correct information would also have a priming and framing effect, creating and activating appropriate schemas and allowing jurors to better weigh the evidence from both sides.

Judges have discretion to determine the timing of jury instructions, and some judges give jurors instructions before the presentation of evidence so that jurors will have some prior understanding of the law they will later be asked to apply.<sup>196</sup> Research on schema theory supports this approach: People are more likely to remember information relevant to schemas,<sup>197</sup> and—as a result of both priming and framing—context affects people’s interpretations of new information.<sup>198</sup> This suggests that learning about the law before the evidence is presented should give jurors appropriate schemas for processing the evidence and enhance their ability to identify and remember relevant facts.

This pre-trial timing of instructions is supported by research into the efficacy of jury instructions. One study found that subjects who heard the law both before and after the presentation of evidence were better able to apply the law to the facts of the case than other subjects.<sup>199</sup> Furthermore, pre-instruction had no apparent downside: “There were no decrements in their abilities to recall the evidence, understand the law, or make verdict decisions. It appears, then, that these benefits of pre[-]instruction may be realized without cost to jurors’ information processing or decision making.”<sup>200</sup> Moreover, some research suggests that jurors who hear

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196. 89 C.J.S. *Trial* § 809 (2012). Appellate courts have consistently left decisions about the use and content of pre-trial instructions to the discretion of the trial court judge. *See, e.g.*, *United States v. Ruppel*, 666 F.2d 261, 273–74 (5th Cir. 1982); *People v. Valenzuela*, 142 Cal. Rptr. 655, 657 (Ct. App. 1977). Some appellate opinions encourage the use of pre-trial instruction. *See Valenzuela*, 142 Cal. Rptr. at 658 (“[W]e commend the astute judge who tries to give the jury advance notice of the law applicable to the case. . . . However, as we see it, the purpose of preinstructing jurors is not to avoid the necessity of instructing at the close of argument; rather, it is to give them some advance understanding of the applicable principles of law so that they will not receive the evidence and arguments in a vacuum.”). Others advise against it. *See, e.g.*, *People v. Murillo*, 55 Cal. Rptr. 2d 21, 24 (Ct. App. 1996) (noting that the preferable method is to give the jury instructions after the close of evidence but before closing arguments, while acknowledging that the trial court has discretion on this matter).

197. Taylor & Crocker, *supra* note 45, at 98.

198. *See generally supra* Part I.B.

199. The author of the study notes, however, that this result cannot be seen as a pure effect of pre-trial instruction because the group that only received pre-instructions (and no post-instructions) did not show this improvement, but the results do indicate that there is benefit in hearing the instructions twice. Vicki L. Smith, *Impact of Pretrial Instruction on Jurors’ Information Processing and Decision Making*, 76 J. APPLIED PSYCHOL. 220, 226 (1991).

200. *Id.*

instructions twice—both before and after the presentation of evidence—have better comprehension than jurors who only hear the instructions once.<sup>201</sup> Furthermore, instructions could still be repeated at the close of evidence and jurors could still be given copies of both the written instructions and the pre-trial explanations to take with them into deliberations.

#### B. HELPING JURORS REDUCE SCHEMA PERSEVERANCE

Jurors should also be explicitly told to consider the evidence from both sides as a means of reducing schema perseverance and bias. Although studies have found that demanding that someone be accurate and fair does not guarantee that a person will follow that instruction, telling people to consider the evidence from both sides might have that effect. For example, one study found that instructions to be “as objective and unbiased as possible” in reviewing studies on capital punishment did not in fact reduce bias.<sup>202</sup> However, when subjects were explicitly told to consider the new evidence from both points of view, bias was reduced.<sup>203</sup> In other words, if we ask people to monitor their cognitive processes by thinking carefully about how they are evaluating evidence and paying attention to biases, it seems that we can reduce the impact of bias and preexisting schemas on decisionmaking.<sup>204</sup> Because most jurors are largely unaware of the impact of schemas on decisionmaking, telling jurors about schemas and their potential biasing effects before they evaluate any evidence might also help to ameliorate the effect of schemas on juror decisionmaking.<sup>205</sup>

Furthermore, by asking people to be more aware of the ways in which schemas—and specifically priming and framing—influence decisionmaking, we can, through greater awareness of these typically unconscious phenomena, recognize the effect and reduce the impact of schemas on decisionmaking.<sup>206</sup> For example, although we cannot avoid viewing problems through frames, “with effort you can become aware of how you are framing a situation and whether there are alternatives.”<sup>207</sup> To do this, people need to become aware of the origins of their frames, as well as how others in the same situation might frame the same issue or problem. Similarly, if decisionmakers become more aware of their own

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201. Elwork et al., *supra* note 1, at 177–78.

202. Charles G. Lord et al., *Consider the Opposite: A Corrective Strategy for Social Judgment*, 47 J. PERSONALITY & SOC. PSYCHOL. 1231, 1233, 1237 (1984).

203. *Id.* at 1234.

204. FISKE & TAYLOR, *supra* note 8, at 172–73.

205. *Id.*

206. ROBBENHOLT & STERNLIGHT, *supra* note 90, at 13 (“It can be helpful to acknowledge the reality that preexisting knowledge structures can influence perception and to actively question the basis for a particular understanding.”).

207. BREST & KRIEGER, *supra* note 25, at 36.

decisionmaking process, this could have an impact on their susceptibility to primes.<sup>208</sup> Moreover, priming might also be counteracted through instructions that encourage feelings of accountability by jurors.<sup>209</sup>

We should also ask jurors to try to create plausible explanations for both—or all—sides before coming to a decision. This could reduce unwarranted theory perseverance by showing jurors how easily either side might be right, or how either theory might be true.<sup>210</sup> In a follow-up to the firefighter study discussed in Part I,<sup>211</sup> Anderson found that if people are compelled to explain why their theory might be wrong, the perseverance effect was moderated:<sup>212</sup> “[I]nducing people to create causal explanations of opposite social theories produces more flexible and appropriate responses to challenges to those theories.”<sup>213</sup> Subjects who explained both a positive and a negative relationship between firefighting ability and risk preference were significantly less reluctant to abandon their initial theory when told that their case history was fictitious.<sup>214</sup> Asking jurors to describe “potential alternative hypotheses before the presentation of evidence may minimize the influence of specific beliefs on the part of the individual asked to weigh the evidence.”<sup>215</sup> In other words, if jurors are asked to articulate theories for both sides before reaching a final decision, theory perseverance and thoughtless schema application could be minimized.

#### CONCLUSION

Schemas are powerful—though largely unconscious—frameworks that influence the way people see, interpret, and remember information. Like any other person interpreting a set of facts, jurors cannot help but be influenced by schemas when interpreting facts and applying the law during a trial. Furthermore, although the law has made great strides in improving juror comprehension of jury instructions, even “plain-language”

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208. Kathryn M. Stanchi, *The Power of Priming in Legal Advocacy: Using the Science of First Impressions to Persuade the Reader*, 89 OR. L. REV. 305, 349 (2010).

209. Jennifer S. Lerner et al., *Sober Second Thought: The Effects of Accountability, Anger, and Authoritarianism on Attributions of Responsibility*, 24 PERS. & SOC. PSYCHOL. BULL. 563, 568 (1998). Some subjects in an anger priming experiment were told that an “expert” would interview them at the end of the study to assess their responses and reasoning. *Id.* at 566. Those subjects reported that they engaged in a more deliberative decisionmaking process than that of those who were not accountable for their reasoning. *Id.* at 571.

210. Anderson, *supra* note 71, at 129. Anderson warns, however, that these procedures might not be as effective when the theory involved has a strong emotional component, such as a person’s beliefs concerning the deterrent effect of capital punishment, because that emotional component might prevent people from considering competing theories even when explicitly instructed to do so. *Id.* at 136.

211. *Id.* at 127.

212. *Id.* at 134.

213. *Id.*

214. *Id.*

215. Fugelsang & Dunbar, *supra* note 102, at 163.

instructions are vulnerable to the interpretive influence of schemas. Jurors' understanding of the law is typically undeveloped, and therefore their schemas for legal concepts are often correspondingly incorrect or undeveloped. Moreover, although they may not be correct in their assumptions about the law, jurors do not come to trials as blank slates—they bring with them existing schemas that shape the way they view both the law and the facts that are often garnered from the media and popular entertainment.

For this reason, existing jury instructions, which are typically given to jurors after the presentation of evidence, do little to counteract or correct jurors' undeveloped or misinformed schemas. Based on findings from the social sciences, lawyers and judges should attempt to develop jurors' schemas for the relevant legal concepts to make them better organized and more accessible, allowing for more thoughtful judgment and more accurate decisionmaking. To accomplish this, jurors should be provided with both well-written jury instructions and pre-trial explanations of the applicable law, including examples of how the law applies and to which they can analogize the facts of the present case. We should also help jurors to overcome schema perseverance by asking them to consider the evidence from both sides and to attempt to create plausible explanations for both sides of a case. These steps will help counteract inappropriate preexisting schemas, activate legally appropriate schemas, and result in better decisionmaking by jurors.

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