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Ordering Proof: Beyond Adversarial and Inquisitorial Trial Structures

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ORDERING PROOF: BEYOND ADVERSARIAL AND INQUISITORIAL TRIAL STRUCTURES

MARK SPOTTSWOOD*

In typical trials, judges and juries will find it easier to remember the proof that occurs early in the process over than what comes later. Moreover, once a fact-finder starts to form a working hypothesis to explain the facts of the case, they will be biased towards interpreting new facts in a way that confirms that theory. These two psychological mechanisms will often combine to create a strong “primacy effect,” in which the party who goes first gains a subtle, but significant, advantage over the opposing party. In this article, I propose a new method of ordering proof, designed to minimize the inaccuracy or unfairness that arises due to primacy effects. A neutral third person, rather than the disputing parties, would prepare an opening “statement of the dispute,” which would take the place of partisan opening statements. In lieu of separate, partisan cases-in-chief, this neutral third party would also decide the order of testifying witnesses, balancing considerations of clarity, efficiency, and neutrality between the parties. This proposed ordering would, however, be subject to variations by agreement among the parties. In a jury trial, the presiding judge could perform these new functions, while a magistrate judge or an appointed master could do so in non-jury trials. After exploring the reasons why this new mode of ordering proof would likely improve the fairness and accuracy of our system without excessive cost or inconvenience, I propose a policy experiment to test the proposed method in a random selection of jurisdictions, so that its impacts on outcomes, costs, and litigant satisfaction can be measured.

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INTRODUCTION

It is curious that American legal scholars have extensively analyzed the evidentiary content of trials, while mostly neglecting their structure. Starting with Jeremy Bentham¹ and continuing into the present day, numerous authors have analyzed and critiqued the choices judges make in admitting and excluding items of evidence.² But for a few exceptions,³ little attention has been paid to the trial

1. See Louise Harmon, *Falling Off the Vine: Legal Fictions and the Doctrine of Substituted Judgment*, 100 YALE L.J. 1, 4 (1990) (describing Jeremy Bentham as “a harsh critic of the common law”).

2. See Richard A. Leo et al., *Promoting Accuracy in the Use of Confession Evidence: An Argument for Pretrial Reliability Assessments to Prevent Wrongful Convictions*, 85 TEMP. L. REV. 759 (2013) (arguing that coerced convictions should be excluded as evidence); see also Victor E. Schwartz & Cary Silverman, *The Draining of Daubert and the Recidivism of Junk Science in Federal and State Courts*, 35 HOFSTRA L. REV. 217, 227 (2006) (noting percentage differences in admission of expert testimony post-*Daubert*).

3. See, e.g., SAUL M. KASSIN & LAWRENCE S. WRIGHTSMAN, *THE AMERICAN JURY ON TRIAL: PSYCHOLOGICAL PERSPECTIVES* 131-37 (1988) (suggesting that interim summations might be a useful means for mitigating order-induced bias); JOHN THIBAUT & LAURENS WALKER, *PROCEDURAL JUSTICE: A PSYCHOLOGICAL ANALYSIS* 54-66 (1975) (arguing in favor of the adversarial trial structure as a means of moderating biases that arise from the ordering of proof); Birte English et al., *The Last Word in Court—A Hidden Disadvantage for the Defense*, 29 L. & HUM. BEHAV. 705, 717-19 (2005) (discussing the disadvantages that may arise when attorneys make sequenced sentencing recommendations to a court, and suggesting that it would be better to give defendants the first word in such cases); John B. Mitchell, *Why Should the Prosecutor Get the Last Word?*, 27 AM. J. CRIM. L. 139, 214 (2000)

structure—that is, the rituals and sequence of steps that bring cases from beginning to end.⁴ In fact, the neglect goes well beyond academia; the drafters of the Federal Rules of Civil Procedure, Criminal Procedure, and Evidence neglected to codify most structural aspects of trial practice, apparently believing such things to be so well entrenched by tradition that they were not worth elaborating on.⁵ Thus, one would search these rules in vain for any indication of standard American practices such as opening statements, the privilege given to plaintiffs and prosecutors of presenting evidence first, or the deference that judges give to parties regarding the order in which they present witnesses.⁶ It is as if scholars of architecture, along with the drafters of construction codes, gave great attention to the building materials, but largely neglected to specify how those materials should be used.

By contrast, psychologists understand that the order and context in which people encounter new information can dramatically influence the way that people learn, understand, and remember.⁷

(arguing that it violates the Due Process Clause to give prosecutors a final rebuttal argument); Mark Spottswood, *Emotional Fact-Finding*, 63 KAN. L. REV. 41, 91-97 (2015) (discussing ways that judges could use their powers of trial scheduling, proof ordering, and issue bifurcation to mitigate problematic emotional influences on jury decisions).

4. A Westlaw search for articles containing extensive discussion of commonly-used rules of evidence shows that there are hundreds of articles closely scrutinizing most of the commonly used rules. Such a search shows 341 articles discussing Federal Rule of Evidence 403 (dealing with prejudicial evidence), 221 articles discussing Rule 404 (prohibiting most uses of character propensity evidence), 98 articles discussing Rule 609 (allowing the use of some criminal convictions for impeachment purposes), and 190 articles discussing Rule 803 (which covers the hearsay exceptions). By striking contrast, a search for literature extensively discussing Rule 611, which addresses the ordering of proof, yields a mere eighteen articles. The search string used to generate these results was run within the Westlaw database, and was of the following form: atleast10("Rule ___") & "Fed. R. Evid. ___". The former term limited results to articles that mentioned the given rule at least 10 times, while the latter term excluded false positive matches involving non-evidence rules with the same numbering scheme.

5. See discussion *infra* Part I.A.

6. The closest the rules come to acknowledging one of these standard practices is in Federal Rule of Criminal Procedure 29.1, which ordains an order of final argument that mirrors the standard ordering of prosecutor's case, defense's case, and rebuttal. See FED. R. CRIM. P. 29.1 (2015) (stating that "[c]losing arguments proceed in the following order: (1) the government argues; (2) the defense argues; and (3) the government rebuts").

7. See, e.g., Donald C. Pennington, *Witnesses and Their Testimony: Effects of Ordering on Jury Verdicts*, 12 J. APPLIED SOC. PSYCHOL. 318, 318-21 (1982) (explaining the importance of psychological studies in the courtroom context).

Generally, the first things we learn about a topic dominates our subsequent evaluations, leading to primacy effects.⁸ Such effects arise from multiple causes, but the one most applicable in legal settings is confirmation bias—a tendency to search for evidence that confirms the first narrative or hypothesis we form, rather than weighing it equally with subsequently-encountered alternatives.⁹ Conversely, in other settings, evidence presented last will be given heightened weight, which is known as a recency effect.¹⁰ Recency effects arise when a fact-finder is presented with voluminous, challenging evidence, and they must make an immediate decision following trial.¹¹ Primacy and recency effects are not mere laboratory curiosities; like most psychological discoveries, order effects can be observed in studies of real-world decision-making behavior.¹² Thus, as a result of the American trial structure, where attorneys focus on making evidence memorable and the final decision occurs after a pause for jury instructions or other business, we should expect judges and juries to tilt their decisions subtly in favor of whomever gets the first word in court.

8. See S. E. Asch, *Forming Impressions of Personality*, 41 J. ABNORMAL & SOC. PSYCHOL. 258, 270 (1948) (showing primacy effects in formations of character judgments); Pennington, *supra* note 7, at 330 (finding strong primacy effects when varying the order in which witnesses were presented in a mock criminal trial); Thomas A. Pyszczynski & Lawrence S. Wrightsman, *The Effects of Opening Statements on Mock Jurors' Verdicts in a Simulated Criminal Trial*, 11 J. APPLIED SOC. PSYCHOL. 301, 309-12 (reporting primacy effects in a mock jury study involving variations in opening statements, but identical substantive evidence); J. Edward Russo et al., *The Goal of Consistency as a Cause of Information Distortion*, 137 J. EXP. PSYCHOL. GEN. 456, 466 (2008) (showing primacy effects in consumer preferences over advertised products).

9. See generally Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises*, 2 REV. GEN. PSYCHOL. 175, 175-220 (1998) (reviewing the expansive literature on confirmation bias).

10. ROBERT S. WYER & DONAL E. CARLSTON, *SOCIAL COGNITION, INFERENCE, AND ATTRIBUTION* 158 (1979) (contrasting primacy and recency effects, and reviewing literature on when each may arise); THIBAUT & WALKER, *supra* note 3, at 54-66 (reporting the results of an experiment in which mock jurors exhibited a recency effect).

11. See discussion *infra* Part II.A; see also Kristi A. Costabile & Stanley B. Klein, *Finishing Strong: Recency Effects in Juror Judgments*, 27 BASIC & APPLIED SOC. PSYCHOL. 47, 56 (2005) (finding a recency effect in one type of simulated trial, and noting that it was partially explained by how well the mock jurors remembered the evidence).

12. See GARY KLEIN, *SOURCES OF POWER* 273-75 (1998) (reviewing real-world decision-making errors in high-stakes situations such as medicine, firefighting, and military combat, and finding that a number of errors were attributable to a failure to revise an initially-attractive hypothesis as contradictory evidence accumulated).

Consequently, the dominant modes of ordering proof give some parties subtle, but systematic advantages over their opponents, regardless of the strength of their cases. The most prominent example is that prosecutors and plaintiffs get the first and last word, as well as the advantage of presenting witnesses before the defendants may present counterproof.¹³ This gives the parties bearing the burden of persuasion¹⁴ the advantages of both primacy and recency effects. But the continental alternative, in which the presiding judge orders proof, has its own disadvantages.¹⁵ Here, the systematic advantage goes to the theory that the judge finds most persuasive.¹⁶ Because continental criminal courts rely on information gleaned from a prosecutorial dossier, the court might search for evidence that confirms the prosecutor's framing of the case instead of evenhandedly considering both sides.¹⁷

Luckily, these two alternatives are not the only ways of ordering proof at trial. I will explore the possibility of a trial procedure designed to minimizing order effects within an adversary system of proof.¹⁸ Trial would begin, not with partisan opening statements, but with a "statement of the dispute" prepared by a neutral third-party, such as the presiding judge in jury trials, or an appointed master or a magistrate judge in bench trials.¹⁹ To stave off confirmation bias, this procedure encourages the fact-finder to delay the formation of a working theory of the case.²⁰ Following the statement of the dispute, parties would present evidence following the ordinary pattern of

13. THIBAUT & WALKER, *supra* note 3, at 54.

14. See generally *Lilienthal's Tobacco v. United States*, 97 U.S. 237, 266 (1878) (holding "[b]eyond question, the general rule is that the burden of proof in civil cases lies on the party who substantially asserts the affirmative of the issue"); see also *Davis v. United States*, 160 U.S. 469, 484, 493 (1895) (holding that, in criminal cases, the prosecution must prove every element beyond a reasonable doubt).

15. See discussion *infra* Part I.B.

16. See *id.*

17. See Mirjan Damaska, *Evidentiary Barriers to Conviction and Two Models of Criminal Procedure: A Comparative Study*, 121 U. PA. L. REV. 506, 526-30, 544-46 (1973) (describing the continental approach to criminal procedure, in which the judge has discretion over the ordering of the evidence, and the judge generally reviews a prosecutorial dossier before hearing any witness testimony or arguments from the defendant); John Thibaut et al., *Adversary Presentation and Bias in Legal Decisionmaking*, 86 HARV. L. REV. 386, 399-401 (1972) (reporting the results of an experiment in which adversarial fact-finding methods significantly counter-acted a pre-existing bias on the part of the decision maker, but inquisitorial methods did not).

18. See discussion *infra* Part II.C.

19. See discussion *infra* Part III.A.

20. See *id.*

examination by advocates and cross-examination by opponents.²¹ The current rule allowing one party to present all of their witnesses before the other party calls any, however, would be discarded.²² In its place, the third-party neutral would propose a feasible, even-handed witness ordering that delays introducing strongly-partisan evidence until after neutral witnesses are called.²³ This ordering would control, unless the parties agree on mutually-beneficial alternatives to it, or if one party proves that the third-party neutral abused their discretion in a way that gave their opponent a significant advantage.²⁴

Having sketched out this alternative mode of ordering proof, I will then consider the uncertainties involved in deciding whether it is superior to current methods.²⁵ The first uncertainty involves the effects in real-world trials.²⁶ Order effects will likely present themselves when cases are close, involve many ambiguities that the fact-finder must resolve, and place a strain on the fact-finder's memory. However, many cases that go to trial fit this mold.²⁷ Nevertheless, highly-motivated fact-finders might be able to suppress these effects, thus extrapolating that theories derived from experimental data, or observations of decision-makers in non-legal contexts, require an uncertain inferential leap.²⁸ Indeed, other factors, such as the tactical advantage of hearing the other side's case before choosing a response, may counterbalance order effects in some cases, although that possibility is speculative.²⁹

A second uncertainty relates to the costs of such a new procedure.³⁰ Although I believe the costs would be modest in relation to their benefits, it is possible that lawyers might abuse the process by refusing to compromise regarding third-party neutrals, or by frivolously objecting to proposed orderings, thereby raise costs for opponents.³¹ High costs may deter parties from beginning or continuing litigation they otherwise would, which could have

21. See discussion *infra* Part III.B.

22. See *id.*

23. See *id.*

24. See discussion *infra* Part III.C.

25. See discussion *infra* Part IV.

26. See *id.*

27. See discussion *infra* Parts II.A, II.B.

28. *But see* discussion *infra* Part II.C (explaining why even well-motivated fact-finders might still fall prey to ordering-induced bias in evaluating ambiguous evidence).

29. See discussion *infra* Part IV.

30. See discussion *infra* Part III.C.

31. See *id.*

deleterious effects on the overall system.³² Finally, third-party neutrals could abuse their role to systematically privilege one side.³³ If so, then either the system would fail to remedy the problem it is designed to solve, or judges and parties would be forced to review these decisions, creating a different cost problem.³⁴

Exploring these uncertainties will show that the litigation environment is a complex system, thus predicting the effects of change is difficult. Although I believe my proposed trial structure would be superior to existing proof ordering approaches, adopting it wholesale, and without further study, could create a significant risk of harm to litigants. Conversely, however, maintaining the current system may be harming litigants to an even greater extent. Although it may seem that our current trial structure has stood the test of time, we know little about how it compares to feasible alternatives, raising the possibility that it is far from optimal.³⁵ As a result, I propose conducting experiments in a small number of federal district courts, comparing my proposed procedure to the standard American method of ordering proof, to measure the difference in outcomes, assess their costs, and gauge acceptability to stakeholders.³⁶

I. EXISTING APPROACHES TO ORDERING PROOF

In this section, I survey the dominant existing approaches to ordering proof in public and private dispute-resolution systems. There are two major approaches: (1) the adversarial model, in which parties are given alternating opportunities to present proof, with a great deal of freedom regarding internal structure; and (2) the discretionary model, in which judges or other presiding officials consider the evidence in their desired order. After detailing the standard approaches, I will review existing critical perspectives on the advantages and disadvantages of each.

A. *The Adversarial Model*

The adversarial model is the dominant approach taken in American courts of law and other common-law jurisdictions.³⁷ This

32. *See id.*

33. *See discussion infra* Part IV.

34. *See id.*

35. *See id.*

36. *See id.*

37. *See Rogelio A. Lasso, Gladiators Be Gone: The New Disclosure Rules Compel a Reexamination of the Adversary Process*, 36 B.C. L. REV. 479, 504 (1995) (“The

approach has several key features. First, the parties are given primary control over the ordering of evidence, with a few rare exceptions.³⁸ Second, the parties present their cases in alternating blocks of time, with only limited opportunities to shape the flow of information during opponents' cases-in-chief.³⁹ Third, the order of these blocks of evidence is kept to a traditional standard, so that prosecutors and plaintiffs are given both the first and last word in court.⁴⁰

Adversarial systems generally recognize the power of each party to order their witnesses and questions, within broad limits.⁴¹ The Federal Rules of Evidence, for instance, give judges the power to exercise "control over the mode and order of examining witnesses and presenting evidence,"⁴² but, in practice, judges rarely override parties' decisions in these matters.⁴³ For the most part, plaintiffs, prosecutors and defendants are given discretion to structure their own cases-in-chief.⁴⁴ Courts usually only sustain objections to party's ordering choices if the witness order will be confusing, or if one witness is needed to lay foundation for another witness's testimony.⁴⁵ But if the parties tell a story that is coherent, tactical choices about witness and question ordering are subject to minimal oversight.⁴⁶

Similarly, once one party has ordered their proof, opponents are given few opportunities to override those choices. The most powerful exception to this principle is cross-examination, but this only allows opponents to question witnesses in the order they are called.⁴⁷ Moreover, questioning is narrowly confined by the rule limiting

adversary model is the primary model of dispute resolution in our Anglo-American legal system.").

38. 3 MUELLER & KIRKPATRICK, FEDERAL EVIDENCE § 6:61 & n.1 (4th ed. 2014) (stating the general rule for ordering proof and collecting Circuit Court cases); see also *Stone v. Peacock*, 968 F.2d 1163, 1167 (11th Cir. 1992) (affirming a trial court's decision to require the plaintiff to testify as the first witness "so that some chronology would be laid out at the beginning of the case").

39. *Id.* at § 6:61.

40. *Id.*; THIBAUT & WALKER, *supra* note 3, at 54.

41. See MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61 (explaining the general framework "almost universally follow[ed]" by American courts).

42. FED. R. EVID. 611 (2014).

43. See MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61.

44. *Id.*

45. *Id.*

46. See *id.* (explaining that judicial departures are rare).

47. See *id.* (explaining that cross-examination by the adverse party follows direct examination by the calling party).

cross-examination within “the scope of direct examination,”⁴⁸ so parties that wish to open new lines of inquiry must wait until their own cases-in-chief. Judges grant exceptions to this rule only in rare circumstances, such as when recall significantly inconvenienced a witness.⁴⁹ Thus, the only intervention opponents may make to a parties’ ordering of proof is to ensure that witnesses testify fully to the matters that the party who called them wishes to explore at that time.

Finally, although the rules leave these matters to judicial discretion, courts usually insist that parties present their opening statements, cases-in-chief, rebuttal cases, and closing arguments in a strict, traditionally-established order.⁵⁰ This ordering is not mandated,⁵¹ or even codified, but it is followed “almost universally” across American jurisdictions,⁵² as well as in other common-law countries.⁵³ Cases begin with an opening statement by the plaintiff or prosecutor, followed by a counter-statement by the defendant.⁵⁴ Next, the plaintiff or prosecutor puts on their case-in-chief.⁵⁵ Once the party with the burden of proof rests, then the defense may call witnesses.⁵⁶ Finally, the case concludes with closing arguments, with the plaintiff or prosecutor speaking first, followed by the defendant, and closing with a rebuttal argument from the plaintiff or

48. FED. R. EVID. 611(b) (2014).

49. MUELLER & KIRKPATRICK, *supra* note 38, at § 6:70; *see also* Lis v. Robert Packer Hosp., 579 F.2d 819, 822-23 (3d Cir. 1978) (cautioning a trial court against allowing cross beyond the scope of direct as a matter of routine practice, but approving a specific decision to allow a party to go beyond the scope of direct with the opposing party’s expert witness, given the need to “accommodate[]the schedules of expert witnesses”).

50. *See* MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61 (explaining the traditional order); *see also* FED. R. EVID. 611(a) (“The court should exercise reasonable control over the mode and order of examining witnesses and presenting evidence . . .”).

51. In federal law, the only aspect that the rules prescribe is the ordering of closing arguments in criminal cases. *See* FED. R. CRIM. P. 29.1 (2015); *see also* UNIF. RULES OF EVIDENCE ACT 611 (NAT’L CONFERENCE OF COMM’RS ON UNIF. STATE LAWS 2005) (similarly declining to mandate or suggest any order of proof).

52. MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61.

53. *See Civil and Criminal Cases*, GOV’T OF CAN.: DEP’T OF JUST. (May 7, 2015), <http://www.justice.gc.ca/eng/csj-sjc/just/08.html>; *What Happens in Criminal and Civil Trials*, SUP. CT. OF W. AUSTL. (July 19, 2012), http://www.supremecourt.wa.gov.au/W/what_happens_in_criminal_and_civil_trials.aspx?uid=2041-5749-1000-2328.

54. MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61.

55. *Id.*

56. *Id.*

prosecutor⁵⁷ Thus, the adversarial model, in practice, allows the party with the burden of proof to have the first word in the case, the opportunity to present all their witnesses before the defense, and the last opportunity to present arguments to the jury.⁵⁸

B. *The Discretionary Model*

The major alternative to the adversary mode of proof ordering is what I term the discretionary model. This approach is seen in most civil-law jurisdictions, as well as in administrative and private fact-finding institutions.⁵⁹ In systems that follow this approach, a single individual is given the power to arrange the evidence.⁶⁰ Discretionary model systems diverge from the adversary model's approach of grouping party evidence into blocks of time and waiting to consider the counter-evidence.⁶¹ Instead, proof is organized thematically, in a way that makes the process of fact-finding easier.⁶² Despite this flexibility, however, discretionary model systems often engrave certain orderings as default rules.⁶³

57. *Id.*

58. *Id.*

59. See, e.g., Dori Meinert, *How to Conduct a Workplace Investigation*, 59 HUM. RESOURCES MAG. 5 (quoting Natalie Ivey, an authority on the conduct of internal workplace investigations, as recommending a flexible sequence of internal interviews to balance the "risk of feeding the rumor mill" against the informational "reward" of the interview itself); *Code of Procedure 9235: Hearing Officer Authority*, NASDAQ STOCK MKT. (Jan. 13, 2006), http://nasdaq.cchwallstreet.com/NASDAQTools/PlatformViewer.asp?selectednode=chp_1_1_5_2&manual=%2Fnasdaq%2Fmain%2Fnasdaq-equityrules%2F (giving the Hearing Officer the authority to "regulat[e] the course of the hearing").

60. See, e.g., John H. Langbein, *The German Advantage in Civil Procedure*, 52 U. CHI. L. REV. 823, 826 (1985) [hereinafter Langbein, *The German Advantage*] (explaining that, in Germany, "the court rather than the parties' lawyers takes the main responsibility for gathering and sifting evidence").

61. Cf. MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61 (explaining the standard adversarial model approach of presenting evidence).

62. See Langbein, *The German Advantage*, *supra* note 60, at 830 (stating that the advantage of the German civil procedure system is that it "functions without the sequence rules to which we are accustomed in the Anglo-American procedural world").

63. See, e.g., U.S. EQUAL EMP. OPPORTUNITY COMM'N, HANDBOOK FOR ADMINISTRATIVE JUDGES CH. 7, PART III.E (July 1, 2002) [hereinafter EEOC], <http://www.eeoc.gov/federal/ajhandbook.cfm#hearing> (stating that, despite the discretion given to Administrative Law Judges, "[t]he presentation of evidence at the hearing generally follows the same sequence as a trial in a civil action").

An illustration of the discretionary model can be found in German civil procedure.⁶⁴ In Germany, litigation begins with a plaintiff's complaint, followed by the defendant's answer.⁶⁵ Then, in lieu of discovery and motion practice, the presiding judge and fact-finder searches for evidence to expeditiously resolve the case.⁶⁶ This may involve reviewing documentary materials submitted by the parties, interviewing witnesses that the parties nominate on the record, interviewing additional witnesses *sua sponte*, or appointing and consulting with an expert advisor.⁶⁷

A key feature of this process, which blends together fact investigation, discovery, and trial on the merits into a unitary "series of hearings," is judicial control over the order in which proof will be considered.⁶⁸ Contrary to the adversary approach, "[t]here is no rule requiring all of plaintiff's witnesses to be heard before the defendant's witnesses."⁶⁹ Instead, the German civil judge consults legal authorities, documents, witnesses, and experts in a search for a swift but accurate determination of the case.⁷⁰ Thus, if a strong affirmative defense has been raised, the court might consult all of the affirmative defense witnesses before addressing whether the plaintiff met the burden of persuasion on the elements of her claim.⁷¹ And, since lawyers in the German system do not typically consult with non-party witnesses outside the courtroom, any distinction between "plaintiff's witnesses" and "defense witnesses" might not be apparent until after the close of the case.⁷²

German civil courts are not unique in giving the fact-finder control over the ordering of proof. Rather, the discretionary model is the dominant approach for resolving criminal matters in civil-law jurisdictions, and it is increasingly common in civil-law civil procedure as well.⁷³ Indeed, beyond the narrow world of courts, we

64. See Langbein, *The German Advantage*, *supra* note 60, at 826-830.

65. *Id.* at 827.

66. *Id.* at 830.

67. See *id.* at 828-29.

68. *Id.* at 826.

69. Hein Kötz, *Civil Justice Systems in Europe and the United States*, 1 DUKE J. COMP. & INT'L L. 61, 68 (2009).

70. Langbein, *The German Advantage*, *supra* note 60, at 830.

71. See *id.* at 831.

72. See, e.g., Ronald Allen, *Idealization and Caricature in Comparative Scholarship*, 82 NW. U. L. REV. 785, 788 (1988) [hereinafter Allen, *Idealization and Caricature*] (quoting one German litigator's account regarding frequency of contact with non-party witnesses, who explained that such contact is "not typical," but also "not extraordinarily rare").

73. See, e.g., J. MERRYMAN ET AL., *THE CIVIL LAW TRADITION: EUROPE, LATIN AMERICAN, AND EAST ASIA* 1014-16 (1994) (quoting JOHN HENRY MERRYMAN, *THE*

find the discretionary approach in many American dispute resolution fora. For example, many administrative agencies give fact-finders full discretion in conducting hearings in whatever way they find convenient.⁷⁴ Likewise, when Congressional Committees or Presidential Commissions engage in factual investigations, they do not view themselves as bound to give the parties under investigation the power to structure the order of proof.⁷⁵ Finally, private organizations that need internal dispute-resolution processes give an internal officer discretion regarding the mode and order of proof.⁷⁶ Indeed, in surveying the larger universe of dispute resolution, the American adversary mode may be the exception, rather than the rule.

We must be cautious, however, because a formal discretionary process can sometimes hide an unofficial structured practice. A closer look may reveal practices that are either adversarial in structure, or a hybrid between the two models.⁷⁷ Thus, even though many American administrative law judges have full discretion over the ordering of proof as a formal matter,⁷⁸ it is quite common for ALJs to mimic many aspects of the formal trial process when

CIVIL LAW TRADITION: AN INTRODUCTION TO THE LEGAL SYSTEMS OF WESTERN EUROPE AND LATIN AMERICA 11-23 (2d ed. 1985)) (describing the traditional civil-law civil procedure system, in which an examining judge prepares a written summary of evidence to transmit to the deciding judge, and the modern trend towards the German model, in which the same judge gathers the evidence and decides the case); *id.* at 1068 (quoting Rudolf B. Schlesinger, *Comparing Criminal Procedure: A Plea for Utilizing Foreign Experience*, 26 BUFF. L. REV. 361, 364-72 (1977)) (describing a typical civil-law criminal trial procedure, in which the presiding justice controls witness ordering).

74. *See, e.g.*, 20 C.F.R. § 405.320(b) (2015) (providing that administrative law judges in Social Security disability hearings “will decide the order in which the evidence will be presented”); *id.* § 725.455(c) (providing that the “order in which allegations and evidence shall be presented shall be within the discretion of the administrative law judge” in hearings to determine entitlement to benefits under the Federal Coal Mine Health and Safety Act of 1969). *But cf.* EEOC, *supra* note 63 (stating that “[t]he presentation of evidence at the hearing generally follows the same sequence as a trial in a civil action” in hearings before the Commission’s Administrative Judges).

75. *See* THIBAUT & WALKER, *supra* note 3, at 26.

76. *See supra* text accompanying note 60.

77. *See, e.g.*, John H. Langbein & Lloyd L. Weinreb, *Continental Criminal Procedure: “Myth” and Reality*, 87 YALE L.J. 1549, 1553 (1978) (examining the structure of continental criminal proceedings that constitute a hybrid of discretion and formal structure).

78. *See, e.g.*, 20 C.F.R. § 405.320(b) (2015) (providing such discretion to Social Security Administration ALJs).

managing hearings, including the notion that opposing parties should present their own cases in separate blocks of time.⁷⁹ Another hybrid approach can be found in continental criminal courts, in which judges typically review an investigative dossier summarizing the government's evidence against an accused before holding any hearings.⁸⁰ When the trial begins, most judges call the defendant first, before proceeding into a more free-form exploration of the case where the order of pro-prosecution and pro-defense witnesses might intermingle.⁸¹ At the conclusion of the case, the prosecutor makes a closing argument, then the defense gets the last word.⁸² Both approaches, therefore, blend fact-finder discretion with a semi-formal ordering of proof, but they differ on whether it is advantageous to structure opposing cases into continuous blocks of time.

C. Critical Perspectives on Comparative Efficacy

Compared to literature on admissibility or weight, the attention devoted to ordering proof is minimal. Still, scholars have attempted to evaluate the advantages and disadvantages of adversarial and inquisitorial systems, illuminating some of the issues at stake when choosing among adversarial, discretionary, or hybrid proof ordering approaches. Existing scholarship focused on three related issues. First, John Langbein argued that the inquisitorial system produces lower discovery costs by splitting off potentially-dispositive issues for early investigation,⁸³ spawning literature on the comparative cost effectiveness of the two systems.⁸⁴ Second, Mirjan Damaska and

79. See, e.g., Morrell E. Mullins, *Manual for Administrative Law Judges*, 23 J. NAT'L ASS'N ADMIN. L. JUDGES i, 72, 84 (2004) (suggesting that, in simple cases in which parties are represented by counsel, ALJs should allow attorneys to make opening statements, should give the party with the burden of making an "affirmative" case the opportunity to go first, and should mostly defer to the advocates to conduct questioning of witnesses).

80. Langbein & Weinreb, *supra* note 77, at 1553.

81. See Damaska, *supra* note 17, at 525, 528-29.

82. See English et al., *supra* note 3, at 706.

83. See Langbein, *The German Advantage*, *supra* note 60, at 830-32.

84. See Allen, *Idealization and Caricature*, *supra* note 72, at 785; Ronald J. Allen et al., *The German Advantage in Civil Procedure: A Plea for More Details and Fewer Generalities in Comparative Scholarship*, 82 NW. U. L. REV. 705, 706 (1988); Samuel R. Gross, *The American Advantage: The Value of Inefficient Litigation*, 85 MICH. L. REV. 734, 734 (1987); Kötz, *supra* note 69, at 63; John H. Langbein, *Trashing The German Advantage*, 82 NW. U. L. REV. 763, 763-64 (1988) [hereinafter Langbein, *Trashing*]; John C. Reitz, *Why We Probably Cannot Adopt the German Advantage in Civil Procedure*, 75 IOWA L. REV. 987, 987 (1990).

others investigated the possibility that inquisitorial justice increases confirmation bias of judges, leading to pro-prosecution bias akin to the adversary system.⁸⁵ Finally, other scholars have argued that litigants may experience adversary procedures as fairer, and more legitimate, than inquisitorial procedures.⁸⁶

Scholars have debated the merits of adversarial versus discretionary proof ordering in terms of litigation costs. John Langbein argued, based on a comparison between German and American civil procedure systems, that discretionary models have a hidden upside: permitting judges to decide cases on the merits before parties bear the full cost of discovery.⁸⁷ Unlike their adversary brethren, judges in a discretionary system can focus on aspects of the litigation for early development, deferring other matters until later.⁸⁸ Identifying dispositive sub-issues early on can avoid protracted fact-finding on other moot issues.⁸⁹ Adversarial systems, by contrast, require parties to investigate, disclose, and discover all aspects of the case before obtaining a trial on the merits.⁹⁰ Although

85. See, e.g., Damaska, *supra* note 17, at 544 (explain that, in continental trials, "the presiding judge is required to study the file of the case in advance of the trial," and that "this practice creates a danger of bias [that] varies from country to country").

86. See, e.g., Robert Folger & Jerald Greenberg, *Procedural Justice: An Interpretive Analysis of Personnel Systems*, in 3 RESEARCH IN PERSONNEL AND HUMAN RESOURCE MANAGEMENT 153 (K. Rowland & G. Ferris eds., 1985) (noting that "[g]reater satisfaction with the procedures, as well as with the resulting outcomes, is produced by process control-giving procedures"); THIBAUT & WALKER, *supra* note 3, at 74.

87. See Langbein, *The German Advantage*, *supra* note 60, at 830-32.

88. *Id.*

89. Conversely, the traditional downside of the "multiple meetings" model was delay in case processing. Dissatisfaction with the "fragmentation of the proof process" led to reforms in West Germany that concentrated proof-taking into a single session, thus (if we agree with Langbein's account) reducing the likelihood of cost-effective case resolution based on partial fact-finding relating to a single, dispositive sub-issue. See MERRYMAN ET AL., *supra* note 73, at 1033 (quoting William B. Fisch, *Recent Developments in West German Civil Procedure*, 6 HASTINGS INT'L & COMP. L. REV. 221, 279 (1983)).

90. Of course, this does not mean that most cases progress to trial on the merits; the modern American litigation system resolves the vast majority of civil and criminal cases in the pretrial phase, either by settlement, plea bargaining, or the granting of dispositive motions. See Marc Galanter, *The Vanishing Trial: An Examination of Trials and Related Matters in Federal and State Courts*, 1 J. EMPIRICAL LEGAL STUD. 459, 459-60 (2004). The facilitation of settlement is not an across-the-board advantage in favor of the efficiency of adversarial systems, however; some continental judges also work hard to facilitate civil settlements, and settlements resolve the majority of cases before the fact-finding process ends. See,

bifurcation of civil trials into sub-issues is allowed, it remains the exception rather than the rule in adversary courtrooms.⁹¹ Perhaps this does not need to be the case in every court system aligned with adversary proof ordering, but it seems to be a consistent pattern to date.

Others scholars have focused their attention, not on the costs of discovery, but on the connection between proof ordering and biased decision-making. Mirjan Damaska explored common law and continental criminal law systems, and expressed concern that inquisitorial fact-finders, exposed to a prosecutorial dossier before trial, may use the trial as a process of “verification of the [investigative] record” rather than as a “genuinely creative” search for the truth.⁹² Thus, the inquisitorial system may encourage judicial confirmation bias. Damaska worries, as have others,⁹³ that civil-law prosecutors will thereby find it easier to obtain convictions than their common-law counterparts.⁹⁴

The worry that an inquisitor might search for confirmation gained ground in an experiment conducted by John Thibaut, Laurens Walker, and Allan Lind.⁹⁵ The authors primed half of the student participants with “biasing cases” by exposing them to repeated examples of criminal wrongdoing.⁹⁶ Then, all of the student participants listened to a series of facts that were read by either a designated “neutral” investigator or a pair of partisan advocates.⁹⁷

e.g., Kötz, *supra* note 69, at 76 (comparing the German and American systems with respect to settlement facilitation).

91. See Steven S. Gensler, *Bifurcation Unbound*, 75 WASH. L. REV. 705, 709 (2000).

92. Damaska, *supra* note 17, at 544 (internal quotation marks omitted).

93. See, *e.g.*, Ralph Grunewald, *Comparing Injustices: Truth, Justice, and the System*, 77 ALB. L. REV. 1139, 1195-99 (2014) (“Tunnel vision as a psychological phenomenon can easily be perpetuated in a written verdict and on other levels of the justice system where belief perseverance or belief persistence play a strong role.”); Kent Roach, *Wrongful Convictions: Adversarial and Inquisitorial Themes*, 35 N.C. J. INT’L L. & COM. REG. 387, 401-02 (2010) (“[I]t could be argued that inquisitorial systems, which rely on the building of dossiers, may be particularly vulnerable to tunnel vision or confirmation bias because evidence that does not correspond with the investigator’s judgments can be discounted and excluded in the process of constructing the dossier.”).

94. Damaska, *supra* note 17, at 555-56.

95. THIBAUT & WALKER, *supra* note 3, at 41-53 (describing a study originally published by John Thibaut, Laurens Walker, & E. Allan Lind, *Adversary Presentation and Bias in Legal Decisionmaking*, 86 HARV. L. REV. 386, 386-401 (1972)).

96. *Id.* at 43-44.

97. *Id.* at 44.

When biased participants interacted with adversary advocates, they were more likely to resist giving greater weight to facts that were consistent with their bias, as compared with subjects in the inquisitorial condition.⁹⁸ The authors attributed this to reactance (a tendency to resist believing the prosecuting advocate because of aversion to overt persuasion) and a tendency of adversary presentation to make decision-makers conscious of bias.⁹⁹ Thus, although it is hard to say which system produces a more representative sampling, the distinction between adversarial and inquisitorial structuring may have an influence on bias during the fact-finding process.

Finally, scholars have argued a relationship between trial structures and the perceived fairness of the court system to litigants. Some argue adversary procedures feel more fair and legitimate to litigants because they offer greater opportunities for participation and voice.¹⁰⁰ Others have cast doubt on these conclusions, suggesting that judgments of fairness and legitimacy are culturally contingent, and thus people prefer what they are used to in their own society.¹⁰¹ Furthermore, Blair Sheppard has reported a series of experiments suggesting that, when modern continental procedures are described more carefully, including the opportunities they provide for lawyers to make arguments and ask questions, many American respondents find them preferable to “purely” adversarial or inquisitorial systems.¹⁰² Overall, although the evidence is mixed, American respondents appear to believe that the fairest approach allows parties to select their own attorneys, call whichever witnesses they like, and have their own attorneys conduct the primary questioning of witnesses.¹⁰³ Because these experiments focused on broad comparisons between adversary and inquisitorial systems, we can

98. *Id.* at 49-51.

99. *Id.*

100. See Folger & Greenberg, *supra* note 86, at 153; THIBAUT & WALKER, *supra* note 3, at 74. See generally Justin Sevier, *The Truth-Justice Tradeoff: Perceptions of Decisional Accuracy and Procedural Justice in Adversarial and Inquisitorial Legal Systems*, 20 PSYCHOL. PUB. POL'Y & L. 212, 213 (2013) (summarizing the literature).

101. Rebecca A. Anderson & Amy L. Otto, *Perceptions of Fairness in the Justice System: A Cross-Cultural Comparison*, 31 SOC. BEHAV. & PERSONALITY 557, 557-58 (2003).

102. Blair H. Sheppard, *Justice Is No Simple Matter: Case for Elaborating Our Model of Procedural Fairness*, 49 J. PERS. SOC. PSYCHOL. 953, 959-61 (1985) (reporting survey evidence showing that most American respondents preferred “hybrid” procedures in which judges had a great degree of process control, but litigants retained control over the presentation of facts and arguments).

103. See Sevier, *supra* note 100, at 213.

only speculate regarding the extent to which judgments would be influenced by shifts in ordering alone, absent other factors. Nevertheless, the studies suggest that American litigants may view the discretionary model as less fair than the currently adversarial model.

Thus, existing attempts to compare adversary and discretionary models focused on a few related questions: (1) which approach minimizes discovery costs; (2) which system exacerbates pre-existing bias in the fact-finder; and (3) which systems feel fairer or more legitimate to litigants. A crude and oversimplified synthesis of the literature reviewed in this section might come out as follows: All other things being equal, discretionary ordering should minimize discovery costs, while adversarial ordering may encourage fact-finders to question pre-existing decisional biases and produce heightened levels of litigant satisfaction—although this last suggestion is the most speculative. Next, we will consider a question that is rarely raised when discussing the comparative advantages of the two approaches: How do the differing approaches to proof ordering impact the validity and reliability of decisions by fact-finders?

II. THE PROBLEM OF PRIORITY: SELECTIVE MEMORY AND THE SEARCH FOR COHERENT INTERPRETATIONS OF THE EVIDENCE

As discussed above, existing trial structures fall into a spectrum, from rigidly adversarial modes of ordering proof through highly flexible discretionary models that give unfettered control to the fact-finder. We have also seen that perspectives on costs and benefits of each system vary widely.¹⁰⁴ In this section, I develop a theoretical account of the cognitive impacts of trial ordering. Unlike most prior work on this question, which involves experimental investigation of the impacts under highly artificial conditions, I aim to provide a more general account. Ideally, this account of proof ordering will: first, fit and explain the existing patterns of experimental results, and, second, enable us to make some predictions regarding effects of real-world trial structures.

Unfortunately, untangling the literature is challenging because, on the surface, many of the existing studies come to opposite conclusions.¹⁰⁵ One body of studies suggests that information presented first has a stronger influence on the fact-finder, known as

104. See *supra* text accompanying note 85.

105. See, e.g., WYER & CARLSON, *supra* note 10, at 158 (explaining the dichotomous theories of primacy and recency).

the primacy effect, while another body argues that the last thing a fact-finder hears has the strongest impact, known as the recency effect.¹⁰⁶ This might lead to the conclusion that information in the middle of the case is relatively neglected, and, indeed, that is what most lawyers learn.¹⁰⁷ Nevertheless, a review of the literature helps identify the contextual factors that lead either primacy or recency effects to dominate. In cases where remembering the evidence is challenging, and the fact-finder must render a swift decision, recency effects dominate.¹⁰⁸ But considering the format of most trials, where construing ambiguities becomes more challenging than remembering particular details, and the fact-finder has ample time to render a decision, primacy effects dominate over recency effects.¹⁰⁹ As a result, we should expect that whichever party gets the first opportunity to present arguments and proof will gain a substantial advantage.

A. Order and Memory

The earliest literature on the cognitive effects of informational ordering focused on the effects that ordering might have on remembering information. In these studies, the information presented to participants was abstract and unstructured, making the memory task difficult; for example, a common design asked subjects to listen to or read long lists of unrelated words and tested their ability to recall included words.¹¹⁰ Unlike studies discussed

106. *Id.*

107. See JENNIFER K. ROBBENOLT & JEAN R. STERNLIGHT, *PSYCHOLOGY FOR LAWYERS: UNDERSTANDING THE HUMAN FACTORS IN NEGOTIATION, LITIGATION, AND DECISION MAKING* 123 (2012) (“[I]nformation and arguments that are presented early or late in a presentation or writing can be more persuasive than are those that are buried in the middle.”).

108. See Kurt A. Carlson & J. Edward Russo, *Biased Interpretation of Evidence by Mock Jurors*, 7 *J. EXPERIMENTAL PSYCHOL.: APPLIED* 91, 98-99 (2001); Costabile & Klein, *supra* note 11, at 56; Jose H. Kerstholt & Janet L. Jackson, *Judicial Decision Making: Order of Evidence Presentation and Availability of Background Information*, 12 *APPLIED COGNITIVE PSYCHOL.* 445, 447, 449 (1998).

109. See Saul M. Kassin et al., *Juror Interpretations of Ambiguous Evidence: The Need for Cognition, Presentation Order, and Persuasion*, 14 *L. & HUMAN BEHAV.* 43, 46 (1990); Pennington, *supra* note 7, at 320, 330-32.

110. See, e.g., W.A. Bousfield et al., *Serial Position Effects and the “Marbe Effect” in the Free Recall of Meaningful Words*, 59 *J. GEN. PSYCHOL.* 255, 257 (1958) (“We arranged for each [subject] to recall words from one list of each of the four lengths of 5, 10, 20, and 40 items.”); Barbara M. Brooks, *Primacy and Recency in Primed Free Association and Associative Cued Recall*, 6 *PSYCHONOMIC BULL. & REV.* 479, 480-81 (1999) (describing the method of her experiment involving recall of “weakly related”

below, these experiments removed ambiguity and interpretation of the stimulus so that memory effects could be examined in isolation.

The key findings of these experiments can be summarized as follows: first, if the memory task is easy enough, order will not significantly influence recall ability.¹¹¹ Thus, if a participant was shown a list of five words, he would likely remember each with approximately equal probability.¹¹² But as the lists grew longer, order effects emerged.¹¹³ The classic pattern was a U-shaped recall curve, such as the following:¹¹⁴

word pairs); Fergus I. M. Craik, *The Fate of Primary Memory Items in Free Recall*, 9 J. VERBAL LEARNING & VERBAL BEHAV. 143, 144 (1970) (explaining that the method involved randomly selected lists of fifteen words each); Murray Glanzer & Anita R. Cunitz, *Two Storage Mechanisms in Free Recall*, 5 J. VERBAL LEARNING & VERBAL BEHAV. 351, 352-53, 356-57 (1966) (describing the method of word recall employed in both experiments); Bennet B. Murdock, *The Serial Position Effect of Free Recall*, 64 J. EXP. PSYCHOL. 482, 482 (1962) ("Six groups each had a different combination of [word] list length and presentation rate."); Michael J. Watkins & Olga C. Watkins, *Processing of Recency Items for Free Recall*, 102 J. EXP. PSYCHOL. 488, 490 (1974) (explaining the word recall method utilized).

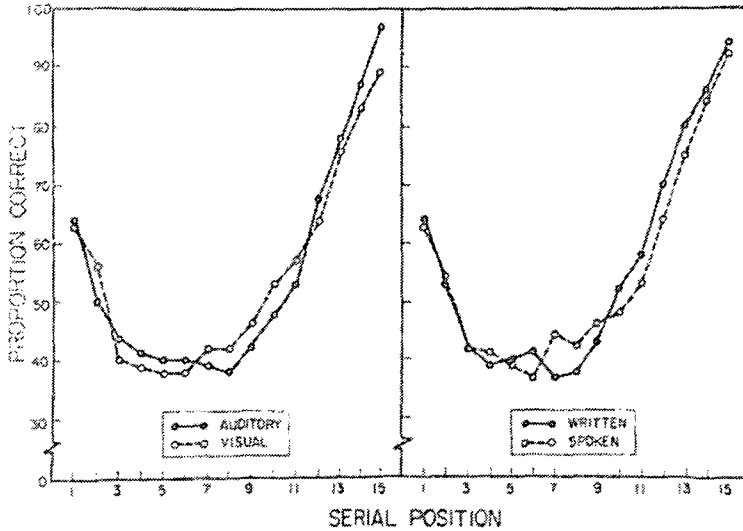
111. See Bousfield, *supra* note 110, at 258-59.

112. *Id.* at 259.

113. *Id.* ("Thus, while a trend is indicated for the 10- and 20-item lists, the measure is significant only for those of 40 items.")

114. Figure taken from Craik, *supra* note 110, at 145.

PRIMARY MEMORY AND FREE RECALL



In this figure, we see three things: first, words in the middle of the list were least the remembered; second, a primacy effect, where words at the beginning are remembered better than those in the middle, is evident; and third, the recency effect is strongest, where items at the end of the list were remembered more than ninety percent of the time, compared to sixty-five percent retrieval rate for primacy items, and forty percent rate for middle-of-the-list items.¹¹⁵

But things are more complicated than this simple picture makes them appear. The early studies shared one crucial feature: they all tested the ability of subjects to remember the words immediately after review.¹¹⁶ When researchers modified the studies by inserting brief ten or thirty second breaks between the end of presentation and the beginning of recall testing, the primacy effect remained, but the recency effect vanished, measuring roughly equivalent to middle-of-the-list words.¹¹⁷ Fergus Craik performed a similar experiment where, rather than a brief delay involving a managed distraction, he spaced the learning opportunities over several days and tested the

115. *Id.*

116. *See id.* at 257; Murdock, *supra* note 110, at 482.

117. Glanzer & Cunitz, *supra* note 110, at 357-59.

participants on the final day.¹¹⁸ Under those conditions, he observed a slightly negative recency effect.¹¹⁹ Words placed in the final position on each day were likely to be remembered less well than items in the middle position.¹²⁰ The primacy effect, however, was still present and positive, as seen in the figure below.¹²¹

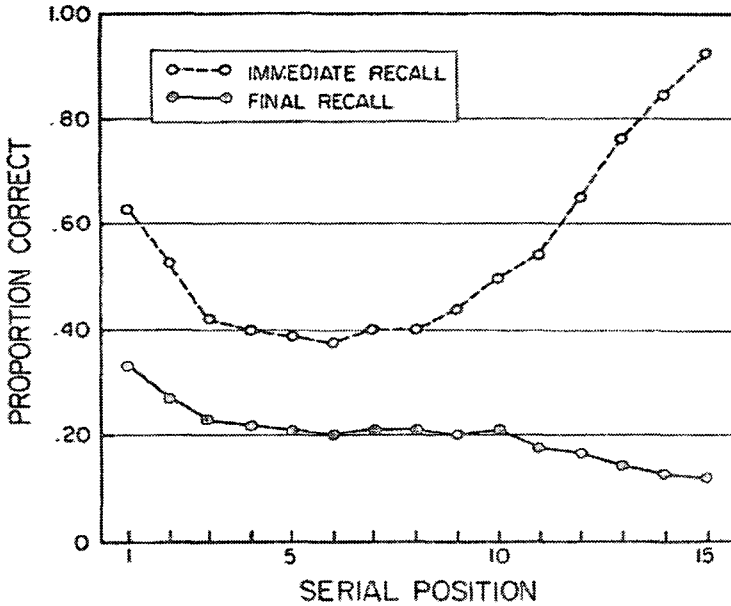


FIG. 2. Serial position curves for immediate and final recall.

What are we to make of these findings? Based on these results, psychologists have posited that we have two, very different, kinds of memory. The first, labeled short-term or working memory, helps us organize responses to immediate situations, but only has a small capacity.¹²² As a result, if new items capture our attention, they displace older items in our working memory, unless we make a

118. Craik, *supra* note 110, at 144.

119. *Id.* at 146.

120. *Id.*

121. Figure taken from Craik, *supra* note 110, at 145; *see also id.* at 144-46 (discussing his experimental methods and explaining the observations).

122. ALAN BADDELEY ET AL., *MEMORY* 12 (2009).

sustained, conscious effort to avoid distraction.¹²³ By contrast, long-term memory allows us to recognize familiar patterns and to recall past events, sometimes years after the initial stimulus, despite intervening distractions.¹²⁴ Not all stimuli that capture our temporary attention become stored within the long-term system, and that system is also capable of forgetting things initially retained.¹²⁵

This two-system model of memory helps us explain the inconsistent primacy and recency findings. Building on the distinctions between the two systems, psychologists have posited that immediate testing recalls recently learned items best because they are being actively held in working memory.¹²⁶ But as soon as new thoughts or events displace those items in working memory, the effect vanishes.¹²⁷ Words placed early in the list, by contrast, are more likely to be retained in long-term memory.¹²⁸ Consequently, they are likely to be recalled in immediate testing, even though they have been displaced from working memory, and that ability to recall will persist after distraction or delay.

There is, however, one situation that requires a different explanation. Long-term memory studies indicate that when we must remember similar items of information over a long period of time, recent memories are more reliable than older ones; for example, people have more accurate memories regarding where they parked their car yesterday than where they parked it last month,¹²⁹ and professional rugby players recall which teams they played in recent games better than in older games.¹³⁰ These situations are different because they involve memory of similar facts spread over long stretches of time.¹³¹ In such scenarios, newer information can

123. See Alan Baddeley, *Working Memory: Theories, Models, and Controversies*, 63 ANN. REV. PSYCHOL. 1, 4-11 (2012) (providing an overview of the concept of working memory).

124. See BADDELEY, *supra* note 122, at 13.

125. See *id.* (providing an overview of long-term memory).

126. See Glanzer & Cunitz, *supra* note 110, at 351-52, 358.

127. *Id.* at 356.

128. *Id.* at 355-56 ("The presence of a regular ordering of the spacing conditions up to and including the 15th position suggests that the items are still being recruited for long-term storage . . .").

129. See Amancio da Costa Pinto & Alan D. Baddeley, *Where Did You Park Your Car? Analysis of a Naturalistic Long-Term Recency Effect*, 3 EUR. J. COG. PSYCHOL. 297, 309-11 (1991).

130. See Alan Baddeley & Graham Hitch, *Recency Re-Examined in Attention and Performance: Proceedings of the Sixth International Symposium on Attention and Performance* 647-67 (Stanislav Dornič ed., 1977).

131. Pinto & Baddeley, *supra* note 129, at 309-311.

displace older information once our need to retain the older information goes away.¹³²

Looking closely at these studies helps generalize their findings in a responsible way. Seeing the conflicting results, it would be foolish to generalize the immediate testing results towards all possible circumstances. Drawing on an explanatory theory that is consistent with those experimental results, however, could make it applicable to new circumstances encountered in litigation. Thus, to make it easier to develop an overall theory of order effects, I suggest the following maxims as useful generalizations from the memory research:

Maxim 1: Primacy and recency effects are more likely to arise when encountering a large volume of difficult to recall stimuli.

Maxim 2: When memory becomes a constraint, primacy effects arise regardless of whether the information must be recalled immediately or after intervening distractions.

Maxim 3: When memory is a constraint, strong recency effects may arise if decisions must be rendered immediately following the presentation of the last items of evidence. Conversely, if a decision-maker encounters many similar cases over a long stretch of time, memory of the recent cases will be stronger than memory of the older cases. In other situations, we should not expect recency effects to arise.

Keeping in mind that these maxims represent general tendencies rather than universal truths, and that these factors may be overcome by other considerations, I believe we may draw on them when analyzing particular fact-finding systems.

B. Order, Coherence, and Ambiguity

Although the memory effects reviewed in the preceding section are one way that the order of proof may affect trial outcomes, it is not the only mechanism. Next, we will focus on the ways that ordering proof might impact how fact-finders resolve ambiguities in legal proof. In most trials, there is some evidence that supports both sides.¹³³ To resolve the case in favor of one party, then, the fact-

132. *Id.*

133. Both economic theory and anecdotal reports from trial attorneys suggest that parties settle or plea bargain cases where the outcome is sufficiently clear, causing the subset of tried cases to involve a systematically higher level of factual and legal ambiguity. See Samuel R. Gross & Kent D. Syverud, *Getting to No: A Study*

finder must weigh individual items of evidence, and combine them to arrive at a final judgment. As we shall see, the order of proof may influence this process as well.

Because there is conflicting data in this area, another explanatory theory is needed to apply these experimental results to the trial process. When a fact-finder considers evidence in relative isolation, and constantly adjusts an internal barometer favoring one or the other party, the last items of evidence are given more weight than if they had been heard earlier in the case.¹³⁴ By contrast, when a fact-finder attempts to reserve judgment until after the proof has been presented, and when the parties construct competing narratives that explain the particular evidence items, then the earlier proof and arguments are given more weight.¹³⁵

In early order effect studies that accounted for special problems of weighing evidence and resolving ambiguity, recency effects predominated.¹³⁶ In one influential study, for example, Thibaut and Walker varied the order of proof, sometimes starting with the strongest prosecution evidence and finishing with the strongest defense evidence, sometimes reversing that order, and sometimes clustering the most powerful evidence in the middle.¹³⁷ The authors measured a powerful effect of this ordering, summarized as: the party who went last obtained a substantial advantage, especially when they saved their strongest evidence for the end.¹³⁸

of Settlement Negotiations and the Selection of Cases for Trial, 90 MICH. L. REV. 319, 323-24 (1992); George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 16-17 (1984).

134. See, e.g., THIBAUT & WALKER, *supra* note 3, at 62-63 ("It is this posture of the legal decision maker, entailing a suspension of commitment and a heightened receptivity to the subsequent presentation, that promotes the recency effects favoring the side going second."). The authors go on to indicate that "when strong evidence is presented late in the argument (as in the climax order) it carries greater weight than when it is presented early (as in the anticlimax order)." *Id.* at 63.

135. See Kerstholt & Jackson, *supra* note 108, at 449-50 (explaining that when jurors waited until the end of the case to evaluate guilt, the "primacy effect was found when no background information was presented").

136. See, e.g., THIBAUT & WALKER, *supra* note 3, at 61 (indicating that, according to their study, "in the legal setting recency effects are pervasive").

137. See THIBAUT & WALKER, *supra* note 3, at 54-57 (describing the method of the study).

138. In the prosecutor first (strong to weak), defense second (weak to strong) condition, participants judged the conduct as a 6.77 on a 1-10 scale, with higher values indicating judgments of lawful conduct. *Id.* at 58. When the ordering was reversed, participants viewed the conduct as much more unlawful, rating it only 3.5 on the same scale. *Id.*

But things are not as simple as this example suggests, because a number of cognitive factors combine to produce order effects, and the particular design of studies makes a difference.¹³⁹ When memory provides a significant limitation on a participant's ability to decide, memory effects may dominate any effects attributable to the impact of order on the interpretation of ambiguous evidence.¹⁴⁰ The Thibaut and Walker study provides a good example of this: the "evidence" presented was a list of isolated facts read to the participants, without narrative or summation, and such conditions strain recall.¹⁴¹ Because testing occurred immediately following the presentation of the evidence, a recency effect naturally occurred, as expected based on the memory studies summarized above.¹⁴² Subsequent studies presented more naturalistic witness testimony, via transcript or video, thereby simulating the demands of recall in a real trial.¹⁴³ One study also paused between the evidence and the verdicts for a judicial "summing up" of the evidence, based on English criminal practice.¹⁴⁴ As seen in the memory studies, when there was a break between presentation and verdict testing, primacy effects dominate.¹⁴⁵ Unfortunately, this feature of the study design does not appear to have been replicated in subsequent experiments, or explored in much depth to date.

Another confounding aspect of the study design involves how participants provide their "verdicts." In the Thibaut and Walker study, participants continuously rated the defendant's behavior as either lawful or unlawful throughout the case.¹⁴⁶ In typical trials, however, judges and juries are encouraged to approach the

139. See, e.g., Pennington, *supra* note 7, at 319-21 (criticizing Thibaut and Walker for their failure to "adequately characterize[] and simulate[] courtroom proceedings").

140. See discussion *supra* Part II.B.

141. See THIBAUT & WALKER, *supra* note 3, at 55-57, 128-34.

142. One subsequent study measured a recency bias arising from the ordering of evidence, and also measured subjects' memory for particular evidence items. See Costabile & Klein, *supra* note 11, at, 56-57. The authors noted that most (but not all) of the measured recency effect disappeared once they employed a statistical model that controlled for variations in memory. *Id.*

143. See Costabile & Klein, *supra* note 11, at 48-55; Raluca Enescu & Andre Kuhn, *Serial Effects of Evidence on Legal Decision-Making*, 4 EUR. J. PSYCHOL. APPLIED TO LEGAL CONTEXT 99, 103-04 (2012); Adrian Furnham, *The Robustness of the Recency Effect: Studies Using Legal Evidence*, 113 J. GEN. PSYCHOL. 351, 353 (1986); Kassin et al., *supra* note 109, at 46; Kerstholt & Jackson, *supra* note 108, at 448; Pennington, *supra* note 7, at 320-21.

144. Pennington, *supra* note 7, at 320.

145. See *id.* at 330.

146. See THIBAUT & WALKER, *supra* note 3, at 57.

testimony of each new witness with a fresh and open mind, and to wait until the end of the proceedings to render a decision.¹⁴⁷

A subsequent study by Kerstholt and Jackson specifically compared "step-by-step" evaluations of guilt, as in the Thibaut and Walker study, with "end-of-sequence" evaluations, which most judicial systems desire.¹⁴⁸ They found that recency effects dominate when subjects continuously evaluated guilt over the life of a case, but this effect did not persist when evaluation was reserved for the end.¹⁴⁹ Rather, they observed an interesting, two-fold pattern in their results.¹⁵⁰ When extra-judicial information was given to the jurors before hearing actual evidence, which supported an inference of guilt by suggesting a motive, presenting evidence of innocence at the end carried more weight than presenting it at the beginning of the evidence phase.¹⁵¹ But, when participants were not given extra-judicial information prior to the presentation of evidence, evidence of innocence had the strongest effect when placed first in the ordering, rather than last.¹⁵² This is not the only study to find a dominating primacy effect with end-of-sequence evaluation; Donald Pennington performed a similar experiment in the early 1980s and observed that placing evidence favoring a party earlier in the trial gave it a stronger impact than if it came toward the end.¹⁵³

Taken together, these two experiments indicate that, at least in the typical American bench or jury trial, primacy effects dominate because judges and juries refrain from making explicit judgments regarding guilt or innocence until all the evidence has been presented.¹⁵⁴ This interpretation must be approached with caution, however, as some studies have still observed that the recency effects outweighed primacy effects in end-of-sequence evaluations.¹⁵⁵ The

147. See, e.g., PATTERN CRIMINAL JURY INSTRUCTIONS OF THE SEVENTH CIRCUIT 10.11 (Comm. on Fed. Criminal Jury Instructions of the Seventh Circuit 2012) (including a preliminary admonition that jurors should "not make up . . . [their] mind[s] about what . . . [their] verdict should be until after the trial is over").

148. Kerstholt & Jackson, *supra* note 108, at 447; see also PATTERN JURY INSTRUCTIONS, *supra* note 147, at 10.11.

149. Kerstholt & Jackson, *supra* note 108, at 449-52.

150. *Id.* at 451-52.

151. *Id.* at 447, 451-52.

152. *Id.* at 451-52.

153. Pennington, *supra* note 7, at 330-32.

154. See PATTERN JURY INSTRUCTIONS, *supra* note 147, at 10.11 (instructing jurors to reserve judgment until the end of trial).

155. See Carlson & Russo, *supra* note 108, at 98-99; Costabile & Klein, *supra* note 11, at 56.

table below summarizes the most relevant studies from this conflicted literature:¹⁵⁶

Study (Identified by author and publication date)	Mode of Information	Immediate Evaluation, or Evaluation After a Pause?	Step-by-Step (SBS) or End-of-Sequence (EOS) Ratings?	Finding
Thibaut & Walker 1975	Individual sentences containing case facts, not from particular witnesses	Immediate	SBS	Recency dominates
Pennington 1982	Opening statements, witness testimony, with cross-exam, followed by final judicial summation	Pause due to judicial summation of evidence	EOS	Primacy dominates
Kassin et al. 1990	One-sided argument, followed by confession video, followed by opposing one-sided argument	Immediate evaluation	EOS	Primacy dominates for participants with a high need for cognition; recency dominates for other participants
Kerstholt & Jackson 1998	Witness statements,	Apparently immediate	Both SBS & EOS	SBS: Recency

156. Carlson & Russo, *supra* note 108, at 98-99; Costabile & Klein, *supra* note 11, at 56; Enescu & Kuhn, *supra* note 143, at 108, 111; Kassin et al., *supra* note 109, at 46, 48-50; Kerstholt & Jackson, *supra* note 108, at 447, 449; Pennington, *supra* note 7, at 320, 330-32; THIBAUT & WALKER, *supra* note 3, at 58.

Study (Identified by author and publication date)	Mode of Information	Immediate Evaluation, or Evaluation After a Pause?	Step-by-Step (SBS) or End-of-Sequence (EOS) Ratings?	Finding
	without cross-exam			dominates; EOS: Primacy dominates
Carlson & Russo 2001	Detailed background information and opening statements, followed by witness affidavits	Immediate	EOS	Recency dominates
Costabile & Klein 2005	Witness testimony, with cross-exam	Immediate	EOS	Recency dominates
Enescu & Kuhn 2012	Dossier of charges, then witness testimony, then the defendant's statement	Apparently immediate	EOS	<i>Internal</i> recency effect dominates (beginning and end always the same)

What are we to make of this? First, these variable effects should indicate that order effects are sensitive to a specific procedural context. Shifting from step-by-step to end-of-sequence evaluation makes a difference, as the step-by-step studies consistently show recency effects, while the end-of-sequence studies show mixed effects. But more importantly, these studies, especially those involving immediate evaluation, indicate that something other than memory mediates order effects in the trial context, because if memory controlled, one would not expect to observe primacy effects dominating for any immediate evaluation task involving a large volume of information.

So, other than memory, what cognitive process might produce order effects? The tendency of jurors to engage in a biased assimilation of evidence, based on initial leanings derived from

information acquired early in the case might be a culprit. This tendency, best known as “confirmation bias,” invokes one-sided thinking to confirm initial leanings or theories.¹⁵⁷ More recently, theorists such as Dan Simon have labeled the same phenomenon “coherence-based reasoning,” because it produces an artificial mental coherence by minimizing the retention of contradictory ideas or opinions.¹⁵⁸ Still others, such as Keith Stanovich, refer to the same phenomenon as “focal bias,” invoking the metaphor of a lens that subtly shifts our attention, impressions, and choices, molding them into a pattern consistent with what we already know or believe.¹⁵⁹

Because such labels can become too abstract to be useful, before I elaborate on how such processes give rise to order effects, I will give a few helpful examples of situations where confirmatory thinking has been observed. Peter Wason conducted one early experiment where he gave participants a triplet of numbers, “2, 4, 6,” and asked them to determine what rule had produced the triplet.¹⁶⁰ To discover the right rule, participants were allowed to generate new triplets of numbers and ask whether those triplets followed the appropriate rule.¹⁶¹ The correct rule was, “any three numbers of increasing magnitude.”¹⁶²

Wason noted two tendencies that made it harder for participants to figure out the rule.¹⁶³ First, some of the participants displayed a stubborn tendency; once they guessed incorrectly, they continued to maintain that it must be correct.¹⁶⁴ As a result, these participants found different ways to reword the same rule, continually trying to prove that their initial assumption was valid, despite contrary evidence.¹⁶⁵ Second, many of the participants, once they had a rule in mind, seemed averse to generating examples to test inconsistent theories.¹⁶⁶ Thus, a subject who proposed the rule “numbers

157. See generally Nickerson, *supra* note 9, at 175 (defining confirmation bias).

158. See generally Dan Simon, *Cognitive Coherence in Legal Decision Making: A Third View of the Black Box*, 71 U. CHI. L. REV. 511, 512-13 (2004) (explaining “an emerging body of research called *coherence-based reasoning* . . . [which] posits that the mind shuns cognitively complex and difficult decision tasks by reconstructing them into easy ones, yielding strong, confident conclusions”).

159. See KEITH STANOVICH, *RATIONALITY AND THE REFLECTIVE MIND* 113-15 (2011) (explain the rationale for focal bias).

160. See P.C. Wason, *On the Failure to Eliminate Hypotheses in a Conceptual Task*, 12 Q.J. EXPERIMENTAL PSYCHOL. 129, 130 (1960).

161. *Id.*

162. *Id.*

163. *Id.* at 134-36.

164. *Id.* at 134.

165. *Id.*

166. *Id.* at 136.

increasing by 2," continued coming up with examples of that rule, even after being told that their hypothesized rule was wrong.¹⁶⁷ Wason suggested that this showed that even intelligent people find it hard to question their existing beliefs.¹⁶⁸

Solomon Asch conducted another classic confirmation bias experiment, in which participants were given descriptions of hypothetical individuals and asked to give their own descriptions of that person.¹⁶⁹ Asch varied the order of the list, but kept the information identical, and observed a striking result: People who read lists that began with positive qualities viewed the hypothetical person favorably, even when they learned negative traits later, while people who read the same traits in the reverse order formed the opposite impression.¹⁷⁰ A similar tendency persists when people evaluate real individuals or products; for example:

- When participants evaluated children's reading competency based on observing a child's performance on a reading test, participants who were told that the child came from a privileged background rated the performance as above average, while those who learned the child came from a disadvantaged background believed it was below average, even though they observed the same performance.¹⁷¹
- Students given a personality sketch, and then asked to determine whether a particular individual matched that personality type, asked questions that suggested a positive answer, rather than testing whether the person matched.¹⁷²
- Two students groups were told that a guest lecturer was coming, and each group was given a different, brief description of the lecturer's demeanor, then asked to observe the lecture.¹⁷³ Both groups' behavior toward the lecturer, and subsequent evaluations of his performance, were strongly influenced by the brief initial descriptions, which indicated that he was either a "warm" or a "cold" person, even though

167. *Id.*

168. *Id.* at 139.

169. Asch, *supra* note 8, at 260.

170. *Id.* at 271-72.

171. John M. Darley & Paget H. Gross, *A Hypothesis-Confirming Bias in Labeling Effects*, 44 J. PERSONALITY & SOC. PSYCHOL. 20, 27-28 (1983).

172. Mark Snyder, *Seek, and Ye Shall Find: Testing Hypotheses About Other People*, in 1 SOCIAL COGNITION: THE ONTARIO SYMPOSIUM 277, 280-82 (E. Tory Higgins et al. eds., 1981) (noting that "participants preferentially chose to solicit behavioral evidence whose presence would tend to confirm their hypotheses").

173. Harold H. Kelley, *The Warm-Cold Variable in First Impressions of Persons*, 18 J. PERSONALITY & SOC. PSYCHOL. 431, 433 (1950).

subjects could draw on their own personal experiences when evaluating the lecturer.¹⁷⁴

- When participants heard descriptions of two competing products, they exhibited bias in favor of whichever product they first heard positive information about.¹⁷⁵ This effect could make consumers exhibit a systematic preference towards a product that would otherwise be viewed as equivalent with its competitor.¹⁷⁶ Even more disturbingly, a product whose descriptions were systematically inferior were nearly twice as likely to be chosen if the first information participants learned about the product was positive, than if they learned about the product's positive qualities later.¹⁷⁷
- When physicians read descriptions of hypothetical patient histories with two possible competing diagnoses, they preferred the diagnosis that explained the symptoms they learned about first, and discounted the importance of symptoms described later.¹⁷⁸

These are not mere products of artificial experimental designs or the folly of college students. Gary Klein, in his study of high-stakes decision-making under real-world conditions, conducted lengthy interviews with firefighters, pilots, nurses, military leaders, chess masters, and experts in other domains.¹⁷⁹ In addition to asking his subjects to recount difficult problems they solved in the past, Klein devoted special attention to the retrospective analysis of decisions they would classify as errors, in hindsight.¹⁸⁰ Klein's subjects most commonly attributed their errors in judgment to either: lack of information; lack of training; or "*de minimus* error," in which "decision makers noticed the signs of a problem but explained it away."¹⁸¹ Klein documents, in chilling detail, scenarios in which failures to revise early hypotheses in light of new evidence led to disaster, from nurses who explained away critical warning signs of disease in infants to a military captain who, after receiving initial indications that an approaching aircraft was hostile, failed to notice other signs indicating that the aircraft was civilian, shot down a

174. *Id.* at 434-35.

175. Kurt A. Carlson et al., *Leader-Driven Primacy: Using Attribute Order to Affect Consumer Choice*, 32 J. CONSUMER RES. 513, 515 (2006).

176. *Id.*

177. *Id.* at 516.

178. Olga Kostopoulou et al., *Information Distortion in Physicians' Diagnostic Judgments*, 32 MED. DECISION MAKING 831, 835-37 (2012).

179. KLEIN, *supra* note 12, at 1.

180. *Id.* at 134.

181. *Id.* at 273-75.

commercial airliner.¹⁸² Thus, despite the absence of other classic “heuristics and biases” in this real-world study, these decision-makers nonetheless fell prey to confirmation bias, especially in high-stakes situations.¹⁸³

Finally, some experimental research has focused on the phenomenon of coherence bias in the courtroom. For example, Dan Simon orchestrated a series of experiments designed to illustrate a fact-finder’s tendency to inflate the trustworthiness of evidence when it coincides with personal preference.¹⁸⁴ First, Simon had participants rate a series of evidential vignettes in isolation, obtaining judgments of each vignettes’ persuasive power independent from other information in the case.¹⁸⁵ Next, Simon compared the vignette ratings with those produced by the same participants when they encountered nearly identical items as part of a larger body of evidence in a complex case.¹⁸⁶ Simon’s findings were striking: participants who previously valued the strength of evidence in isolation, in turn denounced the importance of essentially identical evidence when encountering it in the context of case facts, and these newfound opinions “shifted considerably and consistently toward coherence with the eventual verdict.”¹⁸⁷ Moreover, participants were unaware that their views had shifted, and tended to misremember their initial ratings as consistent with later ones.¹⁸⁸ This phenomenon illustrated more than mere post-hoc rationalization; when subjects were asked to delay their decisions until later, or when they did not realize they would be asked for a verdict decision, they still exhibited strong coherence shifts immediately upon encountering evidence at an early stage of the case.¹⁸⁹

One likely explanation for this phenomenon is bias towards interpreting new evidence in a way that coheres with, and confirms, one’s existing beliefs about a case.¹⁹⁰ When such order effects arise

182. *Id.* at 75-87 (describing and analyzing an incident in which the USS *Vincennes* shot down a Libyan commercial airliner after mistaking it for an Iranian F-14 fighter jet, killing all 290 civilian passengers and crew in the process).

183. *Id.* at 273.

184. Simon, *supra* note 158, at 518-19.

185. *Id.* at 529.

186. *Id.* at 530.

187. *Id.* at 530-33.

188. *Id.* at 533.

189. *Id.* at 534-35 & n.71.

190. See, e.g., Pyszczynski & Wrightsman, *supra* note 8, at 309-10 (explaining that jurors often use extensive opening statements of the prosecution as a framework for the case, leading jurors to interpret new evidence within that framework).

in a trial setting, fact-finder's exhibit bias in favor of whatever argument or evidence first explains the events of the case.¹⁹¹ This could result from testimony of early witnesses or particularly extensive opening statement.¹⁹² Thomas Pyszczynski and Lawrence Wrightsman tested differing lengths of opening statements, with an identical field of evidence, and found that the mock "jurors were heavily influenced by the first strong presentation that they read."¹⁹³ If the prosecutor led with a more extensive opening statement, jurors were more likely to convict, regardless of the extent of the defense's opening statement.¹⁹⁴ Conversely, if the prosecution's opening statement was brief and the defense's extensive, jurors tended to acquit.¹⁹⁵ And, if neither side gave extensive opening presentations, jurors leaned towards conviction based on the first strong prosecution witness.¹⁹⁶

In light of these findings, we must add confirmation bias and coherence shifts to our theory of order effects. The above can be summarized in a few more maxims:

Maxim 4: A bias towards coherence will generally magnify the effect of strong evidence or arguments offered early in the case, producing primacy effects.

Maxim 5: Coherence shifts play a greater role when fact-finders must evaluate a large quantity of ambiguous evidence that does not clearly favor either party absent some interpretation.

Maxim 6: When decision-making takes place after a break, memory and coherence effects will produce stronger primacy effects.

Maxim 7: When decision-making is immediate, and memory is a constraint, memory and coherence effects will compete, with no clear prediction regarding which will prevail.

C. Order Effects in a Dual-Process Mind

At this point, I suspect that some readers will harbor skepticism regarding the appropriateness of making assumptions about trial behavior based on the aforementioned studies. In particular, readers

191. *See id.* at 309.

192. *See id.*

193. *Id.* at 309.

194. *Id.*

195. *Id.*

196. *Id.*

may wonder whether fact-finders, if properly motivated, could set aside effects of ordering through conscious thought. Order effects, however, are not easily eliminated, even when well-meaning decision-makers attempt to think more carefully; indeed, trying to do so may even magnify such effects.¹⁹⁷

We would be wrong to ignore the possibility that real-world judges and jurors might behave differently than experimental participants. Some aspects of real-world trials cannot be ethically simulated in a controlled environment, most notably the powerful emotions that arise when a judge or juror knows that their decisions will affect a person's life, liberty, or property. Moreover, studies indicate that motivating people to think harder can sometimes reduce unbiased thinking.¹⁹⁸ This is at the core of "dual process" models of reasoning, which posit that we have two kinds of mental resources to utilize in problem solving.¹⁹⁹ One kind of thinking, known as "System 1," consists of quick, instinctive responses to problems, while the other, "System 2," describes slow, effortful thinking and problem solving.²⁰⁰ When subjects are motivated to avoid mistakes, they think more carefully and employ System 2.²⁰¹ And relying on System 2 reduces the incidence of inferential errors that psychologists have identified in studies.²⁰² Surprisingly, however, System 2 can also be employed to defend or justify a conclusion suggested by System 1.²⁰³

197. See DANIEL KAHNEMAN, THINKING, FAST AND SLOW 39-41 (2011) (describing multiple studies that illustrate the interaction between motivation and rational decision-making).

198. See *id.*

199. See *id.* at 14.

200. See *id.* at 18-20 (outlining the two systems of thinking); Peter Carruthers, *An Architecture for Dual Reasoning*, in IN TWO MINDS: DUAL PROCESSES AND BEYOND 109, 109-12 (Jonathan St. B. T. Evans & Keith Frankish eds., 2009); Keith Frankish, *Systems and Levels: Dual-System Theories and the Personal-Subpersonal Distinction*, in IN TWO MINDS: DUAL PROCESSES AND BEYOND 89, 96-102 (Jonathan St. B. T. Evans & Keith Frankish eds., 2009).

201. See Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 7-9 (2007).

202. See Jonathan St. B.T. Evans, *Dual-Processing Accounts of Reasoning, Judgment, and Social Cognition*, 59 ANN. REV. PSYCHOL. 255, 264-65 (2008) (reviewing studies in which the use of System 2 helps reduce decisional errors).

203. See Jonathan Haidt, *The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment*, 108 PSYCHOL. REV. 814, 818 (2001) (explaining that "moral reasoning[.]" a System 2 function, is often employed to rationalize System 1 observations); see also Richard E. Nisbett & Timothy DeCamp Wilson, *Telling More Than We Can Know: Verbal Reports on Mental Processes*, 84 PSYCHOL. REV. 231, 231 (1977) (collecting examples of participants' willingness to

Some order effects arise automatically from System 1 cognition, whether or not careful thinking is employed.²⁰⁴ By default, we tend to remember the beginning and ending of a sequence of information more vividly than the middle.²⁰⁵ Likewise, we automatically seek to put information into a coherent pattern, which encourages us to interpret newly learned information consistent with that pattern, creating the confirmatory bias discussed above.²⁰⁶ To some extent, an individual can moderate these effects through mental effort; for example, if you work hard to remember the fifth item on a list, by repeating it to yourself after hearing it, you recall it more quickly than the first item.²⁰⁷ Indeed, if you take active mental steps to set aside existing viewpoints, you can sometimes resist the influence of cognitive biases.²⁰⁸

Nevertheless, we cannot assume that jurors, who try to reason carefully, will be able to resist order effects through the use of System 2 resources because people often use System 2 resources to defend intuitively attractive conclusions.²⁰⁹ Consequently, when asked to reason analytically about a subject on which an individual has already formed an intuitive opinion, the person will frequently search for reasons why their desired conclusion is true, rather than even-handedly weighing confirmatory and contradictory evidence.²¹⁰

provide spontaneously confabulated explanations for behaviors produced by subconscious influences).

204. See KAHNEMAN, *supra* note 197, at 18.

205. See, e.g., James Deese & Roger A. Kaufman, *Serial Effects in Recall of Unorganized and Sequentially Organized Verbal Material*, 34 J. EXP. PSYCHOL. 180, 180 (1957) ("With the method of free recall, the middle items are less frequently recalled, the first items are moderately well-recalled, and the last items are most frequently recalled.").

206. See Wason, *supra* note 160, at 138-39 (discussing the results of a study on confirmatory thinking).

207. See BADDELEY ET AL., *supra* note 122, at 76 (explaining that motivation can improve recall for a particular stimulus if a learner devotes more time to studying those items).

208. See, e.g., KAHNEMAN, *supra* note 197, at 204 (discussing the use of reference-class forecasting methods to mitigate the planning fallacy); Charles G. Lord, Mark R. Lepper & Elizabeth Preston, *Considering the Opposite: A Corrective Strategy for Social Judgment*, 47 J. PERSONALITY & SOC. PSYCHOL. 1231, 1237 (1984) (showing that the active consideration of an opposing hypothesis can mitigate some expressions of confirmation bias); Andrew R. Todd et al., *Perspective Taking Combats Automatic Expressions of Racial Bias*, 100 J. PERSONALITY & SOC. PSYCHOL. 1027 (2011) (discussing the success of perspective-taking exercises in reducing the expression of racial stereotyping).

209. See Haidt, *supra* note 203, at 818.

210. See Simon, *supra* note 158, at 25-26; Haidt, *supra* note 203, at 818; see also

Moreover, even when one actively commits System 2 resources to analytical reasoning, System 1 shapes which facts we remember and which conclusions seem plausible.²¹¹ Thus, jurors who view a defendant's guilt as plausible will find it easier to remember items of evidence that are congruent with guilt, and will thus more readily construct theories consistent with these pre-existing views.²¹²

Due to System 1's persistence, even highly motivated jurors fall prey to order-induced biases when evaluating evidence and deliberating upon a verdict.²¹³ A study conducted by Saul Kassin, Marisa Reddy, and William Tulloch provides an example of resistance to System 2 correction.²¹⁴ The authors presented mock jurors with an ambiguous, though "somewhat implausible" suspect interrogation video, sandwiched between a pro-prosecution argument and a pro-defense argument.²¹⁵ In half of the sessions, the prosecution spoke first and the defendant last; in the other half, the order was reversed.²¹⁶ The authors then tested their subjects on two criteria: how strongly they believed the accused was guilty, and their "need for cognition," or how much a person enjoys problem solving versus one's tendency to "only think as hard as [one must]."²¹⁷ The authors observed a striking pattern: those who measured high on the "need for cognition" scale were more likely to see a pattern of guilt when the prosecutor spoke first, and a pattern of innocence when the defense spoke first.²¹⁸ Conversely, "low NC subjects," who were less disposed to analytic problem solving, were more likely to be persuaded by the last argument.²¹⁹ The authors explained this

Nisbett & Wilson, *supra* note 203, at 231.

211. See KAHNEMAN, *supra* note 197, at 24 (providing an example of our inability to wholly disregard System 1).

212. See Michael L. DeKay et al., *Proleader and Antitrailer Information Distortion and Their Effects on Choice and Postchoice Memory*, 125 *ORG. BEHAV. & HUM. DECISION PROCESSES* 134 (2014) (reporting experiments where order-induced biases led participants to distort memories regarding the features of apartments); Nancy Pennington & Reid Hastie, *Explanation-Based Decision Making: Effects of Memory Structure on Judgment*, 14 *J. EXP. PSYCHOL.: LEARNING, MEMORY & COGNITION* 521, 526-27 (1988) (showing that subjects remembered items of evidence that were consistent with their favored explanation of the case, and that they were more likely to report false memories concerning items of evidence that were consistent with their favored hypothesis).

213. See Kassin et al., *supra* note 109, at 43.

214. *Id.* at 46-50.

215. *Id.* at 46-47.

216. *Id.*

217. *Id.* at 45, 47-48.

218. *Id.* at 45, 48-50.

219. *Id.* at 49.

dichotomy by noting that puzzle solvers may be more likely to actively interpret ambiguous evidence to confirm current theories.²²⁰ Subsequent investigators observed similar patterns: when people are motivated to think analytically, once an initial impression is formed, they become more insistent, rather than skeptical, when faced with contradictory evidence.²²¹ As a result, System 2 may amplify, rather than mitigate, decisional bias in this context, leading to the next instructional maxim:²²²

Maxim 8: When decision-makers are motivated to carefully consider evidence and arguments, either by disposition or by specific situational incentives, they usually engage in motivated cognition, searching for ways to interpret each item of evidence to confirm existing intuitions rather than reconsidering them.

In combining these maxims, we can construct a picture of how ordering effects should function in a typical American jury trial. Because attorneys have strong incentives to remind jurors about beneficial evidence during closing arguments, jurors are given many means by which to remember key items of evidence. Juries are also unlikely to deliberate immediately after closing arguments; instead, a break for jury instructions occurs before deliberations.²²³ Thus, by design, the American court system limits the potential for recency effects.²²⁴

220. *Id.* at 52. Once receiving “a strong initial argument, high-NC subjects become overactive processors of subsequent information.” *Id.* (emphasis in original).

221. See, e.g., Curtis Haugtvedt & Duane Wegener, *Message Order Effects in Persuasion: An Attitude Strength Perspective*, 21 J. CONSUMER RES. 205, 214 (1994) (inducing higher motivation to process information by increasing its personal relevance resulted in primacy effects, while maintaining low levels of motivation to process information with little personal relevance led to recency effects); Richard E. Petty et al., *Motivation to Think and Order Effects in Persuasion: The Moderating Role of Chunking*, 27 PERSONALITY & SOC. PSYCHOL. BULL. 332, 334 (2001) (observing this effect in the “chunked” condition that more closely resembles the format of trials, but not when information was presented in a continuous stream without any indication of its suggested valence). *But cf. id.* at 333-34 (noting that in studies of impression formation, as opposed to studies of responses to persuasive messages, primacy effects can arise in low motivation subjects when the earliest information “freezes” and is not reconsidered as subsequent information is digested, and that motivation to think can reduce primacy effects).

222. See Kassin et al., *supra* note 109, at 52.

223. PATTERN JURY INSTRUCTIONS, *supra* note 147, at 10.01 (explaining that, at the end of the trial, the presiding judge will instruct the jurors on the law before deliberations).

224. See Pennington, *supra* note 7, at 330 (noting that, when participants took a

However, many items of evidence are inherently ambiguous, and the credibility of witnesses is frequently an indeterminate question.²²⁵ Consequently, jurors often interpret such evidence in a way that confirms their initial inclinations. Moreover, reminding jurors of the task's importance and the need for careful thought will often intensify rather than mitigate such biases, inducing jurors to appropriate evidence to confirm existing opinions.²²⁶ Thus, the party that influences the jurors to adopt their point of view first will obtain a subtle, but persistent, advantage as the jurors evaluate evidence.²²⁷

III. ORDER EFFECTS AND VERDICT ACCURACY: A THOUGHT EXPERIMENT

In the real world, dispute resolution systems tend to evolve incrementally, rather than instantaneously. No single entity orchestrated the structure of American or continental trials; instead, the order fell into place over hundreds of years of evolutionary modifications. A few things follow from this insight: first, grown procedural systems represent compromise; second, justified procedural process may linger long past their usefulness; and third, inherent problems are difficult to see in engrained, unquestioned systems. As a result, seriously faulty procedural designs sometimes persist for a distressingly long time.²²⁸

One way to extricate ourselves from this chronic pattern of complacency is to indulge in thought experiments, in which we envision potential procedures through modern knowledge of psychology, economics, and similar subjects, but divorced from

break before recalling information, primacy effects dominated).

225. See generally Galanter, *supra* note 90, at 477 (indicating that, because cases rarely go to trial, the ones that do are increasingly complex).

226. See Haugtvedt & Wegener, *supra* note 221, at 214.

227. See *id.*

228. For example, consider that, for several centuries, common law courts refused to allow interested persons, including parties to a civil or criminal case, to testify about the facts in dispute, for fear of perjury. James Oldham, *Truth-Telling in the Eighteenth-Century English Courtroom*, 12 LAW & HIST. REV. 95, 107-09 (1994). This doctrine extended even to criminal defendants, who were prohibited from testifying under oath in their own defense. *Id.* Victims of crimes, by contrast, were freely allowed to testify against the silenced defendant. *Id.* at 107. As a second example, the continental systems, by contrast, routinely extracted confessions via torture to circumvent the rule requiring testimony by two eyewitnesses before conviction in any criminal case where the accused had not confessed. See Stephan Landsman, *Rise of the Contentious Spirit: Adversary Procedure in Eighteenth Century England*, 75 CORNELL L. REV. 497, 594 (1990).

historical procedural choices. In this section, I will ask my readers to indulge in this form of thought experiment. What sort of system would we design if we were aware of the order effects I discussed above and professed no allegiance to the traditional proof ordering system? The answer is complex because, in addition to mitigating order effect problems, we must consider aspects such as cost and confusion. My suggestion for an ideal mode of trying cases considers both order effects and the aforementioned concerns, as well as vary from modern jurisprudence in the following ways: partisan opening statements would be replaced by a non-adversarial “statement of the dispute,” and parties would be required to present their witnesses in a neutral order to minimize primacy effects. Despite these differences, the new approach would retain some of our modern system’s core features—such as, for clarity and cost, witnesses would still testify one by one, rather than mixing their accounts. Moreover, direct and cross-examination would remain unchanged to ensure that the testimony was developed fully and fairly.

A. *The Statement of the Dispute*

Initially, we might consider a trial’s commencement—how would we redesign this adversarial exchange with order effects in mind? Generally, trials begin by exposing the fact-finder to contrasting presentations from the parties.²²⁹ In civil law jurisdictions, judges educate themselves about the case by reviewing the parties’ pleadings (in a civil case) or a prosecutor’s dossier (in a criminal case).²³⁰ Similarly, the American trial system begins with adversarial opening statements by the parties.²³¹ In either approach, the fact-finder is exposed, at a very early stage, to a one-sided theory explaining the forthcoming evidence. This risks systematic bias in favor of the party that presents their version of the case first.²³² So,

229. See 3 MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61 (explaining the adversarial nature of opening statements).

230. See, e.g., Geoffrey C. Hazard & Angelo Dondi, *Responsibilities of Judges and Advocates in Civil and Common Law: Some Lingering Misconceptions Concerning Civil Lawsuits*, 39 CORNELL INT’L L.J. 59, 66 (2006) (noting that modern civil law judges use the pleadings to determine the scope of the inquiry at trial); William T. Pizzi, *Understanding Prosecutorial Discretion in the United States: The Limits of Comparative Criminal Procedure As an Instrument of Reform*, 54 OHIO ST. L.J. 1325, 1333-34 (1993) (noting the central importance of the prosecutorial dossier in civil law jurisdictions as a tool for judges to determine the scope and structure of the trial).

231. See 3 MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61.

232. See Pyszczynski & Wrightsman, *supra* note 8, at 309-12 (reporting the results of an experiment in which mock jurors exhibited a substantial bias in favor of

in rethinking American jurisprudence, order effects must warrant supreme consideration in deciding how a fact-finder should garner their first overview of the case.

An initially attractive option would be to relinquish the advantage of primacy to one party in every case, and find for the other party a counterbalancing advantage to avoid unfairness. Such a strategy might entail stacking primacy and recency effects against each other, allowing one party to go first and giving the other party the option of having the last word.²³³ Alternatively, we could raise the burden of persuasion such that the first presenter must surmount higher obstacles to compensate for their structural advantage.

I doubt, however, that a comprehensive procedural redesign could consist of either aforementioned option, as the experiments discussed in Part II elucidate a central point: primacy and recency effects do not always cancel out, regardless of expectations.²³⁴ Rather, because order effects wield disparate influence depending on the specific procedural situation, it would be imprudent to expect primacy and recency to assume a natural balance.²³⁵ Similarly, there is no reason to expect a particular standard of proof to cancel out primacy effects in their entirety, regardless of procedural setting.²³⁶ Instead, reliable estimates of both the new standard's impact on unique litigation systems and the extent of the primacy effect in question are required before any manual balancing could be expected to produce accurate results.

Unfortunately, assuring ourselves that real-world effects cancel out in such a manner is challenging. Difficulty arises when we attempt to measure the impact of different arrangements on outcome accuracy.²³⁷ More often than not, we cannot measure the

the first party to offer an extensive opening statement, even though the evidence in all cases was identical).

233. Note that, although this superficially resembles the adversarial system's proof structure, it maintains significant distinctions—the plaintiff or prosecutor in our system have an opportunity to present a rebuttal following the close of the defendant's evidence, and again after defense's closing statement. 3 MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61. As a result, plaintiffs and prosecutors get the first and the last word. *See id.*

234. *See* discussion *supra* Part II.B.

235. *See id.*

236. *See id.*

237. In the past, I have advocated that we measure the accuracy of our judicial system using a protocol modeled after medical diagnostic tests. *See generally* Mark Spottswood, *Evidence-Based Litigation Reform*, 51 U. LOUISVILLE L. REV. 25, 45-48 (2012). I continue to believe that this methodology could gauge the utility of many rules of evidence and procedure. Unfortunately, this approach would be of little

extent to which purported rule changes improve or damage the accuracy of trials. For instance, imagine trying to balance the current first-mover advantage given to civil plaintiffs by adopting a clear-and-convincing evidence standard.²³⁸ Ideally, this new standard would give defendants and plaintiffs an equivalent primacy advantage, but without information regarding what actually happened in each dispute, we have no way of concluding whether the new standard alleviated or worsened the pre-existing regime. While we might observe a shift in outcomes such that fewer plaintiffs succeeded, we would ultimately have no way of estimating whether this shift was too small, optimal, or an overcorrection that excessively biased the system in favor of defendants. With this in mind, it will be difficult to determine whether contrasting partisan advantages ever attain balance.

A better approach, which would be more appealing if we were designing proof systems from the ground up, would be what I call the principle of procedural neutrality. Under this principle, we would require strong justification before tolerating any rule that gives one party a litigation advantage that is not tethered to the strength of their underlying case. Of course, this principle is often so obvious that we overlook it—for example, we think it a grave injustice when a juror has been bribed,²³⁹ or when a judge has an

practical use to designers eager to evaluate the impact of order effects on systemic accuracy. The protocol I advocated for in *Evidence-Based Litigation Reform* works well when used to investigate rules impacting the amount of information available to fact-finders. *Id.* By comparing typical settlements, pre-trial dismissals, and plea bargains with the judgments rendered by decision-makers with full access to the relevant facts, we gain valuable insight into the effect that motion practice and discovery rules may have on the accuracy of outcomes; the basic insight is that a decision based on the fullest factual body is nearly always as accurate as a decision based on a subset of that information. *Id.* By contrast, a reference-standard evaluator must learn facts in some order, and because competing ordering effects may arise in any case, there will always be room to question whether the “gold standard” evaluation was more or less accurate than a decision based on the actual ordering under investigation. See discussion *infra* Part IV.

238. This standard is often employed in civil matters where defendants’ interests in avoiding wrongful determinations of liability or fault possess significant weight. See, e.g., *Santosky v. Kramer*, 455 U.S. 745 (1982) (describing the standard in termination of parental rights cases); *Addington v. Texas*, 441 U.S. 418 (1979) (discussing standards in civil commitment proceedings); *Woodby v. Immigration & Naturalization Serv.*, 385 U.S. 276 (1966) (addressing deportation standards); *N.Y. Times Co. v. Sullivan*, 376 U.S. 254 (1964) (outlining the defamation of public figures standards); *Schneiderman v. United States*, 320 U.S. 118 (1943) (delineating the standard in denaturalization cases).

239. See *Remmer v. United States*, 347 U.S. 227, 229 (1954) (holding that an

interest in the outcome of a case.²⁴⁰ Indeed, in the civil system, this principle dominates many points of procedural design: the burden of persuasion is set as close to neutral as is possible,²⁴¹ and we presume that evidentiary rules should be applied equally to civil plaintiffs and defendants.²⁴²

Of course, our criminal system is not so evenhandedly designed, as many advantages are awarded to defendants alone.²⁴³ Nevertheless, the principle of procedural neutrality should play a sizeable role in the design of criminal litigation systems, despite the initially attractive option of ordering proof to maximize criminal defendants' advantages.²⁴⁴ Typically, the cost of a wrongful conviction outweighs the costs of a wrongful acquittal, and we thus grant criminal defendants some systematic advantages, including heightened burdens of persuasion that prosecutors must satisfy, and special evidentiary advantages that only defendants may employ.²⁴⁵ However, our end goal should not be to award defendants every possible advantage. Though this principle may appear sensible when procedural questions are static and addressed in isolation, it becomes nonsensical in the world of our thought experiment. When designing a procedural system from scratch, giving every possible advantage to a defendant would create a list so exhaustive that

offer to bribe a juror is "presumptively prejudicial" in a criminal case).

240. See *Tumey v. Ohio*, 273 U.S. 510, 525-26 (1927) (holding that it violates the Due Process Clause of the federal constitution for any case to be tried by a judge who has a pecuniary interest in the outcome).

241. Charles M. Yablon, *On the Allocation of Burdens of Proof in Corporate Law: An Essay on Fairness and Fuzzy Sets*, 13 *CARDOZO L. REV.* 497, 499 (1991).

242. See, e.g., *Green v. Bock Laundry Mach. Co.*, 490 U.S. 504, 523-24 (1989) (interpreting Federal Rule of Evidence 609(a) to avoid disparity in application between civil plaintiffs and defendants); Randolph N. Jonakait, *Biased Evidence Rules: A Framework for Judicial Analysis and Reform*, 1992 *UTAH L. REV.* 67, 71 (1992) (arguing for a presumption against biased evidence rules). *But cf.* *FED. R. EVID.* 415 (creating an exception to Rule 404's bar against character propensity evidence that applies when such evidence supports a "claim for relief based on a party's alleged sexual assault or child molestation," which implies that only applies against civil defendants).

243. See *Englich et al.*, *supra* note 3, at 706.

244. This approach animates a common continental procedure: following the maxim, *in dubio pro reo*, many civil law judges give defendants the last opportunity to argue in court, believing that this provides an advantage. See *Englich et al.*, *supra* note 3, at 706.

245. See Steven E. Clark, *Blackstone and the Balance of Eyewitness Identification Evidence*, 74 *ALB. L. REV.* 101, 150 (2011) (noting the "Blackstone Ratio," which is embodied by the quote: "the law holds that it is better that ten guilty persons escape than that one innocent suffer").

convictions would never occur.²⁴⁶ Instead, we wish to give defendants some advantages to reduce wrongful convictions, but not so many as to undermine the system's ability to convict the guilty.²⁴⁷ Based upon this logic, we would adopt the principle of procedural neutrality in criminal contexts, but with three caveats: first, the risk of wrongful convictions justifies some defendant advantages, including a heightened burden of proof; second, in light of these defendant advantages, we should endeavor to make remaining rules as neutral as possible; and finally, should unavoidable advantages arise, they should favor accused defendants rather than prosecutors.

For these reasons, a procedural redesign should interpret the systematic biases produced by strong ordering effects as undesirable, and avoid the delicate game of trying to balance them against other one-sided advantages. In our thought experiment, however, we care about the overall efficiency and clarity of trials,²⁴⁸ so the notion of offering fact-finders an evidentiary preview holds merit. Just as it is hard to navigate unfamiliar streets without a map, a judge or jury would find it tedious to listen to the testimony of individual witnesses without context of the broader dispute. After all, ignorant fact-finders would have no idea which details are worth attending to or seeking out in witness testimony. Moreover, the best listeners are actively engaged in the process (even more so when the fact-finder is free to participate in the questioning).²⁴⁹ Finally, dispensing with an opening presentation will not do away with first-mover advantages, but merely shift primacy effects to whichever party's witnesses are allowed to speak first.²⁵⁰

246. See generally Ronald J. Allen & Larry Laudan, *Deadly Dilemmas*, 41 TEX. TECH L. REV. 65, 75 (2008) (explaining the paradoxical nature of adding or removing procedural systems so as to help prevent wrongful executions, as this process often prompts unintended, negative externalities, such as crippling the system's ability to make correct convictions).

247. *Id.*

248. See Alex Stein, *Inefficient Evidence*, 66 ALA. L. REV. 423, 433-35 (2015) (arguing that we should pay more attention to the costs of applying exclusionary rules of evidence); Mark Spottswood, *Signal vs. Noise: Some Comments on Professor Stein's Theory of Evidential Efficiency*, 66 ALA. L. REV. 471, 490-92 (2015) (expanding upon Professor Stein's theory).

249. Cf. Valerie P. Hans, *Empowering the Active Jury: A Genuine Tort Reform*, 13 ROGER WILLIAMS U. L. REV. 39, 70-72 (2008) (advocating for reforms to the traditional "passive jury" model such as note-taking, question-asking, and mid-trial deliberations as a means of enhancing juror competence in difficult cases).

250. Pyszczyński & Wrightsman, *supra* note 8, at 309-12 (when both sides presented weak opening statements, jurors were instead strongly influenced by the first extensive partisan witness testimony that they heard).

It would appear that the practice of previewing evidence possesses some value, but this process becomes problematic when it consists of two opposing, one-sided previews, given in sequential order.²⁵¹ In our thought experiment, without loyalty to existing procedural designs, there is little reason to link the previewing of evidence to partisan presentation. Instead, we might ask counsel to explain their views of the case to a neutral third-party, who would then explain the dispute to the fact-finder, including facts that the parties agree on and those that they dispute—labeled the “statement of the dispute,” to distinguish it from partisan “opening statements.” The statement of the dispute would allow for the preview of evidence while delaying one-sided arguments until later in the case, thus reducing the impact of primacy effects on a trial’s outcome.

While we can divorce ourselves from many realities of procedural jurisprudence, our thought experiment would maintain little practical value were we to ignore the cost of trying cases. With this being said, it is unclear whether appointing a neutral third-party to offer a statement of the dispute would add significant cost to the trial process. After all, in the context of jury trials, the presiding judge could deliver the statement of the dispute. Judges are familiar with the issues after resolving pre-trial disputes, and could ask parties to draft an agreed narrative while negotiating a pre-trial order. Undoubtedly, parties would dispute some of the narrative’s nuances, not unlike their frequent disputes over evidentiary matters resolved via pre-trial stipulations. But parties would hopefully agree if motivated by the need to present a reasonably simple joint proposal to the court. Remaining disputes over order and wording could be resolved by the judge, who would already be in court during parties’ opening statements. And since an agreed presentation omits redundancy, time spent drafting traditional opening statement would be redirected to drafting an agreed statement of the dispute.

Outside the trial context, we could expect magistrate judges to perform a similar role, especially in cases where magistrate judges handle pre-trial disputes. Requesting that the magistrate judge present a statement of the dispute to the fact-finding judge once the case is returned for trial would add little additional cost. In court systems without adjunct judges, outside attorneys could perform the role, jointly billing the parties for their services. In this instance, parties would be incentivized to temper the time spent arguing over wording because of the added cost.

In short, the statement of the dispute would reduce the risk of ordering-induced bias, with some additional cost. If that were the

251. *See id.*

only tradeoff involved, the process would be undesirable. But a second benefit exists to dispensing with partisan opening statements that may further offset any increased costs: the potential reduction in fact-finder confusion when compared with traditional adversarial opening statements. A single presentation can be organized in a narrative order, increasingly memorability.²⁵² Moreover, parties sometimes choose other orderings to gain an advantage, but the neutral third-party would have no such incentives. The statement of the dispute would also make it easier to keep track of facts in dispute, as well as those agreed upon. Additionally, fact-finders would not need to try and remember what the first advocate said while the other is speaking. And finally, a single, mutually agreed upon statement of the dispute would take up half as much time as two opposing statements, which increases the likelihood that judges and jurors would maintain attentive.

B. Balancing Neutrality, Clarity, and Cost in the Ordering of Proof

Having established the structural benefits and procedural practicality of replacing adversarial opening statements with a mutual statement of the dispute, we now turn our thought experiment towards the ordering of proof once this preliminary step is completed. Although infinite potential orderings exist in theory, most designs can be discarded as impractical, without the need for analysis. For instance, although we could arrange proof in purely random order, thereby avoiding any systematic order effects, the increase in cost and confusion would be disastrous. More plausibly, proof should be arranged to balance several key variables, including accuracy of results, witness convenience, costs, clarity, and party preference.

In theory, fact-finders could hear evidence in a purely narrative ordering, in which all of the witnesses contribute in an overlapping fashion to provide a purely chronological account.²⁵³ It becomes quickly apparent, however, that this would not be practical in a live-

252. See Rolf A. Zwaan, *Processing Narrative Time Shifts*, J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY & COGNITION 1196, 1196-97 (1996); Linda Baker, *Processing Temporal Relationships in Simple Stories: Effects of Input Sequence*, 17 J. VERBAL LEARNING & VERBAL BEHAV. 559, 569-70 (1978). Cf. Pennington & Hastie, *supra* note 212, at 528-31 (presenting experimental results showing that mock jurors are more influenced by evidence presented in a narrative ordering than in a non-narrative ordering, which suggests that story ordering makes evidence easier to process and understand).

253. See Pennington & Hastie, *supra* note 212, at 528-31 (showing the advantages of presenting information in "story order" instead of "witness order").

trial system. First, retaining the dominant practice of witnesses testify one-at-a-time is desirable for several reasons: (1) witnesses often take time away from other productive enterprises to testify, making it undesirable to keep them in court for longer than is necessary; and (2) parties must pay some witnesses, such as experts, in exchange for their time in court.²⁵⁴ Thus, requiring witnesses to wait in court throughout a trial's duration substantially increases costs, and may deter parties from taking cases to trial. And finally, it may be harder for jurors to assess witness credibility if witnesses give piecemeal testimony scattered throughout the trial. The fact that a witness testified in an inconsistent manner might become less salient, for instance, if their testimony was spaced out during trial. Even in the world of our thought experiment, we would want to adopt a system in which witnesses testify one-at-a-time.

Once we have determined that witnesses testify in isolation, an antecedent question presents itself: How should the sequence of witness testimony be determined? The common law court system, which gives each party a block of time to call witnesses in whatever order they prefer, would be an unlikely choice if we were not already accustomed to it.²⁵⁵ As discussed in the previous section, this may create systematic advantages for one party based on presentation order.²⁵⁶ In some scenarios, this advantage might go to the party who presents witnesses second; for example, if evidence is copious and confusing, and the fact-finder decides the case immediately, the last party to present witnesses will gain a perceptible advantage due to recency effects.²⁵⁷ In typical trials, however, the effects of short-

254. Note that when cases are tried based on paper or electronic records, this consideration is irrelevant. Judges regularly decide summary judgment motions and "paper trials" on submissions presented in narrative sequence, without one-by-one witness contributions. Rather, a party's written submission tells a story based on citation to witness depositions or affidavits, which can be consulted in more detail when a question of credibility or interpretation arises. Although I think there are strong reasons why we should broaden the use of paper-based fact-finding procedures at the trial stage of litigated cases, I will avoid discussing the ways that proof can be ordered in such regimes in this article, given their relative rarity in modern litigation settings. See generally Mark Spottswood, *Live Hearings and Paper Trials*, 38 FLA. ST. L. REV. 827 (2011) (demonstrating the advantages of paper-based fact-finding procedures).

255. MUELLER & KIRKPATRICK, *supra* note 38, at § 6:61 (explaining the traditional order of trials).

256. See discussion *supra* Part III.A.

257. The party gaining this advantage may vary to the extent that the second party's case-in-chief is not the last presentation made to the fact-finder. Subsequent rebuttal witnesses by the first party, or during final arguments, displace advantages that a defendant might gain by presenting their main witnesses second.

term memory will be meliorated by several factors, including the efforts of counsel to make important evidence as salient as possible through repetition and argument, and the necessity of pausing for jury instructions or other business before rendering a verdict. Thus, the differential effects of memory for different items of evidence would play a minor role in determining the outcome of trials, and to the extent that advantages arise due to order effects, primacy effect due to long-term memory would dominate.²⁵⁸ Furthermore, most cases require fact-finders to interpret ambiguous evidence, and in such situations, coherence effects cause decisions to polarize towards initially persuasive narratives.²⁵⁹

Thus, if we allow the parties to select their own witness orderings within successive blocks of time, the party presenting first will gain an advantage.²⁶⁰ This advantage, just like the partisan opening statement discussed above, produces a systemic bias unrelated to the merits of the case, corroding the accuracy of the system.²⁶¹ Nor, as discussed above, can we confidently offset such advantages through the use of other rules that help the second mover.²⁶² Again, the central problem is that the advantages are hard to quantify, making it difficult to balance. Instead, designing a system that minimizes such effects, adding one-sided advantages only when necessary, such as balancing wrongful convictions and wrongful acquittals, is the best course.²⁶³

If we reject party-driven ordering, what other options present themselves? The second obvious alternative is to allow fact-finders to control ordering, as is common in civil-law systems.²⁶⁴ This makes it harder for one party to obtain the upper hand; however, confirmation bias, discussed above, indicates that a fact-finder will

258. See discussion *supra* Part II.A.

259. See Simon, *supra* note 158, at 512-13 (explaining coherence-based reasoning).

260. One interesting alternative, proposed by Heather Elliot during a workshop discussion of this paper, would be to divide the jury in half and try the case twice, with each party getting the chance to go first in one of the trials. Then, the entire jury could convene to decide the case, with any order-based advantages being neutralized. This option could work in a system where juries review evidence on video or by reading transcripts, as a single trial could be split and presented in different orders. But, as long as trials remain live, oral presentation of evidence, such an option would radically increase costs.

261. See discussion *supra* Part III.A.

262. See *id.*

263. See Michael I. Meyerson & William Meyerson, *Significant Statistics: The Unwitting Policy Making of Mathematically Ignorant Judges*, 37 PEPP. L. REV. 771, 810-16 (2010); see also Allen & Laudan, *supra* note 246, at 84.

264. See sources cited *supra* note 233 and accompanying text.

seek out information confirming their initial opinion, rather than information that calls it into question.²⁶⁵ If that initial opinion forms based on a partisan presentation (as is true in some continental criminal courts), then the result may mimic party-driven ordering.²⁶⁶ But even with a neutrally-ordered statement of the dispute, the first witness may generate an early impression that becomes magnified through subsequent evaluation of ambiguous witness testimony.²⁶⁷

As a third option, we might combat these issues by ordering witnesses randomly. However, this could cause other problems that outweigh its advantages. Currently, parties and judges pay attention to clarity and coherence of story-telling when choosing a witness ordering.²⁶⁸ A random order, by contrast, might detract from the story.²⁶⁹ After all, it is easier for people to understand information in a chronological sequence.²⁷⁰ Likewise, random orderings might produce bias against a particular party by chance alone; although this would not cause any systematic disparities, it would produce order-induced errors in a subset of cases, as well as discontent among those disadvantaged parties.

Happily, a fourth alternative might mitigate confirmatory bias without producing the level of confusion that we might expect from random ordering. The same neutral party charged with presenting a statement of the dispute might also propose a neutral witness ordering that manages concerns of clarity and cost.

For this approach, first, it is necessary to acknowledge that, regardless of who selects the witness order, the fact-finder will be subjected to one-sided presentations. Indeed, it is an inescapable fact that some witnesses will be strongly motivated to present an account that favors one side.²⁷¹ As explained above, if early information presented to a fact-finder has only weak persuasive force, a subsequent strong presentation can still give rise to a confirmation-

265. See discussion *supra* Part II.B.

266. See Damaska, *supra* note 17, at 555-56; Grunewald, *supra* note 93, at 1195-99 (2014); Roach, *supra* note 93, at 401-02.

267. See generally Pyszczynski & Wrightsman, *supra* note 8, at 309 (explaining that, in the absence of strong opening statements, mock jurors side with the first strong prosecutorial witness).

268. See discussion *supra* Part II.B.

269. See Pennington & Hastie, *supra* note 212, at 528-31 (discussing the advantages of "story order" in the trial context). Cf. Glanzer & Cunitz, *supra* note 110, at 351-53 (using a method of randomized lists for mechanisms of recall to illustrate the distinction between primacy and recency effects for memory).

270. See Baker, *supra* note 252, at 569-71; Zwaan, *supra* note 252, at 1196-97.

271. For example, when victims or criminal defendants testify, they strongly favor one side.

driven primacy effect.²⁷² Thus, neither requiring a neutral opening statement, nor starting the case with non-partisan witnesses, will ensure that neither party obtains an undue advantage.

Despite this, however, there are still advantages to delaying strongly partisan witness presentations. Once the fact-finders have started to adopt, consciously or unconsciously, a partisan view of the case, they may search for confirmatory interpretations, even when listening to witness testimony that is not inherently one-sided.²⁷³ If, instead, the court calls non-partisan witnesses before the jurors form a one-sided theory of the case, the jurors will remember and interpret testimony in a fairer way.²⁷⁴ Thus, the neutral third-party should begin cases with non-controversial, background witnesses rather than witnesses strongly favoring one side. This may provide clarity because jurors would quickly understand the agreed facts, and thus more quickly identify the significance of the disputed facts. Therefore, the neutral third-party should suggest an ordering that begins with neutral witnesses, while reserving partisan witnesses until later.

We can further reduce systemic effects of ordering by randomizing which party gets the first opportunity to present a strong witness. This may, indeed, be optimal in civil cases because civil proof is organized around the idea that the playing field between plaintiffs and defendants should be as level as possible.²⁷⁵ Accordingly, any ordering that systematically strengthens one side over the other seems problematic. Since we depend on civil judgments deter to unlawful conduct, we may excessively deter lawful behavior if more plaintiffs win than is justifiable based on the underlying merits of the case; however, reversing the advantage would be equally problematic, so it is illogical to give civil defendants a consistent first-mover advantage. Instead, parties would flip a coin to decide which side gets the first opportunity to present a partisan witness, and the order would alternate between party witnesses from there, to minimize the development of subsequent coherence effects. Since giving one party an unfair advantage is unavoidable, this at least eliminates systematic bias towards either party.

272. See Pyszczynski & Wrightsman, *supra* note 8, at 309-312; see also discussion *supra* Part II.B.

273. See discussion *supra* Part II.B.

274. See generally Damaska *supra* note 17, at 545-46 (criticizing the adversarial system by contending that, when both sides present their best evidence in the best light, it is more difficult for the fact-finder to determine which side is right).

275. See generally Jonakait, *supra* note 242, at 67-68 (discussing the value of neutrality in trial procedure).

Of course, we are less even-handed when it comes to criminal cases. In a criminal setting, most believe that if an advantage must be given, it should go to the defendant.²⁷⁶ Accordingly, many continental judges give defendants the opportunity to testify first as well as the final opportunity to argue the merits of the case.²⁷⁷ As discussed above, however, giving defendant every possible advantage is not ideal; instead, it makes sense to give the accused discrete benefits that produce an acceptable ratio between wrongful convictions and wrongful acquittals, while minimizing other order effects.²⁷⁸ If we assume principles such as the proof beyond a reasonable doubt standard would remain, when designing a criminal justice system from scratch, minimizing ordering advantages in the criminal process, and then giving those unavoidable advantages to the defense, makes the most sense. In practice, this would entail starting each criminal case with a statement of the dispute, followed by the testimony of neutral, background witnesses, and then allowing the defendant an opportunity to testify.²⁷⁹ After this initial advantage to the defense, further proof could be balanced, just as in the civil setting, by alternating between pro-prosecution and pro-defense witnesses.

Finally, it bears re-emphasizing that the third-party neutral would not be selecting the witness order just to minimize ordering effects; considerations such as clarity would also factor in. Indeed, significant clarity advantages may arise from presenting information in chronological order, whenever possible, and such advantages must be balanced before an order is established. Likewise, considerations such as witness convenience may require varying the neutral order. The key point is that the significance of clarity, convenience, and order effects will vary situationally, requiring discretion on the part of the third-party neutral.

276. See Clark, *supra* note 245, at 1105 (discussing Blackstone's maxim that "it is better that ten guilty persons escape than that one innocent suffer," and its impact on common law criminal procedure); Englich et al., *supra* note 3, at 706 (discussing the civil law maxim *in dubio pro reo*, which has similarly shaped continental criminal procedure).

277. See Damaska, *supra* note 17, at 525, 528-29 (noting that criminal defendants testify first in most continental trials); Englich et al., *supra* note 3, at 706 (indicating that criminal defendants get the last word in continental trials).

278. See Allen & Laudan, *supra* note 246, at 84 (discussing the desire to balance two types of errors in criminal trials: wrongful convictions and wrongful acquittals).

279. At this point, the defendant could also call their first strong pro-defense witness, when the defendant will not be testifying, or when the defendant prefers that ordering. The choice, and thus the advantage, however, would be given to the defendant.

C. Implementation Considerations

Thus far, we have explored the ordering of proof by giving primary attention to bias minimization, cost, and clarity.²⁸⁰ Nevertheless, some important countervailing concerns weigh against giving too much power to the third-party neutral. Two chief problems present themselves: first, we may worry that, although “neutral,” some individuals might abuse their power to favor one party or the other; and second, this procedure may deprive the courts of public legitimacy by taking too much control away from the parties. In this section, I will explore why giving a third-party neutral unfettered control over proof ordering may be unwise, and suggest flexibility to appointment of third-party neutral via party negotiation and judicial oversight.

The first potential problem arises because locating a potential third-party neutral who can avoid favoritism may prove challenging. Ideally, judges might perform this function because they are selected for, and generally incentivized towards, the exercise of neutrality. In jury trials, the presiding judge could fill this role, and in bench trials, another judge from the same court could do so. Nevertheless, because previewing the parties’ evidence, constructing and delivering a statement of the dispute, and proposing an ordering of witnesses is labor intensive, many judges may resist this additional workload, unless additional judgeships are allotted to pick up the slack. Recent events, however, suggest that persuading state or federal legislatures to increase judicial capacity is unlikely, despite the fact that it is a tiny fraction of most governmental budgets.²⁸¹ The solution, as seen in federal district courts, may be staffing magistrate judges to serve in an adjunct capacity.²⁸²

Consequently, in state court systems, assigning these tasks to an outside attorney, appointed in a manner similar to that of special masters, may be preferable.²⁸³ Relying on third-party attorneys to

280. See discussion *supra* Part III.B.

281. See, e.g., Stephan O. Kline, *Judicial Independence: Rebuffing Congressional Attacks on the Third Branch*, 87 KY. L.J. 679, 790 (1999) (noting that the courts “constitute only a tiny fraction of the entire national budget”); Dalhia Lithwick, *The Courthouse Is Closed: Even Before the Shutdown, Federal Courts Had Already Been Crippled by the Sequester*, SLATE (Oct. 14, 2013), http://www.slate.com/articles/news_and_politics/jurisprudence/2013/10/federal_courts_and_shutdown_the_sequester_had_already_crippled_american.html (detailing effects of the recent federal shutdown on the federal court system).

282. See 28 U.S.C. §§ 631, 636 (2012) (authorizing the appointment of magistrate judges to function as adjuncts to the federal district courts).

283. See generally Geoffrey A. Aronov, *The Special Master in School*

perform these functions, however, creates a different sort of risk. To perform these functions competently, the outside attorney would need experience and expertise regarding trial procedure and function. But many attorneys, in the course of practice, internalize their roles, so that prosecutors, plaintiffs' attorneys, and defense counselors find it difficult to view cases from a dispassionate distance.²⁸⁴ Thus, finding the proper third-party neutral may replicate the challenge involved in finding an impartial arbitrator.²⁸⁵ Ideally, asking the parties to mutually agree on candidates would eliminate this concern and maximize neutrality. Some retired judges may fulfill these roles, and some attorneys may cultivate neutral reputations to corner this market. Still, some parties may regret their choice of third-party neutral, once an apparently neutral attorney proposes a starkly one-sided ordering of proof.

The second potential worry is that, by taking ordering control away from parties, we undercut public perceptions of the legitimacy of the court system. As discussed above, Americans seem to view procedures as more just when they give parties and their attorneys control over the selection and presentation of evidence.²⁸⁶ Unfortunately, the existing body of research does not clearly illuminate these issues.²⁸⁷ Existing studies have not isolated the impact of control over proof ordering from other aspects of adversary procedure, such as the ability to select witnesses, question them before a court, or make arguments regarding the appropriate outcome in a case.²⁸⁸ Moreover, some seminal work on procedural justice suggests that perceptions of procedural neutrality contribute positively towards assessments of legitimacy, indicating reforms promoting neutrality could be viewed positively.²⁸⁹ Nevertheless, both litigation participants, and the broader public, may respond

Desegregation Cases: The Evolution of Roles in the Reformation of Public Institutions Through Litigation, 7 HASTINGS CONST. L. Q. 739, 743-45 (1979) (detailing the duties of special masters within the federal court system).

284. See Sung Hui Kim, *Naked Self-Interest? Why the Legal Profession Resists Gatekeeping*, 63 FLA. L. REV. 129, 148-49 (2011) (discussing the tendency of lawyers to internalize their clients' viewpoints over time).

285. See generally Larry J. Pittman, *Mandatory Arbitration: Due Process and Other Constitutional Concerns*, 39 CAP. U. L. REV. 853, 857 (2011) (selecting unbiased arbitrators incentivizes the arbitrator to favor repeat players).

286. See sources cited *supra* notes 100-103 and accompanying text.

287. See Sevier, *supra* note 100, at 212-13.

288. See THIBAUT & WALKER, *supra* note 3, at 74; Anderson & Otto, *supra* note 101, at 563; Folger & Greenberg, *supra* note 86, at 141; Sheppard, *supra* note 102, at 959-61.

289. See TOM R. TYLER, *WHY PEOPLE OBEY THE LAW* 63 (2006).

negatively to a new rule that took control over ordering out of the parties' hands.

The legitimacy concern may prove most problematic where parties express a strong ordering preferences and the neutral selects a substantially different order. Some criminal defendants, for instance, may trade the advantage of primacy effects for certain tactical advantages available to second-movers.²⁹⁰ For instance, criminal defendants may be unsure whether the advantages of testifying are worth the costs of impeachment with their prior convictions.²⁹¹ Criminal defendants might, therefore, reserve this decision until after the prosecutor has offered evidence, in order to assess counter-testimony.²⁹² Similarly, some parties might order expert witnesses after the opposing party's key witnesses have spoken, to undercut the first party's proof. Essentially, criminal trials advantage defendants that reserve key evidence until after the prosecutor has committed to a particular strategy. Thus, some defendants might object to reform that forces them to present their strongest witnesses before the prosecution.

Fortunately, I believe that bias concern and procedural legitimacy can be addressed through a few simple amendments to the basic proposal outlined above. First, because the third-party neutral will meet with counsel to draft a statement of the dispute, the parties may express their wishes regarding ordering at that time. If both sides agree, an order will be set. Likewise, because deference to defendants is a prevailing public policy concern, encouraging third-party neutrals to accommodate defendants' wishes to go second seems reasonable.²⁹³

Secondly, the neutral, in some cases, will not properly balance the neutral ordering of proof with the parties' preferences. To mitigate the unfairness, the proposed ordering should be a default

290. See, e.g., Jeffrey Bellin, *Improving the Reliability of Criminal Trials Through Legal Rules That Encourage Defendants to Testify*, 76 U. CIN. L. REV. 851, 867 (2008) (noting the tactical advantage of silence for defendants); Robert P. Mosteller, *Discovery Against the Defense: Tilting the Adversarial Balance*, 74 CAL. L. REV. 1567, 1621 (1986) (discussing the various advantages in delaying testimony by the defense).

291. See FED. R. EVID. 609 (authorizing the impeachment of criminal defendants with prior convictions under certain circumstances); Bellin, *supra* note 290, at 867 (noting that this rule creates a "powerful incentive" for defendants with records "to remain silent").

292. See Mosteller, *supra* note 290, at 1621 (discussing the tactical reasons why a defendant might wish to delay deciding whether to testify).

293. See generally Allen & Laudan, *supra* note 246, at 84 (describing the prevailing concerns with wrongful convictions and wrongful acquittals).

rule rather than a mandatory rule, allowing parties to negotiate changes they view as value maximizing. Thus, a prosecutor might obtain the first word in exchange for not introducing the defendant's past convictions. If both parties can agree, they may have the opportunity to do so.

Finally, in some cases, the ordering might be so one-sided that no amount of negotiation will give a party a fair chance to present, and judicial oversight would be necessary in that case. To maximize efficiency and allow reasonable judicial oversight, something akin to an abuse of discretion standard seems more appropriate of review.²⁹⁴ At the same time, it would be valuable to give attorneys who act as third-party neutrals a strong incentive to be fair. Thus, making information regarding abuse of discretion cases publicly available would encourage attorneys to perform their function in an unbiased manner or face difficulty obtaining similar work in the future. And finally, giving judges the authority to waive neutral third-party fees because of impropriety would further discourage abuse. Taken together, a system where neutral attorneys propose default witness ordering, subject to amendment by party negotiation and modest judicial oversight, balances considerations of accuracy, legitimacy and cost. Accordingly, it is fair to say that if we were designing a judicial system for the first time—unfettered by the constraints of existing institutions, but sensitive to underlying psychological issues and concerns of cost and practicality—we would give third-party neutrals control over ordering, rather than the fact-finder or the parties.

IV. ORDER EFFECTS IN THE REAL WORLD: A PROPOSAL FOR A POLICY EXPERIMENT

In this section, I will explain why it would be foolish to implement a widespread, radical procedural reform, such as the one described above, because of the inherent complexity of a procedural system where parties have incentives to pursue private tactical advantages.²⁹⁵ Instead, I will argue for conducting a policy experiment that resembles my suggestion in a few randomly chosen judicial districts, and then comparing the results of the experience to

294. Abuse of discretion review is a standard way to balance case management with the need to prevent abuses. Cf. A. Wallace Tashima, *A Modest Proposal to Revise the Federal Magistrates Act*, 144 F.R.D. 429, 430 (1993) (noting that “the standard of review for most discovery rulings is abuse of discretion”).

295. Cf. J.B. Ruhl & Dan M. Katz, *Measuring, Monitoring, and Managing Legal Complexity*, 100 IOWA L. REV. (forthcoming 2015) (noting that “intervening in a complex adaptive system is a risky venture”).

other, similarly situated districts.²⁹⁶ Such an experiment would not be able to prove that the procedure increases accuracy, but it would test feasibility and acceptability. Furthermore, such tests would allow us to compare pro-prosecution and pro-defendant outcomes under the two procedural systems; if similar success rates appeared, this would suggest that, although order effects arise in research studies, they do not arise in real-world litigation.

First, however, I must address a question I set aside for purposes of this thought-experiment. Some may argue that the existing system has already been tested by centuries of use. In other words, some might say that the existing arrangements embody an evolved wisdom because we have no strong evidence to the contrary.²⁹⁷ But this argument, despite its facial appeal, is weaker than it seems.

The problem with assuming that the existing system is optimal is that neither its designers, the judges implementing it, nor the parties who are subject to it, are well-situated to evaluate its accuracy on a systemic level—especially when it comes to the subtle impacts of psychological factors such as order effects.²⁹⁸ To test this theory, first presume its correctness, that order effects have

296. Scholars have advocated for policy experiments as a means of isolating the costs and benefits of procedural rule reform, and a number of scholars have urged such a turn in procedural design. See Edward H. Cooper, *Simplified Rules of Federal Procedure?*, 100 MICH. L. REV. 1794, 1799 (2002); D.D. James Greiner & Cassandra Wolos Pattanayak, *Randomized Evaluation in Legal Assistance: What Difference Does Representation (Offer and Actual Use) Make?*, 121 YALE L.J. 2118, 2121-22 (2012); Richard A. Posner, *The Summary Jury Trial and Other Methods of Alternative Dispute Resolution: Some Cautionary Observations*, 53 U. CHI. L. REV. 366, 374-77 (1986); Carl Tobias, *More Proposals to Simplify Modern Federal Procedure*, 38 GA. L. REV. 1323, 1324-25 (2004); Laurens Walker, *Perfecting Federal Civil Rules: A Proposal for Restricted Field Experiments*, 51 LAW & CONTEMP. PROBS. 67, 67-68 (Summer 1988); Thomas E. Willging, *Past and Potential Uses of Empirical Research in Civil Rulemaking*, 77 NOTRE DAME L. REV. 1121, 1197, 1201-04 (2002); see also Abramowicz et al., *Randomizing Law*, 159 U. PA. L. REV. 929, 931-34 (2011).

297. See, e.g., RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 98 (1972) (stressing the economic efficiency of the common law system by stating, “Our survey of the major common law fields suggests that the common law exhibits a deep unity that is economic in character. . . . The common law method is to allocate responsibilities between people engaged in interacting activities in such a way as to maximize the joint value . . .”); George L. Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. LEGAL STUD. 65 (1977) (arguing that the common law process has a strong tendency toward efficient outcomes); Paul H. Rubin, *Why Is the Common Law Efficient?*, 6 J. LEGAL STUD. 51 (1977) (noting “the presumed efficiency of the common law”).

298. See Spottswood, *supra* note 237, at 55-61 (exploring the challenges inherent in measuring the litigation system’s efficacy through observational data alone).

systematically favored prosecutors and plaintiffs for the past two centuries, and that this effect has lowered outcome accuracy. Who would have noticed and corrected this error? First, the effect occurs subconsciously, so that judges and juries who are subject to it are not aware of its impact.²⁹⁹ Secondly, judges and juries view the same case, so judges would be under the same sway of order effects as the jury. Parties and their attorneys often object when they lose, but attorneys are rarely trained in psychology, and have difficulty lodging objections based on ordering, given the lack of precedent or judicial knowledge on the subject.³⁰⁰ Finally, rule-makers, who in theory have a duty to optimize the system, often lack psychological expertise.³⁰¹ Moreover, they may not be able to identify a problem when looking at the current system. We have been using the current ordering procedure for so long that we lack systematic data regarding outcomes that precede it, and our system, when compared to systems with other ordering procedures, are so different that any side-by-side comparison would be meaningless.³⁰² In the absence of a system using an alternative ordering mechanism, which in other respects closely resembles our own, rule-makers cannot see how the ordering of proof in our trials influences outcomes.

Although I have argued for a third-party neutral as a default to which parties may negotiate changes, this approach may not prove practicable.³⁰³ First, accuracy advantages may be less than they theoretically appear. The stakes are higher in real-world trials than they are in experiments,³⁰⁴ and some psychological biases can be mitigated if the decision-maker takes active steps to resist biasing

299. See discussion *supra* Part II.B (noting that jurors are unaware of many of these effects).

300. Cf. Ronald W. Tochtermann, *Daubert: A (California) Trial Judge Dissents*, 30 U.C. DAVIS L. REV. 1013, 1025 (1997) (observing a “widespread and extreme distrust of experts in the social sciences among lawyers and judges”); Ronald Roesch et al., *Social Science and the Courts: The Role of Amicus Curiae Briefs*, 15 LAW & HUM. BEHAV. 1, 4 (1991) (noting that most judges are “unfamiliar with psychology’s research methodology and statistics”).

301. See generally 28 U.S.C. § 2073(a)(2) (2012) (requiring that membership on rulemaking committees “shall consist of members of the bench and the professional bar”).

302. See Langbein, *The German Advantage*, *supra* note 60, at 826-830 (explaining the German litigation model and how it starkly differs from American trial procedure).

303. See discussion *supra* Part III.C and accompanying text.

304. See Jonathan J. Koehler & John B. Meixner, *Jury Simulation Goals*, in *THE PSYCHOLOGY OF JURIES: CURRENT KNOWLEDGE AND A RESEARCH AGENDA FOR THE FUTURE* (Margaret Bull Kovera ed., forthcoming), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2470632.

tendencies.³⁰⁵ Perhaps fear of mistake, judicial admonitions of fairness, and effective attorney advocacy deflates the primacy effect in most real trials. Although I doubt that this for all the reasons stated above,³⁰⁶ trials are still complex things that cannot be realistically simulated in laboratories. As a result, concerns about unfairness in trial ordering will remain speculative until a new ordering procedure is implemented in real-world trials and compared to the present system, holding as many as possible factors constant.

Second, as discussed above, some data suggests that the adversarial model feels fairer to participants than the inquisitorial approach, partly because parties in inquisitorial adjudication do not order their own cases.³⁰⁷ However, as long as parties have input into the initial ordering, the option to negotiate changes, and a chance to appeal, those concerns should be alleviated.³⁰⁸ But, this would drastically change well-entrenched trial rituals, and that can create unpredictable results. Such concerns might exacerbate constructing procedural incentives that keep third-party neutrals truly neutral.³⁰⁹ But, until we try implementing the new approach, we cannot know whether judges, lawyers, and litigants will accept it.

Finally, although added costs do not seem especially daunting *ex ante*, the costs may be larger than anticipated.³¹⁰ Parties in litigation have strong incentives to behave strategically, and thus new procedural devices are often used in unanticipated ways. A classic example of this was the broad adoption of the summary judgment motion in the original Federal Rules of Civil Procedure.³¹¹ Drafters anticipated that this new device would be used by plaintiffs to

305. See, e.g., Adam D. Galinsky & Gordon B. Moskowitz, *Perspective-Taking: Decreasing Stereotype Expression, Stereotype Accessibility, and In-Group Favoritism*, 78 J. PERS. & SOC. PSYCHOL. 708, 720-22 (2000) (discussing experimental findings in which an active attempt to take the perspective of members of an out-group significantly reduced the automatic tendency to favor members of in-groups over out-groups).

306. See discussion *supra* Part II.C (describing experiments in which confirmation bias was magnified, rather than suppressed, in subjects who were motivated to think more carefully about their decisions in simulated cases).

307. See discussion *supra* Parts I.B, I.C.

308. See also Sheppard, *supra* note 102, at 959-61.

309. Cf. Pittman, *supra* note 285, at 857 (discussing the related problem of selecting unbiased arbitrators given the incentives to favor repeat players in order to be selected on future occasions).

310. See discussion *supra* Parts III.A, III.B.

311. See Steven B. Burbank, *Vanishing Trials and Summary Judgment in Federal Civil Cases: Drifting Towards Bethlehem or Gomorrah?*, 1 J. EMPIRICAL LEGAL STUD. 591, 600-02 (2004) (discussing the pushback to the creation of Rule 56 from the original Federal Rules of Civil Procedure Advisory Committee).

“pierce ‘assumed or fictitious’ defenses.”³¹² But, paired with the adoption of broadened discovery, defendants soon increasingly started seeking summary judgment to attack the sufficiency of the plaintiffs’ evidence in advance of trial.³¹³ In response, plaintiffs started seeking broader discovery to defend against these motions.³¹⁴ The end result, some have argued, is more expensive than a procedural system that proceeded straight to trial following the close of discovery.³¹⁵

Similarly, although ordering proof based on a neutral default ordering need not be expensive in theory, it might prove so in practice. In theory, it would not take long for a third-party neutral to meet with parties, hear from witnesses, collect major points the parties wish to prove, draft a proposal, and deliver an opening statement of the dispute. Although some attorney fees are generated in the new proposal, others—such as the time taken by opposing advocates to craft competing opening statements—are avoided. And although data on the subject is scarce, it is doubtful that the costs of crafting opening statements or preparing witness orderings primarily drive up the cost of trials, considering the other expenses for preparing witnesses, paying expert witness fees, and the cost of time in court.³¹⁶ But some parties might, for tactical reasons, object to every aspect of the neutral ordering, turning it into a far more elaborate stage of the dispute than necessary.³¹⁷ Similarly, we could

312. *Id.* at 602.

313. See Joe S. Cecil et al., *A Quarter-Century of Summary Judgment Practice in Six Federal District Courts*, 4 J. EMPIRICAL LEGAL STUD. 861, 886 (2007) (counting 967 plaintiff motions and 2,526 defendant motions in their survey of six federal district courts, making defendants roughly two and a half times as likely to seek summary judgment than plaintiffs).

314. See Diane P. Wood, *Summary Judgment and the Law of Unintended Consequences*, 36 OKLA. CITY U. L. REV. 231, 243, 249 (2011) (noting that a great deal of discovery activity is now focused solely on litigating the summary judgment motion, and questioning whether it actually saves money “from a systemic point of view”).

315. See, e.g., John Bronsteen, *Against Summary Judgment*, 75 GEO. WASH. L. REV. 522, 536-38 (2007).

316. See Paula Hannaford-Agor & Nicole L. Waters, *Estimating the Cost of Civil Litigation*, 20 CASELOAD HIGHLIGHTS 1, 2 (2013), http://www.courtstatistics.org/~media/microsites/files/csp/data%20pdf/csph_online2.ashx (listing the many tasks involved in taking a case to trial, and not even mentioning preparing a witness ordering as a source of expense).

317. Cf. Charles W. Sorenson, Jr., *Disclosure Under Federal Rule of Civil Procedure 26(a)—“Much Ado About Nothing?”*, 46 HASTINGS L.J. 679, 697-714 (1995) (describing the complaints about abuse of discovery procedures, and reviewing the empirical literature on discovery abuse). Despite the inflammatory rhetoric one often

imagine parties obstructing the choice of a third-party neutral by refusing to compromise with the other party, forcing the court to step in. Just as in discovery, much would depend on the ability of the court to deter such behavior using managerial authority and the threat of sanctions.³¹⁸ In practice, discovery costs are not usually excessive,³¹⁹ but horror stories do arise, especially in complex or high-stakes cases.³²⁰ The neutral ordering process may become similarly controversial due to the bad behavior of a small subset of highly contentious cases. So—to return to the overall theme—implementing the procedure on a small scale, rather than system wide, would be wise.

How might a useful policy experiment be constructed? Ideally, one would select a small number of federal district courts to use as test sites. The advantage of using federal courts would be that we could compare experiences in those test districts with other federal district courts which are implementing otherwise similar procedural rules and substantive law. One complication, of course, is that the experiment would require lawyers to adjust to new procedures and, for some, new roles as third-party neutrals. Obviously, a new procedure will seem more cumbersome and less satisfactory during adjustment periods, so any experimentation should ideally last long enough for this adjustment to occur.³²¹ A decade of testing would seem long enough to permit this adjustment.

Next, trying variations on the procedure to compare the costs and benefits of each would be valuable. For example, in some districts, we could adopt the neutral statement of the dispute, but

hears on the topic, it is worth bearing in mind that very high discovery costs are reserved for a small subset of high-stakes or contentious cases. *See infra* note 325 and accompanying text.

318. *Id.* at 700 (noting that, despite Rule 11, courts and opposing counsel often fail to enforce or request sanctions for discovery abuse).

319. *See* EMERY G. LEE III & THOMAS E. WILLGING, FED. JUDICIAL CTR., NATIONAL, CASE-BASED CIVIL RULES SURVEY: PRELIMINARY REPORT TO THE JUDICIAL CONFERENCE ADVISORY COMMITTEE ON CIVIL RULES 35-37 (2009), available at [http://www.fjc.gov/public/pdf.nsf/lookup/dissurv1.pdf/\\$file/dissurv1.pdf](http://www.fjc.gov/public/pdf.nsf/lookup/dissurv1.pdf/$file/dissurv1.pdf) (noting that the median cost of discovery in the federal civil case was \$15,000 for plaintiffs and \$20,000 for defendants).

320. *Id.* (showing that in the 95th percentile of cases, discovery costs were more than twenty times higher than the median cost, with \$380,000 and \$400,000 in costs reported by plaintiffs and defendants, respectively).

321. *See also* JOE S. CECIL ET AL., FED. JUDICIAL CTR., MOTIONS TO DISMISS FOR FAILURE TO STATE A CLAIM AFTER *IQBAL*: REPORT TO THE JUDICIAL CONFERENCE ADVISORY COMMITTEE ON CIVIL RULES 2-3 (2011) (noting the problems that arose when researchers attempted to study the impact of *Ashcroft v. Iqbal*, 556 U.S. 662 (2009), before the lower courts had time to adjust to its new regime).

leave the parties in control of ordering. In others, we could vary third-party neutral selection to assess the plusses and minuses of employing presiding or magistrate judges versus attorneys as appointed masters. Further, observing whether parties continue to choose the procedure if they are allowed to jointly "opt out" and try cases in the traditional adversarial ordering, would prove interesting.

The most frustrating aspects of this kind of experiment, however, would be the inability to directly measure reductions in outcome errors, which was the primary motivation for adopting the new procedure. The central problem is that, unlike other kinds of errors, the effects of ordering will not result in many cases that are clearly wrong, based on the evidence presented. Order effects should be nudges, rather than shoves, so a sufficiently clear pattern of evidence should almost always be able to override them. Rather, the problem will be a systematic tendency, in close cases, to call the ball towards the side who gets to present their evidence first, so that the average outcome is skewed towards plaintiffs and prosecutors. However, when looking closely at any individual case in which ordering made a difference, it would be impossible to evaluate whether bias effected the case because bias influences are often at an unconscious level. Nor would it be possible to say that the outcome in those cases was necessarily wrong, even if it arguably could have come out the other way. The problem, in other words, cannot be seen when cases are observed individually.

We would, however, learn something valuable about order effects through this experiment. If I am wrong, and order effects are subtly corrected in real-world trials, then average win rates for plaintiffs and prosecutors will not be affected by the change, once we control for variables. In other words, if order-induced advantages are not created in our current system, trying a neutral ordering would not change the overall pattern of outcomes. Conversely, if the test showed that prosecutors and plaintiffs win more often by going first, most fair-minded observers would be troubled, even if the data by itself could not prove that those victories were clearly erroneous. More importantly, the terms of the debate would be shifted in a valuable way, so that we could discuss whether a systematic pro-plaintiff and pro-prosecutor bias is desirable from a normative perspective.

Finally, a policy experiment would provide valuable data regarding both cost and perceived legitimacy. During the period of testing, a sampling of attorneys, litigants, and judges could provide feedback regarding their satisfaction with the new procedure, the

resources they devoted, and their overall expenditures of time and money.³²² Likewise, similar surveys could be conducted in non-test jurisdictions to provide a basis for comparison. And other statistical information could be procured, allowing policymakers to learn whether litigants were more or less likely to proceed to trial under the new procedure, or object to the third-party neutral's proposed ordering. Ultimately, such a test would provide an invaluable insight, not just into the costs and benefits of a new proposed regime, but into the hidden costs and benefits of the current, entrenched procedural regime.

CONCLUSION

The problem of ordering proof has mostly escaped the attention of scholars, judges, and policy-makers. The structure of our trials is not mandated by rules, but it is in some ways more fixed than almost any other codified procedural or evidentiary rule. This may stem from tradition rather than litigation policy, but it may also be overlooked as a question of little consequence.

Nevertheless, proof ordering shapes the outcomes of cases, and not necessarily for the better. In our system, we subtly tilt the scales in favor of plaintiffs and prosecutors by giving them both the first and the last word at trials. The continental alternative, in which the presiding judge decides the case and the order of witnesses, is no more attractive because it similarly advantages prosecutors and plaintiffs, who present the case first to the court through pleadings and dossiers.

I believe that a better alternative would be to create a new role in our trial system for a third-party neutral attorney or magistrate, who is charged with deciding the order of witnesses in a case, and who begins the proceedings by delivering a non-partisan "statement of the dispute" to the jury. The third-party neutral attorney would be charged with ordering proof in a way that balances the values of clarity and neutrality between the parties. Because this reform would radically reshape the current trial system and might have hidden costs, I do not suggest nationwide adoption; rather, we should conduct a policy experiment to examine its possible impacts. This could level our playing field at modest cost, and in a way that is publicly acceptable. But even if I am wrong, conducting the

322. Cf. James S. Kakalik et al., *Just, Speedy, and Inexpensive? An Evaluation of Judicial Case Management Under the Civil Justice Reform Act*, 49 ALA. L. REV. 17, 18 (1997) (discussing the multiple sources of data used to evaluate the effects of specified case management techniques on such criteria as cost, delay, and litigant satisfaction).

experiment would improve our understanding of order effects on the outcomes of real-world trials.