The Improper Use of Presumptions in Recent Criminal Law Adjudication

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The Improper Use of Presumptions in Recent Criminal Law Adjudication

When the factfinder in a criminal trial relies on a presumption to convict a defendant, the factfinder formally infers from a proved fact the existence of another, unproved fact. Criminal presumptions "bridge the gap" between external, objective states of affairs and internal, subjective states of knowledge or intent that form the basis of all non-strict liability crimes. Such presumptions operate when evidence sufficient to establish state of affairs "A" (sometimes called the "proved fact") is taken to prove—in the absence of evidence to the contrary—state of affairs "B" (sometimes called the "presumed fact"). "In its simplest form a presumption is an inference permitted or required by law of the existence of one fact, which is unknown or which cannot be proved, from another fact which has been proved." United States v. Gainey, 380 U.S. 63, 78 (1965) (Black, J., dissenting). Presumptions may arise through legislative enactment or through the development of judicial doctrine.


Presumptions operate only in the absence of evidence. If sufficient evidence is available, or if special circumstances alter the general fact situations they govern, presumptions do not apply. See generally Nesson, Reasonable Doubt and Permissive Inferences: The Value of Complexity, 92 Harv. L. Rev. 1187 (1979).

Although not all criminal presumptions refer explicitly to intent, it is useful to think of them as doing so. In Tot v. United States, 319 U.S. 463 (1943), the statute at issue made possession of a firearm by a convicted felon presumptive evidence that the firearm had been transported or received in interstate or foreign commerce. Even though this presumption does not specifically mention intent, or scienter, these subjective states are inferred under general principles requiring blameworthiness. As a rebuttal to the Tot presumption, the defend-
subjective states are "proved"—unless rebutted—if the circumstances that govern application of the presumption exist. With the help of a presumption, the prosecution can obtain a conviction solely on the basis of inferential evidence of intent.

The Supreme Court has approved the use of presumptions in criminal trials only when those presumptions meet certain standards of accuracy and reliability; when they do not, defendants have successfully attacked them under the due process clauses of the fifth and fourteenth amendments. Recently, the Court has distinguished between "permissive" and "mandatory" presum-

ant might attempt to demonstrate that he had received the firearm without his knowledge and against his wishes, and that, at the time of arrest, he was bringing it to the authorities.

The presumptions at issue in United States v. Romano, 382 U.S. 136 (1965), and United States v. Gainey, 380 U.S. 63 (1965), made unexplained presence at the site of an illegal still presumptive evidence of owning and operating the still. Since owning or operating a still normally cannot take place unknowingly, the legislature must have intended that these crimes include a subjective element. Proving that the defendant had accidentally stumbled upon the site of the still, then, should rebut the presumption. Cf. note 12 infra (discussing the Court's reasoning in Romano and Gainey).

3. Commentators divide when discussing the quantity and type of evidence necessary to rebut a presumption. Some maintain that almost any relevant evidence will suffice; others claim that "some" evidence is necessary; and still others argue that "substantial" evidence is required. This note adopts the view that a presumption should not reverse or otherwise affect the overall "burden of proof" (or "risk of non-persuasion").

The effect of failure to meet the "burden of production" in a criminal trial is significantly harsher for the prosecution than for the defendant. If the prosecution fails to meet its burden, a directed verdict of acquittal should result. But such a direct effect does not occur when the defendant fails to meet the burden of production, since verdicts may not be directed against defendants in criminal cases. See Sandstrom v. Montana, 442 U.S. 510, 516 n.5 (1979); United States v. Martin Linen Supply Co., 430 U.S. 564, 572–73 (1977); United Bhd. of Carpenters v. United States, 330 U.S. 395, 408 (1947); Sparf & Hansen v. United States, 156 U.S. 51, 105–06 (1895).

4. Presumptions are relied upon to demonstrate knowledge or intent because evidence of subjective states of mind is difficult, if not impossible, to obtain. Distinguishing subjective states of mind presents intractable methodological and theoretical problems. See Heller, Is the Charitable Exemption from Property Taxation an Easy Case? General Concerns about Legal Economics and Jurisprudence, in Essays on the Law and Economics of Local Governments 183–87, 236–51 (D. Rubinfeld ed. 1979); Kelman, Interpretive Construction in the Substantive Criminal Law, 33 Stan. L. Rev. 591 (1981) (describing the time dependency of the concept of "criminal intent"). These theoretical barriers will be disregarded here to the extent possible.

One of the main justifications for presumptions at common law was the relative ease or convenience of producing relevant evidence. That justification has not been followed in the criminal law. See text accompanying notes 9–17 infra. "The argument from [comparative] convenience is admissible only where the inference is a permissible one . . . ." Tot, 319 U.S. at 469. The defendant will almost always be more familiar with his or her subjective mental state than the prosecution, but that alone cannot justify placing the burden of producing evidence upon a defendant in a criminal case. Id.; see also text accompanying notes 54–71 infra.

5. See text accompanying notes 9–71 infra.
Permissive presumptions "may, but need not, be relied on by the jury" in reaching its verdict; mandatory presumptions must be followed unless rebutted. The Court has applied a more relaxed standard of due process review to permissive than to mandatory presumptions.

This note argues that, in developing the contemporary mandatory-permissive standard, the Court has misunderstood the effects of presumptions on juries. Presumptions that are "permissive" in theory may nevertheless be "mandatory" in fact, thereby leading some juries to convict regardless of their beliefs and inclinations. Thus, these legal presumptions may undermine the moral sense and political function of the jury.

Part I of this note shows, through doctrinal analysis, that the mandatory-permissive distinction is an anomaly in the Court's jurisprudence. Part II shows that this distinction is at variance with a substantial body of empirical social science research. This part suggests that jurors are influenced significantly by the authority-laden legal structure surrounding judicial instructions on all presumptions—however permissive in theory. Part III proposes that the distinction between "mandatory" and "permissive" presumptions be abandoned, and that "reasonable-doubt" due process scrutiny be applied to all presumptions. This proposal would help to prevent the improper use of presumptions and ensure that jury verdicts reflect jurors' actual beliefs.

I. Evolution of Criminal Presumption Doctrine

A. Presumptions as Empirical Generalizations

The Supreme Court's recent treatment of criminal presumptions dates back to the 1943 case of Tot v. United States, which announced a "rational connection" test for the validity of presumptions. If there is no "rational connection" between the presumed fact and the proved fact, or if the connection between the two is arbitrary or inconsistent with ordinary experience, the pre-
sumption violates the due process clauses of the fifth and fourteenth amendments.  

The Tot Court intended to set limits on the power of Congress and state legislatures to make the proof of one fact (or set of facts) evidence of an ultimate, incriminatory fact.  

Only if reason and experience support the inference—that is, if it is probable that if the proved fact is true then the incriminatory fact will also be true—will the prosecution be relieved of its burden of production and proof. Tot thus set standards for convictions obtained solely on the basis of inferential proof.  

In taking as its theoretical point of departure the view that reason and experience must support a presumption, the Tot Court indicated its adherence to a specific conception of presumptions.  

According to this conception, presumptions express general truths about the way people behave in certain circumstances; the party against whom a presumption operates is a particular case to which the general truth of the presumption applies.  

Inferential proof of presumed intent runs as follows: It is generally true that if a defendant has done X, he wanted Y to

10. Id. at 467.  

11. Id. at 467-68 ("[W]here the inference is so strained as not to have a reasonable relation to the circumstances of life as we know them, it is not competent for the legislature to create it as a rule governing the procedure of courts."). The statute at issue in Tot made it a crime for convicted felons and "fugitives from justice" to receive firearms or ammunition that had been shipped or transported in interstate or foreign commerce. Mere possession was deemed to satisfy the required jurisdictional element of interstate transportation. Federal Firearms Act § 2(f), 52 Stat. 1250 (1938) (repealed 1968).  

12. The Supreme Court decisions in United States v. Gainey, 380 U.S. 63 (1965), and United States v. Romano, 382 U.S. 136 (1965), are virtually identical applications of Tot's "rational connection" test. The Court in Romano, however, strained to distinguish the offense of "carrying on" the illegal operation of a still from the (allegedly narrower and "markedly different") offense of "possession, custody, and control" of a still. Since "almost anyone" present at a still is "very probably" assisting in "carrying on" its operations, the presumption was sustained in Gainey, 380 U.S. at 67-68; cf. Romano, 382 U.S. at 140-41 (discussing the Gainey reasoning). But in Romano, the connection between presence and possession was found to be "too tenuous to permit a reasonable inference of guilt." 382 U.S. at 141. "[T]here was a much higher probability that mere presence could support an inference of guilt in the former case than in the latter." Ulster County, 442 U.S. at 157 n.16.  


14. As the Supreme Court stated in Mobile J. & K.C.R.R. Co. v. Turnipseed, 219 U.S. 35, 42 (1910), "the strength of any inference of one fact from proof of another depends upon the generality of the experience upon which it is founded." Justice Cardozo, writing in Morrison v. California, 291 U.S. 82 (1934), stated the same principle from the vantage point of "reasonable expectations." In the case of a true presumption, said the Justice, "[w]hat is proved must be so related to what is inferred . . . as to be at least a warning signal according to the teachings of experience . . . . [E]xperience must teach that the evidence held to be inculpatory has at least a sinister significance . . . ." Id. at 90. Justice Cardozo further ob-
occur; *this* defendant has done X; therefore, *this* defendant intended Y to occur.15

The formulation of the first, general proposition is the crucial step; if it "express[es] the normal balance of probability,"16 its application will be upheld in particular cases. But if the general proposition is itself inherently improbable, then imposing it on particular defendants is unfair. According to this view, the problem with formulating presumptions is in creating inferences that closely approximate the actual state of the world and of human behavior. *Tot* and its progeny view presumptions as attempts to express empirical, probabilistic connections between events, and to treat particular cases by reference to empirical generalizations.17

The "rational connection" test of *Tot* was strengthened in *Leary v. United States.*18 Leary was charged with violating a federal statute that made possession of marijuana sufficient evidence to authorize conviction for "knowingly" and "illegally" importing marijuana from abroad.19 The *Leary* Court asserted that a crimi-

served that possession of land, unless by an individual ineligible for citizenship, carried with it "not even a hint of criminality." Id. For an example of the reasoning in *Tot*, see the statute at issue in *Manley v. Georgia*, 279 U.S. 1 (1929), which provided that "[e]very insolvency of a bank shall be deemed fraudulent, and the president and directors shall be severally punished by imprisonment and labor in the penitentiary . . . ." Id. at 3–4. This rather severe presumption was successfully attacked as "unreasonable and arbitrary"; the proof sufficient to make a prima facie case "points to no specific transaction, matter or thing as the cause of the fraudulent insolvency or to any act or omission of the accused tending to show his responsibility . . . . The connection between the fact proved and that presumed is not sufficient. Reasoning does not lead from one to the other." Id. at 7.

Cardozoan analysis can also reach the same result: Merely being the president or director of an insolvent bank does not reasonably put one on notice of fraud. Nor does it "awaken a belief that [one] is guilty if he fails to come forward with excuse or explanation." *Morrison*, 291 U.S. at 90. This analysis is particularly useful in attacking presumptions that invoke unrelated jurisdictional elements. *See, e.g.*, *Tot*, 319 U.S. 463 (1943) (presumption of interstate or foreign commerce connected with firearm possession by a felon); *Leary v. United States*, 395 U.S. 6 (1969) (presumption of illegal importation tied to marijuana possession); *Barnes v. United States*, 412 U.S. 837 (1973) (presumption of federal mail use linked to possession of stolen U.S. Treasury checks); *see also* Nesson, *supra* note 1, at 1215–21 (inferences relating to jurisdiction).

17. The *Gainey* and *Romano* decisions are clearly based on generalized empirical propositions. The *Gainey* presumption "did no more than 'accord to the evidence, if unexplained, its natural probative force.'" 380 U.S. at 71 (quoting *McNamara v. Henkel*, 226 U.S. 520, 525 (1913)).
19. *Id.* at 10–11.
nal presumption is irrational or arbitrary unless there is "sub-
stancial assurance" that the presumed fact "more likely than not" follows from the proved fact. On the basis of detailed empirical findings, the Court determined that it could not say with any assurance that a majority of marijuana possessors "knew" the source of their marijuana. Thus it would be unreasonable to presume that Leary knew that his marijuana had been illegally imported.

The "more likely than not" criterion of Leary is a more precisely formulated statement of Tot's theory of empirical probability. The "more likely than not" test means that a presumption will be upheld if it is correct more than 50 percent of the time. Probably nothing more than judicial delicacy and an appreciation of the inherent imprecision in such matters prevented the Court from expressing this rule mathematically. But the Leary Court indicated on several occasions that, if "a majority of marijuana possessors 'kn[e]w' that their marijuana was illegally imported," the statute would be upheld.

20. Id. at 36. The introduction of this "more likely than not" language required the Court to delve into the realm of empirical proof and to take judicial notice of legislative facts. In addition to vast amounts of testimony and congressional committee reports, Justice Harlan's clerk consulted approximately 25 studies on the sources of marijuana and on the beliefs of marijuana smokers as to those sources. See id. at 53 n.116 (noting proudly that "there is no indication that in any of these [lower court] cases the court had before it or took into account even a fraction of the evidence which we have considered"). This support was necessary to sustain the Court's novel form of argumentation and to determine whether a presumption "more likely than not" expressed a valid inference to the truth of the presumed fact.

21. Id. at 52-53; cf. Turner v. United States, 396 U.S. 398 (1970), in which the defendant was convicted under provisions of a federal statute (covering "narcotic drugs") which were virtually identical to the one at issue in Leary. The Court upheld Turner's conviction on heroin charges, but reversed his conviction on cocaine charges. The Court found "overwhelming [empirical] evidence" that heroin consumed in the United States is illegally imported; therefore, "[t]o possess heroin is to possess imported heroin." Id. at 415-16. According to the Court, "Turner doubtless knew that his heroin came from abroad," unless he had practiced "a studied ignorance to which . . . [he was] not entitled." Id. at 416-17. The Court concluded that, with respect to heroin, the statutory presumption satisfied a "reasonable-doubt" standard, see text accompanying notes 25-37 infra, as well as the "more likely than not" criterion.

On the other hand, the Court found that more cocaine was lawfully produced in this country than was smuggled in from abroad. Since there was a substantial possibility that Turner's cocaine had been stolen, rather than imported, the presumption of "knowing, illegal importation" did not meet the "more likely than not" test when applied to cocaine. Id. at 422-24.

22. Leary, 395 U.S. at 46; see also id. at 37-39, 46-47, 52-53. The Court noted that "[t]he process of making the determination of rationality is, by its nature, highly empirical . . . ." Id. at 35 (quoting Gainey).
The *Leary* decision illustrates how the analysis of a presumption's constitutional validity becomes "logically divorced from . . . [the particular facts presented by the State] and based [instead] on the presumption's accuracy in the run of cases."23 "[T]hat petitioner himself testified at trial that he had no knowledge of the marihuana's origin [was irrelevant]."24 If the validity of presumptions depends on "the strength of the connection" between proved facts and presumed facts, evidence bearing on the presumed fact is logically irrelevant. Indeed, if the Supreme Court's theory of presumptions is followed to its ultimate conclusion, the presumptions themselves become the "facts" on trial.

B. The Imposition of Reasonable-Doubt Constraints

The applicability of reasonable-doubt due process scrutiny to criminal presumptions was established in the 1970 decision of *In re Winship*.25 *Winship* concerned a juvenile proceeding in which a determination of guilt, made "by a preponderance of the evidence," subjected a young boy to confinement in a training school for up to six years. The Court reversed on grounds that "the Due Process Clause protects the accused against conviction except upon proof beyond a reasonable doubt of every fact necessary to constitute the crime with which he is charged."26

23. *Ulster County*, 442 U.S. at 159.

Despite the fact that the defendant was well educated [Dr. Leary was a Professor of Psychology at Harvard University] and had recently traveled to a country that is a major exporter of marihuana to this country, the Court found the presumption of knowledge of importation from possession irrational. It did so, not because Dr. Leary was unlikely to know the source of the marihuana, but instead because 'a majority of possessors' were unlikely to have such knowledge.

*Ulster County*, 442 U.S. at 159 n.17. This does not mean that the presumption at issue was irrebuttable or conclusive; the *Leary* Court noted later in the same footnote that the presumption was "by its terms rebuttable."

A problem arose in *Leary* because the jury might have convicted solely on the basis of a presumption that did not meet the requirements of due process. See *Leary*, 395 U.S. at 31 ("For all we know, the conviction did rest on that ground."); *Ulster County*, 442 U.S. at 159 n.17 ("[There] was . . . no certainty [in *Leary*] that the jury had not relied upon the presumption."). Thus *Leary's* own testimony was "irrelevant," because he should not have been forced to rebut a constitutionally impermissible presumption in order to win an acquittal. In effect, the presumption shifted the burden of proof. See note 37 infra and accompanying text; see also *Connecticut v. Johnson*, 460 U.S. 73, 85 (1983) ("An erroneous presumption on a disputed element of the crime renders irrelevant the evidence on the issue because the jury may have relied upon the presumption rather than upon that evidence.").

26. Id. at 364.
Barnes v. United States was the first important post-Winship decision reviewing a criminal presumption. In Barnes the defendant was convicted of knowingly possessing stolen United States Treasury checks. The trial court instructed the jury that "[p]ossession of recently stolen property, if not satisfactorily explained, is ordinarily a circumstance from which you may reasonably draw the inference and find, in the light of the surrounding circumstances shown by the evidence in the case, that the person in possession knew the property had been stolen."

After a review of Gainey, Romano, Leary, and Turner—the teachings of which were "not altogether clear"—the Supreme Court noted that the challenged jury instruction in Barnes was a traditional inference deeply rooted in the common law. Barnes had been found in possession of stolen Treasury checks payable to persons he did not know, and had provided no plausible explanation consistent with innocence. "On the basis of this evidence alone," the Court concluded, "common sense and experience tell us that petitioner must have known or been aware of the high probability that the checks were stolen." In fact, the Court decided, the presumption met not only the "more likely than not" criterion of Leary, but also the reasonable doubt standard. A presumption meeting the former standard, but not the latter, had yet to come before the Court.

The Winship principle was strengthened in Mullaney v. Wilbur. A Maine law required a defendant to prove, by a "fair preponderance" of the evidence, that he had acted "in the heat of passion on sudden provocation" in order to reduce a murder charge to manslaughter. This requirement amounted to a rebuttable presumption that homicide was punishable as murder.
The State of Maine argued that *Winship* did not apply, since the presence of provocation was not a “fact necessary to constitute the crime” of felonious homicide in Maine, but merely a factor bearing on the extent of punishment. The Court responded that on this reasoning Maine could simply redefine all assaults as a single offense, punishable as murder, and then provide affirmative defenses for all elements of aggravation.  

If the *Winship* decision were limited by a state’s definition of crimes, Maine could thus shift the entire burden of proof to the defendant without substantively changing its criminal law. This would, of course, “undermine many of the interests that [*Winship*] sought to protect.” Under Maine’s “fair preponderance” burden of proof, a finding of murder could result even where the evidence indicated that the defendant as likely as not deserved a significantly less severe sentence.  

The *Mullaney* Court emphasized that the burden of proof in a criminal trial cannot be shifted to the defendant by the operation of a presumption affecting the degree of culpability or extent of punishment. The availability of affirmative defenses does not relieve the prosecution of its obligation to establish beyond a reasonable doubt all facts upon which the degree of culpability and extent of punishment turn.

C. ‘Mandatory’ vs. ‘Permissive’ Presumptions, and Rebuttability

The case of *County Court of Ulster County v. Allen* represents a marked departure from the due process analysis of *Winship* and *Mullaney*. The Supreme Court in *Ulster County* introduced a distinction between “mandatory” presumptions, which must meet

resulted from “sudden and sufficiently violent provocation.” 5 W. Blackstone, Commentaries *201.
35. *Id.* at 698.
36. “In short, petitioners would limit *Winship* to those facts which, if not proved, would wholly exonerate the defendant.” *Id.* at 697. “*Winship* is concerned with substance rather than this kind of formalism.” *Id.* at 699.
37. *Id.* at 697–98, 701–04; see also Patterson v. New York, 432 U.S. 197, 215 (1977) (“[a] State must prove every ingredient of an offense beyond a reasonable doubt, and . . . it may not shift the burden of proof to the defendant by presuming that ingredient upon proof of the other elements of the offense.”).

the reasonable doubt standard, and "permissive" presumptions, which need only meet the "more likely than not" test of Leary. The Court appears to have created this distinction out of whole cloth. As Justice Powell observed on behalf of four dissenters, "I have found no recognition in the Court's prior decisions that this distinction is important in analyzing presumptions used in criminal cases."

At any rate, according to the Ulster County theory the jury must find the presumed fact, in the absence of evidence to the contrary, when given a mandatory presumption. The jury may, but need not, find the presumed fact in the presence of the proved fact when given a permissive presumption. An alternative definition used by the Court is: A mandatory presumption authorizes conviction "even if the jury disbelieved all of the testimony" and merely relied on the inferential proof afforded by the presumption; a permissive presumption, by contrast, may not be the "sole and sufficient" basis for a finding of guilt. Although the Court viewed the Ulster County decision as completing the unfinished business of Leary, in many ways the new distinction raised more problems than it solved.

Because a mandatory presumption can result in a conviction even if there is no further evidence introduced on the presumed fact, the validity of such a presumption is "logically divorced from [the particular facts presented by the State] and based [instead] on the presumption's accuracy in the run of cases." But with a "permissive" presumption the jury is not required or even

39. Id. at 157-67; see also H.R. Doc. No. 46, 93d Cong., 1st Sess. 5 (1973) (proposed rule of evidence).
40. Ulster County, 442 U.S. at 170 n.3 (Powell, J., dissenting); see also id. at 176 (Powell, J., dissenting) ("The Court's novel approach in this case appears to contradict prior decisions of this Court reviewing such presumptions.").
41. Id. at 157-60.
42. Id. at 157 n.16.
43. Id. at 167. The first definition emphasizes the supposed powers, rights, and choices of the jury, which this note argues are much more limited than has hitherto been recognized. See text accompanying notes 97-101, 117-118, 120-147 infra. The second definition emphasizes the requirements of evidentiary sufficiency that the prosecution must meet. This second sense of the mandatory-permissive distinction casts a more revealing light on the real nature of presumptions. This note will accordingly use the latter definition.
44. Ulster County, 442 U.S. at 171 n.5 (Powell, J., dissenting); see also Leary, 395 U.S. at 36 n.64.
45. Ulster County, 442 U.S. at 159. "[T]he Court has held it irrelevant in analyzing a mandatory presumption . . . that there is ample evidence in the record other than the presumption to support a conviction." Id. at 160.
allowed to convict on the basis of the presumption alone. Since a "permissive inference" is merely one, but not the sole and sufficient, basis for a finding of guilt, there is no reason to require a greater degree of probative force for this sort of presumption than for other relevant evidence.46 In short, the idea of requiring a "rational connection" for presumptions seems to have fallen by the wayside in Ulster County.47 As Justice Powell complained in dissent, "[T]he Court in effect . . . construct[s] a rule that permits the use of any inference—no matter how irrational in itself—provided that otherwise there is sufficient evidence in the record to support a finding of guilt."48

The Supreme Court may have adopted the distinction between mandatory and permissive presumptions in response to criticism from scholars who had developed explicit theories of presumptions. For example, prior to Ulster County, Harold A. Ashford and D. Michael Risinger had developed a mathematical-probabilistic model for presumptions along the lines suggested in Tot and Leary.49 However, they added a critical second factor to the Court's analysis of presumptions as probabilistic inferences: the probability that an innocent person can exonerate himself (rebut the presumed fact) even in the presence of the proved fact. They argued that to assess the true magnitude of the "procedural hardship" imposed by a presumption, both factors must be considered.50

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46. Id. The Court's language in this passage lumps together presumptions, which are rules of law, with evidence, which is not. See Cal. Evid. Code § 600 (West 1966) ("A presumption is not evidence."); Rules of Evidence, 1974: Hearings on H.R. 5.463 Before the Senate Comm. on the Judiciary, 93d Cong., 2d Sess. 56 (1974) ("Presumptions are not evidence, but ways of dealing with evidence.").

47. The Court analyzes the presumption in Ulster County solely as applied in that case and not on its face. Thus, when the Court concludes that "[t]he permissive presumption, as used in this case, satisfied the Leary test," 442 U.S. at 167 (emphasis added), it makes no claim that the presumption, considered in isolation, would satisfy the Leary test.

48. Id. at 177 (Powell, J., dissenting).
49. Ashford & Risinger, supra note 37.
50. It is one thing to enact a statutory presumption that is correct only 70% of the time, and quite another thing to enact such a statute when only one innocent person in a million would have any trouble rebutting the presumption. Conversely, a "rational connection" of 90% is less justifiable when no innocent person to whom the presumption applies could overcome the presumption. Ashford and Risinger conclude that "[o]ur courts cannot properly perform their function of safeguarding criminal defendants from the operation of presumptions which violate due process by relying on a rational connection test alone." Ashford & Risinger, supra note 37, at 185.

For example, if 90% of the persons who do A also commit the illegal act B, and of those who do A but not B, 90% can exonerate themselves, an erroneous conviction rate of only
In a sense, the Court's mandatory-permissive distinction addresses the concern about wrongful convictions caused by the difficulty of rebuttal (exoneration). It is more difficult to rebut a presumption if the jury is mandatorily required, or allowed, to convict solely on the basis of the presumption; opportunities for exoneration are greater if the jury permissively makes a presumption-assisted decision in the context of the entire evidentiary record. Only in the latter case is evidence of particular facts relevant. Permissive presumptions are in fact rebuttable, because particularized evidence bolsters the decision to apply the presumption. If no defendant can rebut a permissive presumption, the jury is unlikely to have a particularized factual basis for applying it. Mandatory presumptions are more appropriate in such circumstances. 51

However, this "ease of exoneration" factor stubbornly and inherently resists quantification. Quantifying ease of exoneration would require data on the number of persons "actually" guilty, against which the number of innocent persons who are wrongfully convicted could be compared. 52 Such data are lacking in

about 1.1% results. That is, of 100 people who did A, 90 will also have committed B and be correctly convicted; of the remaining 10 who did A but did not commit B, only one will be unable to exonerate himself and be erroneously convicted. Thus only one out of 91 was erroneously convicted. To take another example, if both rates are changed to 70%, a wrongful conviction percentage of about 11.4 results (i.e., 70 out of 100 are correctly convicted, plus 30% of the 30 innocent people, or 9 erroneous convictions, for a 9 out of 79 wrongful conviction rate).

Nevertheless, any statute that required many innocent people to exonerate themselves might be unacceptably "inquisitorial," however easy the exoneration. Ashford and Risinger address this point: "The criminal law should be scrutinized not only from the point of view of protecting innocent defendants against wrongful conviction. The principles implicit in the term 'probable cause' require us also to provide reasonable protections against the arrest and trial of innocent persons." Id. at 191.

51. If, however, defendants are placed at a disadvantage when rebutting a permissive presumption, impermissible burden shifting might be hidden within that presumption. See notes 24, 37 supra; notes 54–71 infra and accompanying text (finding impermissible burden shifting when mandatory presumptions alter the burden of persuasion and rebuttal), especially note 70 (analyzing the jury instruction in Ulster County as mandatory rather than permissive).

52. The most controversial feature of the Ashford-Risinger model, and one that the mandatory-permissive distinction does not address, is the proposal that "acceptable" rates or levels of erroneous convictions be expressed in fairly specific mathematical or statistical terms. "[W]e submit," the authors state, "that a standard of precision approaching 99%, and certainly greater than 90%, should be required before a presumption can be constitutionally sustained consistent with notions of due process." Ashford & Risinger, supra note 37, at 183. "Percentages," the authors continue somewhat obscurely, "although not subject to precise determination, have a shorthand value in suggesting analogous subjective limitations upon the acceptable standard of imprecision . . . ." Id.; see also Broun & Kelly, Playing the Percentages
principle, but they would be required to ensure that the mandatory-permissive distinction is being properly applied. Thus, the mandatory-permissive distinction provides no easy or mechanical way of deciding criminal presumption cases. The Court must still rely on its own understanding of the effects of such presumptions on jurors.

D. Unconstitutional ‘Mandatory’ Presumptions and Burden Shifting

Two weeks after deciding Ulster County, the Supreme Court

and the Law of Evidence, 1970 U. ILL. L.F. 23; Finkelstein & Fairley, A Bayesian Approach to Identification Evidence, 83 HARV. L. REV. 489, 504 (1970) (“one can . . . interpret subjective probability of (e.g.) guilt as the relative frequency of guilt over cases judged to be similar by the degree of belief they engender”); Tribe, Trial by Mathematics: Precision and Ritual in the Legal Process, 84 HARV. L. REV. 1329 (1971).

The Supreme Court has decided comparable statistical issues in civil discrimination cases. In doing so, the Court has indicated its consistent, if often unexpressed, approval of the 5% threshold level of statistical significance that is conventionally used in the social sciences. Since many of the discrimination studies have higher levels of accuracy, this standard translates into a “wrongful decision” rate of considerably less than 5% in the civil context.

The closest the Court has come to making an explicit statement on its criteria of statistical proof is a famous footnote in Castaneda v. Partida, 430 U.S. 482 (1977), a leading case in the race discrimination area. Castaneda concerned a Texas county with a 79.1% Mexican-American population, whose grand jury pools were only approximately 39% Mexican-American over a period of more than a decade. The Court stated: “As a general rule for such large samples, if the difference between the expected value and the observed number is greater than two or three standard deviations, then the hypothesis . . . would be suspect to a social scientist.” Id. at 496 n.17. Two standard deviations would represent about a 5% margin of error, or a 95% level of confidence that the results reported did not occur merely by chance. In Castaneda, the observed number of Mexican-Americans differed from the expected number by about 29 standard deviations. According to the Court’s calculations, the corresponding probability that this disparity occurred by chance was less than 1 in 10

In a subsequent case, Hazelwood School Dist. v. United States, 433 U.S. 299 (1977), a civil case also involving racial discrimination, the Court quoted approvingly the above cited language from Castaneda, but dropped the qualifying words “to a social scientist,” which had previously suggested that the Court was simply referring to a convention adopted outside the legal context. Id. at 308 n.14. Lest one conclude that the social scientists necessarily have the last word in such matters, the Court inserted a vague disclaimer later in Hazelwood, cautioning that “[t]hese observations are not intended to suggest that precise calculations of statistical significance are necessary in employing statistical proof . . . .” Id. at 311 n.17.


53. See note 70 infra.
embarked on a course of adjudication oddly against the tenor, if not the theory, of that case. The decisions in the cases following provide further evidence that Ulster County's mandatory-permissive distinction is an anomaly in the Court's jurisprudence and a departure from its due process precedents.

In Sandstrom v. Montana, a unanimous Court held that a mandatory deliberate-homicide jury instruction (stating that "the law presumes that a person intends the ordinary consequences of his voluntary acts") violated the Winship reasonable doubt standard. A mandatory presumption is impermissible under Winship and Mullaney if it shifts the "burden of persuasion" to the defendant on an element of the crime with which he or she is charged. The Sandstrom Court reserved judgment on whether a mandatory presumption that shifts merely the "burden of production" is permissible.

Sandstrom applied a "rhetorical" analysis and the psychology of the "reasonable juror" to the task of reviewing presumptions. The Court noted that determining the nature of a presumption "requires careful attention to the words actually spoken to the jury . . . for whether a defendant has been accorded his constitutional rights depends upon the way in which a reasonable juror could have interpreted the instruction." After consulting the dictionary definition of "presume," and pondering the jury's likely reaction to being told that "the law presumes that a person intends the ordinary consequences of his voluntary acts," the Sandstrom Court concluded that a "reasonable juror" might have interpreted the instruction as shifting the burden of persuasion to the defendant on the dispositive issue of intent.

The judge in Sandstrom instructed the jury that the accused was presumed innocent until proved guilty and that the state had the burden of proving intent beyond a reasonable doubt. These general instructions, however, were "not rhetorically inconsistent with a conclusive or burden-shifting presumption," since the

55. Id. at 524. The Montana statute at issue defined "deliberate homicide" as "purposely or knowingly" causing the death of another human being. Mont. Code Ann. § 45-5-102 (1978).
56. Sandstrom, 442 U.S. at 515, 519, 524 n.8; see also Francis v. Franklin, 105 S. Ct. 1965, 1971 n.3 (1985). But see Ulster County, 442 U.S. at 157 n.16 (suggesting that mandatory presumptions shifting the burden of production may also be unconstitutional).
57. Sandstrom, 442 U.S. at 514.
58. Id. at 519.
jury might have interpreted the unrebutted presumption as supplying proof of intent beyond a reasonable doubt.\textsuperscript{59} In a brief concurrence, Justice Rehnquist and the Chief Justice stated that they were "loath to see this Court go into the business of parsing jury instructions," but they nevertheless deferred to the judgment of their colleagues.\textsuperscript{60}

Last Term, in \textit{Francis v. Franklin},\textsuperscript{61} the Court held that a \textit{Sandstrom}-type instruction was unconstitutional even when accompanied by an explicit reminder that the presumption was rebuttable.\textsuperscript{62} Franklin leveled his due process challenge at the following two sentences in the jury charge:

\begin{quote}
The acts of a person of sound mind and discretion are presumed to be the product of the person's will, but the presumption may be rebutted. A person of sound mind and discretion is presumed to intend the natural and probable consequences of his acts, but the presumption may be rebutted.\textsuperscript{63}
\end{quote}

Again, the Court's analysis was a "rhetorical" one:

\begin{quote}
The challenged sentences are cast in the language of command. They instruct the jury that "acts of a person of sound mind and discretion are presumed to be the product of the person's will," and that a person "is presumed to intend the natural and probable consequences of his acts," . . . These words carry precisely the message of the language condemned in \textit{Sandstrom} . . . \textsuperscript{64}
\end{quote}

Although Franklin's jury, unlike Sandstrom's, was explicitly told that the presumptions "may be rebutted," the jury might well have concluded from the preceding mandatory language that it was required to infer intent to kill (which Franklin denied) as the natural and probable corollary of firing the gun (which Franklin admitted), unless the defendant persuaded the jury that such an inference was unwarranted.\textsuperscript{65}

Justice Rehnquist dissented, stating that "[s]uch fine parsing

\begin{footnotes}
59. \textit{Id.} at 518 n.7.
60. \textit{Id.} at 527 (Rehnquist, J., concurring).
62. \textit{Id.} at 1968–70, 1977. Franklin's sole defense to a charge of "malice murder" was that he lacked the requisite intent to kill. \textit{Id.} at 1969.
63. \textit{Id.} at 1969–70.
64. \textit{Id.} at 1972 (emphasis added by the Court).
65. \textit{See id.} at 1973 ("The very statement that the presumption 'may be rebutted' could have indicated to a reasonable juror that the defendant bore an affirmative burden of persuasion once the State proved the underlying act giving rise to the presumption."); \textit{id.} at 1975 ("Language that merely contradicts and does not explain a constitutionally infirm instruction will not suffice to absolve the infirmity.").
\end{footnotes}
of the jury instructions given in a state court trial is not required by anything in the United States Constitution.” Justice Rehnquist, however, then contributed some fine parsing of his own. Indeed, Francis and Sandstrom represent the most elaborate and detailed analysis of jury instructions and juror psychology that the Court has ever undertaken. The majority emphasizes the rhetorical effect of language on the reasonable juror, but provides little assurance that the Court’s understanding of this phenomenon is adequate. The dissent flatly disagrees with the Court’s legal standard and with its version of the facts. Likewise, the majority characterized the presumption at issue in Ulster County as “permissive” only over the strenuous objections of four dissenters. These sharp variances in interpretation reveal the

66. Id. at 1980 (Rehnquist, J., dissenting).
67. Id. at 1983–85 (Rehnquist, J., dissenting).
68. See Sandstrom, 442 U.S. at 515 (“Sandstrom’s jurors were told that ‘[t]he law presumes that a person intends the ordinary consequences of his voluntary acts.’ They were not told that they had a choice, or that they might infer that conclusion; they were told only that the law presumed it. It is clear that a reasonable juror could easily have viewed such an instruction as mandatory.”); Francis, 105 S. Ct. at 1974 n.7 (“One would expect most of the juror’s reflection about the meaning of the instructions to occur during [the] subsequent deliberative stage of the process. Under these circumstances, it is certainly reasonable to expect a juror to attempt to make sense of a confusing earlier portion of the instruction by reference to a later portion of the instruction.”).
69. See Francis, 105 S. Ct. at 1980, 1985 (Rehnquist, J., dissenting). But see id. at 1985 (Rehnquist, J., dissenting) (conceding the validity of the majority’s “rhetorical” analysis: “It is true that the problems raised here probably could be alleviated if the words ‘is presumed’ were merely changed to ‘may be presumed,’ thereby making the presumption permissive . . . .”).
70. The differences between the majority and the dissenters in Ulster County turned largely on how to characterize the presumption at issue. One crucial clause of the jury instruction stated: “[U]nder these presumptions . . . upon proof of the presence of the machine gun and the hand weapons, [the jury] may infer and draw a conclusion that such prohibited weapon was possessed by each of the defendants who occupied the automobile . . . .” Ulster County, 442 U.S. at 173 (Powell, J., dissenting). If the four dissenters are correct, this instruction allowed, or might have caused, the jury to base its decision on the presumption alone; the prosecution would then have been required to defend, as a general proposition, the presumption that people present in automobiles containing weapons are, beyond a reasonable doubt, the possessors of those weapons. Id. at 175–77. The possibility that the jury disbelieved all of the evidence and relied solely on the presumption was, according to the dissenters, simply ignored:

The Court mischaracterizes the function of the presumption charged in this case . . . . For all we know, the jury rejected all of the prosecution’s evidence concerning the location and origin of the guns, and based its conclusion that respondents possessed the weapons solely upon its belief that respondents had been present in the automobile . . . . By speculating about what the jury may have done with the factual inference thrust upon it, the Court in effect . . . construct[s] a rule that permits the use of any inference . . . provided that otherwise there is sufficient evidence in the record to support a finding of guilt . . . .
inherent limitations of legal doctrine in the field of presumptions and suggest the need to apply accepted social science principles to the legal discussion.\textsuperscript{71}

\section*{II. A Critique of the Permissive Inference Model for Presumptions}

The verdict in a "permissive presumption" case can run contrary to the jury's true beliefs. A judge's instruction on a permissive inference may, in effect, communicate a "mandatory" rule of law to the jury because of the general aura of legal authority surrounding the presumption or through the formal rhetoric by which it is conveyed. Without having to meet reasonable-doubt scrutiny, a permissive presumption may thus have the same effect as a mandatory presumption. The Supreme Court's concept of the "reasonable juror," and its conflicting accounts of the rhetorical effects of jury instructions, shed little light on the effect of permissive presumptions on jurors.

The influence exerted by judicial authority and legal formalism may, moreover, shift responsibility for decisions "upward," away from individual jurors, to what they perceive as the legitimate authority. These jury verdicts reflect not the "conscience of the community," but rather the impact of legal doctrine on the decisions of the jury.

\textit{Id.} at 175–77 (citations and footnotes omitted).

The majority found, however, after close study of the judge's instructions and the jury verdict, that the presumption had been interpreted by the jury as permissive, and could thus be considered "as applied," or in the context of the entire record of evidence. \textit{Id.} at 160–66. The majority thus avoided a Leary-style examination of the presumption's general validity.

The majority's analysis neglects the possibility that a permissive presumption may impermissibly shift the burden of either production or persuasion. The Court must have assumed that the surrounding evidence was constitutionally sufficient to elevate the impermissible-if-mandatory presumption to the level of \textit{Winship} scrutiny, and that the defendant had failed, or never attempted, to rebut either the presumption itself or the jury's bootstrap. The Court thus abandoned the requirement that a presumption be accurate beyond a reasonable doubt (in the application of generalized principles to particular circumstances) in favor of a "nexus" between the jury's unspoken, empirical beliefs and its acceptance of the prosecution's express, but undocumented, claim that the presumption is valid. See note 51 \textit{supra}.

71. Compare Francis, 105 S. Ct. at 1975 n.8 ("the dissent would uphold this conviction based on an impressionistic and intuitive judgment that it was more likely that the jury understood the charge in a constitutional manner than in an unconstitutional manner") with \textit{id.} at 1984 (Rehnquist, J., dissenting) ("Either the Court is attributing qualities to the average juror that are found in very few lawyers, or it perversely reads the instructions as a 'looking-glass charge' which, when held to a mirror, reads more clearly in the opposite direction.") (citing L. Carroll, \textit{Through the Looking Glass}).
A. Misconceptions of the Effect of Presumptions on Jury Decisionmaking

According to current Supreme Court doctrine, if a presumption forms the sole basis for a conviction, that presumption "stands in stead" of the evidence and must satisfy the requirement of proof beyond a reasonable doubt.\(^72\) If, however, the jury does not rely solely on the presumption for a conviction, the "permissive" presumption is considered in the same manner as other evidence and need only satisfy the general requirements for admissibility of evidence.\(^73\) The Court's reasoning is premised on the assumption that juries view permissive inferences as less binding on them than mandatory presumptions. Acceptance of a permissive presumption is theoretically purely voluntary.\(^74\) But as the case of United States v. Gainey\(^75\) demonstrates, this assumption is not as valid as it might initially appear.

The statutory presumption at issue in Gainey deemed presence at the site of an illegal still, if not explained to the satisfaction of the jury, "sufficient evidence to authorize conviction" for the substantive crime of carrying on an illegal distilling business.\(^76\) Although the trial judge repeated this provision verbatim to the jury, his instructions also made it clear that mere unexplained presence at the site of an illegal still was not itself a crime nor necessarily inconsistent with innocence.\(^77\) The judge specifically encouraged the jury to look beyond the language of the presumption to the entire record for evidence to support its verdict.\(^78\)

Although the majority in Gainey upheld the conviction as a proper application of the presumption,\(^79\) Justice Black dissented, stating that:

> [t]his jury deliberated with the judge's solemn instruction that Congress had decided that proof of mere unexplained presence at a still was sufficient to convict . . . . Few jurors could have failed to believe that it was their duty to convict under this charge if presence was proved . . . even though all of them . . .

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\(^72\) See Ulster County, 442 U.S. at 159–60 & n.17.
\(^73\) See note 46 supra and accompanying text.
\(^74\) Ulster County, 442 U.S. at 157.
\(^75\) 380 U.S. 63 (1965).
\(^76\) Id. at 64 n.2.
\(^77\) Id. at 69–70.
\(^78\) Id.
\(^79\) Id. at 67–68.
might have felt that mere presence alone was not enough to show guilt.\textsuperscript{80}

Justice Black's point about the impact of authority on jury decisionmaking—that "permissive" presumptions have an effect they are not supposed to have—is timely and appropriate. The Supreme Court currently shows a strong inclination to characterize presumptions as "permissive" whenever possible, thereby granting them the benefits of lowered due process scrutiny.\textsuperscript{81}

Even in the case of rebuttable mandatory presumptions the Court is in profound disagreement about the effect of such instructions on jurors.\textsuperscript{82}

A number of legal and extra-legal studies cast considerable doubt on the Court's proposition that jurors understand permissive inferences as purely "optional" rules of law.\textsuperscript{83} These empirical and legal studies indicate that permissive and mandatory

\begin{footnotesize}
\begin{enumerate}
\item \textit{Id.} at 77 (Black, J., dissenting); \textit{see also Connecticut v. Johnson}, 460 U.S. 73, 85-86 (1983) ("[I]f the jury may have relied upon the presumption rather than upon that evidence . . . a reviewing court cannot hold that the error did not contribute to the verdict."); \textit{Sandstrom}, 442 U.S. at 526 ("even if a jury could have ignored the presumption . . . we cannot be certain that this is what they did do"); \textit{Ulster County}, 442 U.S. at 160 n.17 ("there was . . . no certainty [in \textit{Leary}] that the jury had not relied on the presumption"); \textit{id.} at 175-76 (Powell, J., dissenting) ("For all we know, the jury . . . based its conclusion . . . solely upon its belief that respondents had been present in the automobile. For purposes of reviewing the constitutionality of the presumption at issue here, we must assume that this was the case.") (footnote omitted); \textit{Leary}, 395 U.S. at 31-32 ("For all we know, the conviction did rest on that ground. It has long been settled that when a case is submitted to the jury on alternative theories the unconstitutionality of any of the theories requires that the conviction be set aside. See, e.g., Stromberg v. California, 283 U.S. 359 (1931)."); \textit{Tot}, 319 U.S. at 469 ("[T]he statute in question . . . leaves the jury free to act on the presumption alone once the specified facts are proved, unless the defendant comes forward with opposing evidence. And this we think enough to vitiate the statutory provision."); \textit{Bailey v. Alabama}, 219 U.S. 219, 235 (1911) ("The point is that . . . the statute authorizes the jury to convict. It is not enough to say that the jury may not accept that evidence as alone sufficient; for the jury may accept it, and they have the express warrant of the statute to accept it as a basis for their verdict.").

\item \textit{See note 70 supra} (describing the Court's conflict in characterizing presumptions).

\item \textit{See Francis, 105 S. Ct. at 1976 n.9:}

[T]he dissent "simply do[es] not believe" that a reasonable juror would have paid sufficiently close attention to the particular language of the jury instructions to have been perplexed by the contradictory intent instructions. \textit{See post, at 1984} (REHNQUIST, J., dissenting). \textit{See also Sandstrom v. Montana}, 442 U.S., at 528, 99 S.Ct., at 2461 (REHNQUIST, J., concurring) ("I continue to have doubts as to whether this particular jury was so attentively attuned to the instructions of the trial court that it divined the difference recognized by lawyers between 'infer' and 'presume'"). Apparently the dissent would have the degree of attention a juror is presumed to pay to particular jury instructions vary with whether a presumption of attentiveness would help or harm the criminal defendant.

\item \textit{See text accompanying notes 38-46, 74 supra.}
\end{enumerate}
\end{footnotesize}
presumptions affect juries in similar ways.  

The thesis that permissive presumptions are permissive only in theory is facially plausible. Statutorily enacted or judicially sanctioned permissive inferences have received the official imprimatur of the state; they have been enshrined in official rules of law expressed in formal legal language. These official actions convey disproportionate authority and carry more weight with juries than other items of admissible evidence. Juries are thereby induced to give undue consideration to legal formulas that clearly disadvantage defendants. A series of empirical studies supports this thesis.

B. Blurring the Mandatory-Permissive Distinction:  
Empirical Demonstrations

1. Effects of authority on obedience: The Milgram experiments.

   **Background.** Stanley Milgram's famous experiments on obedience support the general thesis that perceived authority can distort individuals' behavior and moral judgment. In these experiments, Milgram asked unsuspecting volunteers to assume the role of a "teacher" in a learning exercise. The "teacher" was instructed to pose questions to a "learner" and to administer an electrical shock to the learner if he answered incorrectly. Milgram presented the experiment to the teacher as a study of the effects of punishment, or "negative reinforcement," on memory and learning. Actually, Milgram was testing the teacher for his willingness to administer the electrical shocks. The "learner" was a trained actor and a member of the experimental team who did not actually receive any shocks, although almost all of the

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84. The remainder of this note examines and evaluates the implications of a number of empirical studies. The presentation and analysis of these studies are primarily "analogical" rather than strictly empirical. The studies to be examined shed only indirect light on the thesis under consideration. The widespread understanding of the applicability—as well as the limitations—of social psychological research in the realm of legal theory supports an analogical approach. See note 147 infra; L. FRIEDMAN & S. MACAULAY, LAW AND THE BEHAVIORAL SCIENCES (2d ed. 1976); Bray & Kett, The Psychology of the Courtroom, 33 ANN. REV. PSYCHOLOGY 441 (1982); Loftus & Monahan, Trial by Data: Psychological Research as Legal Evidence, 35 AM. PSYCHOLOGIST 270 (1980).

85. See Weisberg, Deregulating Death, 1983 SUP. CT. REV. 305, 352, 392-93.

86. See id. at 375 ("[T]he jury took the formula very seriously" in sentencing the defendant to death when a lesser penalty seemed appropriate).

teachers believed he did.88

Milgram demonstrated the important effects of authority systems on obedience. The level of obedience documented in Milgram's experiments depended upon the degree to which the subjects perceived their actions as subject to that authority.89 Other rival explanations for the results—for example, the view that people are naturally cruel or sadistic—were disproved by careful variations of the basic experiment in which the subjects were able to choose whatever level of punishment they deemed appropriate.90 "With numbing regularity," ordinary, decent, and responsible citizens were "seduced by the trappings of authority," by the control of their perceptions, and by their "uncritical acceptance of the experimenter's definition of the situation" into performing harsh and punitive acts they otherwise would never have performed.91 Milgram induced in his subjects the impression that their actions were "mandated" by authority when, in fact, their participation in the experiment was voluntary and could be terminated by them at any time.92

88. See S. Milgram, supra note 87, at 171-74. The "shocks" were given in a sequence running from 15 to 450 volts at 15-volt intervals. Id. at 20. These voltage levels were clearly displayed on the experimental apparatus used by the teacher, as were verbal designations ranging from "slight shock" (15-60 volts) to "danger: severe shock" (375-450 volts). Id. at 20, 29. For every wrong answer, the subject was to administer the next highest shock in the series. Id. at 20-21.

The most important version of the experiment was one in which the teacher could hear the learner's verbal protests from an adjoining room. The learner's protests began at 120 volts with complaints, followed by demands to be released from the experiment (150 volts), agonized shouts (270 volts), refusal to answer further questions (300 volts), violent, vehement, and prolonged screams (315 volts), followed finally by dead silence (330 volts). Id. at 23. In these circumstances, the average level of highest shock administered was 368 volts, and 25 out of 40 subjects proceeded all the way up to the maximum level of 450 volts. Id. at 35. Some continued to administer shocks on the assumption that the "learner" was by then dead. Id. at 76, 87.

The experimental supervisor was an "impassive" and "somewhat stern" man dressed in a grey technician's coat. Id. at 16. If the subjects hesitated before administering a shock, the supervisor would calmly advise them that they were required to continue, and that the shocks, though painful, would cause "no permanent tissue damage." Id. at 19, 21. Further, when the subjects hesitated the supervisor would respond with a carefully tailored oral "prod," ranging from "Please continue," to "You have no other choice, you must go on." The supervisor maintained at all times a professional, "scientific" manner, and always spoke in an even, unemotional tone of voice. Id. at 21.

89. See id. at 153.

90. These versions served as a crucial control on the experimental findings. Id. at 70-72. In the "control" situation, "the great majority of subjects delivered the very lowest shocks to the victim when the choice was left up to them." Id. at 72.

91. Id. at 123.

92. Id. at 40-41 ("The over-all level of obedience, across all four experimental varia-
Milgram's experiments were conducted in a modern scientific laboratory by trained personnel who presided over a formidable array of scientific equipment. Undoubtedly, this environment enhanced the "trappings of authority" and contributed to the results. The "teachers'" expectations in these circumstances must have been that the "authorities" exercised rightful control and legitimate power. This expectation was reinforced for the subjects by the apparently logical connection between the actions they were being asked to perform and the scientific goal of increasing knowledge about the nature of memory and learning. Milgram thus established that individuals' actions flow not merely from their autonomous, moral propensities but are also strongly shaped by their expectations of what appears to be legitimate authority.

In perhaps the most pitiful and telling reaction to this false sense of obligation, many subjects offered to return the $4.50 they had already been paid for participating, if only they could discontinue shocking what they thought was a dying man. When the offers were refused, they continued their grim task. Id. at 47.

93. Milgram defines an authority system, reduced to its essentials, as "a minimum of two persons sharing the expectation that one of them has the right to prescribe behavior for the other." Id. at 142-43.

94. Although particular instructions of the supervisor might have been questioned, they generally appeared appropriate to the subjects when related to the overall goal of scientific progress. Cf. id. at 141, 176, 187, 208 n.14. Residual, "background" authority was supplied by intangible factors such as a general ideological climate favorable to science and the "broad institutional accord" that permitted such activities to go on at all. For example, the very fact that the experiment was being conducted and tolerated in a civilized country implied social approval. See id. at 142-43.

95. See id. at 103-04, 30-31. Researchers in many different countries have replicated Milgram's experiments numerous times, often with higher levels of obedience than Milgram found. See, e.g., Rosenhan, Some Origins of Concern for Others, in TRENDS AND ISSUES IN DEVELOPMENTAL PSYCHOLOGY 134 (P. Mussen, J. Langer & M. Covington eds. 1969); Ancona & Pareyson, Contributo allo studio della aggressione: La Dinimica della obbedienza distruttiva, 29 ARCHIVA DI PSICOLOGIA NEUROLOGIA E PSICHIATRIA (1968); Kilham & Mann, Level of Destructive Obedience as a Function of Transmitter and Executant Roles in the Milgram Obedience Paradigm, 29 J. PERSONALITY & SOC. PSYCHOLOGY 696 (1974); Mantell, The Potential for Violence in Germany, 27 J. SOC. ISSUES, No. 4, at 101 (1971).

Other researchers have extended Milgram's work on obedience and studied the effects of authority on jury decisionmaking. Bray and Noble compared the frequency of guilty verdicts reached and length of sentences imposed by low and high "authoritarian" juries exposed to the same simulated trial. See Bray & Noble, Authoritarianism and Decisions of Mock Juries: Evidence of Jury Bias and Group Polarization, 96 J. PERSONALITY & SOC. PSYCHOLOGY 1424 (1978). Low and high "authoritarians" were classified by their performance on a special test developed by
Implications. Milgram demonstrated that it was possible to structure situations in which perceived supervisory authority distorted and dominated individuals' beliefs in their actual freedom to disobey instructions. In many respects, Milgram's experiments are analogous to the legally "ordered" situation in which jurors are instructed to determine criminal liability in light of a permissive presumption.96

Like Milgram's subjects, lay jurors in a criminal trial find themselves in an unfamiliar situation whose features are defined largely by traditional figures of authority. In the carefully controlled environment of the courtroom, the jurors hear and see only what the judge determines they will hear and see. Moreover, the jurors "report" to the judge, whom they view as their ultimate and only neutral source of legal authority.97

When a judge instructs a jury on a permissive presumption, jurors attempt to follow it diligently, even if, upon later and more detached reflection, the inference might appear unduly harsh and

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96. See D. Byrne, An Introduction to Personality 92–94 (2d ed. 1974). Bray and Noble found that both high authoritarian jurors and juries reached guilty verdicts more frequently (45% versus 25%), Bray & Noble, supra, at 1426, and imposed more severe punishment (62 versus 33 years, on average) than low authoritarians in one experimental situation, id. at 1427.


97. See, e.g., Farley, Instructions to Juries—Their Role in the Judicial Process, 42 Yale L.J. 194, 212 (1932) ("[S]ince ... jurors are for the most part ordinary individuals, impressed by the solemnity and atmosphere of the court into an unwonted timidity and docility, the federal judge usually has it in his power, if he so wills, to mold a verdict in accord with his own views.").
in conflict with the jurors' personal views of the case.\textsuperscript{98} Although the judge does not deliberately \textit{order} a finding of guilt—and in fact assures the jury it is free to acquit the defendant—the jury naturally and normally assumes that the judge would not present the presumption unless it were a wise, sound, and accepted rule of law.\textsuperscript{99} Although juries always have an absolute, unreviewable, and "sovereign" prerogative to bring in an acquittal no matter what instructions the judge provides, they are never explicitly told that they have this power.\textsuperscript{100} As Kalven and Zeisel conclude,

\begin{quote}
[T]he jury is not simply a corner gang picked from the street; it has been invested with a public task, brought under the influence of a judge, and put to work in solemn surroundings. Perhaps one reason why the jury exercises its very real power so sparingly is because it is officially told it has none.\textsuperscript{101}
\end{quote}

The whole context of authority surrounding the judge's instruction on a permissive presumption thus strongly encourages jurors to apply the inference. In this way, permissive presumptions function much like mandatory presumptions.

\textsuperscript{98} The juror is told of his legal obligation to follow the judge's instructions, but the juror is also likely to be aware of his sovereignty and of the ultimate end of his role—justice in the individual case. When the juror perceives these two expectations as being in conflict (i.e., following the judge's instructions would not lead to an equitable result), he will still feel obligated to follow the judge's instructions unless the justification for disregarding those instructions is sufficiently compelling to permit the juror to follow his own notions of justice. Thus, the juror is expected to tolerate perceived inequity in the application of general rules of law to the point where he feels that the resulting inequity would be so great and so certain that his departure from the general law is justified.


These assumptions about jury behavior form an integral part of legal doctrine. \textit{See}, e.g., \textit{Francis}, 105 S. Ct. at 1976 n.9 ("The Court presumes that jurors, conscious of the gravity of their task, attend closely the particular language of the trial court's instructions in a criminal case and strive to understand, make sense of, and follow the instructions given them."); Parker v. Randolph, 442 U.S. 62, 73 (1979) ("A crucial assumption underlying [the jury] system is that juries will follow the instructions given them by the trial judge. Were this not so, it would be pointless for a trial court to instruct a jury, and even more pointless for an appellate court to reverse a criminal conviction because the jury was improperly instructed."); \textit{id.} at 75 n.7 ("The 'rule'—indeed, the premise upon which the system of jury trials functions under the American judicial system—is that juries can be trusted to follow the trial court's instructions.").

\textsuperscript{99} \textit{See} Bailey v. Alabama, 219 U.S. at 237 ("The normal assumption is that the jury will follow the statute and, acting in accordance with the authority it confers, will accept as sufficient what the statute expressly so describes.").

\textsuperscript{100} \textit{See} text accompanying notes 159–162 \textit{infra}.

\textsuperscript{101} \textit{H. Kalven} \& \textit{H. Zeisel}, \textit{The American Jury} 498 (1966).
2. Rules of law and jury verdicts: The Simon experiments.

Background. A number of empirical studies describing the effects of formal legal rules illuminate juries' consideration of permissive presumptions. Rita James Simon's study of experimental juries addressed the effect of legal rules on juries' verdicts in criminal cases. Simon's juries each heard one of three recorded versions of two simulated trials, both involving the insanity defense. One trial was closely modeled on the leading case of Durham v. United States. The defendant in Durham, charged with housebreaking, pleaded not guilty by reason of insanity. The second trial was modeled on a case in which a charge of incest was defended on grounds of insanity.

In one version of each recorded trial, juries were instructed on insanity according to the M'Naghten rule: Exculpation is appropriate only if the defendant "is incapable of understanding the nature, quality and consequences of his acts, or of distinguishing between right and wrong ...." In a second version of each recorded trial, juries were instructed according to the Durham rule: Exculpation is appropriate only if the defendant's unlawful act was "the product of a mental disease or defect."


The jurors studied by Simon were "real" jurors in that they were drawn from the regular jury pools of their jurisdictions and were told by their judges that serving on an experimental jury was their way of fulfilling jury duty. However, one departure from normal procedure was the random assignment of all eligible jurors; no jurors were excluded by means of peremptory challenges or challenges for cause. R. SIMON, supra, at 40.

103. R. SIMON, supra note 102, at 42-58. One of the advantages of using recorded trials for this sort of research is that many juries can be exposed to the same stimuli. Conclusions having a high degree of generality can be generated from a comparison of the verdicts of a large sample of juries. By systematically changing different variables and exposing many juries to different versions of a trial, the effects of these variables can be determined with a high degree of precision. Id. at 40. In both trials recorded by Simon the judges' instructions to the juries were treated as independent "variables." Id. at 44-47, 52-53.


104. 214 F.2d 862 (D.C. Cir. 1954).


106. R. SIMON, supra note 102, at 45. See M'Naghten's Case, 8 Eng. Rep. 718, 722 (H.L. 1843) (to establish an insanity defense, "it must be clearly proved that, at the time of the committing of the act, the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know he was doing what was wrong.").

107. R. SIMON, supra note 102, at 45.
In the third version of each trial, juries were told simply that if they believed "the defendant was insane at the time he committed the act of which he was accused, then . . . [they] must find the defendant not guilty by reason of insanity."  

Simon found that juries deliberating under the M'Naghten rule were significantly less likely to acquit the defendant on grounds of insanity than those who were not instructed. A pre-deliberation survey of individual jurors for the housebreaking trial revealed that 76 percent of the uninstructed jurors were prepared to vote "not guilty by reason of insanity" (NGI), as opposed to only 59 percent of those given the M'Naghten instruction. In their pre-deliberation opinions in the incest trial, the uninstructed jurors were significantly more likely to acquit the defendant (34 percent NGI) than M'Naghten-instructed jurors were (24 percent NGI).

The post-deliberation verdicts in the incest trials provided Simon's most interesting and instructive results. Juries deliberating under the M'Naghten rule were significantly less likely to acquit the defendant on grounds of insanity (0 percent) than uninstructed (18 percent) or Durham-instructed (19 percent) juries. Durham-instructed juries behaved much like uninstructed juries. From the incest cases, Simon concluded that "[w]hen jurors are permitted to deliberate in the absence of a court-defined criterion of responsibility, they are more likely to find in favor of the defendant, but no more likely than when they are instructed under the Durham formula."
The similarity of results for uninstructed and Durham-instructed juries probably reflects the juries' sense that the Durham rule is something of a "non-instruction." Rather than providing a formal legal definition of insanity, the Durham rule may merely supply "a practical synonym for insanity." In deciding cases under the Durham rule, jurors are thrown back on their own understanding of insanity. They do not have to fit the symptoms of insanity into the legal categories and criteria of a rule like that of M'Naghten, which, as Justice Cardozo remarked, "has little relation to the truths of mental life."

Implications. Jury deliberation under the M'Naghten instruction is similar to jury decisionmaking in the shadow of a legal presumption. The M'Naghten rule infects jury deliberations with "a legal test which color[s] the evidence and disturb[s] the requisite judgment of fact . . . . The M'Naghten rule function[s] as a 'brake' upon a jury's disposition to acquit defendants by reason of insanity." In short, although the formal legal rules in Simon's trials did not mesh with jurors' ordinary, pre-legal understanding, the jurors followed them. Other studies have demonstrated the sensitivity of the deliberation process to variations in instructions on rules of law and have suggested that jurors are influenced to conform with the terms of legal rules.

116. B. Cardozo, What Medicine Can Do for the Law, in LAW AND LITERATURE 106 (1931); see also Durham, 214 F.2d at 875-76 (jury should not be required to depend on "arbitrarily selected" symptoms that "do not necessarily, or even typically, accompany even the most serious mental disorder").
117. de Grazia, supra note 115, at 345-46 (footnotes omitted). According to one distinguished commentator, a M'Naghten-like formula also distorts the testimony of medical specialists on the issue of insanity: "I do not really feel that we psychiatrists want to preempt this whole area but we do resent having to focus on concepts in which, unfortunately, we have no very special claim to knowledge. . . . [T]he McNaghten formula. . . . forces psychiatrists not to think in terms of mental disease but in terms of general social behavior, without reference to the conceptual system with which he is familiar." MODEL PENAL CODE (Tentative Draft No. 4, 1955) (Excerpts from Correspondence Between Dr. Manfred Guttmacher and Herbert Wechsler Relating to the Problem of Defining the Criteria of Irresponsibility in the Model Penal Code, Guttmacher to Wechsler, November 22, 1954, at 189) [hereinafter cited as Guttmacher]. Psychiatric testimony under a M'Naghten rule may even usurp or undermine the jury's function: "Since insanity must always be at bottom a matter of the custom and the opinion of the community, much reason exists for community (judge—jury) judgments of mental responsibility." Id. at 177.
118. Vidmar's 1972 research confirms that jury verdicts are affected when legal forms are imposed on or made available to juries. Vidmar, Effects of Decision Alternatives on the Verdicts and Social Perceptions of Simulated Jurors, 22 J. PERSONALITY & SOC. PSYCHOLOGY 211 (1972). When experimental jurors were forced to choose between a first-degree murder verdict or acquittal, 54% of the jurors found the defendant not guilty. But when "second degree mur-
When a jury is instructed on a permissive presumption, an abstract legal rule is imposed upon the jury's decision. This rule does not necessarily frame the issues in ways that correspond to the jurors' ordinary, pre-legal understanding of the case. Nevertheless, as suggested by the Milgram and Simon studies, the authority with which the presumption is communicated can strongly orient—or, if necessary, reorient—the jurors' decision-making processes so as to bring them into conformity with the presumption. This "reorientation" seriously challenges the jury's obligation to act as "the conscience of the community" and to draw upon ordinary common sense in making its decisions.119

C. Blurring the Mandatory-Permissive Distinction: Legal Demonstrations

1. "The bite of formula" in capital sentencing procedures.

Legal scholars have examined the effects of formal legal rules on commonsense jury decisionmaking by studying the rhetoric of eighth amendment jury instructions in capital cases.120 Under

der" was added as a choice, 92% of the jurors found the defendant guilty of the lesser charge, none acquitted, and the percentage of first-degree findings declined from 46% to 8%. Id. at 215.

Other researchers have studied the effects of a mandatory death penalty sentencing statute on the decisions of simulated jurors. One study, for instance, found that jurors acquitted the defendant more often when the sentence was a mandatory death penalty than when it was a prison term (80% as opposed to 52% in one situation). Hester & Smith, Effects of a Mandatory Death Penalty on the Decisions of Simulated Jurors as a Function of Heinousness of the Crime, 1 J. CRIM. JUST. 319, 324-25 (1973). Another study examined jurors' sensitivity to rhetorical variations in "reasonable doubt" instructions. Definitions of reasonable doubt ranging from "nearly any doubt about the defendant's guilt should qualify as a reasonable doubt" to "a reasonable doubt must be substantial, nontrivial, defensible," were given to different groups of experimental jurors at the end of otherwise identical simulated trials. Jurors given a lenient definition were significantly more willing to convict than those given a stringent definition. "This small variation at the end of a rather long and complex case produced a difference of over 26% in the group conviction rate." Kerr, Atkin, Stasser, Meek, Holt & Davis, Guilt Beyond a Reasonable Doubt: Effects of Concept Definition and Assigned Decision Rule on the Judgments of Mock Jurors, 34 J. PERSONALITY & SOC. PSYCHOLOGY 282, 291 (1976). But cf. Sealy & Cornish, Juries and the Rules of Evidence, 1973 CRIM. L. REV. 208, 222 (L.S.E. Jury Project) (variation of instructions given to simulated juries had "little effect" on their verdicts).

119. See text accompanying notes 120-141, 148-164 infra.

120. Weisberg, Deregulating Death, supra note 85, at 360-95. Weisberg does not claim for his "documentary review" the status of an empirical study, id. at 360, but several features of his methodology make the work particularly useful. First, his sources are actual trials, which can rarely be studied directly. Second, by comparing (admittedly only a few) jury reactions before and after Furman, Weisberg is able to control for and isolate the effect he reports, much as an experimental social scientist would.
pre-Furman law, judicial instructions and attorney argument generally could not convey to the jury formal rules or other guidance as to sentencing. "The instruction [in one such case] is a noninstruction, almost an anti-instruction," notes Professor Weisberg. "It impresses on the jury the moral gravity of its task by telling the jury that the decision comes unaided by the State . . . . [T]here are no formal legal rules governing their decision."

Some later statutory schemes made use of a separate penalty trial in which further instructions on sentencing could be provided, but the jury was not told how it should apply these instructions. In one California case of this type, the jury returned to the courtroom with the following question:

[I]s there an interpretation of the law which may aid the jury in determining whether the punishment should be a life sentence or the maximum penalty in a verdict of first degree murder, that is, does the law consider any legal mitigation in this respect?

. . . . . .

[T]here are circumstances which . . . may be considered to be in mitigation. [We are] not sure how the law defines mitigating . . . .

The judge read the definition of the word "mitigate" from a dictionary and concluded:

I can't tell you what to do. I gave you all the instructions. You have the instructions with you and if you can find any mitigating circumstances in the case, why, if that is what you are looking for, why it is up to you to find them. I can't tell you anything about them.

The judge's instruction listed factors for the jury to consider, but "wholly avoid[ed] investing these factors with any formal legal status or dignifying them with any legal language. . . . There [we]re no presumptions or burdens of proof to help decide close cases."

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122. Weisberg, supra note 85, at 363-65.
123. Id. at 364.
124. People v. Friend, 47 Cal. 2d 749, 760-61, 306 P.2d 463, 470 (1957). Note also the jury's euphemistic avoidance of the word "death" ("the maximum penalty in a verdict of first degree murder") and its tendency to personify "the law."
125. Id.
126. Weisberg, supra note 85, at 369 ("[T]he jury instruction here is a sort of opaque anti-instruction, reminding the jurors anxious for guidance that the law refuses to give them any guidance").
Post-Furman schemes have changed the rules and, thus, the rhetoric. Judges in many states now instruct juries on sentencing matters using formal legal language and purportedly systematic formulas for weighing aggravating against mitigating factors. However, these formulas may remain insufficient directives and may still prompt jury requests for additional guidance. In People v. Neely, for example, the jurors asked the court if they could "show mercy and give life without possibility [of parole] even though [they felt] aggravating outweigh[ed] mitigating." In response, the judge simply reread the relevant sections of the standard jury instructions; two hours later, the jury sentenced Neely to death.

In Neely, the jury requested "release" from the stricture of formal legal categories rather than guidance in applying the formula. It is somewhat perplexing that a jury, which can "weigh" mitigating circumstances as heavily as it wants, could find those circumstances outweighed by aggravating ones and still be reluctant to apply the death penalty. Weisberg analyzes this situation as follows:

The jurors must have engaged in a two-step process. First, they articulated some mitigating circumstances in express or legal terms. Second, they intuited some other reason that made them reluctant to choose a death sentence, but . . . they were unable to articulate it as a mitigating circumstance. The jurors may have learned rather clumsily to think in legal categories. Having received a formal instruction from the judge, they became confused because they could not capture in legal language their own ideas or sentiments about the defendant's just deserts . . . . [T]he jury took the formula very seriously.

By simply rereading the jury instruction and, in effect, reasserting the primacy of legal categories, the judge relieved the jury of its dilemma. Not surprisingly, jurors' behavior in these circumstances has been explicitly compared to the "teachers'" behavior in the Milgram studies:

The Milgram experiment bears an eerie similarity to the situa-

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127. See id. at 371.
129. Record at 204, Neely; see also State v. Smith, 305 N.C. 691, 707-10, 292 S.E.2d 264, 274-75 (1982) (similar exchange between judge and jury).
130. See Weisberg, supra note 85, at 372-73.
131. Id. at 373, 375; see also id. at 383 ("The formal, legalistic image of the law of capital punishment that the jury now receives from the court and the prosecutor is often a great advantage to the state.")
tion of Neely’s penalty jury in Placerville, California. The jury in that case asked the judge what personal moral responsibility it had over the defendant’s life. The judge responded with the nonanswer of repeating the more legalistic of the technical jury instructions, essentially telling the jury it had no responsibility. In the very special situation of the criminal courtroom and the death penalty trial, it seems fairly plausible that a lay jury exposed to the mystifying language of legal formality may indeed allow its moral sense to be distorted.\footnote{132. \textit{Id.} at 392. Weisberg also commented: “Professional actors in legal institutions rely on doctrine to reassure themselves that the sanctions they inflict follow inevitably from the demands of neutral, disinterested legal principles rather than from their own choice and power.” \textit{Id.} at 384–85.}

D. The Practical Effects of Perceived Authority and Formal Legal Rules on Jury Decisionmaking

1. Jurors’ abdication of responsibility to higher authority.

Milgram’s “teachers” sought to allay personal concerns about responsibility for their actions. They often sought explicit assurances that the supervisor would “accept all responsibility” for their actions. After receiving such assurances, most subjects appeared relieved and proceeded to administer shocks to the “victim.”\footnote{133. \textit{Id.} at 391.} Many subjects stated in post-experiment interviews that “[i]f it were up to me, I would not have administered shocks to the learner”\footnote{134. \textit{Id.} at 146.} and that “I was just doing what I was told.”\footnote{135. \textit{Id.} at 8. The results of the “control” version of the experiment (in which the subjects themselves decided what levels of shocks to administer) confirm that such statements are accurate. \textit{See supra note 90.}} As a result, “[m]any people were unable to realize their values in action and found themselves continuing in the experiment even though they disagreed with what they were doing.”\footnote{136. S. \textit{Milgram}, \textit{supra} note 87, at 6; \textit{see also} \textit{id.} at 10 (“Some derived satisfaction from their thoughts and felt that—within themselves, at least— they had been on the side of the angels.”).}

Such statements are not simple alibis invented in response to guilt. Rather, deference to authority is a fundamental mode of thinking that accompanies the perception of oneself as “locked
into a subordinate position in a structure of authority.”

Milgram’s subjects lack, or come to lack in the experimental circumstances, the strength of conviction required to disobey the authority figure. In novel and disorienting situations of this sort, individuals usually respond to internal conflict by adjusting their beliefs so that they perceive themselves as not fully responsible for their actions. In a sense, individuals shift responsibility for their actions “upward” to the perceived legitimate authority.

Simon’s research also demonstrated how legal rules shift perceptions of responsibility. Traditional juries deliberating prior to M’Naghten would have resembled Simon’s uninstructed juries. These pre-M’Naghten juries would have proceeded on the premise that “[their] collective conscience does not allow punishment where it cannot impose blame” and that they were supposed to apply “[their] inherited ideas of moral responsibility to individuals prosecuted for crime.” By contrast, the M’Naghten instruction substituted the authority of a “legal conundrum” (whether the defendant knew right from wrong) for the jurors’ lay sense of justice or equity (whether the defendant was insane). It is clear that jurors’ sense of “responsibility” for their decisionmaking was significantly altered by variations in the legal rules. As one measure of this phenomenon, Simon reported that the M’Naghten instruction reduced the number of juror contributions to group verdict discussions.

137. Id. at 8.
138. Id. at 7–8, 145–46. This behavior may be understood in terms of the social psychological theory of “cognitive dissonance.” When two or more beliefs are consistent, individuals experience a satisfying state of “consonance”; when two or more beliefs are inconsistent, an unpleasant state of “dissonance” results. Professor Festinger has suggested that people are motivated to reduce cognitive dissonance and that they attempt to do so by changing their attitudes or beliefs. See generally L. Festinger, A Theory of Cognitive Dissonance (1957).
140. See R. Simon, supra note 102, at 8–9; see also de Grazia, supra note 115, at 339–42, 346.
141. See R. Simon, supra note 102, at 74–76. “Juror contributions” refers to the total number of times individual jurors spoke in the group’s deliberation. Simon reported the following results for 39 randomly selected juries in the incest trial: Uninstructed—496 verbal contributions (13 juries); M’Naghten—257 verbal contributions (12 juries); Durham—564 verbal contributions (14 juries). For the same 39 juries, the mean number of pages in the transcriptions of the juries’ deliberations was 43 for uninstructed; 26 for M’Naghten; 45 for Durham.

By each measure, juries considered the uninstructed and Durham-instructed decisions longer and with more participation than the M’Naghten-instructed decisions: “If length of deliberation is at all a valid index of the difficulty of the jurors’ task or of the jurors’ involve-
2. **Doctrinal shifting** sub silentio.

In response to the foregoing, it might be argued that the whole point of these legal rules is to change the substantive law, so as to limit or restrict the discretion of the jury and thereby make acquittals harder to obtain. However, this analysis fails to distinguish between the legitimate purpose and effect of legal rules and the often illegitimate effects such rules have on juries. An "illegitimate" effect is one that exists in the real world but not in legal doctrine and that undermines *sub silentio* the traditional functions of jury deliberation and decisionmaking. Legal doctrine is heavily influenced by assumptions about human social psychology and behavior, but sometimes those assumptions cannot withstand modern scientific scrutiny.

Social psychological experiments are particularly useful in testing underlying assumptions about human behavior because these studies create controlled situations in which specific variables can be isolated, analyzed, and measured. For example, Milgram's experiments demonstrated systematically how individuals underestimate the effect of authority on obedience. Social psychological experiments are particularly useful in testing underlying assumptions about human behavior because these studies create controlled situations in which specific variables can be isolated, analyzed, and measured. For example, Milgram's experiments demonstrated systematically how individuals underestimate the effect of authority on obedience.  


143. Guttmacher, *supra* note 117, at 174 ("I do not see why the rules of law should be arrested at the state of psychological knowledge of the time when they were formulated . . . . [T]he M'Naghten Rules are in large measure shams."); *see also* id. at 177-79 (judicial or jury role should not be forced on psychiatrists, but trust in sound judgment of court and jury is warranted only when medical data can be fully and accurately presented).

144. *See* Weisberg, *supra* note 88, at 388-89 ("The availability of the sort of legal formulas that the Supreme Court has encouraged . . . . may cause some jurors to vote for the death penalty where they might otherwise be inclined to afford mercy . . . . [T]he law might permit
These demonstrations help to clarify the legal-doctrinal analysis of presumptions.\textsuperscript{145}

Taken together, the empirical and legal analyses strongly suggest that the "dignifying formalities" of an authoritative legal presumption carry significant weight with juries and reduce their sense of responsibility and moral sensitivity. An aura of authority, professionalism, and experience surrounds permissive presumptions because they have been found sufficiently reasonable and reliable to receive the official legal imprimatur of the state.\textsuperscript{146} Furthermore, a presumption based on sound empirical generalizations may well be logically connected with valid penological objectives and policy considerations. Jurors faced with difficult choices may understandably place the responsibility for their decisions on higher authorities associated with permissive presumptions, even if the outcomes run counter to their personal and moral propensities.\textsuperscript{147}

\textsuperscript{145} See text accompanying notes 75–80 supra; see also id. at 388–95.

\textsuperscript{146} See, e.g., Weisberg, supra note 85, at 352 ("A jury facing a difficult moral judgment on the basis of lots of raw evidence is likely to be somewhat affected by the idea that the legislature had placed a special imprimatur on the defendant's criminal record . . . .").

\textsuperscript{147} The support these studies offer for the hypothesis may be characterized as indirect or analogical, requiring a leap in reasoning from experimental conditions to jurors' real-life behavior. These studies were not specifically designed to test the effects of permissive and mandatory presumptions on juries. Given judges' reluctance to allow experiments on actual juries, research based on mock juries remains the best available empirical approach. See R. Hastie, S. Penrod & N. Pennington, supra note 103, at 37, 39; J. Katz, Experimentation with Human Beings 68–109 (1972); see also H. Kalven & H. Zeisel, supra note 101, at 33–54; Note, supra note 103, at 1026–28, 1042–50.

Milgram discussed three methodological problems associated with his experiments: (1) the possibility that his subjects were not representative of the general population; (2) the possibility that they did not believe they were really administering shocks to the learner; and (3) the problem of generalizing from the laboratory to the larger world. Milgram easily refuted the first two objections. See S. Milgram, supra note 87, at 169–74. On the third point, Milgram noted that the problem of generalization "depends entirely on whether one has reached a correct theoretical understanding of the relevant process." Id. at 174. Perhaps "structure" is a better word than "process" for what Milgram had in mind. The claim is that a correct understanding of the general structure of authority can be developed by analyzing how individuals become instruments of authority in specific circumstances. "The occasion we term a psychological experiment shares its essential structural properties with other situations composed of subordinate and superordinate roles . . . ." Id. at 175. "[T]he essence of obedience, as a psychological process, can be captured by studying the simple situation in which a man is told by a legitimate authority to act against a third individual." Id. at 177.

Certainly, differences between Milgram's experimental situation and that of a jury should be noted: The jury is acting as a group (Milgram also tested this variation, id. at ch. 9, "Group Effects"); the defendant is not a "volunteer"; and in fact the defendant has probably done something very bad. But if Milgram is correct in claiming to have discerned a "common psy-
3. The social function of the jury.

Several leading Supreme Court cases have described important aspects of the jury’s function in the legal system. The 

\textit{Winship} decision indicated that use of the reasonable-doubt standard was “indispensable to command the respect and confidence of the community in applications of the criminal law.”\textsuperscript{148} Jurors must not perceive that innocent men are being convicted with less than utmost certainty; the Court concluded that “[i]t is critical that the moral force of the criminal law not be diluted.”\textsuperscript{149}

In \textit{Williams v. Florida},\textsuperscript{150} the Court specifically inquired into “the purposes of the jury trial” in criminal cases. It determined that one of the “essential” features of the jury trial was “the community participation and shared responsibility that results from that group’s determination of guilt or innocence.”\textsuperscript{151} The Court noted that it may be “desirable to spread the collective responsibility for the determination of guilt [in capital cases] . . . as a means of legitimating society’s decision to impose the death penalty.”\textsuperscript{152} Justice White’s concurring opinion in \textit{Furman} added that the decision to repose such responsibility in juries was “largely motivated by the desire to mitigate the harshness of the law and to bring community judgment to bear on the sentence . . . .”\textsuperscript{153}

In \textit{Witherspoon v. Illinois},\textsuperscript{154} the Supreme Court stated that the jury expresses “the conscience of the community.”\textsuperscript{155}
phrase was used a year later in United States v. Spock. The trial judge in Spock had given the jury a special interrogatory, consisting of ten questions to be answered if the jury reached a general verdict of guilty. The reviewing court expressed concern about this form of "judicial pressure" and about the "subtle, and perhaps open, direct effect that answering special questions may have upon the jury's ultimate conclusion. . . . A juror, wishing to acquit, may be formally catechized." Even when confronting formally proper questions, "the jury, as the conscience of the community, must be permitted to look at more than logic." The same is true for formally proper presumptions.

The importance of such extra-legal considerations is explicitly recognized in the theory of jury nullification. The main issue in jury nullification debates is whether the jury must enforce the law as prescribed by the judge or may make an independent decision as to whether the defendant's conduct constituted a crime. The prevailing answer is that the jury has an unreviewable, "sovereign" prerogative to acquit on the basis of its conscience—"in the teeth of both law and facts"—but that the jury cannot be told it has this power.

156. 416 F.2d 165, 182 (1st Cir. 1969) (jury as "the conscience of the community"); see also United States v. Dougherty, 473 F.2d 1113, 1140–42 (D.C. Cir. 1972) (Bazelon, J., dissenting in part) (jury, as "community conscience," disregards strict requirements of law that cannot be justly applied in a particular case).

157. Spock, 416 F.2d at 181–82 ("By a progression of questions each of which seems to require an answer unfavorable to the defendant, a reluctant juror may be led to vote for a conviction which, in the large, he would have resisted. The result may be accomplished by a majority of the jury, but the course has been initiated by the judge, and directed by him through the frame of the questions."); see also Morris v. United States, 156 F.2d 525, 529–32 (9th Cir. 1946); Commonwealth v. Anthes, 71 Mass. (5 Gray) 185, 209–10 (1855); Rex v. Larkin, [1943] 1 K.B. 174, 175–77; P. Devlin, Trial by Jury 14, 56, 75–91 (1966); T. Plucknett, A Concise History of the Common Law 137–38 (5th ed. 1956). See generally Howe, Jurys as Judges of Criminal Law, 52 Harv. L. Rev. 582 (1939).

158. Spock, 416 F.2d at 182; see also Duncan v. Louisiana, 391 U.S. at 157 (juries "serve[e] some of the very purposes for which they were created and for which they are now employed" by departing from law-bound conclusions); Skidmore v. Baltimore & O. R.R., 167 F.2d 54, 70 (2d Cir. 1948) (Hand, J., concurring) (civil verdicts should conform narrowly to law, but in criminal prosecutions there are "other considerations"); H. Kalven & H. Zeisel, supra note 101, at 495 (juries give recognition to values that fall outside the official rules).


161. See Sparf & Harper v. United States, 156 U.S. 51, 102 (1895); Dougherty, 473 F.2d at 1136 (advising that "[w]hat makes for health as an occasional medicine would be disastrous as
One of the more recent arguments against an explicit nullification instruction is that "a juror called upon for an involuntary public service is entitled to the protection . . . that he can fairly put it to friends and neighbors that he was merely following the instructions of the court." One is forcefully reminded of the excuses of Milgram's teachers as they continued to shock the learners. In short, the "official doctrine" of jury nullification tends to reduce the jury's sense of responsibility and diminish its role as the "conscience of the community."

The jury serves important moral, symbolic, and representational functions in the life of a political community. But the insti-

a daily diet"); M. Kadish & S. Kadish, supra note 159, at 47-48, 54-55; Schefflin, supra note 159, at 169-77.

In the 1783 trial of William Davis Shipley for seditious libel, the presiding magistrate refused to instruct the jury on nullification, but he did permit defense counsel, the eloquent Thomas Erskine, to argue to the jury that "they . . . call upon you [jurors] to pronounce that guilt, which they forbid you to examine into . . . . Thus, without inquiry into the only circumstance which can constitute guilt, and without meaning to find the defendant guilty, you may be seduced into a judgment which your consciences may revolt at . . . ." Dean of St. Asaph's Case, 21 How. St. Tr. 847, 906 (1783). In response, the jury brought in the extraordinary verdict of "guilty only of publishing," declining to determine whether or not Shipley was guilty of libel. Not long thereafter Parliament affirmed the power of juries to nullify the law, in Fox's Libel Act of 1792, 32 Geo. 3, ch. 60, § 1; see 10 W.S. Holdsworth, A History of English Law 675-97 (1938); 2 J.F. Stephen, A History of the Criminal Law of England 298-395 (1883). In the Parliamentary debates on the subject, Earl Camden supported the measure on the ground that "[s]ome juries were found resolute enough to disregard the instruction, and find a verdict for the defendant. Others were overawed by the presence, and, perhaps the menaces, of a magistrate, robed, learned, and dignified, and found a verdict against their consciences . . . ." 29 Parl. Hist. Eng. 1407 (1792); see also id. at 565, 1043, 1297, 1421.

The 1735 American trial of John Peter Zenger for seditious libel also raised controversial issues of jury nullification. Trial of John Peter Zenger, 17 How. St. Tr. 675 (1735). Zenger was on trial because a newspaper that he published had carried articles critical of governing British officials. Defense counsel at trial was allowed to argue for "[t]he right of the jury to find such a verdict as they in their conscience do think is agreeable to their evidence," J. Alexander, A Brief Narrative of the Case and Trial of John Peter Zenger 91 (S.N. Katz ed. 1963), and he insisted that the jurors "have the right beyond all dispute to determine both the law and the fact, and where they do not doubt of the law, they ought to do so." Id. at 78. Zenger was acquitted, to great popular acclaim.

Such founders of the republic as John Adams also supported the principle of jury nullification. Adams wrote in his diary on February 12, 1771:

[Is] a juror obliged to give his verdict generally, according to [the judge's] direction, or even to find the fact specially, and submit the law to the court? Every man, of any feeling or conscience, will answer, no. It is not only his right, but his duty, in that case, to find the verdict according to his own best understanding, judgment, and conscience, though in direct opposition to the direction of the court.


162. Dougherty, 473 F.2d at 1136.

163. See text accompanying note 135 supra.
tution of the jury does not function properly if jurors reluctantly acquiesce before the aura of authority vested in judicial instructions on presumptions (and other rules of law) rather than enforce the dictates of their conscience. In such circumstances, defendants are denied their right to due process of law, and society is deprived of the opportunity to express its vital interests in ways that affirm contemporary standards of behavior.164

III. CONCLUSION

The legal analysis presented in Part I suggests that the mandatory-permissive distinction is incompatible with the Court's due process precedents. The empirical studies considered in Part II suggest that the distinction is illusory. Permissive presumptions can have essentially the same function and effect as mandatory presumptions in the deliberations of a jury. The mandatory-permissive distinction does not effectively differentiate between permitted levels of accuracy for empirical generalizations. Therefore, all presumptions should be treated as "mandatory" and their empirical premises subjected to reasonable-doubt scrutiny.

Eliminating the mandatory-permissive distinction would prevent the difficult problems of characterization exemplified by Ulster County—the very case that set forth the distinction.165 Determining whether the jury might have relied solely on a presumption to convict involves difficult factual inquiries, beginning with, but not limited to, the actual language of the presumption.166

164. Cf. Arnold, The Criminal Trial as a Symbol of Public Morality, in 7 MAGNA CHARTA ESSAYS: CRIMINAL JUSTICE IN OUR TIME 137, 143-44 (A. Howard ed. 1965) ("Trials are like the miracle or morality plays of ancient times. They dramatically present the conflicting moral values of a community in a way that could not be done by logical formalization . . . . [I]mportant emotional impact upon a society occurs in a criminal trial."); Hart & McNaughton, Evidence and Inference in the Law, in EVIDENCE AND INFERENCE 48, 52 (D. Lerner ed. 1959) ("A contested lawsuit is society's last line of defense in the indispensable effort to secure the peaceful settlement of social conflicts."); Nesson, The Evidence or the Event? On Judicial Proof and the Acceptability of Verdicts, 98 HARV. L. REV. 1357 (1985) (need to promote public acceptance of verdicts explains many evidentiary rules and other aspects of the trial process); Tribe, supra note 52, at 1376 ("[T]here was a wisdom of sorts even in trial by battle—for at least that mode of ascertaining truth and resolving conflict reflected well the deeply felt beliefs of the times and places in which it was practiced."); Note, The Death Penalty and Federalism: Eighth Amendment Constraints on the Allocation of State Decisionmaking Power, 35 STAN. L. REV. 787, 815-20 (1983) (capital sentencing implicates cultural legitimacy, retributive community catharsis, and general social morality).

165. See note 70 supra.

166. See notes 24, 80, and text accompanying notes 68-71 supra.
“[W]hether a defendant has been accorded his constitutional rights depends upon the way in which a reasonable juror could have interpreted the instruction.”167 Reviewing courts should be extremely hesitant to resolve these fact-specific disputes and to declare that a jury could not have relied solely on a presumption to convict. Legal doctrine becomes socially invalid when it depends on assumptions about human nature that do not stand up to modern scientific scrutiny.168 Removing the mandatory-permissive distinction would help to focus reviewing courts’ attention on a less fact-specific dispute—whether the presumption is empirically valid.

Eliminating the distinction also better conforms the law of presumptions to the demands of due process. The Court in Winship emphasized the fundamental bias of the criminal law against erroneous convictions.169 That bias is expressed in such substantive and procedural features of the criminal law as the “presumption of innocence,” the requirement of proof beyond a reasonable doubt, the refusal to allow appeals of criminal acquittals, and the refusal to direct guilty verdicts.170 The proposal advanced here reorients presumption doctrine in accordance with that bias by ensuring that no jury can convict upon proof of a fact satisfying only a “more likely than not” standard. Preventing mischaracterization of presumptions that are not highly accurate, which then could be used as a jury’s sole basis for conviction, ensures reasonable-doubt scrutiny of “every fact necessary to constitute the crime.”171 The Winship Court clearly indicated that the alternative of erroneous convictions presents far graver social costs than the possibility of an occasional erroneous acquittal.172

Finally, this note encourages a shift in the “balance of power” between juries, judges, and legislatures. Two features of juries have been stressed: their “political” function in representing and expressing the vital interests of the community at a criminal

167. Sandstrom, 442 U.S. at 514 (emphasis added).
168. See text accompanying notes 142-145 supra.
169. Winship, 397 U.S. at 361-64.
171. Winship, 397 U.S. at 364.
172. See id. at 363-64 (margin of error in litigation must be reduced when “one party has at stake an interest of transcending value”); see also id. at 372 (Harlan, J., concurring) (“I view the requirement of proof beyond a reasonable doubt in a criminal case as bottomed on a fundamental value determination of our society that it is far worse to convict an innocent man than to let a guilty man go free.”).
trial, and their moral duty to reach decisions in accordance with their conscience. These features would be enhanced if juries were less pressured to follow permissive presumptions that do not satisfy reasonable-doubt scrutiny.\textsuperscript{173} As the Supreme Court has acknowledged, presumptions are simply empirical generalizations, and they must have a basis in ordinary experience.\textsuperscript{174} Prosecutors are free to draw juries' attention to the underlying factual connections that prompt legislatures to create particular permissive presumptions in the first place. But without judicial instructions on such presumptions, juries can more freely assess those factual inferences and determine whether they indeed apply to particular defendants in specific cases.\textsuperscript{175}

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\textsuperscript{173} See note 4 supra (explaining the inapplicability of the argument from comparative convenience in the criminal context). Note that the reasonable-doubt standard does not itself ensure the requisite statistical accuracy of presumptions. Rather, it phrases the implicit value choice of accuracy in terms that the jury can understand and interpret, thus implicating the jury's political and moral functions.

\textsuperscript{174} See text accompanying notes 9-24 supra.

\textsuperscript{175} Even if the mandatory-permissive distinction is abolished, juries may still be impermissibly influenced by mandatory presumptions to disregard their moral and social beliefs. Reviewing courts should thus continue to consider jury-influencing effects in their reasonable-doubt review of generalized, presumptive inferences.