SOCIAL FRAMEWORKS: A NEW USE OF SOCIAL SCIENCE IN LAW

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OVER the past half-century it has become commonplace for courts and commentators to distinguish two uses of social science in law. Social science is said either to prove "legislative facts" that concern general questions of law and policy, or to prove "adjudicative facts" that pertain only to the case at hand.[1] The choice of procedures to introduce research findings has depended heavily on the assignment of the research to one of these two categories. In this article, we identify a new generic use of social science in law that is emerging from recent cases. In this third use, research findings presented in court are neither legislative nor adjudicative facts themselves. Rather, empirical information is being offered that incorporates aspects of both of the traditional uses: general research results are used to construct a frame of reference or background context for deciding factual issues crucial to the resolution of a specific case. We call this new use of social science in law the creation of *social frameworks*.

In Part I we describe the novel and rapidly increasing use of social research as a social framework. The accepted distinction between legislative and adjudicative facts is recalled and illustrated. We then relate several recent and seemingly anomalous cases where the application of social science does not correspond to either of the two established categories. These cases involve eyewitness identification, assessments of dangerousness, battered women,

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[1] See Davis, An Approach to Prohlems of Evidence in the Administrative Process, 55 Harv. L. Rev. 364, 402-03 (1942).

and sexual victimization. The application of social science in these disparate areas does not concern legislative fact, since no rule of law is at issue. Neither does it concern adjudicative fact, since the research does not involve the parties before the court. We propose the concept of social frameworks to refer to these uses of general conclusions from social science research in determining factual issues in a specific case.

In Part II we examine the substantive legal concerns regarding the introduction of social frameworks in court. Taking traditional evidentiary criteria as our point of departure, we consider four topics: the relevance of group data to deciding questions of individual guilt or liability; the potential for research findings to obfuscate the issues or to prejudice one party at trial; the value of the research as compared to common knowledge; and the extent to which the prohibition against character evidence suggests limitations on the use of social frameworks. We conclude that there is no policy reason to bar the application of social science as a social framework, and further, that the traditional criteria of the law of evidence encourage its development.

Currently, a social framework is typically offered by one of the parties through the oral testimony of expert witnesses for evaluation and application by a jury. In Part III, we present a theory that suggests a very different procedural scheme for dealing with social science used as a social framework: the research either may be offered by one of the parties in a brief or located by the trial judge; it should be evaluated by the judge according to accepted common law principles; and only then should it be conveyed to the jury, by instruction from the judge. As the same frameworks are brought to bear in an increasing number of cases, we propose that attention be given to establishing standard instructions, either by the common law process of taking them from prior cases or by creating pattern instructions. Thus we identify the rise of social frameworks, assess the general worth of this development, and propose a series of procedures for managing this new use of social science in law.

I. An Emerging Use of Empirical Research

A. The Legislative-Adjudicative Distinction

In 1942, Kenneth Culp Davis published what proved to be a remarkably influential article in which he proposed a distinction between "adjudicative facts" and "legislative facts."[2] According to Davis, facts concerning the immediate parties to a law suit were "adjudicative facts," and facts relating to the determination of law and policy were "legislative facts." For Davis, the distinction suggested a need to modify traditional common law rules of evidence when the objective of introducing evidence is the development of information for choosing among legal rules. Though the legislative-adjudicative distinction was developed in the context of administrative law, a broader application ensued and today the usefulness of the distinction is widely recognized.[3]

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[2] Id. Professor Davis has recently suggested the continuing usefulness of the distinction. See 3 K. Davis, Administrative Law Treatise § 15.2, at 138-42 (2d ed. 1980); Davis, Judicial, Legislative, and Administrative Lawmaking: A Proposed Research Service for the Supreme Court, 71 Minn. L. Rev. 1, 7-15 (1986); see also K. Davis, Administrative Law Text 296 (3d ed. 1972) ("The cardinal distinction which more than any other governs the use of extra-record facts by courts and agencies is the distinction between legislative facts and adjudicative facts.").

[3] The distinction between legislative and adjudicative facts is embodied in Federal Rule of Evidence 201 and has received widespread judicial approval. See United Air Lines v. Civil Aeronautics Bd., 766 F.2d 1107, 1118 (7th Cir. 1985) ("The distinction is a well established one, though variously expressed."); City of N.Y. Mun. Broadcasting Sys. v. FCC, 744 F.2d 827, 840 n.17 (D.C. Cir. 1984) ("Adjudicative facts are simply the facts of the particular case. Legislative facts . . . are those which have relevance to legal reasoning and the lawmaking process, whether in the formulation of a legal principle or ruling by a judge or court or in the enactment of a legislative body." (quoting Fed. R. Evid. 201(a) advisory committee's note)), cert. denied, 470 U.S. 1084 (1985); Korematsu v. United States, 584 F. Supp. 1406, 1414 (N.D. Cal. 1984) ("Legislative facts are 'established truths, facts or pronouncements that do not change from case to case but [are applied] universally, while adjudicative facts are those developed in a particular case.' " (quoting United States v. Gould, 536 F.2d 216, 220 (8th Cir. 1976))); see also Dunagin v. City of Oxford, 718 F.2d 738 (5th Cir. 1983), cert. denied, 467 U.S. 1259 (1984):

> In the first place, the issue of whether there is a correlation between advertising and consumption is a legislative and not an adjudicative fact question. It is not a question specificially related to this one case or controversy; it is a question of social factors and happenings which may submit to some partial empirical solution but is likely to remain subject to opinion and reasoning. . . . That reasoning is the responsibility of legislators and judges, assisted by scholars as well as social scientists.

Id. at 748 n.8. Judge Reavley's statement in *Dunagin* about "legislative facts" was recently cited with approval in Lockhart v. McCree, 106 S. Ct. 1758, 1762 n.3 (1986).

Two recent examples will illustrate the use of social science research for these purposes. In *United States v. Leon*,[4] the United States Supreme Court considered the question of whether the exclusionary rule should be modified to admit evidence seized by the police in good faith reliance upon a search warrant that is subsequently held to be defective. A majority held that the exclusionary rule was "a judicially created remedy,"[5] designed to deter violations of the fourth amendment. Whether this remedy should be modified by creating an exception where the police have acted in good faith, the court stated, "must be resolved by weighing the costs and benefits"[6] of creating the exception. This weighing process was accomplished, in part, hy reviewing the findings of social science research concerning the effects of the exclusionary rule on the disposition of felony arrests.[7] None of these studies involved the immediate parties to the *Leon* case. Rather, the research was used exclusively and explicitly for the purpose of considering whether to alter an existing rule of law. In *Leon*, therefore, social science research was plainly used to determine a "legislative fact."[8]

Contrast this use of social science with the way research was used in *Processed Plastic v. Warner Communications*.[9] Warner Communications had a registered copyright in "The Dukes of Hazzard" television series and had licensed several toy companies to manufacture replicas of a car that figured prominently in the se-

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[4] 468 U.S. 897 (1984).

[5] Id. at 906 (quoting United States v. Calandra, 414 U.S. 338, 348 (1974)).

[6] Id. at 906-07.

[7] See id. at 907 n.6. The Court cited at least six social science studies to support its assertion that one "objectionable collateral consequence" of the exclusionary rule was "that some guilty defendants may go free or receive reduced sentences as a result of favorable plea bargains." Id. at 907; see also id. at 907 n.6 (detailed Court citation of findings in Davies, A Hard Look at What We Know (and Still Need to Learn) About the "Costs" of the Exclusionary Rule: The NIJ Study and Other Studies of "Lost" Arrests, 1983 Am. B. Found. Res. J. 611). For discussions of the manner in which the Court dealt with empirical research, see Alschuler, "Close Enough for Government Work": The Exclusionary Rule After *Leon*, 1984 Sup. Ct. Rev. 309, 346-51.

[8] For other examples of social science research used as "legislative facts," see New York v. Ferber, 458 U.S. 747, 758-60 (1982) (harm done to children used as subjects of pornographic materials); Ballew v. Georgia, 435 U.S. 223, 231-39 (1978) (relation between jury size and function); United States v. Martinez-Fuerte, 428 U.S. 543, 554, 563 n.16, 564 n.17 (1976) (demographic results of fixed checkpoint stops of vehicles at national borders); Paris Adult Theater v. Slaton, 413 U.S. 49, 58 (1973) (arguable correlation between obscenity and socially deleterious behavior); Brown v. Board of Educ., 347 U.S. 483, 494 n.11 (1954) (effects of racial segregation on black children).

[9] 675 F.2d 852 (7th Cir. 1982).

ries. The Processed Plastic Company, which was not licensed by Warner Communications, began to market a toy car that had many of the same physical characteristics as the car used in the television series. Warner Communications moved for a preliminary injunction to stop the sale of the cars made by Processed Plastic. At a hearing, Warner introduced a social science survey of random groups of children in which eighty-two percent of the children, when presented with a Processed Plastic car, identified it as the " 'Dukes of Hazzard' car."[10] The trial court ruled, and the United States Court of Appeals for the Seventh Circuit affirmed, that these data demonstrated that Processed Plastic had violated the Lanham Act by creating consumer confusion.[11] The study introduced in this case did not concern any rule of law. Indeed, neither of the parties challenged the meaning or application of the copyright or trademark statutes involved. Instead, the research pertained to the immediate parties to the case, and to no one else. The use of social science research in *Processed Plastic* is a clear example of its use to determine an "adjudicative fact."[12]

B. Anomalous Uses of Social Science

Most of the uses of social science in court fall into either the "legislative fact" or "adjudicative fact" categories. Within the past several years, however, courts have increasingly begun to use research in ways that do not correspond to either of the traditional classifications. There are strong indications that a new, third use of social science in law is emerging. Notable examples can be found in cases concerning eyewitness identification, assessments of dangerousness, battered women, and sexual victimization.

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[10] Id. at 854-55.

[11] See id. at 857; see also 15 U.S.C. § 1125(a) (1982) (Lanham Act provision prohibiting false representation).

[12] For other examples of social science research used as "adjudicative facts," see Albemarle Paper Co. v. Moody, 422 U.S. 405, 425-36 (1975) (the relationship between preemployment tests used by the defendant corporation and employee job performance); Zippo Mfg. Co. v. Rogers Imports, 216 F. Supp. 670, 690-91 (S.D.N.Y. 1963) (degree of public confusion between cigarette lighters manufactured by plaintiff and defendant); People v. Nelson, 88 Ill. App. 3d 196, 198-99, 410 N.E.2d 476, 478-79 (1980) (community standard by which to judge the obscenity of material sold by defendant).

The only evidence that connected the defendant in *State v. Chapple*[13] to the crime of murder was the testimony of two eyewitnesses. At trial, the defense offered the testimony of a research psychologist to rebut the testimony of the state's witnesses. In the offer of proof, the expert testified to published studies on factors such as the speed with which memory decays over time, the effects of stress on eyewitness accuracy, and the relationship between the confidence of a witness in his or her identification and the accuracy of that identification. The trial judge granted a motion to suppress the social science testimony, but the Arizona Supreme Court reversed and remanded the case for a new trial, stating that "there were a number of substantive issues of ultimate fact on which the expert's testimony would have been of significant assistance."[14]

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[13] 135 Ariz. 281, 660 P.2d 1208 (1983) (en banc).

[14] Id. at 297, 660 P.2d at 1224. Recently, several courts, citing *Chapple*, have approved expert testimony concerning eyewitness identification offered as a framework for decision. In People v. McDonald, 37 Cal. 3d 351, 690 P.2d 709, 208 Cal. Rptr. 236 (1984), the court held that

> [w]hen an eyewitness identification of the defendant is a key element of the prosecution's case but is not substantially corroborated by evidence giving it independent reliability, and the defendant offers qualified expert testimony on specific psychological factors shown by the record that could have affected the accuracy of the identification but are not likely to be fully known to or understood by the jury, it will ordinarily be error to exclude that testimony.

Id. at 377, 690 P.2d at 727, 208 Cal. Rptr. at 254. See generally Comment, Admission of Expert Testimony on Eyewitness Identification, 73 Calif. L. Rev. 1402 (1985) (evaluating *McDonald*'s impact on exclusion of testimony on eyewitness reliability). Following the *Chapple* and *McDonald* cases, the United States Court of Appeals for the Third Circuit held that "under certain circumstances expert testimony on the reliability of eyewitness identifications can assist the jury in reaching a correct decision." United States v. Downing, 753 F.2d 1224, 1231 (3d Cir. 1985). The defendant's conviction was vacated and the case was remanded to the trial court for a hearing on the proffered expert testimony. See id. at 1244. (After the hearing, however, the trial court reinstated the defendant's conviction. See United States v. Downing, 609 F. Supp. 784, 792 (E.D. Pa. 1985)). See generally McCloskey, Egeth & McKenna, The Experimental Psychologist in Court: The Ethics of Expert Testimony, 10 Law & Hum. Behav. 1, 11 n.4 (1986) (describing rulings on admission of eyewitness expert testimony in *Downing* at trial and appellate levels). More recently, this line of cases has persuaded the Supreme Court of Ohio to recognize that "such generalized [expert] testimony could be helpful to a jury and should not be held as inadmissible in every instance." State v. Buell, 22 Ohio St. 3d 124, 130, 489 N.E.2d 795, 801, cert. denied, 107 S. Ct. 240 (1986). Since *Chapple*, however, the Supreme Court of Arizona has upheld a trial court's exclusion of the testimony of an expert witness on eyewitness identification. See State v. Poland, 144 Ariz. 388, 399, 698 P.2d 183, 194 (1985) (en banc) ("The peculiar facts of Chapple were not present in the instant case. The question of guilt did not hinge solely on the testimony of eyewitnesses."). See generally E. Loftus, Eyewitness Testimony (1979) (suggesting the usefulness of psychological research into eyewitness identification and testimony in the modern legal system); A. Yarmey, The Psychology of Eyewitness Testimony

The defendant in *State v. Davis*[15] was also charged with murder, and pleaded guilty. At a penalty trial to determine whether the defendant would be executed or serve a mandatory thirty-year minimum sentence, defense counsel offered the testimony of a sociologist as evidence in support of mitigation of the sentence. The expert, according to the offer of proof, would have testified to published studies and government statistics demonstrating that murderers have the lowest rate of recidivism of all criminals, and that, considering the crime rate among persons of the age the defendant would be when released from prison a minimum of thirty years hence, it was extremely unlikely that the defendant would again be a threat to society. As in *Chapple*, the trial court granted a motion to suppress the testimony, stating that "the statistical approach doesn't tell us anything at all about a given defendant."[16] The New Jersey Supreme Court reversed, however, holding that social science research "may, in effect, encapsulate ordinary human experience and provide an appropriate frame of reference for a jury's consideration."[17]

In addition to eyewitness identification and predictions of dangerousness, apparently anomalous uses of social science research

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(1979) (same); The Ethics of Expert Testimony, 10 Law & Hum. Behav. 1 (1986) (symposium on social science expert testimony).

[15] 96 N.J. 611, 477 A.2d 308 (1984) (per curiam).

[16] Id. at 616, 477 A.2d at 310.

[17] Id. at 618, 477 A.2d at 311. The court continued with an illustration:

> For example, insofar as the proffered report in this case focuses primarily on defendant's present age and his age at the time of his earliest possible release, it can be noted that age, as a demographic variable, has consistently been found to be strongly related to subsequent criminal activity. See, e.g., [Cocozza & Steadman, Some Refinements in the Measurement and Prediction of Dangerous Behavior, 131 Am. J. Psychiatry 1012, 1012 (1974)] . . . . Moreover, this kind of information, when presented by experts, can supplement or explain ordinary human experience and can assist laypersons in the deliberative process to reach sound determinations.

Id. at 618, 477 A.2d at 311-12. See generally J. Monahan, Predicting Violent Behavior (1981) (examining clinical techniques used by mental health professionals in predicting patients' violent behavior); J. Monahan & L. Walker, Social Science in Law: Cases and Materials ch. 4 (1985) (analyzing the use of social science research in identifying past and present behavior and in predicting future behavior); Morris & Miller, Predictions of Dangerousness: Ethical Concerns and Proposed Limits, 2 Notre Dame J.L. Ethics & Pub. Pol'y 393 (1986) (proposing development of explicit principles to govern the use of predictions of dangerousness in criminal law decisions); Slobogin, Dangerousness and Expertise, 133 U. Pa. L. Rev. 97 (1984) (arguing for the limited admissibility of expert testimony that predicts the probability of anti-social behavior in civil and criminal commitment hearings and in criminal sentencing hearings).

have occurred with respect to the "battered woman syndrome." In *State v. Kelly*,[18] the defendant was convicted of the reckless manslaughter of her husband. She claimed at trial that she was acting in self-defense, fearing that her husband would kill her. The defense presented evidence that the husband had beaten the defendant on many prior occasions. The defense also sought to call a psychologist to testify to the findings of several researchers who had published reports on the state of mind "of other women who had been in similarly abusive relationships."[19] Here, too, the trial judge suppressed the testimony and the state supreme court reversed and remanded the case for a new trial, stating that "the proffered expert testimony [may be] not only relevant, but critical" to the defendant's case.[20]

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[18] 97 N.J. 178, 478 A.2d 364 (1984).

[19] Id. at 202, 478 A.2d at 375.

[20] Id. at 189, 478 A.2d at 369. *Kelly* is one of the more recent cases following a trend towards admitting expert testimony on "hattered woman syndrome" as a framework for deciding a case-specific fact. Prior to *Kelly*, several courts employed social science research as an empirical framework in cases involving defendants who suffered a pattern of physical abuse by their husbands or lovers. In Smith v. State, 247 Ga. 612, 277 S.E.2d 678 (1981), for example, the Supreme Court of Georgia held that it was improper to exclude testimony by an expert explaining why a person suffering from battered woman syndrome "would not leave her mate, would not inform police or friends, and would fear increased aggression against herself." Id. at 619, 277 S.E.2d at 683. The Supreme Judicial Court of Maine found error in the exclusion of testimony that would have shown "that abused women often continue to live with their abusers even though beatings continue, and that a certain suhstrata of abused women perceive suicide and/or homicide to be the only solutions to their problems." State v. Anaya, 438 A.2d 892, 894 (Me. 1981). The court held that

> where the psychologist is qualified to testify about the battered wife syndrome, and the defendant establishes her identity as a battered woman, expert evidence on the battered wife syndrome must be admitted since it "may have . . . a substantial hearing on her perceptions and behavior at the time of the killing."

Id. (quoting Ibn-Tamas v. United States, 407 A.2d 626, 639 (D.C. 1979)). Quoting both *Smith* and *Anaya*, the Supreme Court of Washington held that "[i]t is appropriate that the jury be given a professional explanation of the battering syndrome and its effects on the woman through the use of expert testimony." State v. Allery, 101 Wash. 2d 591, 597, 682 P.2d 312, 316 (1984) (en hanc). In *Allery*, the expert would have "described her professional analysis of the behavior and emotional patterns of women suffering from repeated physical abuse by their husbands and lovers." Id. at 595, 682 P.2d at 315. Expert testimony regarding the battered woman syndrome has also been used in prosecutions against the husbands. In State v. Baker, 120 N.H. 773, 424 A.2d 171 (1980), for example, the New Hampshire Supreme Court upheld the trial court's acceptance of testimony regarding the battered woman syndrome to rebut the defendant's contention that he was suffering from mental illness or insanity when he attacked his spouse. Id. at 775-76, 424 A.2d at 172-73. The empirical evidence was used to provide "an alternative explanation for the defendant's assault on his wife" consistent with the theory that there was a pattern of such abuse. Id. at 775, 424 A.2d

Finally, in *State v. Myers*[21] the defendant was found guilty of criminal sexual conduct involving a child. Over the objection of defense counsel, the prosecution had been allowed to present a social science expert witness to testify to behavioral traits "typically" observed in abused children, traits that were also observed in the child complainant. On appeal, the defendant claimed that admitting such testimony constituted reversible error. Affirming the conviction, however, the Minnesota Supreme Court stated that "[b]ackground data providing a relevant insight into the puzzling aspects of the child's conduct and demeanor which the jury could not otherwise bring to its evaluation of her credibility is helpful and appropriate."[22]

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at 173. A number of courts bave since followed *Kelly* and its predecessors. See, e.g., Terry v. State, 467 So. 2d 761, 763 (Fla. Dist. Ct. App. 1985) (endorsement of prior decisions by other courts to give "qualified approval to the use of . . . [expert] evidence as it relates to a defendant's claim of self-defense"). See generally Lenore Walker, The Battered Woman Syndrome (1984) (analyzing the psychology and dynamics of battering relationships); Lenore Walker, The Battered Woman (1979) (same); Note, The Battered Woman Syndrome and Self-Defense: A Legal and Empirical Dissent, 72 Va. L. Rev. 619 (1986) (questioning the validity of battered woman syndome research and arguing against admission of related expert testimony).

[21] 359 N.W.2d 604 (Minn. 1984).

[22] See id. at 610. Prior to *Myers*, a number of state supreme courts allowed expert testimony on the characteristics of sexually abused children. In State v. Kim, the court upheld the admissibility of testimony of a child psychologist on the "characteristics of child sex offense victims." 64 Haw. 598, 608, 645 P.2d 1330, 1338 (1982). Similarly, in State v. Middleton, the court permitted expert testimony on whether the particular victim's behavior was consistent "with the behavior of the type of children who have reported a claim of rape by a family member . . . ." 294 Or. 427, 433, 657 P.2d 1215, 1218 (1983). Finally, the Supreme Court of Washington, sitting en banc, held that there was no abuse of discretion in allowing expert testimony "describing the delayed reporting patterns of sexually abused children." State v. Petrich, 101 Wash. 2d 566, 573, 683 P.2d 173, 178 (1984) (en banc). The expert's testimony was restricted "to the statistics that supported her opinion that delay in reporting is not unusual and that the length of delay correlates with the relationship between the abuser and child." Id. at 576, 683 P.2d. at 180. Since *Myers*, the Court of Appeals of Minnesota decided State v. Carlson, 360 N.W.2d 442 (Minn. Ct. App. 1985), in which the defendant was charged with criminally sexually abusing his daughters. See id. at 442-43. The Court of Appeals reversed and remanded a pretrial order in which the trial court refused to admit expert testimony regarding the behavioral characteristics typical of sexually abused children. See id.; see also Kruse v. State, 483 So. 2d 1383, 1385-86 (Fla. Dist. Ct. App. 1986) ("post traumatic stress syndrome" resulting from a child's sexual victimization was properly admitted); McCord, Expert Psychological Testimony About Child Complainants in Sexual Abuse Prosecutions: A Foray into the Admissibility of Novel Psychological Evidence, 77 J. Crim. L. & Criminology 1 (1986) (discussing current use of expert testimony in cases involving the sexual abuse of children and proposing a balancing analysis to guide determinations on admissibilty). Judicial acceptance of empirical frameworks regarding the characteristics

C. Social Framework as an Organizing Concept

Comparison of these four cases with *Leon* makes it immediately clear that social science was not being used to provide "legislative facts." In *Leon*, a change in a legal rule was the express purpose for which the social science research was introduced. In the four cases just presented, however, neither party contemplated a change in any rule of law. Rather, accepting the rules of law governing his or her respective case, the party introducing the research was attempting to demonstrate that the findings would assist the jury to decide the specific factual issues being litigated.

At the same time, comparison of these cases with *Processed Plastic* reveals that social science was not being used to provide "adjudicative facts" either. In *Processed Plastic*, the research was conducted with products manufactured by the immediate parties to the case. In none of the four examples described above, however, were the parties to the case involved in the research at all. The expert witnesses relied heavily—and in some of the cases, exclusively—on "off the rack" research studies published before the events that gave rise to the litigation took place, studies performed by researchers and using subjects with no knowledge of the case at bar.[23]

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of *adult* victims of sexual crime—the "rape trauma syndrome"—has been more mixed. Compare, e.g., State v. Marks, 231 Kan. 645, 654, 647 P.2d 1292, 1299 (1982) ("[Q]ualified expert . . . testimony regarding the existence of rape trauma syndrome is relevant and admissible in a case . . . where the defense is consent.") with State v. Saldana, 324 N.W.2d 227, 232 (Minn. 1982) ("[I]t was reversible error for an expert to testify concerning typical post-rape symptoms and behavior of rape victims."). See generally Note, Checking the Allure of Increased Conviction Rates: The Admissibility of Expert Testimony on Rape Trauma Syndrome in Criminal Proceedings, 70 Va. L. Rev. 1657 (1984) (arguing that expert testimony on rape trauma syndrome should not be admissible in criminal proceedings). But see McCord, The Admissibility of Expert Testimony Regarding Rape Trauma Syndrome in Rape Prosecutions, 26 B.C.L. Rev. 1143 (1985) (arguing that such testimony should be admitted).

[23] Our colleagues Charles Goetz and Robert Scott introduced the use of the phrase "off the rack" to refer to standardized rules in commercial law. See Goetz & Scott, Liquidated Damages, Penalties and the Just Compensation Principle: Some Notes on an Enforcement Model and a Theory of Efficient Breach, 77 Colum. L. Rev. 554, 588 n.87 (1977). In State v. Davis, 96 N.J. 611, 477 A.2d 308 (1984) (per curiam), for example, the New Jersey Supreme Court stated that "Dr. Wolfgang's report on behalf of Mr. Davis was not based on any personal evaluation of defendant. (In fact, Dr. Wolfgang has never met Mr. Davis.)" Id. at 615, 477 A.2d at 310. Our principal focus is on the use of social frameworks in which the variables that comprise the framework are either in the record or are plainly capable of being assessed by the jury. For example, in *Davis*, it was in the record that the defendant

Yet the way social science was used in these cases—while neither legislative nor adjudicative fact—does have some of the hallmarks of each. In each case, the research being introduced shared the critical characteristic of legislative fact—generality.[24] The studies bore on issues at trial only as those issues were particular instances of larger empirical relationships that had been uncovered. Just as the research used in *Leon* addressed the "collective"[25] costs and benefits of modifying the exclusionary rule, the studies in *Chapple* considered "general factors"[26] affecting all eyewitnesses. Similarly, the data introduced in *Davis* applied to the recidivism rate of all

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was then 27 years old, and the jury was capable of ascertaining his age upon completion of a 30-year sentence. Likewise, in *Chapple*, the confidence with which the eyewitnesses testified to their identification could be assessed directly by the jurors who observed their testimony. State v. Chapple, 135 Ariz. 281, 291, 294, 660 P.2d 1208, 1218, 1221 (1983) (en banc).

In some frameworks, however, some of the variables may not be in the record, and their direct assessment may be beyond the abilities of the average juror. In such cases, an expert witness may be useful in assisting the jury to determine whether the factors that comprise the framework are present in the case. For example, perceived inability to escape from an abusive husband is often given as one of the factors that make up the "battered woman syndrome." See, e.g., Ibn-Tamas v. United States, 407 A.2d 626, 634 (D.C. 1979). A clinical psychologist or psychiatrist who has examined the defendant may assist the trier of fact in determining whether the defendant on trial did indeed perceive herself as unable to flee. Our tentative view, however, is that such "clinical" testimony (a) should be limited to variables not in the record and not capable of direct assessment by the jurors themselves; and (b) should be separated from the presentation of the social framework, which would continue to be given in the form of a jury instruction. In order that a foundation might be laid for the clinical testimony, the pertinent "framework instruction" could be given before the testimony of the clinical expert, as well as at the close of the trial. See Schwarzer, Communicating with Juries: Problems and Remedies, 69 Calif. L. Rev. 731, 755-56 (1981); see also infra text accompanying notes 77-124 (on the introduction of "clinical" testimony relevant to the social sciences). See generally Bonnie & Slobogin, The Role of Mental Health Professionals in the Criminal Process: The Case for Informed Speculation, 66 Va. L. Rev. 427 (1980) (assessing the need for improving the quality of expert testimony on mental health matters); Morse, Crazy Behavior, Morals, and Science: An Analysis of Mental Health Law, 51 S. Cal. L. Rev. 527, 600-26 (1978) (suggesting limitations on the role of mental health expert testimony at trial).

[24] See Monahan & Walker, Social Authority: Obtaining, Evaluating, and Establishing Social Science in Law, 134 U. Pa. L. Rev. 477, 490 (1986); see also 2 K. Davis, Administrative Law Treatise § 12.3, at 413 (2d ed. 1979) ("[l]egislative facts do not usually concern the immediate parties but are the general facts which help the tribunal decide questions of law and policy"); Davis, Facts in Lawmaking, 80 Colum. L. Rev. 931, 932 (1980) [hereinafter Davis, Facts in Lawmaking] (stating that a continuum "from narrow and specific facts to broad and general facts" is a principal distinction between adjudicative and legislative facts); Davis, Judicial Notice, 55 Colum. L. Rev. 945, 952 (1955) ("[l]egislative facts are ordinarily general and do not concern the immediate parties").

[25] Alschuler, supra note 7, at 350.

[26] 135 Ariz. at 292, 660 P.2d at 1219.

offenders "sharing [the defendant's] . . . demographic 'features,' "[27] the research proffered in *Kelly* addressed beliefs that were "common"[28] to battered women as a group, and the empirical information in *Myers* concerned "general characteristics" that were "typically observed"[29] in large classes of abused children.

However, as in cases involving the use of social research to determine adjudicative facts, the studies here were introduced solely to help resolve specific factual issues disputed by the immediate parties to the case, issues whose resolution had no substantive significance beyond the case at hand.[30] Just as the research used in *Processed Plastic* addressed only whether consumers were confused when presented with two given products, the studies in *Chapple* were considered solely to rebut the testimony of eyewitnesses to that particular crime. Research data were introduced in *Davis* only for the purpose of assessing Davis' own character, and the studies in *Kelly* were provided exclusively so that inferences might be made about that defendant's state of mind. The empirical information in *Myers* was offered for the sole purpose of determining whether the named victim was, in fact, abused.

The research used in these examples, then, is not pure legislative or adjudicative fact but rather incorporates the essential aspects of both of the established categories. We therefore propose a new category, which we term social framework, to refer to *the use of general*[31] *conclusions from social science research in determining factual issues in a specific case.*

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[27] 96 N.J. at 615, 477 A.2d at 310.

[28] *Kelly*, 97 N.J. at 193, 478 A.2d at 372.

[29] *Meyers*, 359 N.W.2d at 608.

[30] See Davis, supra note 1, at 410 (adjudicative facts defined as "facts which concern the parties to a particular proceeding, rather than generalized information"); 2 K. Davis, supra note 24, § 12.3, at 413 ("Adjudicative facts usually answer the questions of who did what, where, when, how, why, with what motive or intent" in the context of a specific trial and litigants.).

[31] The conclusions of social science research are "general" to the extent that they are informed by a theory of some aspect of human behavior. See, e.g., D. Dooley, Social Research Methods (1984):

> [I]t is a defining characteristic of theory that it makes sense out of otherwise separate and isolated observations. The more observations that can be explained by the theory, the more general and useful is the theory. In the absence of theory, our science would consist simply of lists of unrelated facts and observations. The benefit of a general theory is that it can be used to predict what will happen in circumstances that have never been encountered.

Id. at 38; see also Lind & Walker, Theory Testing, Theory Development, and Laboratory Research on Legal Issues, 3 Law & Hum. Behav. 5, 8 (1979) ("Theory-testing research is

While each of the examples discussed above has been the subject of isolated analysis,[32] we identify the generic development of social frameworks across their several areas of current application by distilling the issues common to all of them. In the following parts of this article, we first examine substantive questions regarding the use of social science to provide social frameworks, and we then propose procedures for evaluating and applying social frameworks in court.

II. Substantive Concerns About Social Frameworks

Each use of a social framework raises its own set of issues and can be evaluated only case by case. Yet several concerns recur with such regularity in judicial opinions that the question arises whether there is some categorical reason to bar this use of social science altogether. To address this overarching question, we take as our point of departure the traditional concerns of the law of evidence—concerns that, thus far, have set the agenda for the debate on the introduction of social frameworks.[33] More specifically, we measure social frameworks against the standards of those Federal Rules that are most frequently held germane in deciding on the admissibility of a framework.[34] We are not concerned with the

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based on the premise that restrictions on the domain of a theory will become evident in the course of empirical testing . . . . In the absence of data indicating failure of the theory, however, it is not productive to restrict the theory to specific contexts and populations.").

[32] See supra notes 14, 17, 20 & 22. Our purpose in this article is not to argue the legal or scientific merits of any of these four applications of social science as social framework. Rather, we employ these four topics only as illustrations of the more generic movement on the part of American courts to use general research findings to create a context or background within which facts specific to a case can be determined.

[33] We use the traditional concerns of the law of evidence as a convenient vehicle for discussing basic policy issues implicated by the introduction of social frameworks. As becomes clear in Part III, our own position on social frameworks would obviate the need for any kind of "evidence" to be formally introduced at trial. The policy concerns reflected in evidence law, however, would remain pertinent.

[34] Although most framework applications have occurred in state courts, we use the Federal Rules because they have become a model for codes in over half the states. See McCormick on Evidence xv (E. Cleary 3d ed. 1984); R. Lempert & S. Saltzburg, A Modern Approach to Evidence xx (2d ed. 1982). Further, the Federal Rules are influential and persuasive precedent even in those states that have yet to adopt them. See 1 J. Weinstein & M. Berger, Weinstein's Evidence T-4 (1986). The principal alternative to the Federal Rules regarding the admissibility of scientific evidence is the test given in Frye v. United States, 293 F. 1013 (D.C. Cir. 1923): "[W]hile courts will go a long way in admitting expert testi-

"admissibility" of social frameworks, but rather with the normative question of whether the use of social frameworks is generally prudent. Thus we use evidentiary concerns only to assess controversial policy issues posed by frameworks.

A. The Relevance of Frameworks

"Relevance" is the fundamental requirement of the Federal Rules of Evidence. Evidence that is not relevant is never admissible.[35] The Rules define relevant evidence as evidence "having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence."[36] Determining whether material is relevant under this definition, therefore, requires two judgments: whether the information pertains to a fact that is "of consequence," and whether the information renders that fact "more probable or less probable." Social frameworks pose no special problems with regard to the first of these judgments. Deciding whether the issue being framed by the research is one that is "of consequence" to some legal determination is identical to deciding whether any other issue is consequential.

The second judgment, however, poses a more difficult issue: whether the framework makes any fact in the case "more probable or less probable." The source of the difficulty appears to be that social frameworks present information that is not collected from any immediate party to the case. Rather, the information has been derived from studying groups of people who are claimed to be sim-

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mony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must he sufficiently estahlished to have gained general acceptance in the particular field in which it helongs." Id. at 1014. As Professor Saltzburg has noted, however,

> it is not very helpful to debate the question whether *Frye* or a relevance approach [i.e., the Federal Rules] to scientific evidence is preferable. The two approaches are essentially the same, despite the frequency with which they are assumed to differ. The question that is more significant is how much success a scientific claim must have before courts will rely on it. The answer to this question should be the same under *Frye* or a relevance approach.

Saltzburg, *Frye* and Alternatives, 99 F.R.D. 208, 209 (1983). See generally M. Saks & R. Van Duizend, The Use of Scientific Evidence in Litigation (1983) (analyzing the uses and effects of scientific and technical research at the trial level).

[35] Fed. R. Evid. 402.

[36] Fed. R. Evid. 401.

ilar in certain key respects to one of the immediate parties. Making inferences about an individual's behavior from the individual's membership in some group or class is something often done in the legal context of predicting an individual's *future* behavior. Since future acts have not yet occurred, it is easy to understand how estimates derived from group data of the likelihood that future acts will occur are acceptable in the law. For example, in estimating how much money a negligently injured or killed individual would have earned in his or her lifetime, courts are quite comfortable in turning to economists to estimate the value of the person's future labor based on statistics derived from groups of people in the same occupation and with the same life expectancy as the injured or deceased person.[37] The same is true with the use of group data to predict individual criminal behavior in bail,[38] sentencing,[39] and parole decisions.[40]

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[37] This practice is now routine. See Torchia v. Burlington Northern, Inc., 174 Mont. 83, 92-98, 568 P.2d 558, 564-66 (1977), cert. denied, 434 U.S. 1035 (1978); Kaczkowski v. Bolubasz, 491 Pa. 561, 574 n.17, 421 A.2d 1027, 1034 n.17 (1980); Flagtwet v. Smith, 367 N.W.2d 188, 191-92 (S.D. 1985); Martino v. Park Jefferson Racing Assoc., 315 N.W.2d 309, 312 (S.D. 1982). In this and the following examples, it should be clear that while courts permit inferences about individuals to be based on many forms of group membership, they do not sanction inferences based on all forms of group membership. See generally Underwood, Law and the Crystal Ball: Predicting Behavior with Statistical Inference and Individualized Judgment, 88 Yale L.J. 1408 (1979) (threat to individual of predictive judgments greatest when predictions are based on factors beyond that individual's control). For example, in State v. Davis, 96 N.J. 611, 477 A.2d 308 (1984) (per curiam), the case in which statistical "framework" data on recidivism was applied to an individual at a capital sentencing trial, the New Jersey Supreme Court noted that the "proffered report refers to race—i.e., that defendant is a 'white male'—as a demographic factor. The use of such a variable may have unacceptably invidious implications, bearing upon the ultimate admissibility of the expert's testimony." Id. at 623 n.2, 477 A.2d at 314 n.2. Note that while the court expressed reservations about the inclusion of race in what we would call a social framework, it left uncensured the inclusion of gender and age.

[38] The Comprehensive Crime Control Act of 1984 authorizes denying bail to defendants who "will endanger the safety of any other person or the community." 18 U.S.C. § 3142(b) (Supp. III 1985). Among the factors listed that the judicial officer "shall . . . take into account" in denying bail are "the history and characteristics of the person, including . . . his character, physical and mental condition, family ties, employment, financial resources, length of residence in the community, community ties, past conduct, history relating to drug or alcohol abuse, criminal history, and record concerning appearance at court proceedings," as well as "the nature and seriousness of the danger to any person or the community that would be posed by the person's release." Id. § 3142(g).

[39] See generally Monahan, The Case for Prediction in the Modified Desert Model of Criminal Sentencing, 5 Int'l J.L. & Psychiatry 103 (1982) (analyzing the relevance to sentencing of predicted post-release conduct of offenders).

[40] For example, in the leading case upholding the use of "guidelines" (statistical tables

Some courts that are quite willing to countenance the use of group data to infer how an individual member of the group will behave in the future draw a bright line prohibiting the use of such information at trial to assist in determining how an individual has acted in the past.[41] In *State v. Saldana*,[42] for example, the defendant was convicted of rape at a trial at which an expert witness for the prosecution compared the complainant's reactions to the reactions of groups of women who had been raped. The Minnesota Supreme Court, in overturning the conviction, stated that the jury "must not decide this case on the basis of how most people react to rape."[43] Rather, the jury "must decide what happened in *this case*."[44]

The logic of making inferences about individual behavior from group membership, however, is as applicable to past as to future acts.[45] As Laurence Tribe has noted:

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reflecting the recidivism rates of various groups of offenders) for determining the parole eligibility of federal prisoners, the court stated that the guidelines "do not restrict discretion but simply provide a rational basis founded upon prior research and experience for its exercise with respect to the particular offender." Barr v. United States, 415 F. Supp. 990, 995 (W.D. Okla. 1976).

[41] See, e.g., People v. Risley, 214 N.Y. 75, 108 N.E. 200 (1915), a case involving a forgery allegedly committed with the defendant's typewriter. The trial court admitted testimony from a mathematician on the low probability that the same peculiarities of lettering could be found in another typewriter. The reviewing court, in rejecting such statistical evidence, contrasted it with the use of actuarial tables to determine damages in wrongful death cases. An actuarial table is used "from necessity when the fact to be proved is the probability of the happening of a *future* event." Id. at 86, 108 N.E. at 203 (emphasis added). In the forgery case, however, "[t]he fact to be established . . . was not the probability of a future event, but whether an occurrence asserted by the people to have happened had actually taken place." Id. See generally Note, Evidentiary Use of Mathematically Determined Probability, 28 Harv. L. Rev. 693 (1915) (summarizing the facts of *Risley* and arguing for admissibility of mathematical calculation of probability). The case is also discussed in Tribe, Trial by Mathematics: Precision and Ritual in the Legal Process, 84 Harv. L. Rev. 1329, 1344-45 nn.47-49 (1971).

[42] 324 N.W.2d 227 (Minn. 1982).

[43] Id. at 230.

[44] Id. But see State v. Myers, 359 N.W.2d 604, 606, 608 (Minn. 1984) (admitting testimony of expert witness offered by prosecution concerning behavioral traits "typically observed in sexually abused children").

[45] V.C. Ball, for example, has argued that all probability statements about the occurrence of past events can be recharacterized as probability statements about future events yet to occur. "[P]ropositions about past facts are 'predictions,' on existing information, as to what the 'truth' will turn out to be when and if more knowledge is available." Ball, The Moment

> It is not the future character of an event that induces us to give weight to probabilistic evidence, but the lack of other, more convincing evidence—an absence more common in, but certainly not limited to, future occurrences. . . . Insofar as the relevance of probability concepts is concerned, then, there is simply no inherent distinction hetween future and past events.[46]

It would appear, therefore, that while social frameworks can never in themselves establish with certainty the existence of any fact that is of consequence to an issue at trial, they are surely capable of providing information regarding the probability that something did or did not occur. This is all that the concept of relevance requires and all that sound policy would seem to demand.

B. Potential for Prejudice or Confusion

A second point of departure in the generic evaluation of social frameworks is the proposition that relevant evidence may be excluded if its probative value is accompanied by a risk that the evidence will unfairly prejudice one of the parties or will confuse or affirmatively mislead the jury.[47] Any potential to prejudice, confuse, or mislead, must be balanced against probative value, so that the former does not "substantially outweigh" the latter. Otherwise, the material will be excluded.

"Unfair prejudice" reflects two concerns. The first is that decisions not be swayed by appeals to the jurors' emotions.[48] To our knowledge, the charge of playing on the jurors' emotions has never

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of Truth: Probability Theory and Standards of Proof, 14 Vand. L. Rev. 807, 815 (1961). Likewise, John Venn, one of the founders of modern probability theory, stated that "in Probability, *time* has nothing to do with the question; in other words, it does not matter whether the event, whose probability we are discussing, be past, present, or future." J. Venn, The Logic of Chance 281 (2d ed. 1876). In contrast, Thomas Liddle argues that "[m]athematical probability is . . . most useful in establishing the existence of or identifying facts relating to past events and least useful in the predicting of future events." Liddle, Mathematical and Statistical Probability as a Test of Circumstantial Evidence, 19 Case W. Res. L. Rev. 254, 277-78 (1968).

[46] Tribe, supra note 41, at 1345-46.

[47] See Fed. R. Evid. 403. Rule 403 also states that judges may exclude relevant evidence if its probative value is substantially outweighed by "considerations of undue delay, waste of time, or needless presentation of cumulative evidence." Id.

[48] Evidence "which tends to horrify, evoke sympathy or increase a desire to punish," such as a gruesome photograph of a crime scene, is thus a prime candidate for exclusion as unfairly prejudicial. 10 J. Moore & H. Bendix, Moore's Federal Practice § 403.10(1) (2d ed. 1985).

been leveled against the introduction of a social framework. If anything, the occasional complaint has been that empirical data are "cold"[49]—that is, that they lack any emotional impact at all. This should not be surprising. The goal of social science—and of all other types of science as well—is to provide "dispassionate" tests of competing hypotheses to account for observed states of affairs.[50]

The second concern subsumed under the rubric of "unfair prejudice" is not frivolous when applied to social frameworks. The concern is that such information, precisely because it is termed "empirical" and the product of "research," will categorically be accorded undue (and thus "unfair") value by naive jurors who are overly deferential to anything portrayed as "science." As the Minnesota Supreme Court stated, "[p]ermitting a person in the role of an expert" to present information on the reactions that characterize groups of women who have been raped "unfairly prejudices the appellant by creating an aura of special reliability and trustworthiness" and this "danger of unfair prejudice outweighs any probative value" that the framework may possess.[51]

The claim that jurors will be so awed by the scientific "aura" of social frameworks that they will, in effect, accord frameworks a probative value in excess of the probative value to which they are logically entitled, is an empirical claim. Fortunately, it is a claim that has been thoroughly investigated. It appears that aggregate "statistical" information, in actual practice, is likely to be highly *undervalued* by lay decisionmakers. Numerous studies have found that when people are presented with social frameworks (often called "base rates" in the research literature) and with factual information specific to the case at issue, they strongly tend to give less weight to the framework than the logic of inference suggests is due.[52]

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[49] International Bhd. of Teamsters v. United States, 431 U.S. 324, 339 (1977).

[50] See, e.g., J. Neale & R. Liebert, Science and Behavior: An Introduction to Methods of Research 9-10 (2d ed. 1980) ("[S]cientific commitment involves a willingness to modify one's theories, opinions, and beliefs according to empirical findings. Science attempts to replace dogma with data.").

[51] State v. Saldana, 324 N.W.2d 227, 230 (Minn. 1982); see also Tribe, supra note 41, at 1334, 1376 (criticizing the use at trial of obscure mathematical arguments that intimidate but impress laymen).

[52] As Michael Saks and Robert Kidd have stated, "[w]hile commentators' arguments have been that the data are inordinately persuasive, the evidence says that the reverse is true." Far from social frameworks being accorded excessive and "unfair" weight, "[t]he more real-

The introduction of a social framework thus creates little risk of inciting turmoil and appears unlikely to be accorded "excessive" probative value. But might a framework still engender sufficient cognitive confusion or be so likely to mislead the factfinder as to

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istic problem is presenting statistical evidence so that people will incorporate it into their decisions at all." Saks & Kidd, Human Information Processing and Adjudication: Trial by Heuristics, 15 Law & Soc'y Rev. 123, 149 (1981). Richard Nisbett and Lee Ross, for example, reviewed a large number of studies finding that "vivid" information, such as case examples, is weighed heavily in lay decisionmaking.

> The most disconcerting implication of the principle that information is weighted in proportion to its vividness is that certain types of highly probative information will have little effect on inferences merely because they are pallid. Aggregated, statistical, data-summary information is often particularly probative, but it is also likely to lack concreteness and emotional interest. Consequently, highly probative data summaries often should be ignored or have little effect on inferences, while more vivid, anecdotal, or case-history information of substantially lesser probative value should have a strong effect on inferences.

R. Nisbett & L. Ross, Human Inference: Strategies and Shortcomings of Social Judgment 55-56 (1980). The authors also found that the more important a decision was, the stronger was the tendency to disregard statistical information and to attend to vivid anecdotes. See id. at 59.

In reviewing the research in this area, Shelley Taylor and Suzanne Thompson found that

> [s]even studies compared the persuasiveness of case history appeals with more abstract or statistical presentations. Of these, six found case histories to be more persuasive than the comparison conditions. In the single no-effects study, the results are likely to have been obscured by [methodological flaws]. . . .
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> . . . Underuse of the statistical information, rather than overuse of case history information, may explain the effect . . . .

Taylor & Thompson, Stalking the Elusive "Vividness" Effect, 89 Psychological Rev. 155, 162, 164 (1982). A more recent review concluded that "[r]elative to pallid information, vivid information presented at trials may garner more attention, recruit more additional information from memory, cause people to spend more time in thought, be more available in memory, be perceived as having a more credible source, and have a greater affective impact." Bell & Loftus, Vivid Persuasion in the Courtroom, 49 J. Personality Assessment 659, 663 (1985); see also Shedler & Manis, Can the Availability Heuristic Explain Vividness Effects?, 51 J. Personality & Soc. Psychology 26, 26 (1986) ("[O]ur results confirm the hypothesis that vividly presented information is impactful . . . .").

Even if it were empirically found that aggregate information was overvalued in *some* contexts, this would still not support a categorical bar against such evidence. Rather, it would suggest a possibility of prejudice in those specific contexts in which scientific information is overvalued. For example, if Professor Slobogin's belief that "scientific evidence is particularly potent when it confirms the state's decision to prosecute," Slobogin, supra note 17, at 145, were found to be true, it could support a finding of prejudice in those situations in which the prosecution sought to introduce a social framework in a criminal trial. See infra text accompanying notes 67-76, on "character" evidence. But this would be a contextual, rather than a categorical, attack on the use of social frameworks. It would leave untouched those other contexts in which the use of aggregate information has been studied and found to be seriously undervalued.

outweigh whatever admittedly probative value it may have? The answer to this question would appear to depend on how the social framework is presented to the trier of fact. It is, of course, possible to present a social framework confusingly.[53] But it is also possible to present a social framework clearly and in perspective. In none of the four framework illustrations presented in Part I, for example, did the courts find the proffered frameworks confusing or distracting. There are "good" and "bad" expert witnesses and "good" and "bad" briefs in terms of their ability to enlighten rather than confuse or distract the trier of fact. Particular witnesses or briefs presenting empirical information may fall into either category. Nothing in the nature of social frameworks, however, suggests that they inevitably, or even often, tax the cognitive capacities of judges or juries. Certainly no categorical exclusion is justified on this ground.[54]

C. Information Value

The Federal Rules permit the introduction of "scientific . . . knowledge," provided that it will "assist the trier of fact to understand the evidence or to determine a fact in issue."[55] This in essence restates earlier formulations that expert scientific testimony must present information that is outside the "common knowledge" of the average layperson.[56] These rules suggest that empirical frameworks must provide factfinders with information they do not already have.

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[53] Note, however, that Judge Kaufman has stated that when the issues at trial are by their nature complex, relevant evidence cannot be kept from the jury solely because of the alleged potential for confusion. Rather, "evidence submitted to a jury in many cases is frequently obfuscated. . . . Even in civil litigation, where non-perspicuous issues and abstruse evidence proliferate, we have never acknowledged a 'complexity exception' to the right to a jury trial." United States v. Torniero, 735 F.2d 725, 734 (2d Cir. 1984), cert. denied, 469 U.S. 1110 (1985).

[54] Further, procedures can be designed to minimize any risk of confusion or distraction attendant on the use of social frameworks. See infra text accompanying notes 77-124.

[55] Fed. R. Evid. 702.

[56] See, e.g., Rempfer v. Deerfield Packing Corp., 4 N.J. 135, 141-42, 72 A.2d 204, 207 (1950) ("The true test of admissibility of . . . [expert] testimony is . . . whether the witnesses offered as experts have peculiar knowledge or experience not common to the world which renders their opinions founded on such knowledge or experience any aid to the court or jury in determining the questions at issue."); Grismore v. Consolidated Prods. Co., 5 N.W.2d 646, 655 (Iowa 1942) ("[I]n all proceedings . . . requiring special study, experience or observation . . . not within the knowledge of laymen, in general, expert opinion testimony . . . [is] admissible.").

There is good reason to believe that in many particular situations social science research will provide new insight. Although comparatively young among the sciences, social research has already made important contributions to knowledge.[57] The framework cases that have been adjudicated to date suggest that judges often find that empirical research provides uncommon and otherwise unavailable insights into factual issues at trial.

In *State v. Chapple*, for example, the Arizona Supreme Court stated that it could not "assume that the average juror would be aware"[58] of factors reported by research to affect the accuracy of eyewitness testimony. Two of the factors mentioned hy the court were the relationship between stress and eyewitness accuracy[59] and the degree to which the confidence of an eyewitness was related to the accuracy of the identification.[60] Many lay persons, including jurors, appear to believe that high stress increases the accuracy of a witness' memory,[61] and that the more confident a witness is in his or her identification, the more accurate that identification will be.[62] Yet a number of researchers have concluded that high levels of stress cause distortions in recall,[63] and that there is little, if any, association between the confidence and the accuracy of an eyewitness.[64]

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[57] For a survey and analysis of advances in the social sciences, see D. Bell, The Social Sciences Since the Second World War (1982); Deutsch, Platt & Senghaas, Conditions Favoring Major Advances in Social Science, 171 Science 450 (1971).

[58] 135 Ariz. 281, 294, 660 P.2d 1208, 1221 (1983) (en hanc).

[59] See id.

[60] See id.

[61] See Yarmey & Jones, Is the Psychology of Eyewitness Identification a Matter of Common Sense?, *in* Evaluating Witness Evidence: Recent Psychological Research and New Perspectives 13, 16-17 (S. Lloyd-Bostock & B. Clifford eds. 1983) (laypersons much more likely than experts to helieve that stress has a positive effect on witness accuracy); see also Lempert, Social Science in Court: On "Eyewitness Experts" and Other Issues, 10 Law & Hum. Behav. 167, 169 (1986) ("[E]xpert testimony on the way in which stress is likely to affect a witness' perceptual accuracy . . . may be particularly valuable because some people's common sense suggests that matters perceived under conditions of great stress are seared into the brain.").

[62] See Wells, Lindsay & Ferguson, Accuracy, Confidence, and Juror Perceptions in Eyewitness Identification, 64 J. Applied Psychology 440 (1979) (juror perceptions of witness confidence correlated highly with juror perceptions of witness accuracy).

[63] See Deffenbacher, The Influence of Arousal on Reliability of Testimony, *in* Evaluating Witness Evidence: Recent Psychological Research and New Perspectives 235 (S. Lloyd-Bostock & B. Clifford eds. 1983); see also id. at 247 ("[T]here is no empirical support for the notion that relatively high levels of arousal facilitate eyewitness testimony.").

[64] See Wells & Murray, Eyewitness Confidence, *in* Eyewitness Testimony: Psychological Perspectives 155 (G. Wells & E. Loftus eds. 1984); see also id. at 168-69 ("[T]he empirical

Similarly, in *State v. Kelly* the New Jersey Supreme Court found that social research about battered women examined "an area where the purported common knowledge of the jury may be very much mistaken, an area where jurors' logic, drawn from their own experience, may lead to a wholly incorrect conclusion, an area where expert knowledge would enable the jurors to disregard their prior conclusions as being common myths rather than common knowledge."[65] Knowledge of certain topics, therefore, appears not to be common among lay factfinders, and what passes for knowledge in other areas may be bogus. A growing number of courts have held that the use of social frameworks to correct beliefs that are erroneous does indeed "assist the trier of fact."[66]

D. Character Evidence

Finally, the prohibition against character evidence has been a focal point in the debate on the introduction of social frameworks. In a sense, this prohibition is a special case of the more general proposition that relevant evidence may be prohibited if it will unfairly

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evidence does not support the idea that eyewitness confidence is a valid measure under ecologically valid conditions."). Researchers, in fact, have described the methodology of several published eyewitness identification studies to prospective jurors and asked them to estimate the percentage of accurate identifications that were made in the studies. For one study, in which the actual percent of correct identifications was 12.5, the prospective jurors estimated the accuracy rate at 70.6 percent. See Brigham & Bothwell, The Ability of Prospective Jurors to Estimate the Accuracy of Eyewitness Identifications, 7 Law & Hum. Behav. 19, 24 (1983); see also Wells, Expert Psychological Testimony: Empirical and Conceptual Analyses of Effects, 10 Law & Hum. Behav. 83, 88 (1986) (citing seven studies on public beliefs about the accuracy of eyewitness testimony).

[65] 97 N.J 178, 206, 478 A.2d 364, 378 (1984). The California Supreme Court, as another example, found that if the defense in a rape case suggests that the complainant's reactions are inconsistent with her claim of having been raped, the introduction by the prosecution of group studies of the typical reactions of women to rape "may play a particularly useful role by disabusing the jury of some widely held misconceptions about rape and rape victims, so that it may evaluate the evidence free of the constraints of popular myths." People v. Bledsoe, 36 Cal. 3d 236, 247-48, 681 P.2d 291, 298, 203 Cal. Rptr. 450, 457 (1984) (en banc).

The New Jersey Supreme Court also stated, regarding the use of studies of the recidivism rates of groups of offenders in capital sentencing proceedings, that "this kind of information, when presented by experts, can supplement or explain ordinary human experience and can assist laypersons in the deliberative process to reach sound determinations." State v. Davis, 96 N.J. 611, 618, 477 A.2d 308, 312 (1984) (per curiam).

[66] Fed. R. Evid. 702.

prejudice one of the parties. The rule against character evidence indicates an instance of presumed unfairness.[67] The Federal Rules provide that "[e]vidence of a person's character or a trait of his character is not admissible for the purpose of proving that he acted in conformity therewith on a particular occasion."[68] Strictly speaking, the data offered to create a social framework are not "character evidence," since they do not pertain to "*a person's* character or a trait of *his* character." Rather, the research describes the behavior of *groups* or *other* persons. Yet the purpose of offering character evidence is similar to the purpose of introducing social frameworks: to prove—that is, to make "more probable or less probable"—that an individual acted in conformity with an established pattern. By definition, knowledge of the general pattern of an individual's behavior (i.e., his or her character)—like knowledge of the general pattern of behavior of persons in the groups to which he or she belongs—allows one to recalculate the probabilities that the person acted in a certain way on a given occasion. The policy concern that gave rise to a rule barring the admissibility of evidence of an individual's "characteristic" behavior applies with equal force to the use of information on behavior characteristic of the groups to which he or she belongs: individuals should be accountable for their specific acts and not for their general proclivities.[69] In the context of social frameworks, as in the context of traditional character evidence, the basis of that concern "lies more in history and experience than in logic."[70]

However firm the libertarian values barring the admission of character evidence,[71] modern evidence law, as exemplified by the Federal Rules, contains several important exceptions allowing the

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[67] In the criminal law, attacking the character of the accused raises the danger that he or she will be "overwhelmed by prejudice instead of being convicted on that affirmative evidence which the law of this country requires." Regina v. Rowton, 11 L.T.R. 745 (1865).

[68] Fed. R. Evid. 404(a).

[69] As the California Law Revision Commission put it, character evidence "tends to distract the trier of fact from the main question of what actually happened on the particular occasion. It subtly permits the trier of fact to reward the good man and to punish the bad man because of their respective characters despite what the evidence in the case shows actually happened." California Law Revision Commission, Report, Record and Studies 615 (1964), quoted in Fed. R. Evid. 404 advisory committee's note.

[70] Fed. R. Evid. 404 advisory committee's note.

[71] In the criminal law, these values are "so deeply imbedded in our jurisprudence as to assume almost constitutional proportions." Fed. R. Evid. 404 advisory committee's note.

introduction of character evidence. In criminal proceedings, the defendant may offer evidence of his or her own character and, if this occurs, the prosecution may offer character evidence in rebuttal.[72] The defendant also may offer evidence of the victim's character, and if this occurs, the prosecution again may offer character evidence in rebuttal.[73] In either civil or criminal proceedings, any party may offer evidence of the character of a witness.[74] In addition, the prohibition against character evidence operates only when that evidence is used to prove that a person "acted" in conformity with his or her character on a particular occasion. Character evidence may be admissible for many other purposes such as proof of knowledge, intent, or preparation.[75]

The rule against character evidence, therefore, suggests a bar to some, but by no means all, applications of social frameworks. Where traditional forms of character evidence are prohibited, social frameworks also should be barred; where traditional forms of character evidence are allowed, there is no reason to prohibit social frameworks.[76]

E. General Conclusions

Measuring social frameworks according to broad evidentiary policy reveals no general bar to this third use of social science in law. Social frameworks can make the existence of a fact at issue in a legal proceeding more probable or less probable than it would otherwise appear. Frameworks run little risk of inflaming a juror's

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[72] See Fed. R. Evid. 404(a)(1).

[73] See Fed. R. Evid. 404(a)(2).

[74] See Fed. R. Evid. 404(a)(3).

[75] See Fed. R. Evid. 404(b). These exceptions do not mean that any kind of evidence will be admissible in the given circumstances. The standard rule of evidence, relevance, still applies. See G. Lilly, An Introduction to the Law of Evidence § 38, at 110 (1978). Where a defendant offers evidence of his or her own character, the defendant is generally limited to offering proof of community reputation with "character witnesses." Id. Most courts do not permit the accused to establish his or her character by introducing evidence of specific instances of past conduct. See id. at 112. Where the defendant offers evidence of a victim's or non-party's character, most jurisdictions limit the manner of proof to evidence of reputation. See id. § 40, at 117.

[76] This is the way, in fact, that the case law has gone. See, e.g., State v. Loebach, 310 N.W.2d 58 (Minn. 1981) (disallowing prosecution's offer of an empirical framework in the form of a "battering parent profile," to show defendant fit the profile, as inadmissible prosecution use of character evidence); State v. Davis, 96 N.J. 611, 477 A.2d 308 (1984) (per curiam) (allowing defense use of recidivism data as permissible character evidence).

emotions or taking advantage of a juror's credulity. They can, with careful presentation, clarify rather than confuse the issues to be decided at trial. Frameworks often tell jurors something they do not already know, or disabuse them of common but erroneous perceptions. And while the use of frameworks should be constrained by the concerns expressed in the rule against character evidence, numerous exceptions to that rule suggest ample opportunity for the application of frameworks.

Each specific use of a social framework, however, must be assessed in its own legal context. In the next Part, we examine the existing procedural mechanisms for dealing with proposed applications of social frameworks. We find these existing mechanisms wanting on several grounds, and propose a more theoretically satisfying set of procedures for obtaining and evaluating aggregate empirical data, and for communicating the results of this investigation to the trier of fact.

III. Procedures for Using Social Frameworks in Court

A. The Traditional "Fact" Perspective

Social science used as a social framework is now almost always introduced in court precisely as is social science used as an "adjudicative fact"—by expert testimony before a jury or other factfinder.[77] This customary procedure has two significant liabilities. First, it is an inefficient use of court time. The same testi-

[77] This technique was used in each of the four "anomalous" cases discussed above in Part I. One exception to this practice has occurred in several cases involving the credibility of eyewitness testimony. The leading federal example is United States v. Telfaire, 469 F.2d 552 (D.C. Cir. 1972), where the court announced an instruction to be used concerning certain aspects of eyewitness testimony. See id. at 557-59. Three circuits have held that cautionary instructions must be given when identification is a key issue and the identification is uncertain or qualified. United States v. Greene, 591 F.2d 471 (8th Cir. 1979); United States v. Hodges, 515 F.2d 650 (7th Cir. 1975); United States v. Holley, 502 F.2d 273 (4th Cir. 1974). At least four state courts have also mandated jury instructions on eyewitness identification in certain cases. State v. Warren, 230 Kan. 385, 635 P.2d 1236 (1981); Commonwealth v. Bowden, 379 Mass. 472, 399 N.E.2d 482 (1980); State v. Long, 721 P.2d 483 (Utah 1986); State v. Payne, 280 S.E.2d 72 (W. Va. 1981). See generally Saltzburg, A Special Aspect of Relevance: Countering Negative Inferences Associated with the Absence of Evidence, 66 Calif. L. Rev. 1011, 1057-60 (1978) (suggesting the development of a standard jury instruction regarding reliability of eyewitness evidence); Note, Eyewitness Identification Testimony and the Need for Cautionary Jury Instructions in Criminal Cases, 60 Wash. U.L.Q. 1387 (1983) (advocating cautionary jury instructions regarding reliability of eyewitness identification).

mony about the same research studies must be heard in case after case, whenever a framework for a given type of factual determination is sought.[78] Second, the current method of introducing empirical frameworks is expensive.[79] The pool of expert witnesses is limited to a small group of basic researchers in each topical area and these researchers must be transported and paid to repeat their testimony in each new case. Access to expert testimony on empirical research is effectively precluded in a large number of cases in which the introduction of a framework would seem justified.

One source of proposals for improving the introduction of social frameworks might derive from the recognition that frameworks resemble legislative facts as much as they resemble adjudicative facts. Social frameworks possess a legislative fact "generality" based on the research from which they are derived and an adjudicative fact "specificity" which currently controls the procedures for their introduction. Pursuing this insight, one might consider formulating a two-stage process for introducing social frameworks: first, attention should focus on the legislative fact "generality" of the framework; and then, attention should shift to the adjudicative fact "specificity" of its application to the given case.

The practical difficulty of this seemingly plausible tack, however, becomes apparent when the concept of legislative fact is examined for its procedural ramifications. The concept implies that "general" empirical information should be presented to the court as lawmaker rather than to the jury or court as fact finder.[80] However, the distinct procedural suggestions emanating from "legislative fact" have been limited to negative proposals that "general" facts should not be treated by courts as other facts are treated.[81]

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[78] One recent survey of 28 experimental psychologists who offer expert testimony on eyewitness performance, for example, found that the 24 respondents collectively have testified in over two hundred cases. McCloskey, Egeth & McKenna, supra note 14, at 3 n.1 (also stating "The responses further indicated that for most of the psychologists, the number of contacts from attorneys, and the number of cases in which the expert's testimony was admitted, have dramatically increased over the last several years.").

[79] See Sanders, Helping the Jury Evaluate Eyewitness Testimony: The Need for Additional Safeguards, 12 Am. J. Crim. L. 189, 213 n.182 (1984) ("The hourly rates charged hy experts places them beyond the reach of most defendants.").

[80] See Davis, Facts in Lawmaking, supra note 24, at 932-33.

[81] The advisory committee's note on Fed. R. Evid. 201(a) states that "no rule [of evidence] deals with judicial notice of 'legislative facts.'" Fed. R. Evid. 201(a) advisory committee's note. Professors Saltzburg and Redden note that "[t]he most serious problem with Rule 201 may be its total failure to address legislative facts." S. Saltzburg & K. Redden, Federal Rules of Evidence Manual 45 (3d ed. 1982).

Affirmative direction as to how "general" facts should be treated has not been forthcoming. For example, calling empirical information "legislative fact" does not suggest whether the information should be offered by brief or by testimony,[82] and does not justify a position on whether courts should engage in their own independent search for relevant data.[83] Furthermore, the concept of legislative fact has no implications at all concerning how courts should evaluate information they obtain or how they should treat prior judicial evaluations of the same research. Thus, recognizing the legislative fact aspect of social frameworks does not yield a coherent set of procedural ideas for introducing those frameworks in court.

B. The Social Authority Perspective

A heuristic concept is needed that reflects the generality of the basic research data used in a framework and at the same time provides a richer source of procedural ideas than the concept of legislative fact. One such concept may be "social authority."[84] Under this view, courts would treat social science research, when used to create a rule of law, as a source of authority rather than as a type of fact. Accordingly, courts would deal with empirical research much as they now deal with legal precedent in a common-law system.

Considering social science research as more analogous to law than to fact appears jurisprudentially plausible: while social science research has some of the characteristics of fact, it has some of the characteristics of law as well. The principal similarity between social science and fact is that both are positive—both concern the way the world is, with no necessary implications for the way the world *ought* to be.[85] The principal similarity between social science

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[82] See Davis, Facts in Lawmaking, supra note 24, at 940-41.

[83] See Fed. R. Evid. 201(a) advisory committee's note; see also Davis, Facts in Lawmaking, supra note 24, at 934-35 (criticizing *sua sponte* judicial fact-finding of legislative facts made without an opportunity for opposing counsel to challenge the legislative facts thus found).

[84] See generally Monahan & Walker, supra note 24 (use of social science research as "authority" in law).

[85] See P. Foot, Virtues and Vices 79 (1978) ("Many modern moral philosophers have taken up Hume's argument and, starting from his premise about the necessarily practical nature of morality, assert his conclusion about the gap between *is* and *ought*."); Morris, Law and Fact, 55 Harv. L. Rev. 1303, 1329 (1942) ("The distinction between propositions of fact

and law is that both are general—both produce principles applicable beyond particular instances.[86] Until now, courts and commentators have attended to the similarity between social science and fact, and have largely ignored the similarity between social science and law. Yet jurisprudential considerations do not preclude pursuing the law analogy rather than the fact analogy,[87] and there is considerable precedent for according positive materials like social science the status of authority in the law.[88]

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and conclusions of law is this: Propositious of fact are descriptive; conclusions of law are dispositive.").

[86] See Monahan & Walker, supra note 24:

> Social science research, though derived from specific empirical data, typically addresses persons, situations, and time periods beyond those present in a particular investigation. . . . Because of this generality, the conclusions of empirical research are sometimes metaphorically described as scientific laws.
>
> Like social science, law, particularly court decisions in a common-law system, derives from specific empirical events (the facts of a case), hut speaks more broadly. It is this attribute of generality that is described as the "precedential effect" or authoritative nature of a court decision.

Id. at 490-91.

[87] The principal argument against pursuing the analogy between social science research and law is that since researchers are not elected or appointed to public office, social science research lacks the official sanction characteristic of legal authority. This objection is based on J.L. Austin's view that all law originates in a command issued by a sovereign. See J. Austin, The Province of Jurisprudence Determined 1-25 (2d ed. 1861). Modern criticism of Austinian jurisprudence, however, has been severe. According to H.L.A. Hart, the inherent difficulty in this conception of lawmaking is that it distorts the content of much that is commonly considered law. See H. Hart, The Concept of Law 18-25 (1961); see also L. Fuller, The Morality of Law, 46-49, 191-97 (rev. ed. 1969) (criticizing Austin's distinction between "general" and "particular" laws, and his preoccupation with origins of lawmaking power); H. Kelsen, General Theory of Law and State 30-37, 71-74 (A. Wedberg trans. 1961) (objecting to Austin's view of law as command without considering the facilitative purpose of law). For example, facilitative laws are inexplicable under an Austinian view. A law can facilitate the formation of contracts by specifying the conditions under which a contract is validly formed, or can facilitate the making of wills by describing how a will is properly made. In neither case is it obvious how the law "commands" anything.

[88] See Merryman, The Authority of Authority: What the California Supreme Court Cited in 1950, 6 Stan. L. Rev. 613, 620 (1954) ("It is possible for cases to be decided, rules of law to be stated, lines of decision begun and perpetuated, solely on the authority of a textual treatment having its origins outside the judicial or legislative process."). Custom is one of the earliest and clearest examples of positive material being treated as law. William Blackstone recognized that general customs—doctrines not set down in any written statute but depending solely on immemorial usage—frequently attain the status of law. He cited numerous rules of inheritance, property transfer, contracts, and wills as examples of the incorporation of positive material into legal rules. See 1 W. Blackstone, Commentaries 63-64, 67-68; see also C. Allen, Law in the Making 124-25 (5th ed. 1951) (customs as local exceptions to or variations of general law).

We have argued elsewhere[89] that the concept of social authority lends itself to the development of a coherent series of proposals for how courts should deal with empirical information. In essence, the assumption underlying each proposal is that courts should treat social science in the same manner that they treat legal precedent. For example, construing social science as a source of authority implies that courts should obtain empirical research the same way they obtain legal materials—in briefs submitted by the parties, rather than by expert testimony.[90] It implies as well that judges should be free to do their own investigation to locate social science studies, as they are free to find sources of legal authority not brought to their attention by the parties.[91]

Considering social science as social authority also suggests that courts should evaluate empirical research in a manner similar to the one they use to evaluate case precedent in a common law system. It is possible to abstract a relatively clear set of evaluative criteria that courts use in attributing precedential value to a prior decision;[92] these criteria bear remarkable resemblance to those used by social scientists in determining the scientific value of a piece of research.[93] In short, the great advantage of a theory of social authority over one of legislative fact is that the former is rich in implications for how courts should deal with social science research and the latter is not. The ultimate criterion against which the value of the social authority concept must be measured, however, is whether the procedures it suggests are more efficient and fair than those currently in use. We now turn to the specification of those procedures for social frameworks.

C. Social Frameworks as a Mix of Social Authority and Fact

Reconceptualizing social frameworks as a mix of social authority and fact[94] yields a two-stage process with clear procedural ramifi-

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[89] See Monahan & Walker, supra note 24, at 495.

[90] See infra notes 95-97 and accompanying text.

[91] See infra notes 98-99 and accompanying text.

[92] See infra notes 101-12 and accompanying text.

[93] See infra notes 104-12 and accompanying text.

[94] Our use of the term "fact" corresponds to what Davis would call "adjudicative fact," that is, an assertion "about particular immediate parties" to a case. 3 K. Davis, Administrative Law Treatise § 15.3, at 143 (2d ed. 1980); cf. Bowling v. Department of Ins., 394 So. 2d 165, 174 (Fla. Dist. Ct. App. 1981) (referring to an adjudicative fact as "a plain, garden-variety fact").

cations. First we consider how courts should obtain and evaluate frameworks, recognizing the dominance of the social authority classification at this stage; then we specify communication techniques that follow from the factual aspect of social frameworks.

1. Obtaining and Evaluating Social Frameworks

The social authority aspect of frameworks suggests two corollary propositions regarding how a court should obtain empirical research: parties should present empirical research to the court in briefs rather than by testimony; and the court may locate social science studies through its own research.[95]

Under this view, when the attorney for one of the parties determines that providing an empirical context or framework for a factual issue in the case would be useful—as in the eyewitness identification, dangerousness, battered woman, and sexual victimization areas described earlier—the attorney would begin a search for relevant empirical information. If such information were found, it would be presented to the court in a written brief, the purpose of which, as described below, would be to propose and justify a set of jury instructions incorporating a social framework. As with a brief requesting traditional jury instructions, a brief proposing "framework instructions" would be served on opposing parties, with the opportunity provided for a response.[96] Like the original brief, the reply brief, if any, would focus on the research, addressing empirical and legal issues raised by the studies offered in the original

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[95] Monahan & Walker, supra note 24, at 495.

[96] Generally, requests for instructions must be in writing, must be specific about the issue in question, and must show persuasive authority supporting the proposed instruction. See 1 E. Devitt & C. Blackmar, Federal Jury Practice and Instructions § 7.02 (3d ed. 1977). For an example of a rule setting out these requirements, see C.D. Cal. R. 13. Under the Federal Rules, parties to criminal proceedings must furnish adverse parties with copies of requests for instructions. See Fed. R. Crim. P. 30. In civil cases, parties should furnish copies of requests for opposing counsel. See 1 E. Devitt & C. Blackmar, supra, § 7.02, at 206. Similarly, state courts often require the requesting party to provide copies for the opposition in criminal cases. See, e.g., Idaho Crim. R. 30; Minn. R. Crim. P. 26.03(18)(1); W. Va. R. Crim. P. 30. Also, many states in civil trials require parties requesting instructions to furnish copies for the adverse party. See Cal. Civ. Proc. Code § 607a (West 1976); Idaho R. Civ. P. 51(a)(1); Tex. R. Civ. P. 273. Any response or objection to the proposed instructions must be timely and specify the grounds upon which the complaint is founded. See 1 E. Devitt & C. Blackmar, supra, § 7.03, at 213.

brief, or other studies located by the replying party.[97]

The second corollary of the social authority perspective toward social frameworks is that the court may determine, without suggestion by the parties, the need for a framework, and then may locate social science studies through its own efforts.[98] This view of independent judicial research to obtain social science is consistent with the accepted practice that courts are free to carry out their own search for legal precedent and, indeed, may be required to do so in order to properly instruct a jury.[99]

Our proposal that courts obtain social frameworks through written briefs and independent investigation anticipates that judges will be competent to evaluate the research they might find. Many have argued that judges cannot properly evaluate social research and that judges therefore may base conclusions either upon invalid studies or upon a misunderstanding of valid research.[100] We are more sanguine about the abilities of judges in this regard. Viewing research as social authority suggests that courts should test the quality of empirical research in much the same way in which they have long tested the quality of case precedents.[101]

Just as a case reviewed by a court high in the appellate structure has more weight as precedent than an unreviewed lower court opinion,[102] so the degree to which a researcher's work has been subject to the critical review of his or her peers in the scientific community is an important index of the trustworthiness of the re-

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[97] While the use of written briefs would eliminate the role of formal expert testimony in offering frameworks, it would not eliminate more informal roles for experts. They could be used to advise an attorney whether a credible claim for framework instructions could be made, to assist in locating and in evaluating relevant research, to participate in drafting accurate and comprehensible framework instructions for submission to the court, and to criticize the empirical arguments made by opposing parties. It should be clear, however, that in our view the briefs offering and defending framework instructions, or opposing them, are, like more traditional briefs, intended as communications between the parties' attorneys and the court, and not between the experts and the court.

[98] Monahan & Walker, supra note 24, at 497.

[99] See infra notes 114-23 and accompanying text.

[100] See, e.g., Lochner, Some Limits on the Application of Social Science Research in the Legal Process, 5 Law & Soc. Ord. 815, 824-25 (1973) ("The single most important barrier to the use of social science research in the practice of law is ignorance. . . . [I]gnorance of the social sciences leaves lawyers ill-equipped to evaluate social science research. As a result, many attorneys are unable to distinguish sound research from weak research.").

[101] See Monahan & Walker, supra note 24, at 498-99.

[102] See, e.g., E. Wambaugh, The Study of Cases 62 (1894) ("A decision of a court not of last resort is usually not of high persuasive authority.").

sults.[103] The publication of research in journals with independent scientific editorial boards, for example, is one way to ensure that some such review has taken place.

The extent to which courts will accord a decision precedential value depends not only on the level of court that issued it, but also on the quality of reasoning revealed in the opinion itself. Decisions viewed as "well reasoned" are more likely to be taken as authoritative than are decisions in which the inferential links between the principles invoked and the holding reached are difficult to discern or are logically flawed.[104] In the context of social science research, a well reasoned study is one that possesses "validity."[105] To have "high" validity, a study must rule out (or "control for") competing hypotheses that may account for an observed state of affairs. Social scientists design their studies to minimize factors that could compromise validity and make the results of the research equivocal or "poorly reasoned."[106]

A third factor in determining the precedential value of an earlier legal case for the case at hand is the closeness of the analogy that can be drawn between the two cases. The prior case must be seen as "on point" to the resolution of the case at issue.[107] Correspondingly, "generalization" is the accepted rubric for evaluating how far beyond their immediate facts the findings of a study can be ap-

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[103] See Monahan & Walker, supra note 24, at 499.

[104] See, e.g., Schaefer, Precedent and Policy, 34 U. Chi. L. Rev. 3, 11 (1966) ("[A]n opinion which does not within its own confines exhibit an awareness of relevant considerations, whose premises are concealed, or whose logic is faulty is not likely to enjoy either a long life or the capacity to generate offspring.").

[105] See Monahan & Walker, supra note 24, at 501-05. Validity (sometimes called "internal validity") here refers to the trustworthiness of a piece of research on its own terms, as distinct from the question of whether the findings apply more broadly to other situations of interest.

[106] See D. Campbell & J. Stanley, Experimental and Quasi-Experimental Designs for Research (1966); see also T. Cook & D. Campbell, Quasi-Experimentation: Design & Analysis Issues for Field Settings 37-94 (1979) (discussing indices of validity for social science testing data).

[107] See, e.g., S. Burton, An Introduction to Law and Legal Reasoning 29 (1985) ("A judge or decision *follows precedent* when the facts of a previously decided case are sufficiently similar to those of a problem case for justice to require like treatment of the two cases."); Lücke, The Common Law: Judicial Impartiality and Judge-Made Law, 98 Law Q. Rev. 29, 37 (1982) ("Precedents are frequently applied with a real sense of inevitability, on the seemingly simple ground that the facts of the precedent and the facts of the case before the court, are indistinguishable. Such reasoning . . . is one of the most prominent stylistic elements of the common law . . . .").

plied.[108] While the question of the generalization of research, like the question of whether a legal analogy is compelling, "is never completely answerable,"[109] the necessary lines of inquiry have been identified.[110]

In addition to the level of review, the quality of reasoning, and the closeness of analogy, one of the most important indices of the precedential weight to be accorded a prior decision is the extent to which subsequent cases have been in accord.[111] Scientific research is similar. The trustworthiness of a study increases as independent investigators arrive at a common conclusion.[112] The more often a study is confirmed by subsequent research, i.e., to the extent that a "body" of research with differing methodologies supports a common proposition, the less likely it is that chance fluctuations in the data or latent methodological flaws accounted for the original finding. Thus, in assessing research used as a framework courts can evaluate the scientific studies along dimensions analogous to the four above-mentioned criteria used to evaluate precedent. This explains our confidence that judges can adequately evaluate proposed social frameworks.[113]

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[108] Generalization is sometimes referred to as "external validity." See D. Campbell & J. Stanley, supra note 106, at 5-6, 16-22; T. Cook & D. Campbell, supra note 106, at 70-74.

[109] See D. Campbell & J. Stanley, supra note 106, at 5.

[110] First, one must consider whether the findings of a social science study can be generalized across *persons*, i.e., wbether the people who participated in the research differ in important ways from the people to whom the research is being generalized. Next, consideration must be given to whether research findings can be generalized across *settings*, i.e., whether the findings apply in situations not directly involved in the study. Finally, the issue of whether a research finding can be generalized over *time* must be addressed. Like legal precedent, research results can become "stale" as time passes and as circumstances change. See Monahan & Walker, supra note 24, at 506-07.

[111] See Schaefer, supra note 104, at 11 ("Along with quality, quantity too is significant. A settled course of decision is more compelling than an isolated precedent . . . ."); see also Merryman, supra note 88, at 624 ("[W]here a number of previous judges have considered a similar problem and have outlined, in the course of their decisions, a method for solution of the one before the court, their accumulated wisdom and experience should not be cast aside by a judge . . . .").

[112] See Monahan & Walker, supra note 24, at 507-08.

[113] Our confidence is not without limits. Whether a judge can adequately evaluate social science research used as a social framework depends upon both the particular judge doing the evaluation and the particular piece of research being evaluated. Occasions may arise when tbe complexity of the researcb exceeds the ability of the judge to evaluate it intelligently. See Monahan & Walker, supra note 24, at 508-12; see also id. at 512 ("At this point, but only at this point, the risk of error is such that, as a last resort, some methods of providing assistance to the court in evaluating the research must be found."). Use of a court-

2. *Communicating Social Frameworks*

Considering social frameworks as part social authority and part fact leads to radically different roles for the jury and the court than exist under current practice. As the illustrative cases in Part I indicate, what we call social frameworks are now presented to the jury by expert testimony, and it is the jury's responsibility to evaluate what they have heard and to apply it to the facts of the case at bar. The court's role is a passive one, limited to ruling on whether given expert testimony is admissible as evidence for the jury's consideration. Under the mixed social authority-fact view, in contrast, the court is much more active. The research is presented directly to the court by brief, or the court may independently locate the research. Most importantly, just as it is the responsibility of the court, rather than the jury, to evaluate case precedent, so it is the responsibility of the court, rather than the jury, to evaluate the social science research.

If the evaluating judge finds both that the research supports the introduction of a social framework and that no policy issues—for example, the prohibition against some forms of character evidence—bar a framework's application, then the final procedural implication of the social authority view is clear: the results of the court's evaluation of the applicable research should be communicated to the jury in the same manner that the court's evaluation of the applicable statutes and case law is communicated to the jury, that is, by instruction.[114] The role of the jury is thus limited to applying the social framework given by the court to the specific facts of the case, just as the role of the jury is traditionally limited to applying the law given by the court to the specific facts of the case.[115]

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appointed advisor would be one method of providing such assistance.

[114] See supra note 77. In a case where the judge also serves as factfinder, it would, of course, be unnecessary to formulate explicit instructions. If a finding is made or an opinion is written in such a case, however, the trial judge's conclusions regarding empirical research should be recorded, both to allow those findings to be challenged if the case is appealed, and to serve in the common law development of social frameworks.

[115] The inclusion of social frameworks in jury instructions might appear to violate the rule of some jurisdictions prohibiting the court from commenting on the evidence. Commenting is allowed in federal courts. See, e.g., Capital Traction Co. v. Hof, 174 U.S. 1, 13-14 (1899) (a judge is empowered to "advise [the jury] on the facts"); Vicksburg & M.R.R. v. Putnam, 118 U.S. 545, 553 (1886) ("the judge, in submitting a case to the jury, may, at his discretion, whenever he thinks it necessary to assist them in arriving at a just conclusion, comment

According the court the responsibility for creating instructions or approving party-offered instructions on social frameworks raises the question of what should be included in the content of the framework instructions.[116] In contrast to the written briefs by

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upon the evidence, call their attention to parts of it which he thinks important, and express his opinion upon the facts . . . ."). Though state practice varies, many allow both summing up and commenting on the evidence. See Wright, The Invasion of Jury: Temperature of the War, 27 Temp. L.Q. 137 (1953) (surveying state practice regarding judges' use of jury instructions). Moreover, giving a framework instruction should not by itself amount to commenting on the evidence, unless the judge expresses an opinion as to how the framework might help determine a specific fact. In states that prohibit commenting on the evidence, the restriction is generally limited to expressing an opinion on the credibility or weight to be given the evidence, or on what it shows or does not show concerning facts specific to the case. See Jones v. Munn, 140 Ariz. 216, 221, 681 P.2d 368, 373 (1984) ("To constitute a comment on the evidence, the court must express an opinion as to what the evidence shows or what it does not show."); Saintsing v. Taylor, 57 N.C. App. 467, 472, 291 S.E.2d 880, 883-84 (1982) ("Generally Rule 51(a), N.C. Rules Civ. Proc. . . . prohibits the trial judge from making comments at any time during the trial which amount to an expression of opinion as to what has or has not been shown by the testimony."); Bergquist-Walker Real Estate, Inc. v. William Clairmont, Inc., 353 N.W.2d 766, 770 (N.D. 1984) ("In this instance the remarks of the trial judge did not reflect his opinion of the merits of the case or the weight of any evidence.").

[116] Another question is what legal standard should guide the issuance of instructions. A recent and comprehensive review of the case law on the obligation of judges to offer pattern or standard jury instructions concluded that "no universal rules can be distilled." Schwarzer, supra note 23, at 747. Schwarzer notes that "relatively few instructions are mandatory . . . ." Id. at 751. The instructions that have been held to be mandatory, whether or not requested by one of the parties, concern such bedrock legal issues as the burden of proof and the elements of the offense. See id. at 748-49. Other instructions have been held to be within the discretion of the trial judge, meaning that failure to give the instruction, even when requested, will not result in a reversal on appeal. These include, for example, instructions on whether the jury may draw inferences from a party's failure to present evidence. See id. at 752; see, e.g., United States v. Alsop, 479 F.2d 65, 66 (9th Cir. 1973). Finally, a number of cases have held that a trial judge's failure to give an instruction, at least when requested by one of the parties, can constitute reversible error, but only where the issue addressed by tbe instruction is essential or crucial to the case or if the particular facts of tbe case require it. These instructions have concerned accomplice testimony, see, e.g., Tillery v. United States, 411 F.2d 644, 647 (5th Cir. 1969) (uncorroborated accomplice testimony was "so critical" as to make the failure to give an instruction reversible error); lesser included offenses, see, e.g., State v. Green, 86 N.J. 281, 291, 430 A.2d 914, 919 (1981) (failure to instruct on lesser included offenses "deemed prejudicial error when the subject matter is fundamental and essential or is substantially material to the trial"); and the presumption of innocence, see, e.g., State v. Goff, 272 S.E.2d 457, 462 (W. Va. 1980) (reversible error to omit an instruction on the presumption of innocence due to the "crucial siguificance of such instructions").

Which standard—mandatory, discretionary, or "conditionally mandatory"—sbould apply to framework instructions? The heuristic presumption of social authority, that courts should instruct on social frameworks in the same manner they instruct on the law, is not helpful at this juncture, since there are no universal rules on how courts should instruct on the law.

which the parties communicate research to the court for its evaluation, instructions are not communications between lawyers but between the court and lay jurors. What information should these instructions communicate? Because it is, in our view, the responsibility of the court rather than the jury to evaluate the research which comprises the social framework, the instructions should communicate to the jury only the conclusions of the court's evaluation. The jury, then, would be as obligated to accept the court's already completed empirical judgments, and to apply them to the facts of the case, as it is to accept and apply the court's view of the substantive law.[117] The instructions should not refer to the

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Largely by the process of elimination, our own preferred standard is the mid-level conditionally mandatory one.

Consider eyewitness identification as an illustrative framework. To make a framework instruction on eyewitness identification mandatory in all cases containing an identification by an eyewitness seems plainly excessive and, in criminal cases, biased against the state. It would, for example, require that a criminal conviction be overturned if the judge failed to give an eyewitness framework instruction, even if there were dozens of eyewitnesses to an event, each of whom had ample opportunity to observe the defendant and all of whom independently identified the defendant as the perpetrator.

On the other hand, leaving the decision of whether or not to issue a framework instruction completely within the discretion of the trial judge seems equally inadvisable and, in criminal cases, biased against the defendant. Such a standard would require an appellate court to affirm the conviction of a defendant at a trial where the judge refused a request for a framework instruction on eyewitness testimony, even if the state's entire case rested on the testimony of one eyewitness who had seen the offender only fleetingly and under conditions of extreme stress, and who did not positively identify the defendant as the offender until long after the incident.

The most balanced alternative appears to lie between these two extremes. Where the issue framed by the social science research is a subsidiary one or where the framework is unlikely to be helpful to the jury, it should be within the discretion of the trial judge to issue or omit the instruction. But where the framework addresses an issue crucial or essential to the case and the information conveyed in the framework instruction is likely to be helpful to the jury, the refusal of the trial judge to issue the requested instruction should be reversible error.

Note, in this regard, the recent decision of the Supreme Court of Utah in State v. Long, 721 P.2d 483 (Utah 1986):

> [W]e . . . consider ourselves compelled by the overwhelming weight of the empirical research to take steps to alleviate the difficulties inherent in any use of eyewitness identification testimony.
>
> We are convinced that, as a minimum, additional judicial guidance to the jury in evaluating such testimony is warranted. We therefore today abandon our discretionary approach to cautionary jury instructions and direct that in cases tried from this date forward, trial courts shall give such an instruction whenever eyewitness identification is a central issue in a case and such an instruction is requested by the defense.

Id. at 492.

[117] In applying a framework, of course, the jury is free to determine that the general research findings are inapposite to the facts of the specific case before it.

research methods employed in the studies, just as instructions on substantive law do not detail the legal reasoning of the cases taken as precedent or offer a count of the number of cases supporting a particular instruction. A description of method would invite the jury to repeat the evaluation that the court had already made.

More specifically, the framework instructions should address four aspects of the court's empirical conclusions. First, the instructions should state the factual determination that is being framed or placed in context for the jury by the research. In the illustrative cases in Part I, for example, those determinations concerned the accuracy of an eyewitness, the likelihood of future violent behavior, the reasonable fear of imminent bodily injury, and the occurrence of sexual abuse.

Second, the instructions should identify the factors (or "variables") found in the research that bear upon the determination the jury is to make. These might include, to continue with our four examples, race and stress (for eyewitness identification),[118] age and criminal record (for the prediction of violent behavior),[119] history of prior assault and attempts to escape (for the reasonable fear of imminent bodily harm),[120] and weight loss and nightmares (for sexual victimization).[121]

Third, instructions should describe the form of the relationship that exists between or among the identified factors. Often, simple descriptions such as "more" or "less," or "increases" or "decreases" will suffice to communicate to the jury the nature of the observed empirical relationships. A statement to the effect that the likelihood of an adult committing violent crime decreases with age, for example, would describe the form of a relationship that may empirically frame a factual determination for the jury.[122]

Finally, instructions should describe the magnitude of the relationship that is addressed in the empirical framework. The issue

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[118] See supra notes 13-14 and accompanying text.

[119] See supra notes 15-17 and accompanying text.

[120] See supra notes 18-20 and accompanying text.

[121] See supra notes 21-22 and accompanying text.

[122] It should also be possible to state the form of relationships that are more complex than simple "linear" ones such as "more than" or "less than." For example, the relationship between "stress" and the accuracy of eyewitness perceptions is "curvilinear," that is, perceptions are more accurate at moderate levels of stress than at either very low levels or very high levels. See E. Loftus, supra note 14, at 33.

here is "how much more" or "how much less" the presence of an identified factor makes the determination of the fact at issue. For example, support could be found for the statement that the likelihood of an adult committing a violent crime "strongly" decreases with age.[123]

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[123] See State v. Davis, 96 N.J. 611, 618, 477 A.2d 308, 311 (1984) (per curiam) ("age, as a demographic variable, has consistently been found to be strongly related to subsequent criminal activity" (citing Cocozza & Steadman, supra note 17, at 1012)). Perhaps the most likely objection to this or any other proposed format for communicating social frameworks via jury instructions is that instructions by their very nature lack impact, i.e., they lack the ability to affect jurors' factual determinations. Three reasons commonly are given to explain the allegedly weak effect of instructions on jurors' decisionmaking: instructions often are written in the densest form of legalese; the instructions are usually given at the end of trial, when disputed evidence already may have done its damage; and jurors are unlikely to remember specific instructions over the course of a lengthy deliberation. See, e.g., E. Loftus, supra note 14, at 190 (criticizing prolix instructions and proposing a simplified alternative); Note, Did Your Eyes Deceive You? Expert Psychological Testimony on the Unreliability of Eyewitness Identification, 29 Stan. L. Rev. 969, 1005 (1977) ("The jury, in arriving at its decision, very often does not use information conveyed in the form of jury instructions."). Each of these defects, however, is easily remediable. Rewriting instructions in plain English leads to drastic increases in juror comprehension. See A. Elwork, B. Sales & J. Alfini, Making Jury Instructions Understandable (1982); Charrow & Charrow, Making Legal Language Understandable: A Psycholinguistic Study of Jury Instructions, 79 Colum. L. Rev. 1306 (1979). Giving instructions before evidence is offered as well as at the end of trial is becoming an increasingly frequent judicial practice. See Schwarzer, supra note 23, at 755-56. Sending a written copy of the instructions into the jury room has also been found to have salutary effects on the quality and efficiency of deliberations. See id. at 756-57; see also Sanders, supra note 79, at 217 (methods for increasing effectiveness of jury instructions).

Note, in this regard, the results of a recent study of mock jurors who viewed a videotape of a simulated criminal trial and then were randomly exposed to one of several sets of instructions regarding eyewitness identification. See Katzev & Wishart, The Impact of Judicial Commentary Concerning Eyewitness Identifications on Jury Decision Making, 76 J. Crim. L. & Criminology 733 (1985). One group of jurors received only standard instructions dealing with such issues as the burden of proof and the role of the jury. Another of the groups of jurors, in addition to the standard instructions, heard the judge summarize the evidence and describe the results of "recent studies" of factors affecting the accuracy of eyewitness identification. The researchers found that compared to the group that received only the standard instructions, the group whose instruction included what we would call a social framework were considerably more likely to vote to acquit the defendant, and were able to arrive at a verdict significantly more quickly. "The current study therefore refutes the claim that embedding . . . instructions about several issues involved in eyewitness testimony in a long list of other instructions would have very little, if any, impact on juror behavior." Id. at 742.

The efficacy of jury instructions is most commonly attacked by those promoting the expert witness as the preferred vehicle for apprising the jury of social frameworks. Some commentators assert that the testimony of an expert witness will have more effect upon jurors than will the instructions of a judge. This assertion, however, if true, proves too much. As social authority, social frameworks should receive the same attention from juries that the

As social science is repeatedly brought to bear in framing a given type of factual determination, attention should be given to establishing standard instructions on a variety of topics. This could be done either through the common law process of taking instructions from prior cases, or by an appellate court using its supervisory powers to endorse "pattern" instructions,[124] perhaps drafted by a

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law receives, no less—but no more, either. For that matter, the law governing a case—for example, a recent United States Supreme Court precedent—might have increased salience for a jury if one of the Justices were called as an expert witness and asked to expound on the precedent's rationale and application to the case at bar. But so long as jury instructions, rather than expert testimony, are the method whereby jurors receive their legal knowledge, jury instructions, rather than expert testimony, should be the method whereby jurors learn of social frameworks. Disparities in "impact" are to be avoided between the law to be applied to the facts of the case and information that may give meaning to those facts by placing them in an empirical context. See Wells, supra note 64, at 89-91.

[124] Jury instructions occasionally have been used in one framework application, that of eyewitness identification. See supra note 77. The most recent and comprehensive attempt to develop "pattern" instructions on eyewitness identification has occurred in the California state courts. See 1 Committee on Standard Jury Instructions, Criminal, California Jury Instructions, Criminal No. 2.92 (4th ed. Supp. 1986) [hereinafter CALJIC No. 2.92]. These instructions are based on People v. West, 139 Cal. App. 3d 606, 189 Cal. Rptr. 36 (1983), and People v. Palmer, 154 Cal. App. 3d 79, 203 Cal. Rptr. 474 (1984), which had found trial court refusal to give a specific instruction on eyewitness identification to be reversible error. CALJIC No. 2.92 advisory committee's note. The jurors are instructed in CALJIC No. 2.92:

> Eyewitness testimony has been received in this trial for the purpose of identifying the defendant as the perpetrator of the crime[s] charged. In determining the weight to be given eyewitness identification testimony, you should consider the believability of the eyewitness as well as other factors which bear upon the accuracy of the witness' identification of the defendant, including, but not limited to, any of the following . . . .

CALJIC No. 2.92. This preamble is followed by twelve one-sentence statements of factors relating to eyewitness identification. See id. Unfortunately, none of these statements fulfills all four of the criteria specified in the text accompanying notes 94-124, supra. The preamble to the instructions states that the factual determination that is being framed has to do with the accuracy of eyewitness identification, and thus the first of the proposed criteria is satisfied. See CALJIC No. 2.92. One of the instructions does not clearly state the factor that is being related to the accuracy of eyewitness identification, and thus fails the second criterion. That instruction admonishes the jury to consider "[t]he witness' capacity to make an identification," without specifying whether "capacity" refers to physical capacity, such as the witness' eyesight, or psychological capacity, such as the witness' maturity. See id. None of the instructions explicitly states the form of the relationship between the given factor and the accuracy of eyewitness identifications. With some, the form seems clear by implication. For example, in the instruction to consider "[t]he period of time between the alleged criminal act and the witness' identification," it can be concluded that the longer the time period, the poorer the identification. See id. But for a number of the instructions, the form of the relationship cannot easily he determined, and the instructions may even have the perverse effect of strengthening a juror's inaccurate beliefs. For example, a juror hearing the instruction to consider "[t]he stress, if any, to which the witness was subjected at the time of the observation," id., might well understand this to mean that high levels of stress are associ-

committee composed of lawyers and social scientists. Whichever the means of their creation, establishing pattern instructions and providing for their periodic review and revision hold great promise for standardizing this third use of social science in law.

IV. Conclusion

A novel role for empirical research is emerging—a use of general research conclusions to set a background context for deciding crucial factual issues at trial. We see no substantive reason for a categorical bar of this new application of social science in law. Indeed, we see potential benefits from using research in this way. However, each introduction of a social framework must be assessed on its own empirical and legal merits. This requires major changes in procedural mechanisms currently used for dealing with social frameworks. Drawing on the concept of social authority, we have developed a comprehensive set of proposals that includes new procedures for obtaining and evaluating aggregate empirical data, and for communicating the results of this investigation to juries. As social science attends to more aspects of human behavior, and as courts seek to benefit from these advances, the need to adopt such changes will become compelling.

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ated with high levels of accuracy, which is the opposite of what the relevant research would suggest. See supra notes 61 & 63. Thus, the California instructious would fail the third proposed criterion. Finally, none of the instructions makes any allusion to the magnitude of the effect that the given factors have on eyewitness identification, and therefore they do not satisfy the fourth criterion. See CALJIC No. 2.92. For summaries of other proposed instructions on eyewitness identification, see Sanders, supra note 79, at 212-18.