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Group Agency and Legal Proof; or, Why the Jury Is an 'It'

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ABSTRACT

Jurors decide whether certain facts have been proven according to the applicable legal standards. What is the relationship between the jury, as a collective decision-making body, on one hand, and the views of individual jurors, on the other? Is the jury merely the sum total of the individual views of its members? Or do juries possess properties and characteristics of agency (for example, beliefs, knowledge, preferences, intentions, plans, and actions) that are in some sense distinct from those of its members? This Article explores these questions and defends a conception of the jury as a group agent with agency that may differ from that of its members.

The Article then argues that this conception of the jury contains important implications for law and legal proof. These implications are both theoretical and practical. On the theoretical side, recent debates in evidence law have focused on whether legal proof is probabilistic or explanatory in nature. These debates, however, have largely assumed a single, unified fact-finder (whether jury or judge). The group-level perspective reveals new conceptual problems for the probabilistic theory that are alleviated by the explanatory theory; it thus provides further vindication for the explanatory account. On the practical side, the conception of the jury as a group agent, coupled

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with the explanatory account of proof, clarifies doctrinal issues on whether, and when, jurors must agree on factual details. In both criminal and civil cases, these issues have caused considerable confusion and uncertainty for courts and commentators.

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INTRODUCTION

A jury is a collection of individuals—each assesses evidence and determines whether certain facts have been proven, according to the applicable legal standards. The views of individual jurors are aggregated, and if there is sufficient agreement, the jury's group decision will constitute a verdict.[1] What is the relationship between the *jury* as a collective decision-making body, on one hand, and the beliefs, knowledge, intentions, preferences, and decisions of its *individual members*, on the other? In other words, what is the relationship between the jury as a potential "group agent" and the agency of its members?[2] Is there any coherent sense in which the jury has group agency that differs from the agency of its members? Or is the jury just a "they," and not an "it?" What implications follow from the answers to these questions?

These questions animate the discussions in this Article. I will defend the view that the jury does indeed possess a type of group agency that is distinct from the agency of its individual members. In other words, I will argue that the jury is in fact an "it" (as well as a "they"). Moreover, I will discuss several theoretical and practical implications that follow from this conception of juries. Before outlining the details of the arguments to follow, I will first set the stage by describing the distinct strands of scholarship that form the background for the discussion and upon which the analysis will draw.

There are five such strands. The first is a collection of "*they*, not an *it*" arguments applied to collective decision-making bodies. For

1. The verdict may or may not result in a legal judgment. *See* FED. R. CIV. P. 50, 59; Jackson v. Virginia, 443 U.S. 307, 319 (1979). Throughout this Article, "jury" refers to a petit jury unless otherwise noted. The analysis will focus on the conclusions of petit juries at trial; however, the analysis of group agency applies to grand juries as well.

2. "Agency" is a philosophical term of art. For purposes of this Article, an "agent" refers to any entity with the power to act in response to its environment. The basics of agency include the capacities to: (1) represent or otherwise gather information about the environment (for example, beliefs); (2) form motivational states about how the entity would like the environment to be (for example, desires, needs, intentions, plans); and (3) act to bring the environment into accord with the entity's motivational states. *See* CHRISTIAN LIST & PHILIP PETTIT, GROUP AGENCY: THE POSSIBILITY, DESIGN, AND STATUS OF CORPORATE AGENTS 20 (2011) (articulating the basic conditions of agency); *see also* MICHAEL BRATMAN, STRUCTURES OF AGENCY (2006); P.M.S. HACKER, HUMAN NATURE: THE CATEGORICAL FRAMEWORK 123 (2010) ("An agent, in the most general sense of the term, is something that *does something* or *acts*.").

example, scholars frequently point out that Congress, the executive branch, the White House, the judiciary, the Supreme Court, administrative agencies, corporations, boards of directors, the school board, and so on, are a "they," and not an "it."[3] There are a number of important truths—typically grounded in social-choice theory—contained in these arguments.[4] Focusing on the "they" aspects draws attention to the fact that any action taken by the collective body is done through the actions of individuals who have distinct beliefs, desires, preferences, intentions, and plans. This perspective exposes some pernicious myths about collective decisions.[5] However, an extreme focus on the "they" aspects can obscure important aspects in which groups can indeed display "it" characteristics.[6]

The second strand is recent philosophical work exploring the "it" aspects of groups. A rich and sophisticated literature on "group agency" has shown that the relationship between groups and individuals is not always a simple one.[7] A group of individuals acting in

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3. *See, e.g.*, Neomi Rao, *Public Choice and International Law Compliance: The Executive Branch Is a "They," Not an "It,"* 96 MINN. L. REV. 194 (2011); Kenneth A. Shepsle, *Congress Is a "They," Not an "It": Legislative Intent as Oxymoron*, 12 INT'L REV. L. & ECON. 239 (1992); Cass A. Sunstein, *The Office of Information and Regulatory Affairs: Myths and Realities*, 126 HARV. L. REV. 1838, 1840 (2013) ("[T]he White House itself is a 'they,' not an 'it.'"); Adrian Vermeule, *The Judiciary Is a They, Not an It: Interpretive Theory and the Fallacy of Division*, 14 J. CONTEMP. LEGAL ISSUES 549 (2005).

4. For an excellent overview, see Christian List, *Social Choice Theory*, STAN. ENCYCLOPEDIA PHIL. (Dec. 18, 2013), http://plato.stanford.edu/entries/social-choice/ [http://perma.cc/BH2P-LG59].

5. *See, e.g.*, LEO KATZ, WHY THE LAW IS SO PERVERSE 54-56 (2011) (discussing how the "cycling" of preferences creates problems for law); Larry Alexander, *The Objectivity of Morality, Rules, and Law: A Conceptual Map*, 65 ALA. L. REV. 501, 506 (2013) ("The collectivity problem is a real one. We might have rules about assigning meaning to otherwise meaningless marks or sounds. But that meaning would not be one that the marks or sounds by themselves expressed. There is no mind to make those marks or sounds into *symbols* that convey a *meaning*."); Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 547-48 (1983) (discussing how issues such as "agenda control" and "logrolling" make it impossible to determine how a legislative body would vote on an issue it had not considered).

6. *See generally* Shepsle, *supra* note 3. It is not oxymoronic to speak of a group's intentions. *See* JOHN R. SEARLE, MAKING THE SOCIAL WORLD: THE STRUCTURE OF HUMAN CIVILIZATION 43 (2010) (discussing "collective prior intentions and collective intentions-in-action").

7. *See, e.g.*, MARGARET GILBERT, JOINT COMMITMENT: HOW WE MAKE THE SOCIAL WORLD (2014); MARGARET GILBERT, ON SOCIAL FACTS (1989) [hereinafter GILBERT, SOCIAL FACTS]; ALVIN I. GOLDMAN, KNOWLEDGE IN A SOCIAL WORLD (1999); LIST & PETTIT, *supra* note 2, at 25-31; SEARLE, *supra* note 6, at 43-45. For scholarship exploring insights regarding group agency for law and legal issues, see SCOTT J. SHAPIRO, LEGALITY (2011); Meir Dan-Cohen, *Epilogue on "Corporate Personhood" and Humanity*, 16 NEW CRIM. L. REV. 300 (2013); Lewis

concert may come to possess properties that individuals in the group do not. A legislature, a board of directors, a city council, an appellate court, and (as this Article argues) a jury possess powers *collectively* and can engage in certain actions *collectively* that no individual members of that group can by themselves. For example, groups can pass a law, adopt a mission statement, adopt a resolution, overrule a prior precedent, or render a verdict. The relationships between these groups and their members present a number of puzzling possibilities: groups may engage in actions that no individuals in the group want, and groups may endorse conclusions that no individuals believe to be true; likewise, groups may fail to engage in actions that all members of the group would prefer, and groups may fail to endorse conclusions that all members believe to be true.[8] The idea of a group acting and believing in ways that deviate from the actions and thoughts of its members has an air of mystery to it, as though the group has emerged to take on a life—and a mind—of its own. But the process is not mysterious, and groups are not magical entities. Rather, the process is extraordinarily complex and this complexity often obscures aspects of group decision making.

The third strand is a subset of the second. One topic within the subject of group agency is "collective epistemology," which explores group knowledge and collective decision making on *factual* matters.[9] The branch of philosophy concerned with knowledge—epistemology—has in recent years focused on so-called social epistemology, which explores, among other issues, the extent to which various social practices and institutions affect knowledge and true belief.[10]

A. Kornhauser & Lawrence G. Sager, *The One and the Many: Adjudication in Collegial Courts*, 81 CALIF. L. REV. 1 (1993) [hereinafter Kornhauser & Sager, *The One and the Many*]; Lewis A. Kornhauser & Lawrence G. Sager, *Unpacking the Court*, 96 YALE L.J. 82 (1986); Victoria F. Nourse, *A Decision Theory of Statutory Interpretation: Legislative History by the Rules*, 122 YALE L.J. 70 (2012); and Richard Schragger & Micah Schwartzman, *Against Religious Institutionalism*, 99 VA. L. REV. 917 (2013).

8. These possibilities are explained in more detail in Part I.

9. *See generally* COLLECTIVE EPISTEMOLOGY (Hans Bernhad Schmid et al. eds., 2011) (discussing group epistemic judgments); Christian List, *Group Knowledge and Group Rationality: A Judgment Aggregation Perspective*, 2 EPISTEME 25 (2005) (discussing the "theory of judgment aggregation as a framework for studying institutional design in social epistemology"); Deborah Tollefsen, *Group Testimony*, 21 SOCIAL EPISTEMOLOGY 299, 300 (2007) ("[T]he testimony of a group is not necessarily the testimony of any particular member of the group nor does group testimony necessarily express the views of some or all of the group members.").

10. GOLDMAN, *supra* note 7, at 4-7. *See generally* SOCIAL EPISTEMOLOGY: ESSENTIAL

A key topic in social epistemology is when, and under what conditions, groups possess knowledge or other epistemic states.

The fourth and fifth strands focus on law, legal proof, and juries. The fourth strand concerns the academic literature on the process of legal proof and its conceptual components. The primary theoretical debate in recent years has focused on whether to conceptualize this process in probabilistic or explanatory terms.[11] Under one conception, the process of proof involves explicitly probabilistic conclusions by jurors and judges on the formal elements of crimes, civil causes of action, or affirmative defenses; under the alternative conception, jurors and judges evaluate competing possible explanations of the evidence and disputed events.

The fifth strand concerns the scholarly literature on difficult doctrinal issues: On what exactly must jurors agree to constitute a verdict?[12] For example, must jurors only agree on whether a defendant committed a particular crime, or must they also agree on a particular factual scenario, theory, or means by which the defendant committed the crime? When are juror disagreements acceptable, and when do they undermine verdicts?

This Article will draw upon the first three strands of scholarship to present a conception of the jury as an "it" (as well as a "they").

READINGS (Alvin Goldman & Dennis Whitcomb, eds., 2011) (discussing social epistemology in five sections: defining social epistemology, trust in testimony and experts, reasonable peer disagreement, judgment aggregation, and social-system design).

11. For an overview of the debates, see Michael S. Pardo, *The Nature and Purpose of Evidence Theory*, 66 VAND. L. REV. 547 (2013). On the probabilistic conception, see, for example, Edward K. Cheng, *Reconceptualizing the Burden of Proof*, 122 YALE L.J. 1254 (2013); and Richard O. Lempert, *Modeling Relevance*, 75 MICH. L. REV. 1021 (1977). On the explanatory conception, see Ronald J. Allen & Michael S. Pardo, *The Problematic Value of Mathematical Models of Evidence*, 36 J. LEGAL STUD. 107 (2007); and Michael S. Pardo & Ronald J. Allen, *Juridical Proof and the Best Explanation*, 27 LAW & PHIL. 223 (2008).

12. *See, e.g.*, Scott W. Howe, *Jury Fact-Finding in Criminal Cases: Constitutional Limits on Factual Disagreements Among Convicting Jurors*, 58 MO. L. REV. 1 (1993); Jessica A. Roth, *Alternative Elements*, 59 UCLA L. REV. 170 (2011); Hayden J. Trubitt, *Patchwork Verdicts, Different-Jurors Verdicts, and American Jury Theory: Whether Verdicts are Invalidated by Juror Disagreement on Issues*, 36 OKLA. L. REV. 473 (1983); Peter Westen & Eric Ow, *Reaching Agreement on When Jurors Must Agree*, 10 NEW CRIM. L. REV. 153 (2007); Brian Bah, Note, *Jury Unanimity and the Problem with Specificity: Trying to Understand What Jurors Must Agree About by Examining the Problem of Prosecuting Child Molesters*, 91 TEX. L. REV. 1203 (2013); Elizabeth A. Larsen, Comment, *Specificity and Juror Agreement in Civil Cases*, 69 U. CHI. L. REV. 379 (2002); Stephen E. Sachs, Alternative Theories of the Crime (May 24, 2007) (unpublished manuscript), *available at* http://perma.cc/4MGE-K3AJ.

The Article will then argue that this conception contains implications for the fourth and fifth strands. In particular, this conception will vindicate the explanatory conception of proof and, in the process, clarify the practical doctrinal issues regarding juror agreement.

Part I provides a general overview of group agency. This Part specifies the basic requirements for a group to act as an agent, clarifies the relationship between the agency of a group and the agency of its individual members, and explains why a group can exhibit characteristics of agency that deviate from the agency of its members. The basics of group agency depend on whether the group faces choices, can assess evidence and make judgments about its options on the choices, and has the power to choose between its options. The relationship between groups and individuals is complex. Although group agency depends upon, and is fixed by, the agency of individuals, the agency of individuals may be aggregated in a variety of different ways. These differences provide the mechanisms by which group agency may differ from the individuals on which it depends. Part I is devoted to unpacking these notions.

Building on Part I, Part II provides a general overview of group knowledge. This Part articulates a basic account of group epistemic judgments, which parallels individual epistemic judgments. Just like individuals, groups may endorse or accept certain propositions as true. And, just like individuals, sometimes these conclusions will be true and warranted by the evidence, and sometimes they will be false or unsupported by the evidence. This Part also explores reasons why group epistemic judgments may deviate from the epistemic conditions of its individual members: a group may know things its members do not, and members may know things the group fails to know.

Part III applies the analysis in Parts I and II to the jury. It provides an account of juries as group epistemic agents. As with group agency generally, a jury may arrive at conclusions that differ from the conclusions and beliefs of its members, depending on the applicable aggregation rules. In the jury context, these rules include the variety of procedural rules that specify the size of juries and the number of votes required for a verdict. This Part illustrates how, because of these rules, juries may endorse conclusions that all or

most jurors reject, and juries may fail to endorse conclusions every juror accepts. This Part also explores how other epistemic components arise in the institutional context of jury fact-finding. For example, the *jury* may be epistemically justified in arriving at a particular conclusion, even though individual jurors are not, and *jurors* may be justified in reaching conclusions even though the *jury* is not. This Part establishes why the jury is an "it."

Parts IV and V discuss implications for this conception of the jury. Part IV explores two theoretical accounts of legal proof—probabilistic and explanatory—at the level of group agency. These general accounts offer ways to conceptualize aspects of the proof process, including the value of evidence, the meaning of standards of proof, and the nature of juror inferences from evidence.[13] After outlining these two accounts, this Part will argue that at the level of group agency, the probabilistic account faces several conceptual problems. These problems include acceptance by the probabilistic conception of: (1) jury outcomes that all jurors reject; (2) outcomes that do not track the strength of the evidence (for example, parties with worse cases may win, even though their counterparts with stronger cases do not); and (3) juror disagreements that undermine verdicts. The explanatory conception is shown to alleviate or avoid these problems. The discussion in this Part draws on a conceptual problem already explored extensively in the literature—the so-called conjunction paradox—that focuses on a single or unified decision maker.[14] This problem is seen as a major obstacle to the probabilistic conception because it reveals a fundamental disconnect between legal outcomes and elementary probability theory.[15] Moving to the group level reveals new problems, which are related to, but distinct from, the original conjunction problem. The upshot of this Part is that shifting to a group-agency perspective provides additional

13. *See* Pardo, *supra* note 11, at 574-612.

14. *See* L. JONATHAN COHEN, THE PROBABLE AND THE PROVABLE 58-61 (1977) (introducing the conjunction problem to discussions of legal proof); Ronald J. Allen & Alex Stein, *Evidence, Probability, and the Burden of Proof*, 55 ARIZ. L. REV. 557, 562 (2013) (referring to the "conjunction paradox" as "the most difficult ... [problem], in the eyes of many" facing a probabilistic conception of proof).

15. *See* Cheng, *supra* note 11, at 1256-59 (arguing that the conjunction paradox is a significant obstacle to trial by mathematics and proposing adjustments to the conventional understanding of the probabilistic account); Saul Levmore, *Conjunction and Aggregation*, 99 MICH. L. REV. 723, 723 (2001) (noting the "math-law divide" on this issue).

support for an explanatory conception of proof (and a rejection of a probabilistic conception).

Building on the theoretical analysis in Part IV, Part V explores the practical implications. The account of the jury as a group agent, coupled with the explanatory conception of proof, clarifies an important doctrinal issue beleaguering courts and commentators. Namely, on what exactly must jurors agree in civil and criminal cases? Need they agree only on whether the formal elements of a crime or civil claim have been proven (the "formal elements" approach), or must they also agree on a particular factual scenario, theory, or means (the "single theory" approach)? The probabilistic account presupposes the formal elements approach and thus accepts significant disagreements by jurors on factual details, even when these disagreements undermine verdicts. The explanatory account rejects both the formal elements and single theory approaches. This Part argues that jurors must agree on an *explanation* of the evidence and events, consistent with the applicable standard of proof. Therefore, the formal elements approach (presupposed by the probabilistic conception) requires too little agreement.[16] Jurors may, however, agree on alternative (or disjunctive) explanations under certain conditions, and thus the single theory approach sometimes requires too much agreement.[17] The discussion clarifies when disagreements are acceptable and when they undermine verdicts.

Part VI considers and rejects possible counterarguments, and a brief conclusion considers broader possible implications for the analysis.

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16. *See, e.g.*, Stoner v. Williams, 54 Cal. Rptr. 2d 243, 252 (Ct. App. 1996) ("[W]e conclude that jurors need not agree from among a number of alternative acts which act is proved, so long as the jurors agree that each element of the cause of action is proved."). The Supreme Court rejected a formal elements approach in criminal cases. Richardson v. United States, 526 U.S. 813, 815 (1999). The proper agreement test, however, is still a matter of controversy. Even more uncertainty exists in civil cases. *See* Larsen, *supra* note 12, at 388-92.

17. *See, e.g.*, Valentine v. Baxter Healthcare Corp., 81 Cal. Rptr. 2d 252, 265-66 (Ct. App. 1999) (upholding special verdict form requiring jurors to agree on which specific act by defendant constituted negligence). The Supreme Court in *Schad v. Arizona* rejected a categorical single theory approach, recognizing that "alternative means" may (sometimes) be acceptable grounds for a verdict, but, again, considerable uncertainty remains. 501 U.S. 624, 645 (1991).

I. GROUP AGENCY: A CONCEPTUAL OVERVIEW

What does it mean for a group to exhibit agency? In other words, when does a collection of individuals work together in such a way that they manifest not just *individual* beliefs, judgments, preferences, intentions, plans, decisions, and actions, but also *collective* beliefs, judgments, preferences, intentions, plans, decisions, and actions?[18] What is the relationship between the agency of individuals in a group and the agency of the group itself? Can there even be such a thing as the group's agency that is distinct from just the sum of the individual agency of its members? These general inquiries arise within a rich literature examining collective decision making, drawing on several academic disciplines, including philosophy, economics, political science, psychology, sociology, and mathematics.[19]

In discussing recent literature on group agency, this Part has three goals: first, to explain what it means for a group to exhibit agency; second, to clarify some conceptual issues regarding group agency; and, third, to illustrate why, and in what sense, a group agent may exhibit agency that deviates from the agency of its individual members. This overview will lay the groundwork for Part II's subsequent discussion of group knowledge. Part III will then apply the insights from Parts I and II to the jury.

To illustrate group agency, let us start with a simple example. Suppose a three-judge appellate panel (Judges Black, Gray, and White) is voting on whether to affirm or to reverse a district court judgment granting summary judgment. If all three judges vote to affirm the district court judgment, then the appellate court's decision will have the effect of affirming the district court's judgment. The same is true if two appellate judges vote to affirm. But if two vote to reverse and one votes to affirm, then the judgment will be reversed. The court can do something through the actions of the panel that no one judge can do by himself or herself. This basic truth about appellate courts extends to groups of many different varieties. Through the actions of its members, the group may come to act like an agent in ways that are similar to the actions

18. *See supra* note 2.

19. For an overview, see List, *supra* note 4.

of individuals. In an illuminating recent work, Christian List and Philip Pettit argue that a group exhibits agency (and concomitantly may be held responsible qua agent) when three conditions are met:

> (1) the group faces normatively significant choices;
> (2) it understands its options and has access to evidence for making judgments about its options; and
> (3) it has the control required for choosing between options.[20]

These three conditions are certainly true of the appellate panel, and they are true for a host of other groups such as an administrative agency, a board deciding whether to fund a research study, or a charity deciding how to allocate donations.

Once we recognize that groups may exhibit agency in this sense, the next question is how best to conceptualize or model this agency. According to one collection of views—which is sometimes labeled "summative" or "eliminative"[21]—a group's agency is just the sum total of the agency of individuals in the group and nothing more. In other words, the group's choices are nothing more than the choices of the individuals in the group, the group's beliefs are the collection of beliefs of the individuals, and the group's judgments are the judgments made by the individuals in the group. Under an alternative view—which is sometimes labeled "non-summative" or "emergent"[22]—the group's agency may deviate from the beliefs,

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20. LIST & PETTIT, *supra* note 2, at 158.

21. *See* GILBERT, SOCIAL FACTS, *supra* note 7, at 19; LIST & PETTIT, *supra* note 2, at 73. In addition to these labels, other related terms include "reductive," "individualist," and "singularism." Gilbert also uses the term "correlative" to refer to the position that for a group to have a particular attitude (for example a belief), at least one member must share that attitude. *See* GILBERT, SOCIAL FACTS, *supra* note 7, at 19. I use the label "summative" to encompass any view that denies there is actual group agency.

22. *See* GILBERT, SOCIAL FACTS, *supra* note 7, at 19. For more information on the "emergentist" tradition in history, sociology, and political theory in the late nineteenth and early twentieth centuries, see LIST & PETTIT, *supra* note 2, at 73. They explain that the emergentists "held that group agents emerge as new phenomena over and above the individuals constituting them." *Id.* By contrast, the eliminativist tradition, associated with analytic philosophy and economics, "held that group agents can be eliminated from any serious inventory of the world." *Id.* They explain: "If the emergentist tradition reified and mystified group agents, hailing them like transcendent realities, the eliminativist tradition went to the other extreme" in claiming that groups are fictions. *Id.* at 74. These extreme positions also form poles along a continuum in contemporary political science. *See* Christian List & Kai Spiekermann, *Methodological Individualism and Holism in Political Science: A Reconciliation*,

judgments, choices, preferences, and other aspects of the agency of its individual members. In other words, the judgments (or other aspects of agency) of the individual members on an issue may be neither *necessary* nor *sufficient* to fix the judgment (or other aspects of agency) for the group.[23] At first blush, the non-summative model may seem mysterious, but it is demonstrably true.

Consider again our appellate panel deciding whether to affirm or reverse a summary judgment. Suppose the summary judgment issue is based on two underlying issues: (1) the admissibility of a plaintiff's expert (Admissibility), and (2) whether the plaintiff's evidence is sufficient to survive summary judgment (Sufficiency). Suppose when they vote, Judges Black and Gray vote to affirm, and Judge White votes to reverse. The court thus affirms. But suppose each judge concluded as follows:

> BLACK: It was an abuse of discretion to exclude the expert, but even with the expert, the plaintiff's evidence is still insufficient to survive summary judgment. Therefore, I vote to affirm.
> GRAY: It was not an abuse of discretion to exclude the expert, and without the expert, the plaintiff's evidence is insufficient (but it would be sufficient if the evidence were admitted).[24] Therefore, I vote to affirm.
> WHITE: The expert should have been admitted, and it was an abuse of discretion to exclude it. With the expert (but not without it), the plaintiff's evidence is sufficient to survive summary judgment. Therefore, I vote to reverse.

If we sum the individual views of the judges, notice now what we have: a majority of the judges (White and Black) concludes that the district court abused its discretion in excluding the expert, and a majority of the judges (White and Gray) concludes that the plaintiff's evidence with the expert is sufficient to survive summary judgment. This is an example of what Lewis Kornhauser and Lawrence

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107 AM. POL. SCI. REV. 629, 629-31 (2013).

23. LIST & PETTIT, *supra* note 2, at 77 ("[I]ndividual attitudes on some conclusion ... may be not only insufficient but even unnecessary for determining the group attitude on it. Thus a relatively simple set of group attitudes can result from a vast and complex variety of individual sets of attitudes.").

24. Judge Gray might even think that she would have admitted the evidence were she trying the case.

Sager refer to as the "doctrinal paradox," and it is a well-known problem that potentially arises in any appellate case with more than one issue.[25] The key insight is that the group's conclusion changes depending on whether the appeal is decided as a whole (defendant wins) or subissue by subissue (plaintiff wins).[26]

This phenomenon is not limited to doctrinal or legal issues. It generalizes readily to any set of related or logically connected propositions.[27] Consider, for example, a group of three friends deciding on a restaurant at which to meet for dinner. Two of the three, Able and Baker, are hungry and want to meet at a restaurant where there will not be a wait for a table. The third friend, Charlie, does not care whether they will have to wait for a table. Able proposes they meet at Harmony Grill and gives reasons why it is unlikely to be crowded. Baker disagrees with these reasons and argues instead that they will have to wait at Harmony Grill. Charlie loves the food at Harmony Grill. Moreover, he thinks Baker is right, and they will have to wait but he wants to go anyway. Will they go to Harmony Grill? Well, it depends. Assuming they agree to a majority vote, the answer will depend on whether they decide based on the overall conclusion or whether they decide proposition by proposition. If they vote on the issue of going to Harmony Grill, then a majority will vote yes (Able and Charlie), and so they will go there. Instead, they could vote on two propositions: (1) will there be a wait at Harmony Grill?, and (2) should we go somewhere without a wait? In this instance, a majority will reject Harmony Grill because two friends will accept the first position that there will be a wait (Baker and Charlie), and two will accept the conditional, second proposition that the friends should go somewhere without a wait (Able and Baker). List and Pettit refer to this more general phenomenon as

25. *See* Lewis A. Kornhauser & Lawrence G. Sager, *The Many as One: Integrity and Group Choice in Paradoxical Cases*, 32 PHIL. & PUB. AFF. 249, 250-51 (2004); Kornhauser & Sager, *The One and the Many*, *supra* note 7, at 2-3. Jon Elster notes a similar paradox involving jury voting as described by the nineteenth-century mathematician Poisson. JON ELSTER, SECURITIES AGAINST MISRULE: JURIES, ASSEMBLIES, ELECTIONS 62-63 (2013).

26. With regard to multimember courts, Kornhauser and Sager favor a "meta-rule" that allows each court to determine for itself whether to proceed by voting issue-by-issue or on the ultimate conclusion. *See* Kornhauser & Sager, *supra* note 25, at 268 & n.12.

27. Propositions are related in this sense if the truth of one proposition has some bearing on the truth of another.

the "discursive dilemma," and it potentially arises for any set of logically related propositions.[28]

There are a number of interesting aspects to the discursive dilemma,[29] but for the purposes of this Article, what is most important is the fact that a group's judgment on whether a factual proposition is true may deviate from the judgments of a majority of individuals on that same proposition. *A group may judge a proposition to be true that a majority of individuals in the group believes to be false, and a group may judge a proposition to be false that a majority in the group believe to be true*. We can see from these examples that a group's judgments depend not merely on the judgments of the individuals—they also depend on how those individual judgments are *aggregated*. The process, procedure, or mechanism—more generally, the "aggregation function"[30]—also determines what a group believes, judges, and decides, and how the group acts. Even when individual judgments remain constant, different aggregation functions produce different group outcomes. The outcomes in the two examples above change depending on whether the decision is conclusion-based or decided on a premise-by-premise basis, yet the individual beliefs remain the same. The conclusion-based versus premise-by-premise issue is just one of a staggering number of differing aggregation functions that may produce different group results.[31] For another example, consider unanimous voting. Under such a procedure, any of the three judges or any of the three friends in the above examples could block an outcome on which

28. *See* Christian List & Philip Pettit, *On the Many as One: A Reply to Kornhauser and Sager*, 33 PHIL. & PUB. AFF. 378, 380-81 (2005).

29. The "discursive dilemma" is one aspect of formal work by List and Pettit leading to their "impossibility theorem" for aggregation judgments. LIST & PETTIT, *supra* note 2, at 42-50. According to the theorem, no aggregation procedure can guarantee "complete and consistent" collective judgments and also meet three conditions: (1) "universal domain" (it works for any combination of judgments); (2) "anonymity" (voters have equal weight—there are no dictators, favored voters, or anyone with tie-breaking power); and (3) "systematicity" (each proposition is treated equally). *Id.* As with the discursive dilemma, List and Pettit suggest that one way out of the formal impossibility limitations is to prioritize some issues over others. *Id.* at 56-58. This impossibility theorem is distinct from the famous one formulated by Kenneth Arrow. *See* Christian List & Philip Pettit, *Aggregating Sets of Judgments: Two Impossibility Results Compared*, 140 SYNTHESE 207, 209 (2004).

30. The aggregation function converts individual attitudes to group attitudes. LIST & PETTIT, *supra* note 2, at 48.

31. For example, when voting on a single proposition, "a 10-member group already has a choice between ... 2^{1024} ... possible aggregation functions." *Id.* at 49.

they disagree, even when the other two are in complete agreement on both the outcomes and the individual premises. The upshot is that group agency depends on a combination of individual agency and aggregation functions, and not individual agency by itself. This basic fact demonstrates that group agency depends on more than individual agency and that a group's agency may possess features that deviate from those of its members.

What then is the relationship between group and individual agency? The general relationship can be clarified with an incredibly useful piece of philosophical jargon: "supervenience."[32] A group's judgment *supervenes* on the combination of individual judgments and the aggregation function. This property of supervenience explains why a group can experience agency that differs from the agency of its individuals, and it also explains why group agency can emerge in an unmysterious, metaphysically plausible fashion. To illustrate this property at work, consider the following example.[33] Imagine thousands of tiny green circles arranged in such a fashion that they form one large green square. From a few feet away, suppose that all you see is what looks like a large green square, but when you get closer you see that the square is in fact made of tiny circles. In this case, the square *supervenes* on the circles.

Notice several facts about this relationship. First, once the circles were fixed in their current position, a square would necessarily emerge. Second, none of the circles is itself square—the larger shape thus has properties its individuals components do not. Third, the square is just the combination of the circles and their arrangement, even though the square has properties the circles do not. Fourth, for the square to emerge, it was not necessary that any *specific* circle be in its exact location. Each dot could have taken a different position in the arrangement and a similar-looking square would still have emerged, so long as the arrangement was the same. Fifth, the square is "multiply realizable" in another sense.[34] The square need

32. *See* Brian McLaughlin & Karen Bennett, *Supervenience*, STAN. ENCYCLOPEDIA PHIL. (Nov. 2, 2011), http://plato.stanford.edu/entries/supervenience/ [http://perma.cc/AY9Q-2K3N] ("A set of properties *A* supervenes upon another set *B* just in case no two things can differ with respect to *A*-properties without also differing with respect to their *B*-properties. In slogan form, 'there cannot be an *A*-difference without a *B*-difference.'")

33. *See* LIST & PETTIT, *supra* note 2, at 65.

34. John Bickle, *Multiple Realizability*, STAN. ENCYCLOPEDIA PHIL. (Jan. 15, 2013), http://plato.stanford.edu/entries/multiple-realizability/ [http://perma.cc/XQZ6-CHFP] ("In the

not have been made out of circles at all. It could have been made of smaller squares, or triangles, or any other shape. In other words, the arrangement of small circles is just one way such a square can be realized or created, and it can be done in other ways as well. The idea of multiply realizable supervenience is best known as a possible explanation of the relationship between the mind and the brain.[35] But supervenience also explains the relationship between group and individual agency.

Because of this relationship, given a fixed set of individual judgments and a fixed aggregation function, a group judgment may emerge. Notice it *may* emerge—a group judgment may also fail to emerge. This failure may occur for a variety of different reasons. Even when a group has a fixed aggregation function, a group judgment will fail to emerge when the individual judgments fail to satisfy the aggregation requirements. For example, a unanimity requirement will prevent a group from expressing a judgment when the individuals fail to reach a unanimous decision. Similarly, a group with fixed individual judgments may not have a fixed aggregation function, and so there may be no group judgment that can be said to emerge from the individual decisions. Or a group may recognize several different aggregation functions that produce a cacophony of inconsistent judgments, such that we cannot recognize any one of them as the group's judgment. In short, there is nothing that guarantees a group—even a group with a clear, stable, well-recognized aggregation function—will produce a group judgment, or otherwise exhibit group agency. Like the green square, it takes the right sort of components, arranged in the right sort of way, for emergence to occur.

When group agency emerges, however, it shares similar characteristics with other supervenient relationships. First, when a group judgment emerges, it necessarily arises from the individual judgments and the aggregation function.[36] Second, the group judgment

philosophy of mind, the multiple realizability thesis contends that a single mental kind (property, state, event) can be realized by many distinct physical kinds.").

35. For example, over twenty years ago, Jaegwon Kim wrote, "It is part of today's conventional wisdom in philosophy of mind that psychological states are 'multiply realizable', and are in fact so realized, in a variety of structures and organisms." Jaegwon Kim, *Multiple Realization and the Metaphysics of Reduction*, 52 PHIL. & PHENOMENOLOGICAL RES. 1, 1 (1992). These debates rage on. *See* Bickle, *supra* note 34.

36. Because group conclusions on individual premises may differ from individual conclu-

may possess properties or features that the individual judgments lack. Third, the group judgment is just the combination of the individual judgments and the aggregation function—there is nothing more mysterious going on metaphysically. Fourth, the individual components that produce a group judgment may be interchangeable. It does not matter which two judges on a three-judge panel vote one way (any two will do). Finally, the group's judgment may be multiply realizable. Different combinations of individuals and judgments, combined in a variety of different ways, may produce the same group judgment.

II. GROUP KNOWLEDGE: A CONCEPTUAL OVERVIEW

Within the larger topic of group agency, an essential component involves *epistemic judgments* by groups. These judgments concern conclusions, based on the available information, about whether propositions are true or false, or likely to be true or false. We can distinguish a group's epistemic judgments from its mere preferences on the ground that the group is the ultimate authority with regard to the latter, but not the former.[37] With epistemic judgments, there is something external to the group about which the group can be right or wrong.

For individuals as well as groups, the relationship between knowledge and agency is tight and integral. Individuals who *know* things can *do* things they could not otherwise do, and they can do things *better* than agents who do not know what they know.[38] These

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sions on those premises, the type of supervenience between groups and individuals is "holistic" (that is, group judgments supervene on *sets* of individual judgments as a whole), rather than proposition-based supervenience. For a discussion of the possible types of supervenience relations, see LIST & PETTIT, *supra* note 2, at 71-72.

37. *See* Kornhauser & Sager, *supra* note 25, at 257-58 (distinguishing preferences from judgments).

38. Knowledge falls into two types: knowing *how* to do something and knowing *that* something is so (in other words, a proposition is true), although the two types are related. *See* GILBERT RYLE, THE CONCEPT OF MIND 25-61 (1949) (distinguishing knowing *how* and knowing *that*). This Part will focus on articulating propositional knowledge (knowledge that). For both types, however, knowledge is valuable. There is philosophical debate about whether there is anything intrinsically valuable about knowledge per se, as opposed to pragmatic value because of its connection to truth, justification, and other epistemic virtues. *See* JONATHAN L. KVANVIG, THE VALUE OF KNOWLEDGE AND THE PURSUIT OF UNDERSTANDING (2003). But the basic point about knowledge typically being a good thing should be uncontroversial. If not, ask

truisms apply to groups as well. Consider again List and Pettit's conditions for group agency:

> (1) the group faces normatively significant choices;
> (2) it understands its options and has access to evidence for making judgments about its options; and
> (3) it has the control required for choosing between options.[39]

Knowledge plays an important role at each step. Knowledge is important for recognizing the choices being faced, understanding the options available, accessing and evaluating the evidence relevant to those options, and exercising control in executing the chosen course of action.

The topic of knowledge (and related issues) falls within the philosophical domain of epistemology. Traditionally, epistemology focused primarily on individual agents as potential knowers, with philosophers exploring questions such as the nature of knowledge and its foundations, the nature of justified belief, and possible responses to a variety of skeptical challenges.[40] Although these issues remain staples in the literature, the field has expanded in recent decades to also focus on what has come to be labeled as "social epistemology."[41] The issues in social epistemology concern how various social practices affect knowledge and true belief—for example, how processes such as testimony function as a source of knowledge,[42] and how various institutions—such as democracy, science, education, and legal trials—may promote or thwart knowledge acquisition and retention.[43] Within social epistemology, one important issue concerns group knowledge (or "collective epistemology").[44]

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yourself whether you would prefer an operation to be performed on you by a doctor who knows how to perform the operation or one who does not.

39. LIST & PETTIT, *supra* note 2, at 158.

40. For an excellent overview of the field, see A COMPANION TO EPISTEMOLOGY (Jonathan Dancy & Ernest Sosa, eds., 2000).

41. *See* Alvin I. Goldman, *A Guide to Social Epistemology*, *in* SOCIAL EPISTEMOLOGY: ESSENTIAL READINGS, *supra* note 10, at 11, 11-13. *See generally* GOLDMAN, *supra* note 7.

42. *See, e.g.*, JENNIFER LACKEY, LEARNING FROM WORDS: TESTIMONY AS A SOURCE OF KNOWLEDGE (2008).

43. *See, e.g.*, GOLDMAN, *supra* note 7.

44. *See* Jennifer Lackey, *Group Knowledge Attributions*, *in* KNOWLEDGE ASCRIPTIONS 243, 245 (Jessica Brown & Mikkel Gerken eds., 2012) ("[W]e do in fact attribute knowledge to groups and ... we do so systematically and in a widespread fashion.").

We can get a better understanding of the contours of *group* knowledge by first focusing on what it means for an *individual* to know something. The first distinction to note is the difference between knowing how to do something and knowing that something, such as a proposition, is true. Although the two senses of knowledge are related, propositional knowledge (or knowledge-that) will be the primary focus of this Article.

But what does it mean for someone to know a proposition? Three basic components are prominent in accounts of knowledge: belief, truth, and justification.[45] The discussion below proceeds by first outlining the basic components and how they apply to groups; second, explaining some additional features of knowledge in general; and finally, clarifying the features of *group* knowledge that make it a distinct phenomenon.

The first basic component of knowledge is belief. In the individual case, to know something typically requires that the agent believes (or otherwise accepts or endorses) the proposition to be true. In short, in knowing *X*, the person judges *X* to be true. Depending on how one characterizes "belief," it may be controversial to ascribe actual beliefs to a group.[46] For our purposes, however, the fact that the group accepts, judges, or otherwise endorses a proposition to be true is sufficient to satisfy this requirement. In other words, for a group to know *X*, the group must somehow endorse *X*. The group must take the proposition to be true based on whatever aggregation function operates for the group. Group agents, like individual agents, may form judgments about whether a proposition is true or false, and these judgments may or may not be true.

The second basic component is truth. For the individual case, an agent's knowledge of *X* requires that *X* be true. The exact same requirement applies for group judgments. This requirement—that knowledge implies truth—is characterized as the

45. Although, for reasons explored below, these components are not jointly sufficient.

46. *See, e.g.*, Easterbrook, *supra* note 5, at 547 (denying groups have beliefs); Shepsle, *supra* note 3, at 254 (denying groups have beliefs). *But see* GILBERT, SOCIAL FACTS, *supra* note 7; LIST & PETTIT, *supra* note 2; SEARLE, *supra* note 6.

"factive" component of knowledge.[47] It is a general condition, and it arises no matter who, or what, is doing the knowing.

The third basic component is epistemic justification. The exact nature and contours of epistemic justification is a source of considerable philosophical debate. The epistemic support necessary for justification has been articulated in a number of different ways, including the quality and quantity of the evidence for the proposition, the reasons the agent has for believing it, or the reliability of the process that produced the belief or judgment.[48] Details of the internecine philosophical debates do not matter for purposes of this Article. The basic idea, sufficient for our purposes, is that for an individual agent's true belief to constitute knowledge, there must also be some type of reason, evidence, warrant, or other epistemic support for it. In other words, knowledge presupposes that there is some nonaccidental connection between the belief and its truth. Lucky guesses, or true beliefs without any reasons for them, that just happen to be true, are not knowledge.[49] The justification requirement applies for group judgments just as it does for individuals. For a group to know a proposition, the group must have the requisite evidence, reasons, or reliability.

In sum, we can articulate a basic account of group knowledge that parallels individual knowledge with regard to the components of justified true beliefs.[50] However, the parallels run deeper still. A major breakthrough in contemporary philosophy was Edmund Gettier's seminal paper, *Is Justified True Belief Knowledge?*, which demonstrates that having a justified true belief may not be

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47. "To know" is a factive verb in the sense that what is known must be true. *See* Goldman, *supra* note 41, at 42 ("To know a proposition p is to know that it is true. But you cannot know that p is true unless it *is* true."). Other verbs with factive senses include "to perceive" and "to remember."

48. A key distinction in the field is whether epistemic justification is an "internal" notion (that is, internal to an agent's mental states or at least available to the agent) or an "external" one that depends solely on whether a belief was formed via a reliable process. For an informative recent survey and discussion of the internal-external debate in epistemology, see CLAYTON LITTLEJOHN, JUSTIFICATION AND THE TRUTH-CONNECTION 1-61 (2012).

49. *See generally* DUNCAN PRITCHARD, EPISTEMIC LUCK (2005) (distinguishing different types of luck and their relationship to issues in epistemology).

50. *See* GILBERT, SOCIAL FACTS, *supra* note 7, at 313 ("If there is a plausible concept of [group] knowledge, it will presumably parallel the concept of an individual person's knowledge.").

sufficient to constitute knowledge.[51] Although the exact significance of Gettier's demonstration remains a matter of philosophical debate, one implication is that knowledge also requires an appropriate connection between the justification conditions (or the evidence that supports a belief) and its truth. In other words, a well-supported belief that just happens to be true because of reasons other than those that appear to support the belief may not qualify as knowledge. Here are two simple examples.[52] First, suppose Smith checks his generally reliable wall clock, which displays the time as 8:29. And it is 8:29. However, the clock stopped at 8:29 last night. Smith does not know it is 8:29.[53] Second, suppose Jones looks out her window and sees what she thinks is a deer on her lawn. She is wrong. What she observes is a cleverly disguised dog that looks like a deer. However, there is a deer on her lawn, hiding behind some bushes. Jones does not know there is a deer on her lawn.[54] The beliefs of both Smith and Jones are based on misleading evidence. The reliability of the clock, on one hand, and the disguised dog, on the other, are in an important sense unrelated to the truth of the beliefs—they have nothing to do with *why* the beliefs are true (although they caused the beliefs).[55] This sort of accidental or coincidental connection between justification and truth can undermine claims to knowledge. Knowledge is "nonaccidentally true belief," with extensive discussion in epistemology trying to determine exactly what "nonaccidentally" means.[56] The Gettier problem applies to groups, just as it does to individuals.

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51. Edmund L. Gettier, *Is Justified True Belief Knowledge?*, 23 ANALYSIS 121 (1963); *see also* TIMOTHY WILLIAMSON, THE PHILOSOPHY OF PHILOSOPHY 179 (2007) (referring to Gettier's article as the "canonical example in the literature on philosophical thought experiments").

52. Gettier's original examples involved hypothetical agents who inferred true conclusions from false (but justified) premises. *See generally* Gettier, *supra* note 51. The same gap between truth and justification also potentially arises for perceptual beliefs. *See* Alvin I. Goldman, *Discrimination and Perceptual Knowledge*, 73 J. PHIL. 771 (1976).

53. *See* ISRAEL SCHEFFLER, CONDITIONS OF KNOWLEDGE 4, 22-24 (1965); William G. Lycan, *On the Gettier Problem Problem*, *in* EPISTEMOLOGY FUTURES 148, 154 (Stephen Hetherington ed., 2006).

54. RODERICK M. CHISHOLM, THEORY OF KNOWLEDGE 107-08 (1966) (discussing the "problem of truth"); Lycan, *supra* note 53, at 154.

55. Even true beliefs formed by correctly perceiving the true state of affairs can be subject to Gettier conditions. For a discussion and examples, see Goldman, *supra* note 52.

56. *See generally* PRITCHARD, *supra* note 49.

The deep parallel between group and individual knowledge also extends to related epistemic concepts. Two such concepts are the "sensitivity" and "safety" of judgments.[57] A true judgment is "sensitive" to the degree that the agent would not make the same judgment in conditions in which it is false.[58] A true judgment is "safe" when it could not easily have been false, and the agent still judged it to be true.[59] Philosophers have used these concepts to illustrate aspects of justification and knowledge—the more insensitive or unsafe a true judgment, the less likely it constitutes knowledge or is epistemically justified.[60] As with the other philosophical concepts discussed above, the exact relationships between safety, sensitivity, knowledge, and justification remain a source of debate, but whatever the underlying details, the topics of sensitivity and safety apply to group judgments just as they do to individual judgments.

Along with these parallels, it is also important to note conceptual details that apply to group knowledge only, and not to individual cases. Group knowledge—as with group agency generally—is *nonsummative* in nature.[61] In other words, what a group knows is not merely the sum of what the individual members know. This nonsummative aspect has two important implications for our purposes. First, a group may fail to know something *even when individuals in the group do in fact know that proposition*.[62] For example, suppose a group has a unanimous aggregation procedure for purposes of group action that requires every member to judge *X* to be true for the group to judge that *X* is true. Suppose there is good evidence for *X*. *X* is true, and every member in the group except one member judges *X* to be true. The *group* would fail to know *X*, even though every member of the group except one member knows *X*. Second, a group may know something *even when no member in the group knows that proposition*.[63] This might occur when relevant

57. *See* Duncan Pritchard, *Sensitivity, Safety, and Anti-Luck Epistemology*, *in* THE OXFORD HANDBOOK OF SKEPTICISM (John Greco ed., 2011).

58. In other words, a true judgment is *insensitive* when the individual would reach the same judgment *even when it is false*.

59. In other words, a true judgment is *unsafe* when it *could easily have been false* and the individual would still believe it.

60. *See generally* Pritchard, *supra* note 57.

61. *See* GILBERT, SOCIAL FACTS, *supra* note 7, at 19.

62. *Id.* at 20.

63. *See* Lackey, *supra* note 44, at 248.

information is distributed among members in a group such that no one member is aware of all of it. In such a case, an external observer may still be able to ascribe knowledge to the collective group. For example, imagine a group of scientists with different areas of expertise, and with access to different data, working on a team project. Their combined work may produce knowledge that exceeds the knowledge of any individuals.[64]

As with the general account of group agency,[65] what matters for group knowledge are the epistemic states of individual members *and* the applicable aggregation function. This combination determines which propositions a group endorses as true (and is prepared to act upon). Whether these judgments are knowledge depends on whether they are in fact true, epistemically justified, and subject to Gettier conditions.

III. THE JURY AS GROUP AGENT

Juries are group agents. More specifically, they are group *epistemic* agents. In other words, juries are collective decision-making bodies that make epistemic judgments. These judgments take the form of conclusions on whether, based on the evidence presented, particular propositions—namely, the elements of crimes, civil causes of action, and affirmative defenses—have been proven to a particular standard of proof. These collective epistemic decisions by juries require coordinated group action, and these acts produce significant consequences. When juries exercise their collective agency in certain ways, the government may legally deprive parties of life, liberty, or property; declare that certain rights have been violated and remedy these violations; or declare with the force of law that defendants are not criminally or civilly liable. When jurors fail to exercise their collective agency in the right ways, the jury fails to act. These failures may occur because (1) the individual conclusions of the jurors do not satisfy the aggregation rules that produce a group conclusion,[66] or (2) the epistemic foundation underlying the group's

64. For additional examples, see *id.* at 248-50.

65. *See supra* Part I.

66. In which case, the result may be a mistrial because of a hung jury. Juror conclusions also often involve normative evaluations and considerations. *See generally* Ronald J. Allen & Michael S. Pardo, *The Myth of the Law-Fact Distinction*, 97 NW. U. L. REV. 1769 (2003);

conclusion is inadequate (that is, the evidence is insufficient to support the verdict).[67]

Through the actions of individual jurors, juries engage in collective decision making and thus function as group epistemic agents. This Part provides an account of jury agency. It argues that jury agency is non-summative in nature (in other words, juries are "its" in addition to "theys"), and it then explains the collective epistemology underlying the jury's non-summative agency.

A. Why Jury Agency Is Non-Summative

Juries decide whether particular propositions have been proven by the party with the burden of proof.[68] The propositions are the individual elements of a crime or civil cause of action. Moreover, if the defendant raises an affirmative defense, then the jury may also render a judgment on the individual elements of the defense. A standard of proof applies to each element, on which one party or the other will have the burden of proof. The three common standards are "beyond a reasonable doubt,"[69] "preponderance of the evidence,"[70] and, to a lesser degree, "clear and convincing evidence."[71]

Youngjae Lee, *Reasonable Doubt and Moral Elements*, 104 J. CRIM. L. & CRIMINOLOGY (forthcoming 2015). Even when jurors agree on the basics about "what happened," they may disagree about how best to characterize those facts and thus fail to satisfy the applicable aggregation rules for that reason.

67. *See* Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, 149-50 (2000) (explaining that the standard for judgment as a matter of law "mirrors" the standard for summary judgment); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248, 252 (1986) (explaining the summary judgment standard as whether "a reasonable *jury* could return a verdict for the nonmoving party" and that this determination depends on the "evidentiary standard of proof" at trial) (emphasis added); Jackson v. Virginia, 443 U.S. 307, 316-18 (1979) (articulating the sufficiency standard in criminal cases as whether any "rational trier of fact could find guilt beyond a reasonable doubt" when evaluating the *jury's* conclusion).

68. The burden of proof is composed of two elements: a production burden and a persuasion burden. The former is a function of the latter; in other words, a party with the burden of proof must produce enough evidence to meet the persuasion burden. John T. McNaughton, *Burden of Production of Evidence: A Function of the Burden of Persuasion*, 68 HARV. L. REV. 1382, 1383-85 (1955).

69. *In re* Winship, 397 U.S. 358, 361-63 (1970).

70. Grogan v. Garner, 498 U.S. 279, 286 (1991).

71. The "clear and convincing evidence" standard is an intermediate standard between "beyond a reasonable doubt" and "a preponderance of the evidence," and is applicable in some civil cases and with regard to some affirmative defenses in criminal cases. *See* Clark v. Arizona, 548 U.S. 735 (2006); Addington v. Texas, 441 U.S. 418, 424 (1979).

Juries exercise their group agency based on judgments by individual jury members *and* the aggregation rules that combine the individual judgments into the jury's judgment for each element. The jury's collective conclusions on the elements become the basis for verdicts, the focus of epistemic evaluation by courts (for evidential sufficiency), and the foundation for legal judgments.[72]

The aggregation functions that fix jury conclusions are set by procedural and constitutional rules that specify jury size and the required number of juror votes. These requirements vary among jurisdictions and types of cases, and are subject to some constitutional limits. In federal criminal cases, juries typically have twelve members,[73] and the verdict must be unanimous.[74] However, subject to judicial discretion, the parties may stipulate to smaller juries, and the court may allow a jury of eleven to return a verdict when a juror is dismissed for cause.[75] States typically require between six to twelve jurors for felony criminal cases and most require unanimous verdicts.[76] Louisiana and Oregon, however, allow for nonunanimous verdicts in some felony criminal cases.[77] The U.S. Supreme Court has provided a few constitutional guideposts on jury size and voting rules in criminal cases. With regard to size, the Court has held that six-member juries are constitutional,[78] but that five-member juries are not.[79] With regard to voting rules, the Court has held that twelve-member juries need not be unanimous,[80] but that six-member juries must be.[81]

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72. A note on terminology is appropriate. The previous Parts followed the philosophical literature in distinguishing epistemic "judgments" from mere "preferences." Now that the discussion will focus in detail on juries, I will for the most part drop the use of "judgments" when referring to the epistemic conclusions that jurors (and juries) draw from evidence so as not to confuse them with *legal judgments* (which may or may not follow from a jury verdict). Rather, I will refer to juries' epistemic judgments as verdicts, conclusions, inferences, or findings.

73. FED. R. CRIM. P. 23.

74. *Id.* 31.

75. *Id.* 23(b)(2)-(3).

76. DAVID B. ROTTMAN & SHAUNA M. STRICKLAND, U.S. DEP'T OF JUSTICE, STATE COURT ORGANIZATION, 2004, at 233 tbl. 42 (2006), *available at* http://perma.cc/L6JD-3CU2.

77. LA. CODE CRIM. PROC. ANN. art. 782 (2014); OR. REV. STAT. § 136.450 (2014).

78. Williams v. Florida, 399 U.S. 78 (1970).

79. Ballew v. Georgia, 435 U.S. 223 (1978).

80. Apodaca v. Oregon, 406 U.S. 404 (1972); Johnson v. Louisiana, 406 U.S. 356 (1972).

81. Burch v. Louisiana, 441 U.S. 130 (1979).

In civil cases, there is more variation. Federal civil juries typically have six members.[82] The verdict must be unanimous and returned by at least six jurors, unless the parties stipulate otherwise.[83] At the state level, juries range from six to twelve, although in some states parties may stipulate to fewer.[84] Some states require unanimous verdicts (sometimes parties may stipulate otherwise), some require a supermajority (2/3, 3/4, 5/6), and others start with a unanimity rule and reduce to a supermajority after a period of deliberation has passed.[85] The exact contours of the aggregation rules are less important for the purposes of this Article than the fact that there is such a variety.[86]

The different aggregation functions among jurisdictions illustrate the *non-summative* nature of jury conclusions. The exact same array of individual juror conclusions may lead to different group conclusions (or lack thereof), depending on the jurisdiction's aggregation function. For example, suppose that among twelve jurors, ten conclude that the prosecution has proven each element of a crime beyond a reasonable doubt, and two conclude that the prosecution has failed to prove any of the elements. Given this collection of individual conclusions, and assuming no jurors change their views, the jury fails to reach a verdict in a jurisdiction requiring unanimity. The jury does, however, reach a verdict in a jurisdiction

82. *See* FED. R. CIV. P. 48.

83. *Id.*

84. *See* ROTTMAN & STRICKLAND, *supra* note 76, at 233-37. In Nevada, for example, parties in civil cases may stipulate to juries as few as four. NEV. SHORT TRIAL R. 22.

85. ROTTMAN & STRICKLAND, *supra* note 76, at 233-37. For example, Nebraska has a 5/6 rule after six hours of deliberation. *Id.* Jurors are typically not told about the relaxed voting requirement until the relevant time period has lapsed. In criticizing such rules, Jon Elster writes: "The rationale for the ignorance is presumably that jurors will deliberate more seriously if they believe they all have to agree. Although this piece of judicial hypocrisy may seem innocent, it may undermine the respect of the jurors for the court if they see through it." ELSTER, *supra* note 25, at 115.

86. This is not to deny the importance of the size and voting requirements for outcomes. To the contrary, a rich social science literature illustrates the complex effects that these rules have on issues such as deliberation, hung juries, and accuracy. *See, e.g.*, REID HASTIE ET AL., INSIDE THE JURY (1983); Shari Seidman Diamond et al., *Revisiting the Unanimity Requirement: The Behavior of the Non-Unanimous Civil Jury*, 100 NW. U. L. REV. 201 (2006); Daniel Gigone & Reid Hastie, *Proper Analysis of the Accuracy of Group Judgments*, 121 PSYCHOL. BULL. 149 (1997); Barbara Luppi & Francesco Parisi, *Jury Size and the Hung-Jury Paradox*, 42 J. LEGAL STUD. 399 (2013). For an overview of the problematic relationship between the Supreme Court's case law on these rules and the relevant social science, see Phoebe C. Ellsworth, *Legal Reasoning and Scientific Reasoning*, 63 ALA. L. REV. 895, 909-10 (2012).

requiring a supermajority. The fact that the same set of individual conclusions may result in differences at the group level means that the group's conclusion is more than the sum of the individual conclusions. The group's conclusion *supervenes*[87] on the individual conclusions, but it depends on the aggregation function that fixes the supervenience relation. The same collection of individual conclusions may result in contradictory group conclusions, or no group conclusion—a fortiori, the group conclusion depends on more than the individual conclusions.

The conclusions of juries and those of individual jury members can come apart in a variety of different ways, with nonunanimous and with unanimous aggregation functions. Consider the following two examples. First, when a jurisdiction employs a nonunanimous aggregation rule, juries may exhibit a form of the "discursive dilemma"[88] or "doctrinal paradox."[89] Suppose that a plaintiff's cause of action contains four elements: *A*, *B*, *C*, and *D*. To win, the plaintiff must establish each by a preponderance of the evidence. Suppose the aggregation rule requires a vote of nine members out of a twelve-member jury to establish whether each element is proven.[90] We might get the following result: *the plaintiff wins—according to the jury—even though every single member believes the plaintiff has failed to establish the claim*. This could arise when the jurors disagree on which element the plaintiff failed to establish. For example, the voting might look like this:

> Is element *A* proven? Nine "yes" votes (jurors 1-3 vote "no");
> Is element *B* proven? Nine "yes" votes (jurors 4-6 vote "no");
> Is element *C* proven? Nine "yes" votes (jurors 7-9 vote "no");
> Is element *D* proven? Nine "yes" votes (jurors 10-12 vote "no").

In this case, the group's collective conclusion is not summative of the individuals in the group because the group concludes the plaintiff has proven *the claim* and yet every juror concludes that the plaintiff has not.

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87. *See* supra note 32 and accompanying text.

88. *See* List & Pettit, *supra* note 28, 380-81.

89. *See generally* Kornhauser & Sager, *The One and the Many*, *supra* note 7.

90. This is the voting rule in at least ten states. *See* ROTTMAN & STRICKLAND, *supra* note 76.

Second, group-individual judgments may also come apart under a unanimity rule. Suppose that a statute criminalizes a pattern of illegal conduct. Under the statute, to find the defendant guilty the jury must find three underlying illegal acts by the defendant.[91] The court instructs the jury that they must unanimously agree on three specific acts committed by the defendant to find him guilty. The prosecution presents evidence of six underlying acts by the defendant: *A*, *B*, *C*, *D*, *E*, and *F*. The twelve jurors all conclude that the defendant violated the statute, but six jurors believe the defendant committed *A*, *B*, and *C* (but not *D*, *E*, and *F*), and six jurors believe the defendant committed *D*, *E*, and *F* (but not *A*, *B*, and *C*). Given these votes and the applicable aggregation rules, *the jury has failed to conclude the defendant is guilty of violating the statute, even though every single juror believes the defendant is guilty*.

B. Collective Epistemology and Jury Agency

The epistemic judgments of juries are non-summative in nature. This conclusion gives only one piece of the collective epistemology of the jury. This Section discusses the other epistemic components of juries' epistemic judgments: justification, truth, and the connection between the two.

As with individual conclusions or beliefs, we can inquire into whether a jury's conclusion is epistemically justified. Justification in the jury context depends on the sufficiency of the evidence presented to the jury on that issue in light of the applicable standard of proof. In both the criminal and civil contexts, the U.S. Supreme Court has expressed the applicable rule in non-summative terms. In other words, it is the *jury's* (and not individual members') judgments that are evaluated for evidential sufficiency.[92] Courts

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91. Such a requirement may be the case, for example, under a "continuing criminal enterprise" statute. *See* Richardson v. United States, 526 U.S. 813, 815 (1999).

92. *See supra* note 67. The law adopts a rule-based approach in ascribing epistemic justification to verdicts. *See generally* Frederick Schauer, *In Defense of Rule-Based Evidence Law—and Epistemology Too*, 5 EPISTEME 295 (2008) (arguing that rule-based evidentiary exclusions are consistent with the general exclusory nature of legal rules). In evaluating evidential sufficiency in both criminal and civil cases, courts inquire into whether the jury as a whole could reasonably reach a particular conclusion in light of the evidence and the burden of proof, not what any individual juror thinks. *See* FED. R. EVID. 606. In ascribing epistemic justification based on the burden-of-proof rules, it is possible that the law may ascribe

examine whether a "reasonable" or "rational" *jury* could reach a particular conclusion.[93] Similarly, when civil juries provide either special verdicts or general verdicts with answers to interrogatories, courts attempt to render the jury's conclusions consistent as a whole (that is, as a unified decision-making body).[94]

In addition to these justificatory requirements, both individual members and the collective jury have a number of duties and obligations in performing their epistemic tasks. For example, jurors are instructed to deliberate with fellow jurors, and to do so by offering reasons, keeping an open mind, and listening to the views and reasons of jurors holding contrary views.[95] Likewise, jurors are instructed to base their decisions on reasoning from the evidence rather than on other factors such as sympathy for, or antipathy or bias toward, one of the parties.[96] Moreover, epistemic responsibility is an important aspect of justification, and a number of instructions focus on epistemic virtues (for example, considering alternative explanations for evidence) and vices (such as flipping a coin) that apply to jury decision making.[97] When faced with these epistemic duties and obligations, the jury acts as a fiduciary, with characteristics similar to other fiduciary relationships—namely, those of trust, discretion, and vulnerability.[98]

The justification of the jury's conclusion and the justification of the conclusions of individual jurors may diverge. It could turn out that a jury's conclusion is supported by the evidence and thus justified, according to the applicable proof rules, but that every individual on the jury is not epistemically justified in reaching that conclusion (for example, the jurors did not understand the evidence

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justification to a verdict in a particular case even when the jury's verdict is not, in fact, epistemically justified.

93. *See supra* note 67.

94. FED. R. CIV. P. 49. Inconsistent criminal verdicts are discussed in Part VI.

95. *See, e.g.*, COMM. ON FED. CRIMINAL JURY INSTRUCTIONS OF THE SEVENTH CIRCUIT, PATTERN CRIMINAL JURY INSTRUCTIONS OF THE SEVENTH CIRCUIT (2012), *available at* http://perma.cc/W7U2-NBKH.

96. *Id.*

97. *Id.*

98. In an illuminating article, Ethan Leib, Michael Serota, and David Ponet argue that fiduciary obligations apply to both the jury *qua* group and to individuals, acting as fiduciaries for "the people" generally. Ethan J. Leib et al., *Fiduciary Principles and the Jury*, 55 WM. & MARY L. REV. 1109, 1115 (2014) ("[B]oth the individual juror *and* the petit jury as a whole are fiduciaries for 'the people.'").

and voted for reasons wholly unrelated to the quality of the evidence). Likewise, a jury's conclusion may be based on insufficient evidence—and thus rejected by a reviewing court—but individual jurors may be epistemically justified in forming an individual conclusion to the same effect (for example, these jurors have additional information that was not presented at the trial).[99]

The next major epistemic component is truth. Both individual and group conclusions aim at truth as a fundamental goal. Both individual and group knowledge imply truth, that what is known is so.[100] If something is not true, then an individual or a group cannot know it. In the legal realm, of course, there is often no independent means for verifying truth,[101] but we can and do nevertheless still recognize this as the aim of trials.[102] Even epistemically justified judgments may be false. And there is an important sense in which an epistemically justified verdict that turns out to be false has failed.[103] As in the individual case, truth provides the target at which jury conclusions aim. Even when the participants do everything right on their part, sometimes the jury misses the target.

From an epistemic standpoint, the group conclusions of juries parallel the justified-true-belief framework for individual epistemic agents. The parallels run deeper still. As with the conclusions of individual agents, jury conclusions may be subject to Gettier conditions,[104] and verdicts may be assessed based on their epistemic safety and sensitivity.[105] Knowledge requires an appropriate

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99. For example, a juror may come to learn about illegally obtained evidence that was excluded but which nevertheless makes the juror's true belief in the defendant's guilt epistemically justified. This may be the case even though the *jury*'s verdict finding the defendant guilty is unjustified, according to the law, because it is not supported by sufficient admissible evidence.

100. *See supra* note 47.

101. DNA exonerations or subsequent confessions after the fact are exceptions that prove the rule.

102. *See* FED. R. EVID. 102.

103. *See* ANTONY DUFF ET AL., 3 THE TRIAL ON TRIAL: TOWARDS A NORMATIVE THEORY OF THE CRIMINAL TRIAL 87-91 (2007).

104. *See* Michael S. Pardo, *The Gettier Problem and Legal Proof*, 16 LEGAL THEORY 37 (2010).

105. *See* David Enoch et al., *Statistical Evidence, Sensitivity, and the Legal Value of Knowledge*, 40 PHIL. & PUB. AFF. 197, 205, 215-16 (2012); Mark McBride, *Reply to Pardo: Unsafe Legal Knowledge?*, 17 LEGAL THEORY 67 (2011); Michael S. Pardo, *More on the Gettier Problem and Legal Proof: Unsafe Nonknowledge Does Not Mean that Knowledge Must Be Safe*, 17 LEGAL THEORY 75 (2011).

connection between truth and justification conditions—a purely accidental connection between the two (in other words, a true belief that is true for reasons unrelated to those that justify the belief) undermines a claim to knowledge. The same Gettier conditions that undermine knowledge also make legal verdicts problematic.[106] A true verdict based solely on falsified evidence is illegitimate and should not be allowed to stand when the false nature of the evidence is revealed. Similarly, verdicts are more warranted to the extent they are safer and more sensitive. Recall, *safety* concerns whether a jury's true judgment could have turned out to be false, and *sensitivity* concerns whether the jury would have reached the same true judgment had it been false.[107] Safe and sensitive verdicts are epistemically superior to unsafe and insensitive ones.[108]

To sum up briefly: the previous Part discussed groups as collective epistemic agents by comparing them with individuals. This Part then applied the general account to the specific context of juries, noting how the various epistemic components arise in the institutional context of legal fact-finding. This Article now turns to the theoretical and practical implications of the analysis of juries as group epistemic agents.

IV. THEORETICAL IMPLICATIONS: EVIDENCE THEORY AND PARADOXES OF PROOF

Juries, as group epistemic agents, reach factual conclusions about whether certain propositions have been proven. Little has been said thus far about the details of the epistemic conclusions reached by jurors. In turning to this question, this Part argues that the conception of juries as group agents contains important lessons for understanding legal evidence and proof. Moreover, for reasons explored below and in Part V, the significance is not only of theoretical import—a number of practical insights follow.

Some basics of the proof process are uncontroversial. Juries provide factual conclusions on each of the elements of a crime, civil claim, or affirmative defense.[109] These conclusions are whether the

106. *See generally* Pardo, *supra* note 104.

107. *See supra* notes 58-59 and accompanying text.

108. *See generally* Enoch et al., *supra* note 105; Pardo, *supra* note 105.

109. *See In re* Winship, 397 U.S. 358, 364 (1970); Ronald J. Allen & Sarah A. Jehl, *Burdens*

party with the burden of proof on an element has proven it to the applicable standard of proof. The three common standards of proof are: "a preponderance of the evidence" (applicable in most civil cases and for affirmative defenses in some criminal cases);[110] "beyond a reasonable doubt" (constitutionally required for the elements of crimes and applicable for some affirmative defenses);[111] and, to a lesser extent, "clear and convincing evidence" (applicable on some issues in civil and criminal cases).[112] Jurors rely on the admissible evidence to make these determinations, and trial and appellate courts review the sufficiency of the evidence and the reasonableness of jury conclusions in light of these standards.[113]

Theoretical accounts of legal proof take the foregoing as a starting point. Two leading theoretical accounts, probabilistic and explanatory, conceptualize the nature of juror factual conclusions, and the inferences leading to them, in light of the proof standards. The first conceives of the standards as probabilistic thresholds and jury conclusions as probabilistic judgments;[114] the second conceives of the standards as explanatory thresholds and jury conclusions as explanatory judgments.[115] As explored in prior literature, the probabilistic conception faces a number of conceptual problems.[116] The most famous (or notorious) has come to be called the "conjunction paradox," or the "conjunction problem."[117] The explanatory conception, by contrast, avoids the conjunction paradox.[118] The prior debates within evidence law on these competing conceptions have largely focused on, or assumed, decisions by a single or unified decision maker, rather than examining the analytical issues that may arise from the *group* aspects of proof.[119]

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of Persuasion in Civil Cases: Algorithms v. Explanations, 2003 MICH. ST. L. REV. 893 (surveying jury instructions).

110. Grogan v. Garner, 498 U.S. 279, 286 (1991).

111. *In re Winship*, 397 U.S. at 364.

112. *See supra* note 71.

113. *See supra* note 67.

114. These two conceptions are explored in detail in my prior Article, *The Nature and Purpose of Evidence Theory*. Pardo, *supra* note 11.

115. *Id.*

116. *Id.*

117. *See supra* note 14.

118. Allen & Jehl, *supra* note 109; Allen & Stein, *supra* note 14; Pardo & Allen, *supra* note 11.

119. One notable exception is *Conjunction and Aggregation*. Levmore, *supra* note 15 (discussing the original conjunction problem from the perspective of aggregated juror judg-

This Part demonstrates that group aspects give rise to additional conceptual problems for the probabilistic account and provide further vindication for the explanatory account. Some of these theoretical implications follow for reasons analogous to the original conjunction paradox, and thus my analysis first draws some lessons from that paradox before introducing three new conceptual problems that arise because of group aggregation. The discussion proceeds in three sections: Section A outlines the two conceptions of proof; Section B discusses the original conjunction paradox; and finally, Section C introduces three conceptual problems at the group level.

Before turning to these issues, however, a brief word on the practical implications may help to center the theoretical discussions to follow. Whenever jurors or judges draw inferences from evidence and conclude whether a fact has been proven, they are *presupposing some conception of what is required of applicable legal standards* as well as *what does or does not follow from the evidence*.[120] The theoretical accounts attempt to "make[ ] explicit what is implicit in these practices."[121] Moreover, the accounts also allow us to examine whether and how the practices and rules fit with or deviate from the goals of the proof process specifically, and civil and criminal litigation more generally.[122] Thus, the theoretical discussions are practically important precisely because they purport to tell us something important about how the law is implemented in individual

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ments). In contrast, this Article focuses on aggregation to introduce new conceptual problems using the original conjunction problem as illustrative. Levmore relies on Condorcet's Jury Theorem—which posits that group judgments increase in reliability as the group number increases, assuming certain conditions are satisfied (most importantly, the individual judgments are independent of one another, rely on independent evidence, and are each more likely to be true than false)—to rationalize the law's current treatment of the conjunction issue. *Id.* For a critique of Levmore, see Allen & Jehl, *supra* note 109. For other discussions of Condorcet's theorem and its uneasy relationship with legal issues, see ELSTER, *supra* note 25; LIST & PETTIT, *supra* note 2; ADRIAN VERMEULE, LAW AND THE LIMITS OF REASON (2009); and Ariel Porat & Eric A. Posner, *Aggregation and Law*, 122 YALE L.J. 2 (2012) (analyzing the aggregation of legal claims).

120. Pardo, *supra* note 11, at 553-54.

121. *Id.* at 554.

122. *See* Pardo, *supra* note 11 (providing a more detailed discussion); *see also* Lisa Kern Griffin, *Narrative, Truth, and Trial*, 101 GEO. L.J. 281 (2013) (discussing the relationship between conceptions of evidence and issues throughout the litigation process, including discovery and appellate review).

cases.[123] This is true not only with regard to trial outcomes. It also applies to cases that never make it to trial or are reversed on appeal,[124] cases that settle or are never filed or charged,[125] and "primary" (that is, non-litigation) behavior[126]—because each depends on some assessment of whether potential evidence is sufficient to warrant a legal resolution. The practical implications thus ramify throughout the law.[127]

A. Two Conceptions of Proof

The probabilistic and explanatory conceptions of proof each provide accounts of the nature of evidence, the standards of proof, juror inferences, and what it means for the evidence to satisfy a standard.[128] In outlining the two accounts, the discussion will focus on general aspects of each to the extent necessary to ground the analytical discussions to follow below. It will, therefore, gloss over some nuances in the accounts.[129]

The probabilistic conception relies on standard probability theory and its axioms to conceptualize the proof process.[130] Standards of proof, under this account, express probabilistic thresholds, and jurors determine whether the probability of each element, given the evidence, surpasses the threshold.[131] Conventionally, "preponderance of the evidence" is taken to mean "proof greater than 0.5," "clear and convincing evidence" to mean "greater than 0.75," and "beyond a reasonable doubt" to mean "greater than 0.9."[132] The

123. Pardo, *supra* note 11.

124. *See supra* note 67.

125. *See* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984).

126. *See* Gideon Parchomovsky & Alex Stein, *The Distortionary Effect of Evidence on Primary Behavior*, 124 HARV. L. REV. 518 (2010).

127. Part V will explore some specific practical implications regarding verdicts, but the more general practical implications of the theoretical debate should also be kept in mind.

128. Pardo, *supra* note 11.

129. Some of these details will be explored in the notes.

130. For an overview, see Pardo, *supra* note 11, at 574-75.

131. *Id.* at 574.

132. *Id.* at 590. The idea that standards of proof express probabilistic thresholds is a common assumption among courts and scholars. *See, e.g.*, Brown v. Bowen, 847 F.2d 342, 345-46 (7th Cir. 1988) ("All burdens of persuasion deal with probabilities. The preponderance standard is a more-likely-than-not rule, under which the trier of fact rules for the plaintiff if it thinks the chance greater than 0.5 that the plaintiff is in the right. The reasonable doubt

thresholds are points on a scale between 0 and 1, in which 1 means certain truth, 0 means certain falsity, and 0.5 means complete uncertainty or indifference.[133] Thus, in a civil case under the preponderance standard, when the plaintiff's claim is made of two elements, *A* and *B*, the jury determines whether the probability of *A* is greater than 0.5 and whether the probability of *B* is greater than 0.5.[134] If the jury concludes that each element is proven beyond 0.5, then the verdict will be for the plaintiff; if the jury concludes that the probability of either element is 0.5 or below, then the verdict will be for the defendant.

The explanatory conception relies on a theory of cognition based on the idea of "inference to the best explanation" and variations on it.[135] Under this conception, the standards of proof express explanatory thresholds, and jurors evaluate the plausibility of alternative explanations of the evidence and disputed events.[136] Under

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standard is much higher, perhaps 0.9 or better. The clear-and-convincing standard is somewhere in between."); United States v. Fatico, 458 F. Supp. 388, 410 (E.D.N.Y. 1978); CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, EVIDENCE § 3.3 (4th ed. 2009); Richard S. Bell, *Decision Theory and Due Process: A Critique of the Supreme Court's Lawmaking for Burdens of Proof*, 78 J. CRIM. L. & CRIMINOLOGY 557, 574 (1987); Cheng, *supra* note 11, at 1256 ("As every first-year law student knows, the civil preponderance-of-the-evidence standard requires that a plaintiff establish the probability of her claim to greater than 0.5."); Louis Kaplow, *Burden of Proof*, 121 YALE L.J. 738, 779-80 (2012); Fredrick E. Vars, *Toward a General Theory of Standards of Proof*, 60 CATH. U. L. REV. 1, 18 (2010) ("The assumption that the preponderance standard equals 0.5 and the clear-and-convincing standard equals 0.75 has both descriptive and normative components."); Eyal Zamir & Ilana Ritov, *Loss Aversion, Omission Bias, and the Burden of Proof in Civil Litigation*, 41 J. LEGAL STUD. 165, 168 (2012). Recent attempts to reinterpret probabilistic standards in order to respond to conjunction concerns include Cheng, *supra* note 11; and Kevin M. Clermont, *Death of Paradox: The Killer Logic Beneath the Standards of Proof*, 88 NOTRE DAME L. REV. 1061 (2013).

133. Pardo, *supra* note 11, at 575, 578 n.129.

134. *See* Clermont, *supra* note 132, at 1106-07. For example, if the claim depends on whether there was an offer (element 1) and acceptance (element 2), the jury determines whether the probability of an offer exceeds 0.5 and whether the probability of an acceptance exceeds 0.5.

135. *See* Pardo, *supra* note 11, at 596 & n.211, 597-98; Pardo & Allen, *supra* note 11, at 225, 227-29. Explanatory inferences play important roles in both scientific and everyday reasoning. *See* PETER LIPTON, INFERENCE TO THE BEST EXPLANATION (2d ed. 2004); Gilbert H. Harman, *The Inference to the Best Explanation*, 74 PHIL. REV. 88, 89 (1965). For a discussion of why the major objections to inference to the best explanation in the philosophy of science do not carry over to law, see Pardo & Allen, *supra* note 11, at 242-45. For a discussion on the psychology of explanatory reasoning, see Tania Lombrozo, *Explanation and Abductive Inference*, *in* THE OXFORD HANDBOOK OF THINKING AND REASONING (Keith J. Holyoak & Robert G. Morrison eds., 2012).

136. *See* Pardo & Allen, *supra* note 11, at 234-35. As a general matter, the criteria that make explanations better "include: consistency, coverage, completeness, simplicity, absence

the preponderance standard, the process most closely resembles one of inference to the *best available* explanation.[137] Specifically, jurors evaluate which of the competing explanations better explains the evidence and events, and then determine whether that explanation includes the elements of the claim.[138] For example, in a civil case under the preponderance standard, when a plaintiff's claim involves two elements, *A* and *B*, jurors evaluate whether the better explanation includes *A* and *B*.[139] As with the probabilistic conception, higher proof standards require higher thresholds, but under this account the standards require greater *explanatory* thresholds.[140] Under the "clear and convincing" standard, the plaintiff's explanation must be clearly and convincingly better than the defendant's explanation, and include the elements.[141] Under the "beyond a reasonable doubt" standard, there must be a plausible explanation consistent with guilt (in other words, that includes each of the elements of the crime) and no plausible explanation consistent with innocence (that is, the explanation does not include one or more of the elements).[142]

B. The Conjunction Paradox

The conjunction paradox arises because under the probabilistic conception, the law appears to ignore an elementary aspect of probability theory.[143] Namely, the probability of two independent propositions is the conjunction or multiplication of each proposition.[144]

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of gaps, coherence, consilience, and fit with background knowledge." Pardo, *supra* note 11, at 597.

137. Pardo, *supra* note 11, at 603.

138. *See id.* at 598, 603-04. The explanations are either the ones offered by the parties or formulated by jurors themselves. *Id.* at 597.

139. For example, when a claim concerns whether there was an offer and acceptance, jurors evaluate whether the better explanation includes an offer and acceptance. *See supra* note 134 and accompanying text.

140. Pardo, *supra* note 11, at 604.

141. *See* Pardo & Allen, *supra* note 11, at 239-40.

142. *Id.* at 238-39. Under this conception, there are thus two ways a jury might acquit a defendant: when the prosecution's explanation is not plausible or by finding a plausible explanation consistent with innocence. *Cf.* O'Laughlin v. O'Brien, 568 F.3d 287, 288, 297, 303 (1st Cir. 2009) (holding the evidence insufficient to support conviction, given prosecution's theory); United States v. Beard, 354 F.3d 691, 691, 693 (7th Cir. 2004) (holding the evidence sufficient because no plausible explanation consistent with innocence).

143. *See* Allen & Stein, *supra* note 14, at 562-63.

144. This is the so-called product rule. *See id.* (providing an overview of the rule).

Return to the example of a civil case with two elements, *A* and *B*. When a jury finds each element proven to 0.6, the plaintiff wins. This is a consequence of the fact that the standard of proof applies to each individual element.[145] The plaintiff wins even though—assuming independence among the elements—the likelihood of the plaintiff's claim is, because of the product rule, only 0.36 (0.6 x 0.6). Thus, plaintiffs win under this conception even when their claims appear not to be more likely true.[146] The problem is exacerbated by the addition of elements.[147]

The conjunction issue generates additional perverse implications for the probabilistic account. Here are five of the more prominent problems. First, suppose a second plaintiff brings an identical claim involving elements *A* and *B*. A jury finds *A* is proven to 0.9 and *B* is proven to 0.5. Unlike the plaintiff in the first case, the plaintiff in the second case loses even though this plaintiff's claim is more likely to be true in light of the evidence (0.45 versus 0.36). Under this conception, whether parties deserve to win no longer appears to track the strength of their claims in light of the evidence—surely a problematic consequence for a system interested in accurate outcomes.

Second, applying the probabilistic threshold (for example, "beyond 0.5") to the case as a whole also causes problems. First, it is inconsistent with the law, and thus fails as an explanatory account of the proof process. Second, its normative implications, if followed, would create other difficulties. For example, a party's proof requirements would depend on the number of formal elements.[148] The proof for each element would appear to exceed "beyond a reasonable doubt" and quickly approach certainty with only a modest number of elements.

Third, the foregoing scenario has assumed independence among the elements, but this often will not be the case. This creates additional difficulties for the probabilistic account, because to correctly

145. *See* Allen & Jehl, *supra* note 109, at 899.

146. This appears to be inconsistent with the stated goals of the preponderance standard, which are to minimize errors and to treat the parties roughly equal with regard to the risk of an erroneous judgment. *See* Grogan v. Garner, 498 U.S. 279, 286 (1991). These goals may be better realized by siding with whatever claims are more likely true.

147. *See* Allen & Jehl, *supra* note 109, at 918-19; Pardo & Allen, *supra* note 11, at 253-55.

148. *See* Pardo, *supra* note 11, at 594.

assess the probability of a claim as a whole, the jurors would need to know the various dependence relationships among the elements, which will almost never be known.

Fourth, the probabilistic conception faces problems even on single element disputes. For example, suppose a plaintiff proves the element to 0.4, and the jury concludes the defendant's alternative account is 0.2 likely. The plaintiff will lose, even though the plaintiff's account is twice as likely to be true as the defendant's. This is inconsistent with minimizing errors or treating the parties roughly equally with regard to the risk of error.[149]

Fifth, to truly prove an element beyond 0.5—rather than comparing the probability of each party's account—would require the party with the burden to disprove all the unknown possibilities inconsistent with that party's claim. This would be impossible and is inconsistent with equal treatment with regard to the risk of error.

The discussion has focused on the preponderance standard for purposes of illustration. Similar problems arise, *mutatis mutandis*, for the other proof standards.[150]

In contrast, the explanatory conception avoids these perverse implications. By first selecting among competing explanations, and then examining whether the selected explanations entail the elements, the implications do not arise.[151] The decision-making process under this conception operates first at the level of cases as a whole, and it is at this level that the standards of proof perform their functions regarding accuracy and allocating the risk of error.[152] The

149. A comparative proof process better accords with these goals. *See* Allen & Jehl, *supra* note 109, at 937-38; Cheng, *supra* note 11. This problem (#4) and the one that follows in the text (#5) assume that the probabilities match some objective feature in the world. One might try to avoid these problems by conceiving of the relevant comparison as between a subjective probabilistic belief in the truth of the proposition expressed by the element and a subjective probabilistic belief in the negation of that proposition, but subjective probabilistic beliefs do not advance the goals of the evidentiary proof process and are inconsistent with the requirements of evidence doctrine. Clermont, *supra* note 132, at 1128-29; *see* Pardo, *supra* note 11.

150. The primary difference is that with higher standards, the purported goal is to shift the risk of error away from parties without the burden of proof (typically defendants) because of unequal error costs. *See* Pardo, *supra* note 11, at 561, 566-67. Nevertheless, the same conceptual problems caused by the conjunction of elements frustrate this goal as well. For example, on a multielement claim, the prosecution may win even though the combined probability of the elements is considerably lower than 0.9.

151. *See* Pardo, *supra* note 11 at 608-09.

152. *See id.* at 565-67. For example, in a civil case under the preponderance standard, each side shares an equal risk that the better explanation will favor the other side (with ties going

perversities of the probabilistic conception are *perverse* precisely because they interpret the standards of proof in ways that frustrate rather than further these functions or goals. The purpose of this Section has not been to solve or resolve the conjunction problem in probabilistic terms.[153] Rather, the primary lesson to be gleaned from the conjunction paradox is that the problems are not, in fact, inherent in the legal proof process. The problems are features of a *probabilistic conception* of that process and are generated by adopting that conception. They do not arise when legal proof is properly understood in explanatory terms. This lesson will help to resolve the additional conceptual issues that arise when we move from the level of individual decision makers to groups.

C. Groups and Conceptual Problems

Group aggregation of individual judgments produces additional conceptual problems for the probabilistic conception. Three such problems are presented below. The first applies the discursive dilemma,[154] doctrinal paradox,[155] to juries. The second illustrates how outcomes may deviate under the probabilistic conception from the strength of parties' cases. The third illustrates how juror disagreements may produce group verdicts that are illegitimate because they violate the underlying aggregation rules. As with the original conjunction problem, each is generated by features of the probabilistic conception and ameliorated by the explanatory conception.

1. Problem 1: The Discursive Dilemma and Jury Verdicts

The first conceptual problem that arises from group dynamics involves the discursive dilemma.[156] In jurisdictions with a nonunani-

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to the party without the burden of proof). The risk of error is accordingly shifted as the proof standards increase.

153. For examples along these lines, see Cheng, *supra* note 11; Clermont, *supra* note 132; Levmore, *supra* note 15.

154. *See supra* note 28 and accompanying text.

155. *See supra* note 25 and accompanying text.

156. *See supra* note 28 and accompanying text. Jason Iuliano, relying on a probabilistic conception of proof, argues that the discursive dilemma poses a problem for special verdicts but not for general verdicts. Jason Iuliano, *Jury Voting Paradoxes*, 113 MICH. L. REV. 405

mous mous aggregation rule, the jury may end up endorsing a general conclusion that every juror rejects. The probabilistic conception, in which jurors render probabilistic judgments on an element-by-element basis, exacerbates the conceptual problems generated by the discursive dilemma. By contrast, the explanatory conception suppresses these problems.

Consider the following example:[157] a plaintiff's claim contains four elements, *A*, *B*, *C*, and *D*, each of which must be proven by a preponderance of the evidence. Suppose the jurisdiction's voting rule requires a vote of nine members out of a twelve-member jury on each element. Suppose further the voting breaks down as follows:

> Is element *A* proven? Nine "yes" votes (jurors 1-3 vote "no");
> Is element *B* proven? Nine "yes" votes (jurors 4-6 vote "no");
> Is element *C* proven? Nine "yes" votes (jurors 7-9 vote "no");
> Is element *D* proven? Nine "yes" votes (jurors 10-12 vote "no").

Under this scheme, the plaintiff wins *even though every member of the jury believes the plaintiff should lose*. Probabilistic judgments by jurors do nothing to prevent this perverse result (For example, suppose each "yes" vote in the above scenario is based on the judgment that the issue is proven to 0.6, and each "no" vote is based on a 0.4 assessment.). Under the explanatory conception, however, jurors decide based on the relative plausibility of the competing explanations, and then examine whether the chosen explanation includes the elements.[158] As with the original conjunction problem, this process tames the perverse consequences that follow from the discursive dilemma. In the example, the plaintiff will offer an explanation that includes elements *A*, *B*, *C*, and *D*, and the defendant will offer an explanation that fails to include one or more elements. When faced with this comparative assessment of the

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(2014). Under a probabilistic conception, however, the discursive dilemma extends to general verdicts as well as to special verdicts because jurors are instructed, even with general verdicts, to apply the standards of proof to individual legal elements, not to cases as a whole. *See* Allen & Jehl, *supra* note 109. As I explain below, the implications of the paradox follow from the probabilistic conception of proof, and they are tamed by the explanatory conception of proof. The implications are not avoided by relying on probabilistic general verdicts and eliminating probabilistic special verdicts.

157. *See supra* Part III.A.

158. *See* Pardo, *supra* note 11, at 606, 608.

competing, integrated explanations as a whole, jurors will either find the plaintiff's explanation better or not. If they do, then this explanation will include the elements, and the plaintiff will win. If not, then the plaintiff will lose. In the voting scheme outlined above, each juror may reject the plaintiff's explanation as a whole—but for different reasons—and thus vote for the defendant. Or each juror may find the plaintiff's explanation to be better and accordingly vote for the plaintiff because the chosen explanation entails all the elements. Either possibility would better reflect actual trial practices, and better accord with the normative justifications for the preponderance standard (minimizing and equalizing the risk of error),[159] than element-by-element probabilistic conclusions.

2. Problem 2: Plaintiffs with Worse Cases Win

The second conceptual problem concerns the fact that because of group dynamics, outcomes deviate from the strength of parties' cases under the probabilistic conception. Suppose, for example, a six-member jury deciding a civil case. The applicable voting rule requires a unanimous verdict. Suppose further that there is only one element at issue in the case, thus eliminating the original conjunction problem. The jury is instructed that the plaintiff must prove the element by a preponderance of the evidence. The probabilistic conception generates anomalous results based on group dynamics akin to, and in addition to, those that arise with the original conjunction problem. Compare two possible cases. In *Case 1*, each of the six jurors concludes that the plaintiff has proven the contested element to 0.6—thus resulting in a verdict for the plaintiff. In *Case 2*, five jurors conclude that the plaintiff has proven the contested element to 0.95, and one juror concludes that the plaintiff has proven this element to 0.4. Under the applicable aggregation rules, this would fail to produce a pro-plaintiff verdict. It would do so even though the average of the jury's judgments is significantly higher in *Case 2* than in *Case 1* (0.858 versus 0.6).[160]

159. Under this conception, errors would be minimized to the extent that better explanations are more likely to be true than worse ones, and the risk of error would be roughly equal given that the better explanation may favor either side (with ties going to the party without the burden of proof).

160. Averaging the jurors' conclusions is only one possibility. Other aggregation rules (for

Under the explanatory conception, these implications do not arise. To obtain a pro-plaintiff verdict, the plaintiff must persuade each juror that the plaintiff's explanation is better than the defendant's. As with the probabilistic conception, the jurors may fail to reach a verdict because five conclude the plaintiff's burden has been met and one juror concludes it has not been met. There is nothing anomalous or problematic about this. It might even be the case that five jurors are convinced that the plaintiff's explanation is significantly better than the defendant's, and the one holdout juror is mistaken. There is nothing anomalous or problematic about this either. What *does* generate a conceptual problem, however, is the combination of two assumptions: (1) that juror judgments express cardinal probability judgments that can be averaged and (2) that these judgments map onto the plaintiff's degree of proof. If these two assumptions *were* true, then it would be perverse that the plaintiff wins in *Case 1* and not in *Case 2* because the plaintiff in *Case 2* would have made a stronger showing that she was entitled to relief. The fact that this is not so in reality provides further evidence that there is something amiss with the probabilistic conception. The explanatory conception, however, fits perfectly with this state of affairs. Under the explanatory conception, jurors must reach agreement on whether the plaintiff's explanation is better than the defendant's, not attempt to average their subjective mental states.

3. Problem 3: Juror Disagreements on the Details

In both criminal and civil cases, a source of considerable uncertainty surrounds issues regarding exactly what jurors must agree upon to reach a verdict. These practical issues are explored in more depth in the next Part. The general issue of juror disagreement, however, also gives rise to a third conceptual problem for the probabilistic conception of proof.

Burdens and standards of proof apply to the formal elements of a crime, civil cause of action, or affirmative defense. Thus, at a minimum, jurors must agree on whether each element has been proven to the applicable standard. This much is clear and uncontroversial. Confusion starts to arise, however, when we dig into exactly

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example, looking for the median or mode) may produce similar distortions.

what it means to agree on whether an element is proven. Do the jurors agree the defendant committed burglary if six jurors believe the defendant committed burglary in one apartment, and the other six believe the defendant committed a different burglary in another apartment across town (at the same time)? If presented with the formal elements, and the question, "Has the prosecution proven burglary beyond a reasonable doubt?," suppose the jurors all answer, "yes." Is this sufficient agreement to constitute a guilty verdict? The answer appears to be no.[161] Now consider a second case: suppose all twelve jurors agree that the defendant committed the same burglary, but six jurors conclude that the defendant entered through an unlocked window, and the other six jurors conclude that the defendant entered through an unlocked door. Is this sufficient agreement to constitute a guilty verdict? The answer appears to be yes.[162] The practical issues generated by this problem fall in between these relatively easy cases.[163]

As a theoretical matter, however, the probabilistic conception—in which jurors reach probabilistic conclusions about each element—does nothing to prevent problematic cases of disagreement. Jurors may reach the exact same probabilistic conclusions on the formal elements even when they disagree about which burglary the defendant committed. Despite juror agreement on the probabilities, juror disagreements may undermine verdicts. The probabilistic conception does not account for these failures of aggregation. Suppose, for example, that a criminal statute requires a defendant to have committed three prohibited acts during a specified period of time.[164] Each juror concludes that it is 0.99 likely that the defendant committed three such acts, but they do not agree on any three specific acts. The probabilistic conception predicts that a valid guilty verdict has been reached, but this does not necessarily follow.[165]

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161. *See* Richardson v. United States, 526 U.S. 813, 816 (1999) (holding that "unanimity in respect to each individual violation is necessary").

162. *See* Schad v. Arizona, 501 U.S. 624, 627, 630-32 (1991) (holding that jurors do not need to agree on the means of commission of a crime).

163. *See infra* Part V.

164. *See Richardson*, 526 U.S. at 816.

165. *Id.* at 824 (requiring jurors to agree on underlying acts, and not just on whether the elements have been proven). This type of failure may also occur in a civil case when jurors share a probabilistic conclusion but render inconsistent answers to interrogatories. *See* FED. R. CIV. P. 49(b)(4).

Sometimes disagreements of this sort will result in a failure to establish a jury verdict.

Under the explanatory conception, these concerns are alleviated. In focusing on competing explanations, the decision-making process forces jurors to agree or disagree about contrasting versions of reality.[166] For any predicate act, the jurors should only convict when they all agree that the prosecution's explanation is plausible, *and* there is no plausible defense explanation (consistent with innocence). As explored more fully in the next Part, the explanatory account provides more clarity and guidance regarding exactly on what jurors must agree. By contrast, the probabilistic account implies consequences about collective jury judgments that are at odds with both the reality of trials and the requirements of verdicts.

V. PRACTICAL IMPLICATIONS: JUROR AGREEMENT IN CIVIL AND CRIMINAL CASES

The explanatory account better explains the process of legal proof than the probabilistic account. One reason for this, as Part IV argued, is that the explanatory account avoids the conceptual problems that beleaguer the probabilistic account on issues pertaining to group agency. The theoretical analysis provides practical insight on an issue that has generated considerable confusion at the doctrinal level: On what exactly must jurors agree to constitute a verdict?[167] This issue relates to the third conceptual problem discussed in Part IV. As that discussion illustrated, the probabilistic account predicts that verdicts have been reached even when jurors disagree on significant factual details; moreover, the account does not clarify when such disagreements are benign and when they undermine

166. Consider, for example, the burglary hypotheticals discussed above. *See supra* notes 161-62 and accompanying text. To present a plausible explanation in the first hypothetical, the prosecution would have to argue the defendant committed one or the other of the burglaries. Absent extraordinary circumstances, an explanation that the defendant committed two distinct burglaries at the same time in different locations is not plausible. But, in the second hypothetical, jurors may all find the prosecution's explanation to be plausible even while disagreeing on whether the window or the door was the entry point.

167. A number of other scholars have contributed to clarifying these issues. *See supra* note 12. Their discussions, however, have largely taken the nature of juror conclusions and inferences for granted (usually characterized simply as juror beliefs); this Article, by contrast, is the first to tie the issue to the explanatory conception of the proof process. *But see* Larsen, *supra* note 12 (discussing the story model and agreement in civil cases).

verdicts. Rendering probabilistic judgments on the formal elements may mask considerable disagreement among jurors about the underlying facts they are being asked to find. For example, is the burglary the defendant committed the one that occurred on the east side of town in January or the one that occurred on the west side of town in June? All factual disagreements are treated as irrelevant under a probabilistic "formal elements" approach, as long as jurors agree on the elements.

Under the explanatory account, jurors decide among competing explanations, which describe different versions of reality. As a practical matter, this convergence on explanations eliminates some of the underlying factual disagreements that may undermine verdicts. In the typical case, jurors agree on an explanation, which may or may not include the formal elements.[168] When parties each present a single competing explanation, the choice among contrasting explanations does not typically raise doctrinal issues about juror agreement.

Rather, the doctrinal difficulties arise because parties sometimes argue in the alternative. And jurors may disagree about different aspects of these alternatives. When juries are presented with alternatives, the explanatory account provides doctrinal guidance; the probabilistic account does not. When parties argue in the alternative, the proof process depends on the plausibility of their *disjunctive* explanations.[169] The notion of a disjunctive explanation clarifies the doctrine on juror agreement, and it provides practical insights into both civil and criminal verdicts.

First, this Part explains the nature of disjunctive explanations; second, it discusses how disjunctive explanations fit with civil verdicts; and finally, it discusses criminal verdicts and the Supreme Court's confusing case law on juror agreement.

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168. This is why the explanatory account avoids the conceptual difficulty that arises for the probabilistic account. For an example, see Problem 3 in Part IV.

169. For purposes of this Article, a "disjunction" is simply an explanation combining two (or more) propositions with an "or." Each proposition in the disjunction is a "disjunct." By contrast, two or more propositions combined with an "and" is a "conjunction," composed of "conjuncts." "Disjunction" is a philosophical term of art in logic. *See* Ray Jennings & Andrew Hartline, *Disjunction*, STAN. ENCYCLOPEDIA PHIL. (Oct. 1, 2008), http://plato.stanford.edu/entries/disjunction/ [http://perma.cc/TZH7-MYGR].

A. Disjunctive Explanations

Under the explanatory conception, individual fact-finders decide cases by selecting among competing explanations of the evidence and underlying events. These explanations will contrast on one or more key issues. The practical complexities arise because parties may present and argue cases in the alternative,[170] and consequently, the explanations on which jurors make judgments may be disjunctive (for example, "*X or Y*" explains the evidence and the events).[171]

Some examples will clarify the idea of a disjunctive explanation. Suppose Jones has allergic reactions whenever he eats peanuts and whenever he eats cashews, but no reactions when he eats any other food. Now, suppose Jones has an allergic reaction after eating Smith's soup. Among the following two alternatives, which one better explains Jones's reaction?:

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170. Although parties may argue in the alternative, it will often not be to a party's advantage to do so—single, detailed explanations will typically be more persuasive than alternative, inconsistent ones. Sometimes, however, it will be to a party's advantage to do so. *See, e.g.*, McCormick v. Kopmann, 161 N.E.2d 720, 726 (Ill. App. Ct. 1959) (allowing plaintiff to argue inconsistent theories against two different defendants when the facts were uncertain as to which defendant was liable). In addition to disjunctive explanations, depending on the substantive law, parties may also offer general explanations (for example, in a res ipsa loquitur case). General explanations may incorporate disjunctive explanations implicitly; however, neither the party proffering such an explanation nor the jurors need identify any particular disjunct. *See, e.g.*, Erckman v. N. Ill. Gas Co., 210 N.E.2d 42, 48 (Ill. App. Ct. 1965).

171. The plausibility of disjunctive explanations is one way in which the (conceptual) explanatory account may differ from the (empirical) story model in particular cases. *See* Nancy Pennington & Reid Hastie, *A Cognitive Theory of Juror Decision Making: The Story Model*, 13 CARDOZO L. REV. 519, 527-28 (1991) (positing that the persuasiveness of a story depends on its internal consistency, coherence, and completeness). These criteria also affect the plausibility of explanations, but explanations may nevertheless be plausible even when they do not track a specific story. *See supra* note 136. Another significant difference is that under the explanatory account, fact-finders employ standards of proof (for example, "beyond a reasonable doubt") in evaluating whether to accept competing explanations. By contrast, under the story model, as articulated by Pennington and Hastie, fact-finders first construct a particular story or narrative and then apply the standard of proof in evaluating (1) whether the accepted story fits the verdict categories and (2) their subjective confidence in the accepted story. *See* Pennington & Hastie, *supra*, at 530-31 ("The third processing stage in our hypothesis regarding the juror's decision making involves matching *the accepted story* with each of the verdict definitions. In cognitive processing terms, this is a classification process .... The story classification stage also involves the application of the judge's procedural instructions on the presumption of innocence and the standard of proof." (emphasis added)).

Explanation A: *the soup contained shellfish*; or
Explanation B: *the soup contained peanuts or cashews*.

Based on the available information, Explanation B is better than Explanation A, even though we may not be able to determine which of the disjuncts (peanuts or cashews) is true.[172]

How does this play out in the trial context? Consider the next example. Suppose the plaintiff is entitled to recover in a civil case if the defendant drove through a red light, and the plaintiff is not entitled to recover if the defendant drove through a green or yellow light.[173] The proper explanatory contrast[174] for the jury in this case is between:

Explanation A: *the light was red*; or
Explanation B: *the light was green or yellow*.

This contrast will be decided by each individual juror. Aggregation problems arise when jurors disagree about the disjuncts in a disjunctive explanation. This disagreement may result in a failure to satisfy the requisite aggregation rules. Continuing with the example, suppose the jury is twelve members, and the jurors must reach a unanimous decision. If all twelve jurors conclude that the explanation "*green or yellow*" is better than the explanation "*red*," then the defendant ought to win. This is why a "single theory" approach, in which jurors must agree on a specific factual scenario, means, or theory, is defective.[175] Likewise, if all twelve jurors conclude that *green* is better than *red* (but *yellow* is false), then the defendant ought to win. The same is true if all twelve jurors

172. In accepting the disjunctive explanation, we can also say that if it turns out not to be peanuts, then it must be cashews. And if it is not cashews, then it must be peanuts. *Cf.* Westen & Ow, *supra* note 12, at 154 (proposing that this type of agreement about "alleged means" is required in criminal cases). "[I]f the defendant did not commit the alleged offense by one of the alleged means, he must have committed it by another of the alleged means." *Id.*

173. *See* Dale A. Nance, *Naturalized Epistemology and the Critique of Evidence Theory*, 87 VA. L. REV. 1551, 1578 (2001) (presenting this example and suggesting "third story" possibilities create challenges for evidence theory); Pardo & Allen, *supra* note 11, at 250-53 (explaining why the explanatory conception can accommodate this example and third stories generally).

174. The contrast between the parties' explanations will depend on the substantive law and how the parties choose to present their cases. *See* Pardo & Allen, *supra* note 11, at 230-32.

175. *See supra* note 17 and accompanying text.

conclude that *yellow* is better than *red* (but *green* is false). So far, so good. But, what if six jurors conclude that *green* is a better explanation than *red* (but *yellow* is false), and six jurors conclude that *yellow* is better than *red* (but *green* is false)? This is a problem because this jury does not, in fact, agree on Explanation B.

This might seem strange at first because *yellow* logically entails *yellow or green*.[176] Therefore, however likely one thinks *yellow* is, one will also think *yellow or green* is at least as likely (plus the likelihood of *green*).[177] This is why, under the probabilistic account, disagreements on *yellow* versus *green* do not matter, and the probability conclusions on each may be aggregated. The point about entailment is true, of course, but believing one side of a disjunction does not in fact mean that one is committed to the disjunction as a whole.[178] Disagreements of this sort mean that two individuals may not be in agreement about an explanation. Suppose a tornado rips through our town. I may think that climate change (resulting from human activities) caused the tornado, and you may think it was the result of God's wrath. We do not agree that *climate change or God's wrath* explains why the tornado occurred. Why not? If I were to discover evidence demonstrating that climate change could not have caused the tornado, I would *not* then believe that it must be *God's wrath*.[179] Likewise, if I convince you that *God's wrath* did not cause the tornado, you would not necessarily then believe that *climate change* was responsible. But, if we were each committed to the truth of the disjunction, then as a formal matter, we should believe the other disjunct when our initial preferred disjunct was proven false. In short, sticking an "or" in between our contradictory beliefs does not necessarily commit each of us to the disjunction, even when we

176. The disjunction is true if either disjunct is true. Therefore, if *yellow* is true, then *yellow or green* is necessarily true.

177. If *yellow* is 0.4 likely, then *yellow or green* is greater than or equal to 0.4.

178. Sachs usefully employs the distinction between "dependent" and "independent" evidence for a disjunction to emphasize whether one's evidence supports a particular disjunct (dependent) or the disjunction as a whole (independent). Sachs, *supra* note 12, at 48. Sachs relies on a similar distinction employed by Brian Skyrms in discussing the Gettier problem. *See* Brian Skyrms, *The Explication of "X Knows That p,"* 64 J. PHIL. 373, 379-80 (1967) (distinguishing derivative versus nonderivative epistemic support for a disjunction).

179. This sort of disconnect between disjuncts is part of the reason that proofs based on "the principle of explosion" (or "everything follows from a contradiction") lead to absurd conclusions. *See* Graham Priest et al., *Paraconsistent Logic*, STAN. ENCYCLOPEDIA PHIL. (Apr. 5, 2013), http://plato.stanford.edu/entries/logic-paraconsistent/ [http://perma.cc/R87K-XRSC].

are otherwise committed to half of it. But we will be committed to it when, as with *yellow or green*, we think that one or the other is the likely explanation, even if we cannot specify which.[180]

For another example, consider again Jones's allergic reaction. Suppose we are now trying to decide what explains it, and we know that Jones ate shellfish, peanuts, and rice. If faced with a contrast between (1) *shellfish*, on one hand, and (2) *peanuts or rice*, on the other, I might think that *peanuts* is a better explanation than *shellfish*, and that *rice* is false (and thus *shellfish* is a better explanation than *rice*), and you might think that *rice* is a better explanation than *shellfish*, and that *peanuts* is false (and thus *shellfish* is a better explanation than *peanuts*). When we disagree like this, we do not agree that *peanuts or rice* is a better explanation than *shellfish*.

Similar considerations apply to preferences—as opposed to epistemic judgments—in a way that further illustrates the nature of disjunctions. Suppose we are sharing a pizza and deciding on toppings. You prefer spinach to plain cheese, and I prefer pepperoni to plain cheese. But you prefer plain cheese to pepperoni, and I prefer plain cheese to spinach. We do not agree that *spinach or pepperoni* is better than *cheese* as a pizza option. Compare this to a situation in which we each prefer either spinach or pepperoni to plain cheese. In that case, we would agree that *spinach or pepperoni* is better than plain cheese. Similarly, jurors agree that the explanation *green or yellow* is better than *red* when they each think that (1) the disjunction as a whole, (2) the *same* one of its disjuncts, or (3) a combination of (1) and (2) is better than the alternative. They fail to agree when at least one juror accepts only part of a disjunctive explanation, and another juror accepts only a different part of the disjunction. The possibility of such disagreements is why a "formal elements" approach,[181] in which jurors only vote on whether each element of a crime, claim, or defense has been proven, is defective.

B. Civil Cases

How does the analysis regarding disjunctive explanations apply to actual cases? To illustrate, consider the facts of *Anderson v.*

180. *See supra* note 172.

181. *See supra* note 16 and accompanying text.

Griffin.[182] Following a traffic accident, the plaintiff claimed that the defendant's negligence caused the plaintiff's injury.[183] The accident occurred because a "driveline" on a semi-tractor truck broke, thereby severing the truck's brake pedal from the brake.[184] The defendant was the repair shop that performed maintenance on the truck's driveline weeks before the accident.[185] The plaintiff argued that the defendant was negligent in its repairs (*Explanation A*).[186] The defendant offered two alternative explanations for the driveline breaking: there was a hidden defect that could not be discovered at the time of the repairs (*Explanation B*), and the driveline was not defective and road debris was thrown against the yolk of the truck with such force that it caused the driveline to break (*Explanation C*).[187] If *A* is true, then the plaintiff deserves to win; if *B* or *C* is true, then the defendant deserves to win. Thus, the appropriate explanatory contrast is between *A*, on one hand, and *B or C*, on the other.[188]

The six-member jury must reach a unanimous decision, and the plaintiff must prove its case by a preponderance of the evidence. If all six jurors conclude that the disjunctive explanation *B or C* is as good as or better than *A*, then there should be a verdict for the defendant. The same result occurs when:

> 1. Six jurors conclude that *B* is as good as or better than *A* (and reject *C* as false); or

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182. 397 F.3d 515 (7th Cir. 2005).

183. *Id.* at 517-18.

184. *Id.* at 517.

185. *Id.* at 517-18.

186. *Id.* at 518.

187. *Id.* at 518, 521-22.

188. For examples of courts incorrectly requiring too much specificity, and not recognizing the appropriateness of disjunctive explanations, see *Valentine v. Baxter Healthcare Corp.*, 81 Cal. Rptr. 2d 252, 265-66 (Ct. App. 1999) (requiring through special interrogatories that jurors all agree on one of five possible explanations for how defendant's negligence caused plaintiff's injury); and *Rhesa Shipping Co. v. Edmunds*, [1985] 1 W.L.R. 948 (H.L) (appeal taken from Eng.) (requiring plaintiff to identify a particular cause of ship's sinking that would entitle them to recover on an insurance policy, rather than alternative "peril of the sea" theories). A number of cases have recognized the acceptability of disjunctive explanations, but these disjunctions raise the possibility of juror disagreements that may undermine verdicts. *See* Zuchowitz v. United States, 140 F.3d 381, 390-91 (2d Cir. 1998); Stoner v. Williams, 54 Cal. Rptr. 2d 243, 252 (Ct. App. 1996) (holding that jurors need only agree on whether elements are proven, not underlying theory); Stubbs v. City of Rochester, 124 N.E. 137, 140 (N.Y. 1919).

> 2. Six jurors conclude that *C* is as good as or better than *A*, (and reject *B* as false); or
> 3. Some jurors conclude the disjunctive explanation, *B or C*, is as good as or better than *A*, and the remaining jurors all conclude that one of the disjuncts (but not the other) is as good as or better than *A*—so long as it is the same disjunct.

The problem, from an aggregation standpoint, occurs when at least one of the six jurors accepts *B* (but rejects *C*), and at least one of the six jurors accepts *C* (but rejects *B*). In this instance, the group has failed to arrive at a collective finding about the competing explanations that would support a verdict for the defendant.[189]

The practical difficulties posed by this type of disagreement run deep. So deep, in fact, that even special verdicts and interrogatories may fail to expose it. For example, in a negligence case, suppose the plaintiff offers a disjunctive explanation for why the defendant should be held liable: faulty repairs on a truck (explanation *X*) or inadequate inspection (explanation *Y*). Six jurors vote for a general verdict for plaintiff. They are also asked to answer the following interrogatories:[190]

> (1) Do you find unanimously that the plaintiff has proven *X* by a preponderance of the evidence?
> (2) Do you find unanimously that the plaintiff has proven *Y* by a preponderance of the evidence?

If the jury answers "no" to both questions, the court may enter a judgment for the defendant, just as the court may do had there been a special verdict posing these two questions.[191] However, this may be an error. It might have been the case that three jurors concluded that the disjunctive explanation (*X or Y*) was proven by a preponderance of the evidence, and three concluded that *X* was proven (but rejected *Y*). In such a case, a judgment for the plaintiff is warranted (assuming the evidence is sufficient). If, however, three conclude that *X* is proven (and reject *Y*), and three conclude that *Y* is proven

189. The probabilistic account, however, would erroneously predict that a valid verdict has been reached. *See supra* Part IV.C.3. The problem identified in the text may also arise with a plaintiff's disjunctive explanations.

190. *See* FED. R. CIV. P. 49(b)(1).

191. *Id.* 49(a).

(and reject *X*), then despite the general verdict voted on by the jurors, they have failed to arrive at a unanimous verdict for the plaintiff. But they have not necessarily arrived at a verdict for the defense, either—more deliberation is necessary. The upshot is that even detailed special verdicts and interrogatories may mask the underlying problem (which may operate to either the plaintiff's or the defendant's disadvantage, depending on the details).[192]

C. Criminal Cases

The issue of juror agreement has received more attention in the context of criminal cases, from both courts and academic commentators, than in civil cases.[193] Nevertheless, considerable confusion remains. The starting point for the issue of juror agreement in

192. When parties offer alternative explanations, more detailed (and carefully crafted) jury instructions may alert jurors themselves to the issue. Recent empirical evidence on actual jury deliberations suggests that jurors take detailed instructions on the law seriously and that their discussions of the law are generally accurate, but the same evidence also suggests that "the more challenging obstacles to optimal jury performance in dealing with the law arise ... from deep structural issues and failures to confront inconsistencies and ambiguities in the law." Shari Seidman Diamond et al., *The "Kettleful of Law" in Real Jury Deliberations: Successes, Failures, and Next Steps*, 106 NW. U. L. REV. 1537, 1552, 1606 (2012) (reviewing 13,519 juror comments about the law from jury deliberations in fifty cases). The failure to instruct jurors on how to resolve disagreements about alternative explanations poses just such a challenge. In the above example in the text (drawn from *Anderson v. Griffin*, 397 F.3d 515 (7th Cir. 2005)), an instruction like the following may suffice to inform jurors on the issue:

You must find whether the defendant was negligent. The plaintiff has proposed two different ways in which the defendant was negligent: (1) in making faulty repairs to a truck and (2) by failing to properly inspect the truck. You should find for the plaintiff if you conclude the plaintiff has proven the defendant was negligent in (1) repairing the truck, (2) inspecting the truck, or (3) in either repairing or inspecting the truck. This last possibility means that you think the defendant was negligent in either repairing or inspecting the truck, even though you cannot determine which of the two actions he was negligent in performing.

In addition to your individual votes, you must reach unanimous agreement on whether the defendant was negligent. You have reached agreement if you all conclude that the defendant was negligent (1) in repairing the truck, (2) in failing to inspect the truck, or (3) either in repairing or inspecting the truck (in the way I just explained to you). You are not in agreement if at least one of you thinks that the defendant was negligent in repairing the truck but not in inspecting it, and one of you thinks that the defendant was negligent in inspecting the truck but not in repairing it. If you find this situation should arise, then you must continue to deliberate until you reach unanimous agreement.

193. *See supra* note 12.

criminal cases is a pair of United States Supreme Court opinions: *Schad v. Arizona*[194] and *Richardson v. United States*.[195]

In *Schad*, the defendant was convicted of first-degree murder.[196] The victim was found strangled on the side of the highway in Arizona.[197] His car and wallet were stolen.[198] The defendant was arrested three weeks later in New York driving the victim's car and using the victim's wallet.[199] The jury was instructed that they could convict the defendant of first-degree murder if they found that either the defendant (1) killed the victim intentionally, or (2) killed him unintentionally while committing a robbery (felony murder).[200] The defendant claimed the evidence proved "at most that he was a thief, not a murderer."[201]

On appeal, the defendant argued that it was an error for the trial court not to instruct the jury that they had to agree on a theory (intentional killing or felony murder) in order to convict.[202] A divided Court sided 5-4 in favor of the State and rejected the defendant's claim.[203] Justice Souter's plurality opinion, joined by three others, focused on the constitutionality of the State's statutory scheme of treating premeditated killing and felony murder equivalently—as two "means" of committing the same crime.[204] Their opinion also focused on both historical practices and the "moral equivalence" of the two alternatives, concluding that the scheme did not run afoul of the Constitution.[205] Justice Scalia concurred on historical grounds, but rejected the plurality's "moral equivalence" test.[206] Justice

194. 501 U.S. 624 (1991).

195. 526 U.S. 813 (1999).

196. *Schad*, 501 U.S. at 628 (Souter, J., joined by Rehnquist, C.J., O'Connor and Kennedy, JJ.).

197. *Id.* at 627.

198. *Id.* at 628.

199. *Id.*

200. The jury was instructed: "First degree murder is murder which is the result of premeditation.... Murder which is committed in the attempt to commit robbery is also first degree murder." *Id.* at 629 (alteration in original).

201. *Id.*

202. *Id.* at 630.

203. *Id.* at 646-48 (plurality opinion).

204. *Id.* at 631-33 (Souter, J., joined by Rehnquist, C.J., O'Connor and Kennedy, JJ.).

205. *Id.* at 641-45.

206. *Id.* at 651 (Scalia, J., concurring in part and concurring in judgment) ("[T]he petitioner here does not complain about lack of moral equivalence: He complains that, as far as we know, only six jurors *believed* he was participating in a robbery, and only six *believed* he intended

White, joined by three Justices, dissented. According to the dissent, "While a State is free to construct a statute in this way, it violates due process for a State to invoke more than one statutory alternative, each with different specified elements, without requiring that the jury indicate on which of the alternatives it has based the defendant's guilt."[207] Because Arizona defined first-degree in two alternative ways, the dissent argued that the jury must unanimously agree on one of the alternatives.[208] By not requiring such agreement, the jury failed to reach a unanimous verdict.[209]

The explanatory conception of proof sheds light on the *Schad* outcome, and also why the Court's opinions fail to zero in on the aggregation issue. The "beyond a reasonable doubt" standard is satisfied under the explanatory account when there is a plausible explanation consistent with guilt and no plausible explanation consistent with innocence.[210] Either component of the standard may be disjunctive. In *Schad*, therefore, every juror could have concluded the disjunctive explanation (intentional or felony murder) was plausible—in other words, that the disjunctive explanation successfully explained the evidence and events, even if jurors could not say which of the two disjuncts was more likely to be true—and that the defendant's explanation was not plausible. In this scenario, a unanimous verdict would have been reached. In failing to recognize the possibility of disjunctive explanations, the dissent's analysis is therefore unsatisfactory.

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to kill. Perhaps moral equivalence is a *necessary* condition for allowing such a verdict to stand, but surely the plurality does not pretend that it is *sufficient*. (We would not permit, for example, an indictment charging that the defendant assaulted either X on Tuesday or Y on Wednesday, despite the 'moral equivalence' of those two acts.)").

207. *Id.* at 656 (White, J., dissenting).

208. *Id.* at 655 ("[I]t is entirely possible that half of the jury believed the defendant was guilty of premeditated murder and not guilty of felony murder/robbery, while half believed exactly the reverse. To put the matter another way, the plurality affirms this conviction without knowing that even a single element of either of the ways for proving first-degree murder, except the fact of a killing, has been found by a majority of the jury, let alone found unanimously by the jury as required by Arizona law. A defendant charged with first-degree murder is at least entitled to a verdict—something petitioner did not get in this case as long as the possibility exists that no more than six jurors voted for any one element of first-degree murder, except the fact of a killing.").

209. *Id.* at 659.

210. *See* Pardo & Allen, *supra* note 11, at 241.

A successful verdict could have arisen in other ways as well. For example, if half the jury concluded that the disjunctive explanation was plausible and the other half concluded felony murder (but not intentional murder) was plausible, then the jurors agree on first-degree murder. But the dissent was certainly correct that *this* particular jury may have failed to agree. This would have been the case if some jurors thought the intentional-murder explanation was plausible (and the felony-murder explanation was not), and some thought the felony-murder explanation was plausible (and the intentional-murder explanation was not). The evidence appears sufficient to support the disjunctive explanation of guilt, but we simply do not know whether the jurors agreed.

The dissent's analysis, although unsatisfactory, came closer than others to the relevant aggregation issue: Do the jurors agree on a disjunctive explanation, or one or another of its disjuncts? Although historical practices in defining crimes and moral equivalence may be relevant to due process analysis, neither criterion touches the key issue of juror agreement in *Schad*.[211] The key issue was whether the jury concluded that a disjunctive explanation (or one of its disjuncts) was proven beyond a reasonable doubt.[212] As with civil cases, better instructions may alert jurors and judges to the aggregation failure that may occur when some jurors accept only part of a disjunctive explanation, and other jurors accept only a distinct part of that ex-

211. *Cf.* Westen & Ow, *supra* note 12, at 168-69, 185 (arguing that the key due process issue in *Schad* is whether the conviction accords with the "beyond a reasonable doubt" requirements of *In re Winship*).

212. *See id.* This Article extends the illuminating analysis of Westen and Ow in two directions. First, Westen and Ow take the nature of juror conclusions for granted and focus (following *Schad* and *Richardson*) simply on the "means" by which a defendant committed the crime. *Id.* at 155-57; *see also* FED. R. CRIM. P. 7(c) ("A count may allege that the means by which the defendant committed the offense are unknown or that the defendant committed it by one or more specified means."). This Article connects the disagreement issue to the inferential process of jury conclusions—in other words, *explanatory* inferences. Second, the analysis of *disjunctive* explanations applies not just to criminal convictions but also to civil cases and the explanations proffered by criminal defendants. The issue of jury nullification complicates the analysis with regard to criminal defendants. The explanatory conception provides an account of what is required under the "beyond a reasonable doubt" standard, not what jurors should *do* in individual cases once they conclude that the standard has been satisfied. *Cf.* RONALD DWORKIN, LAW'S EMPIRE 3 (1986) (distinguishing a determination of the law on a legal question—that is, whether a proposition of law is true—from the determination of how to decide a particular case).

planation.[213] This is a problem not because of statutory definitions; it is a problem because the jury has not yet arrived at a verdict.

By focusing on statutory interpretation, the Supreme Court's other foray into the issue, *Richardson v. United States*, again created uncertainty and failed to provide guidance on jury agreement.[214] The defendant was convicted at trial under a federal "continuing criminal enterprise" statute.[215] The statute required the prosecution to prove, among other elements, that the defendant received "substantial income" from a "continuing series of violations" of federal drug laws, in concert with five or more persons managed or organized by the defendant.[216] The key issue in *Richardson* was the proof requirements for the "continuing series of violations" language in the statute.[217] The district court instructed the jury that they "'must unanimously agree that the defendant committed at least three federal narcotics offenses,' while adding, '[y]ou do not ... have to agree as to the particular three or more federal narcotics offenses committed by the defendant,'" rejecting the defendant's proposal that they must agree on three specific acts.[218] This difference mattered in the case because the prosecution proffered evidence of more than three acts.[219] Assuming the proper number of acts was three,[220] the Supreme Court reversed, concluding that the jury had to agree on three specific acts:

> We must decide whether a jury has to agree unanimously about which specific violations make up the "continuing series of violations." We hold that the jury must do so. That is to say, a jury in a federal criminal case brought under § 848 must unanimously agree not only that the defendant committed some "continuing series of violations" but also that the defendant

213. *See supra* note 192. As with the other examples explored in this Part, the probabilistic conception again mistakenly predicts that a valid verdict has been reached even when this type of aggregation failure has occurred.

214. 526 U.S. 813 (1999).

215. *Id.* at 815-16.

216. 21 U.S.C. § 848(c)(2)(A)-(B) (2012); *see also Richardson*, 526 U.S. at 815.

217. *Richardson*, 526 U.S. at 815.

218. *Id.* at 816 (alterations in original).

219. *Id.* at 818.

220. *Id.* ("We assume, but do not decide, that the necessary number is three, the number used in this case.").

> committed each of the individual "violations" necessary to make up that "continuing series."[221]

Justice Breyer's majority opinion, joined by five others, relied primarily on considerations of statutory interpretation.[222] Noting that not requiring agreement on the underlying acts may mask significant juror disagreement—and perhaps also raise constitutional issues because of unfairness and deviation from historical practices—the Court concluded, "We have no reason to believe that Congress intended to come close to, or to test, those constitutional limits when it wrote this statute."[223] Thus the Court avoided an interpretation that would raise constitutional issues, and opted for a safer alternative (that is, requiring agreement).[224]

Justice Kennedy, joined by two others, dissented.[225] He challenged the majority's argument about intent, and he argued that Congress was concerned with a particular type of criminal—"the drug kingpin"—and was not concerned with specific underlying acts as opposed to the ongoing series of them in the aggregate.[226] The prosecution's evidence suggested the defendant had engaged in thousands of underlying transactions and was thus the type of criminal for whom the statute was designed.[227] Having concluded that Congress did not intend for jurors to agree on underlying acts, the dissent argued that such an interpretation was constitutional.[228] Relying on *Schad*, the dissent concluded that the underlying acts were permissible "alternative means" (such as the premeditation or felony murder in *Schad*) of violating the statute.[229] Moreover, the statute, understood in this way, was neither unreasonable nor fundamentally unfair.[230]

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221. *Id.* at 815.
222. *Id.* at 818-20.
223. *Id.* at 820.
224. *Id.* As discussed in Part IV, disagreements in cases like *Richardson* pose a conceptual problem for the probabilistic account because the probabilistic account says (mistakenly) that a valid verdict has been reached.
225. *Id.* at 825 (Kennedy, J., dissenting).
226. *Id.* at 828-29.
227. *Id.* at 828, 832.
228. *Id.* at 835-37.
229. *Id.*
230. *Id.* at 836.

The explanatory framework clarifies *Richardson*, and as with *Schad*, illustrates why the Court failed to resolve the aggregation issue.[231] Assuming sufficient evidence to support each of the acts alleged by the prosecution,[232] a valid verdict would be reached if each juror accepted a *disjunctive explanation* that referred to more than three acts. Likewise, a valid verdict would be reached if half the jury accepted the disjunctive explanation, and the other half accepted three specific acts as proven (and rejected the rest), so long as they were the same three acts. But an aggregation failure would occur when half the jury concluded that three specific acts were proven (but not the remaining acts), and the other half concluded that a different three acts had been proven (but not the remaining acts). This possibility appears to have animated some of the Court's reasoning in *Richardson*,[233] but as with *Schad*, we do not know what the actual jury accepted and thus whether a legitimate group judgment was in fact formed. The explanatory framework clarifies the underlying potential problem. Recognizing the issue, and providing better instructions, may alert jurors and judges to the aggregation failure that may occur when some jurors accept only part of a disjunctive explanation, and other jurors accept only a distinct part of that explanation.[234]

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231. *See* Westen & Ow, *supra* note 12, at 179-80 ("Kennedy displays something that is true of his brethren as well: he is struggling to find an answer that he knows full well he has not yet grasped.").

232. *Richardson*, 526 U.S. at 831-32.

233. *See id.* at 819 (majority opinion) ("The first of these considerations increases the likelihood that treating violations simply as alternative means, by permitting a jury to avoid discussion of the specific factual details of each violation, will cover up wide disagreement among the jurors about just what the defendant did, or did not, do. The second consideration significantly aggravates the risk (present at least to a small degree whenever multiple means are at issue) that jurors, unless required to focus upon specific factual detail, will fail to do so, simply concluding from testimony, say, of bad reputation, that where there is smoke there must be fire.").

234. *See supra* note 192. Not requiring agreement may be a problem because of aggregation failures. *See* Roth, *supra* note 12, at 196-97 nn.94-98 (collecting cases and instructions not requiring agreement on prosecution theory). But requiring agreement without recognizing disjunctive explanations is also a problem. *See id.* at 211 ("Several of the courts of appeals still include some version of a 'unanimity of theory' instruction in their model jury instructions."). As the analysis in this Article indicates, the proper aggregation requirement in criminal cases, as with civil cases, is in between these extreme positions.

VI. COUNTERARGUMENTS

This Part considers and responds to two potential counterarguments. The first—the probabilist's rejoinder—challenges the explanatory analysis by contending that aggregating individual jurors' probabilistic judgments on the formal elements (regardless of whether they agree on any other factual details) would constitute a normative improvement over outcomes under both current practices and the explanatory account. The second—the doctrinal acceptance of inconsistent verdicts in criminal cases—challenges the non-summative account of juries on which the analysis relies.

A. The Probabilist's Rejoinder

The probabilistic account of proof fails to explain key aspects of current legal doctrine and practices, and, moreover, it faces a number of conceptual problems.[235] The probabilist might respond, however, that despite these *descriptive* and *explanatory* defects, the probabilistic account is *normatively* superior.[236] According to this argument, the conclusions under a probabilistic model are more likely to be accurate in the long run, and so to the extent current practices are inconsistent with this model, too bad for current practices.

To flesh out this counterargument, consider again the example of whether the stoplight was red (plaintiff wins) or green or yellow (defendant wins).[237] If half the jurors think the defendant should win because the probability is 0.6 that the light was green, and the other half think the defendant should win because the probability is 0.6 that the light was yellow, then the defendant *should* win because the jury thinks it is 0.6 likely that the defendant is not liable.[238] However likely a juror thinks the *green* possibility, she will

235. *See* Pardo, *supra* note 11, at 574-76; *see also supra* Part IV.

236. *See, e.g.*, Lempert, *supra* note 11, at 1032 (proposing "normative" probabilistic theory of relevance).

237. *See supra* Part V.A.

238. Likewise, under this conception, if every juror thinks the likelihood that the defendant committed burglary exceeds whatever probabilistic threshold is required by beyond a reasonable doubt, then the defendant should be convicted—even if each juror thinks he committed a different burglary and did not commit any of the others.

think the *green or yellow* possibilities are at least *that* likely (plus whatever residual likelihood she attaches to *yellow*), and vice versa for any juror who thinks *yellow* is the most likely possibility. Aggregating probabilities over the elements in this way, so the argument goes, for each element and then for the conjunction of the elements will impose liability on defendants only when it is more likely than not that they are, in fact, liable. Outcomes will be as accurate as possible, and errors will be minimized in the long run.

There is something intuitively plausible about this argument. Moreover, it is entirely *possible* that asking jurors to render probabilistic judgments *could* improve accuracy.[239] Determining how changes in the process of legal proof will affect the accuracy of outcomes involves incredibly complex empirical questions.[240] But the probabilist's claims are doubtful for a number of reasons. First, the argument depends on the idea that the probability judgments will have some basis in reality—that they will refer to some objective feature in the world (for example, relative frequencies).[241] For most items of evidence and claims, however, the relevant probabilities are simply not available.[242] This means that the probabilistic judgments will instead depend on the *subjective* beliefs of jurors.[243] And there is no reason to think the subjective beliefs of jurors are likely to match objective probabilities in any kind of reliable manner.[244] Indeed, there could be any (or no) relationship at all

239. *Cf.* Kornhauser & Sager, *supra* note 25, at 260-61 (noting that neither voting by overall outcome or issue-by-issue is epistemically superior as an a priori or formal matter); List & Pettit, *supra* note 28, at 386 ("If I and other members regard the group as a loose collection of individuals who pool their judgments solely to maximize the probability of determining the truth on some issue, then an inconsistency in the group's majority judgments creates no particular problem by itself.").

240. These include not only questions about the reliability of evidence and the epistemic performance of decision makers, but also how the changes will affect primary and litigation behavior.

241. Probabilities may refer to logical relations, frequencies, propensities, or subjective degrees of belief. *See* Alan Hajek, *Interpretations of Probability*, STAN. ENCYCLOPEDIA PHIL. (Dec. 19, 2011), http://plato.stanford.edu/entries/probability-interpret/ [http://perma.cc/QU67-ZHRY].

242. And even when data are available for some items of evidence, the probabilities must somehow be combined with other evidence for which no data are available.

243. *See* Hajek, *supra* note 241.

244. There is a rich literature on subjective probability theory and the reliance on Bayes' Theorem to maintain consistency in a set of subjective judgments. *See* LEONARD J. SAVAGE, THE FOUNDATIONS OF STATISTICS 43-45 (1954). Subjective probability judgments, even those

between the two. Therefore, there is no reason to think that requiring jurors to rely on these subjective beliefs will improve accuracy.[245]

Moreover, aggregation imposes additional informational demands. In order to aggregate the probabilities among jurors for the different factual scenarios that may fall under a formal element—at least in a way that is likely to improve accuracy—they will need to know all the ways the world could have been that are consistent with liability, all the ways that are inconsistent with liability, *and* know the objective probabilities that attach to each of the scenarios.[246] It is a fantasy to think these informational demands could ever be met. To truly prove a case by a preponderance of the evidence, a plaintiff would have to show that the combined probability of all the possible ways in which the defendant is liable exceeds the combined probability of all the possible ways in which the defendant is not liable.[247] If taken seriously, this would mean that any party with a burden of proof on any issue in civil or criminal cases should lose. This is not a recipe for improving the law.

Although changes along the lines suggested by the probabilistic conception could possibly improve the law, the burden of proof remains on the probabilistic conception to provide reasons more

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that conform to Bayes' Theorem, however, are unlikely to improve accuracy at trial unless the subjective judgments match objective probabilities. *See* Alvin I. Goldman, *Quasi-Objective Bayesianism and Legal Evidence*, 42 JURIMETRICS J. 237, 240 (2002). And nothing in a subjective conception of legal proof guarantees this, or even makes it likely. *See* Allen & Stein, *supra* note 14, at 566 (noting that any interpretation of probability other than a frequentist one "make[s] no sense at all in the juridical context").

245. Moreover, a number of procedural devices—summary judgment, judgment as a matter of law, and sufficiency of the evidence—presuppose that judges can separate reasonable from unreasonable jury conclusions. *See supra* note 67. This separation is not possible under a purely subjective approach: every belief would be reasonable because there would be no external source by which to measure reasonableness (except perhaps the reviewing judges' own subjective beliefs). *See* Pardo, *supra* note 11, at 591.

246. For example, suppose six jurors think the defendant committed one burglary, and the other six think he committed a different burglary. To know the probability that the defendant committed either burglary, the jury would have to know the probabilities for all the other activities the defendant could have been doing at those times other than burglary.

247. We could generalize from the burglary example in the previous note and imagine the jury comparing two probabilities: (1) the combined probabilities for all the possible states of the world in which the defendant committed a crime, and (2) the combined probabilities for all the possible states in which he did not.

compelling than those above to justify such large-scale and radical revisions to our current practices.[248]

B. Inconsistent Criminal Verdicts

The second potential counterargument challenges the analysis on descriptive grounds. According to this argument, the fact that inconsistent verdicts in criminal cases are allowable, as a matter of constitutional doctrine,[249] poses a challenge to the explanatory account and a non-summative view of the jury. The fact that inconsistent verdicts are acceptable, in other words, may indicate that jurors need not agree on any particular explanation (disjunctive or not) or form a coherent *group* judgment at all—verdicts are simply the aggregation of individual votes on the elements and nothing more. Juries are a "*they*," in other words, and not an "*it*."[250]

A closer examination of the reasons for this doctrine, however, reveals that it does not pose a challenge to the explanatory account or a non-summative view of the jury. First, it is important to note that consistency is a recognized requirement in civil cases, and the Federal Rules of Civil Procedure authorize and instruct judges to read verdicts and interrogatories in a manner that preserves consistency, if possible.[251] In criminal cases, moreover, the Supreme Court's acquiescence in inconsistent verdicts does not follow from *indifference to consistency*. In the primary modern case on the issue, the Court examined a situation in which a defendant had been convicted of a federal statute criminalizing the use of the telephone

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248. *See* Allen & Stein, *supra* note 14, at 602 ("[W]hen one proposes to redesign a foundational element of the legal system, the person bears a heavy burden of proof to show the system is malfunctioning.... [T]he presumption should be that a system that has been in use for so long and that underwent multiple adjustments and refinements does not have serious operational and conceptual flaws.").

249. United States v. Powell, 469 U.S. 57, 66 (1984); Dunn v. United States, 284 U.S. 390, 393 (1932).

250. Agency, for both individuals and groups, requires some minimal degree of rationality, of which some minimal degree of consistency is a key component. *See* DONALD DAVIDSON, *A Unified Theory of Thought, Meaning, and Action*, *in* PROBLEMS OF RATIONALITY 157 (2004) (discussing the importance of consistency for interpretation); LIST & PETTIT, *supra* note 2, at 24 ("Achieving consistency is of special importance.... Let an agent try to act on inconsistent representations or motivations, or let others try to orientate by the ascription of such attitudes, and there will be a straightforward breakdown.").

251. FED. R. CIV. P. 49.

to facilitate sales of illegal narcotics,[252] while also being acquitted of some of the underlying conduct that formed the predicate for the telephone-facilitation charges.[253] In short, the jury found the defendant guilty of using the telephone to sell drugs, while acquitting her of selling drugs.[254] The Court allowed the inconsistency to stand—but not because it denied the importance of consistency or potential problems with inconsistency.[255] Rather, the Court acquiesced in the inconsistency because of fairness considerations and the traditional role of jury nullification: "The fact that the inconsistency may be the result of lenity, coupled with the Government's inability to invoke review, suggests that inconsistent verdicts should not be reviewable."[256] In other words, the Court recognized that the jury may, as a group, apply the "beyond a reasonable doubt" rule consistently (in accord with the explanatory conception), *and then* grant leniency to a defendant.[257] It is the preservation of this option, and not anything about inconsistency qua inconsistency, that explains the doctrine. The Court's reasoning on this issue has been subjected to criticism,[258] but this issue is outside the scope of this Article. The key point is that the line of cases and doctrine on inconsistent criminal verdicts neither poses a challenge to the explanatory conception of proof nor the non-summative conception of juries.

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252. 21 U.S.C. § 843(b) (2012).

253. *Powell*, 469 U.S. at 60.

254. *Id.* at 59-60.

255. *Id.* at 65 ("Inconsistent verdicts therefore present a situation where 'error,' in the sense that the *jury* has not followed the court's instructions, most certainly has occurred, but it is unclear whose ox has been gored." (emphasis added)); *id.* at 67 ("[W]e note that a criminal defendant already is afforded protection against *jury* irrationality or error by the independent review of the sufficiency of the evidence undertaken by the trial and appellate courts." (emphasis added)).

256. *Id.* at 66. The Court relied on Justice Holmes's opinion in *Dunn v. United States*, which likewise rejected inconsistency as a requirement for verdicts because of the possibility of lenity. 284 U.S. 390, 393 (1932).

257. *See Powell*, 469 U.S. at 67-68.

258. *See* Albert W. Alschuler, *The Supreme Court and the Jury: Voir Dire, Peremptory Challenges, and the Review of Jury Verdicts*, 56 U. CHI. L. REV. 153, 213 (1989); Eric L. Muller, *The Hobgoblin of Little Minds? Our Foolish Law of Inconsistent Verdicts*, 111 HARV. L. REV. 771, 794 (1998).

CONCLUSION

This Article has defended a view of the jury as a group epistemic agent, with properties and characteristics of agency that may differ from the agency of its members. This conception of the jury avoids two extremes. The first, recognized (and rejected) by (then Assistant Professor now Justice) Ruth Bader Ginsburg, sees the jury as "a singular body—twelve men who, through the alchemy of the deliberative process, become as one."[259] The second extreme denies the existence of jury agency, positing that the jury is nothing other than individual jurors and their conflicting beliefs, desires, and preferences. The "jury," under this view, is nothing but a fiction, shorthand for the loose collection of individual juror votes about whether the formal elements of a crime, claim, or defense have been proven.[260] The conception of the jury presented in this Article rejects both the mystical harmony of the first view and the austere skepticism of the second. It recognizes that juries may act as *group* agents not because of anything mysterious, but rather because of the process by which individual judgments are aggregated. Sometimes—because of the applicable aggregation function—juries will display properties and characteristics of agency that deviate from the properties and characteristics of all or most members.

What benefits follow from adopting this conception of juries? As with group agency generally, recognizing groups at this level allows us to better understand the nature of these important groups, to better predict how they will behave, and to better appreciate how changes and interventions will affect them. In short, we will not fail to see the forest for the trees.[261] Turning to the group-level perspective reveals a number of conceptual problems for a probabilistic conception of legal evidence and proof. The explanatory conception of evidence and proof, by contrast, alleviates these problems and

259. Ruth B. Ginsburg, *Special Findings and Jury Unanimity in the Federal Courts*, 65 COLUM. L. REV. 256, 268 (1965). This view resembles those of the emergentist tradition. *See supra* note 22 and accompanying text.

260. This view accords with the eliminativist tradition and is consistent with a probabilistic conception of proof. *See supra* note 22 and accompanying text.

261. LIST & PETTIT, *supra* note 2, at 76. For a discussion on the rights and responsibilities of groups qua groups, see *id.* at 170-85.

thus the group perspective provides further vindication for this theoretical account. The group perspective, when coupled with the explanatory conception, also provides practical insights for doctrinal problems regarding juror agreement. The explanatory conception illuminates that jurors must agree on *explanations*, including the possibility of *disjunctive* explanations. Convergence on explanations, given the applicable aggregation rules—and not through any sort of alchemy—is how the jury carries out its responsibility of speaking with "one voice" on behalf of and to the community.[262]

The jury is one of many important groups within the law. The analysis in this Article may carry additional implications for other legal groups. These implications may be both general and specific. As a general matter, recognizing the jury as a group agent may make the agency of other legal groups easier to appreciate and thus serve as a corrective for some of the austere skepticism about group agency pervading pockets of legal scholarship (while also avoiding the mysticism at the other extreme). More specifically, the jury is not the only *epistemic* agent in the law—courts, agencies, and several other collective bodies also make epistemic judgments about whether certain conclusions are warranted or not, given the available evidence (and applicable legal standards).[263] As with legal proof, the explanatory conception may provide important insight for understanding these epistemic practices, as it does throughout the sciences.[264]

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262. *See* Leib et al., *supra* note 98, at 1132 (arguing that juries are fiduciaries for the community); *see also* Kornhauser & Sager, *supra* note 25, at 252 (discussing the "integrity" of group judgments); List & Pettit, *supra* note 28, at 385 (discussing group judgments); Jason Solomon, *The Political Puzzle of the Civil Jury*, 61 EMORY L.J. 1331, at 1335 (2012) (discussing the political roles of the jury, including bringing community norms into the process); Westen & Ow, *supra* note 12, at 180 (discussing group judgments).

263. *See* Allen & Pardo, *supra* note 66, at 1798 (explaining the epistemological similarities between legal and factual questions); Thomas W. Merrill, *Article III, Agency Adjudication, and the Origins of the Appellate Review Model of Administrative Law*, 111 COLUM. L. REV. 939, 941 (2011) (arguing that the framework for court review of administrative agencies is based on a law-fact, judge-jury model).

264. *See* CARL F. CRAVER, EXPLAINING THE BRAIN: MECHANISMS AND THE MOSAIC UNITY OF NEUROSCIENCE 21-62 (2007) (discussing different models of explanation in science).