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DEAN M. HASHIMOTO*

Science as Mythology in Constitutional Law

The subject of scientific evidence in the courtroom fascinates legal scholars. Recently, scholars have directed their attention to the evaluation of scientific facts by trial courts. Much of this rapidly proliferating literature has come in response to Daubert v. Merrell Dow Pharmaceuticals, Inc., in which the United States Supreme Court interpreted the Federal Rules of Evidence to require that trial courts scrutinize scientific information before admitting it into evidence. The Daubert Court directed trial court judges to assess the reliability of scientific evidence by examining specific factors, including rate of error, testability, peer review and publication, and general acceptance.

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by the relevant scientific community.⁴ Scholars appear, on the whole, to approve of the direction taken by the Court in *Daubert*, and many offer proposals to assist trial courts in scrutinizing scientific evidence.⁵ Scholars currently devote their attention, therefore, to analyzing scientific information in the form of *adjudicative* facts that arise directly from the litigation.⁶

As important as this recent literature may be, it fails to consider another significant role for scientific facts: ⁷ that is, their role as *legislative* facts used to decide questions of law and policy.⁸ In contrast with their approach to adjudicative facts, which arise directly from litigation, courts may give judicial notice to legislative facts from information external to the case at hand.⁹ Despite the current neglect by scholars, prominent professors such as Laurence Tribe¹⁰ and Henry Monaghan¹¹ have contributed substantial scholarship that analyzes the significance of legislative facts. This essay is devoted to analyzing how the United States Supreme Court uses scientific information as legislative

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⁴ *Daubert*, 509 U.S. at 592-94.


⁷ By “scientific facts,” I mean those facts that can be validated, either empirically or by observation, through accepted scientific methods. Professor David Faigman has adopted a similar definition, although his analysis of scientific facts is largely confined to empirical social science data. See David L. Faigman, “*Normative Constitutional Fact-Finding*: Exploring the Empirical Component of Constitutional Interpretation,” 139 U. PA. L. REV. 541, 545 n.14 (1991) [hereinafter Faigman, *Normative Constitutional Fact-Finding*] (legal relevance of scientific fact should depend on validity); David L. Faigman, *To Have and Have Not: Assessing the Value of Social Science to the Law as Science and Policy*, 38 EMORY L.J. 1005, 1009 (1989) [hereinafter Faigman, *Value of Social Science*] (“The legal relevance of social science findings should depend on their scientific strength . . . .”).

⁸ See Davis, supra note 6, at 403.

⁹ Id.


¹¹ The leading article on the role of appellate review in the context of constitutional facts is Henry P. Monaghan, *Constitutional Fact Review*, 85 COLUM. L. REV. 229 (1985). Professor Monaghan contends that the pressing question is the extent to which the Constitution controls the allocation of factfinding functions. In his view, “constitutional fact review at the appellate level is a matter for judicial (and legislative) discretion, not a constitutional imperative.” Id. at 238. Thus, appellate courts should not be required to review every application of settled constitutional norms to the historical facts. Appellate courts may be mandated to declare law, but not to determine the application of facts. Id. at 239.
facts in constitutional law opinions. In modern times, the Court has often referred to empirical or scientific data that serve as legislative facts within its opinions. The Court has grappled with scientific information on a wide array of constitutional problems including the death penalty, equal protection, right to a jury trial, church and state relations, limits on police search and seizure, and other issues. Legal scholars believe that this phenomenon developed during the past century.

In this Article I analyze this recent phenomenon and explain how the Court has relied on scientific facts. In Part I, I describe how legal scholars analyze the functions of scientific legislative facts. Many scholars emphasize the evidentiary function of scientific facts. They presume that the Court relies on scientific information as factual evidence in its decision-making. I also describe in Part I how other scholars take an additional step in claiming that the Court's use of scientific facts amounts to an interpretive methodology. Some scholars believe that judges have


13 See, e.g., McCleskey v. Kemp, 481 U.S. 279 (1987) (dismissing constitutional claims based on the Baldus study, a large empirical study showing disparities in the imposition of the death penalty based on the murder victim's and defendant's race); Furman v. Georgia, 408 U.S. 238, 291-301 (1972) (Brennan, J., concurring) (discussing the deterrent effectiveness and popular acceptance of the death penalty).


17 E.g., United States v. Leon, 468 U.S. 897, 907-08 n.6 (1984) (citing several social science studies for support).

18 See generally Hashimoto, supra note 14; Appelbaum, supra note 12; Faigman, Normative Constitutional Fact-Finding, supra note 7; Pine, supra note 12.

19 Pine, supra note 12, at 658.

20 See, e.g., id.; Appelbaum, supra note 12.

21 See, e.g., Pine, supra note 12, at 662 ("[T]he Supreme Court has relied upon social facts presented either through expert testimony, 'Brandeis briefs,' or judicial notice."); Appelbaum, supra note 12.
relied on empirical research in the same way that they have re-
lied on legal analysis.22 In their view, the Court has not actually
followed the traditional distinction between facts and law; in-
stead, it uses scientific facts in the same way that it uses legal
precedent.

In Part II, I contend that scholars tend to overemphasize the
Court's logical reliance on scientific facts and to understate the
Court's reliance on facts for rhetorical purposes.23 In that part, I
also demonstrate that the traditional distinction between law and
fact retains its vitality in the present. The Federal Rules of Ev-
idence treat legislative facts in particular ways in order to recog-
nize, at least implicitly, that courts frequently use them for purely
rhetorical purposes. While scholars claim that the Court's recita-
tion of scientific facts indicates that it is using this information in
its decision-making, this thesis does not explain their own obser-
vations about the way the Court conveys this scientific informa-
tion in its opinions. The Court has not developed a sophisticated
or consistent methodology in analyzing scientific information.24
It also has a tendency to be result-oriented in deciding which sci-
entific facts to include and in what manner they should be used.25
In its jurisprudence, the Court has failed to follow scientific in-
formation wherever it may lead.26 If the Court truly relied on
scientific evidence in its decision making, it would not perpetuate
such usage. Finally, in Part II, I demonstrate the undesirability of
heavy reliance on empirical facts for decision-making purposes in
constitutional law. These reasons suggest that the Court should
explicitly emphasize the rhetorical use of scientific facts over
their evidentiary or interpretive uses. In Part III, I further illus-

22 John Monahan & Laurens Walker, Social Authority: Obtaining, Evaluating, and
23 I do not claim that scientific facts serve only a mythic function. I recognize
that, to a limited extent, scientific facts inform constitutional decision-making. How-
ever, I believe that by and large the Court uses scientific facts for rhetorical and
metaphorical purposes and not for evidentiary or interpretive purposes.
24 See, e.g., Jeffrey M. Shaman, Constitutional Fact: The Perception of Reality by
the Supreme Court, 35 U. FLA. L. REV. 236, 237 (1983) ("Throughout its history, the
Court has devoted little attention to developing proper methodology to deal with
constitutional facts.").
25 See Donald N. Bersoff & David J. Glass, The Not-So Weisman: The Supreme
Court's Continuing Misuse of Social Science Research, 2 U. CHI. ROUNDTABLE 279,
26 See, e.g., William E. Doyle, Can Social Science Data Be Used in Judicial Deci-
Board of Education failed to be predicated on social science studies).
tate the Court’s reliance on scientific facts for rhetorical purposes by analyzing cases on which scholars rely to demonstrate their claims about the Court’s logical use of scientific facts.

In Part IV, I compare the Court’s rhetorical use of scientific facts with the functions and characteristics of mythology. Plato emphasized the distinction between *mythos*, which is persuasive storytelling, and *logos*, which is an accurate account. 27 As Mircea Eliade explained, “‘[M]yth . . . is not an explanation in satisfaction of a scientific interest’ . . . . [Instead,] it expresses, enhances, and codifies belief . . . .” 28 Furthermore, mythology serves to reinforce the social order by demonstrating that this social order is the result of a natural phenomenon. 29 Scholars of mythology have described characteristics of myth to include the inseparability of fact and value, 30 the emphasis on persuasion over truth, 31 and the sacred voice of the storyteller. 32

In Part IV, I explain more fully how the Court uses scientific facts as mythology in constitutional law opinions. 33 Because of the countermajoritarian function of the Court, it must rely heavily on persuasion. 34 Unlike executive orders or congressional legislation, judicial opinions articulate legal rules in the form of narratives containing diverse facts—some of which may be included for rhetorical reasons rather than as mere reportage of


31 See Hatab, supra note 30, at 35-36.

32 See Ernst Cassirer, *The Philosophy of Symbolic Forms* 74 (Ralph Manheim trans., 1955) (noting that myth is neither subjective nor objective, but transcendent and “sacred”).


how the Court went about deciding the legal issues. By reciting scientific facts, the Court shows why its rulings are in harmony with a culture that accords legitimacy to findings made by scientists. The Court’s use of scientific facts to justify the establishment or continuation of a social order resembles the use of mythology by storytellers in primitive societies. Furthermore, the characteristics of mythology may explain many scholarly observations describing the manner in which the Court uses scientific facts. First, the Court’s result-oriented use of scientific facts is consistent with the inseparability of the roles of facts and values in mythology. The Court is likely to find useful only those facts that illuminate the values being espoused. Second, from the standpoint of effective mythology, the manner in which scientific facts fit into the Court’s explanation becomes more important than the absolute accuracy of particular facts. The Court’s careless use of science results from emphasizing rhetoric over accuracy. Third, our society holds scientific information in high esteem. Science is enshrined in an air of the sacred similar to that which surrounds myths. Science serves a central mythic function in constitutional law opinions.

I

THE LOGICAL FUNCTIONS OF SCIENTIFIC FACTS

Scholars articulate two major functions of scientific evidence in constitutional law opinions. Most emphasize that scientific evidence informs constitutional interpretation by providing a factual basis for decision-making. This view accepts the formal distinction between law and fact. Because the Court often resorts to balancing various interests to decide constitutional issues, scientific evidence provides information that the Court uses to assign the appropriate weight to the particular interests being considered. Recently, some scholars have advocated a different view of the role of scientific facts in constitutional law. They contend that the Court’s use of scientific facts indicates that the traditional law/fact distinction has dissolved. According to this view, scientific facts may serve as legal authority.

A. The Law/Fact Distinction

The scholarly literature describing the evidentiary and interpretive functions of scientific facts flows from the legal realist movement’s reinterpretation of the law/fact distinction. Legal
realists focused on the impact of facts on legal results and argued in favor of the collapse of this formal distinction. Before describing the functions of scientific facts, I briefly survey the history of the law/fact distinction. In the nineteenth century, a central tenet of classical jurisprudence was based on the law/fact distinction. James Bradley Thayer published a definition of this distinction in his book *A Preliminary Treatise on Evidence at the Common Law*. According to Professor Thayer, questions of law involved the judicial selection of pertinent legal rules, while questions of fact involved determinations by the factfinder about particular facts relevant to the legal case at hand. Classical jurisprudence characterized law as resulting from judicial selection of a correct legal solution by the rational application of logic involving natural principles. Thayer further described law as permanent and of general application. Alternatively, he characterized facts as transitory and particular and thus, in the words of one commentator, not "worthy of the dignity of the name, law."

Because legal realists believed that judges made law based on their general knowledge, they questioned the absoluteness of the law/fact distinction. Legal realists recognized that the judicial assessment of facts—not just of legal principles—may actually decide or shape the legal rule. Professor Kenneth Culp Davis relied on this insight to describe a distinction between adjudicative and legislative facts. He defined adjudicative facts as those associated with the particular legal dispute. Adjudicative facts are the descriptions of what existed in the past and are found in

36 Id.
37 See Monahan & Walker, supra note 22, at 479.
39 See id.
41 See Davis, supra note 6, at 402. Although Davis focused on administrative law, he noted that

[t]he distinction between legislative and adjudicative facts apparently has been clearly recognized... in constitutional cases, in which a category of 'constitutional facts' has emerged. Often referred to as 'social and economic data,' constitutional facts are those which assist a court in forming a judgment on a question of constitutional law.

Id. at 403.
the trial record. The trial process constitutes an inquiry—retrospective and discrete in nature—that reveals such factual descriptions. Examples of adjudicative facts in Brown v. Board of Education included findings by the trial courts of the four consolidated cases that the schools had been equalized with respect to buildings, curricula, qualifications and salaries of teachers, and other tangible factors. Similarly, adjudicative facts in Roe v. Wade included the description of a woman with a pseudonym of Jane Roe as an unmarried and pregnant woman unable to obtain an abortion because it would be illegal in Texas and because she could not afford to travel to another jurisdiction where the procedure was legal. Adjudicative facts therefore arise from the litigation and concern past events relevant to legal cases.

Alternatively, judges rely on legislative facts to decide questions of law and policy. A legislative fact may show the general impact that a court ruling would have on society. Legislative facts tend to predict future occurrences and to support generalizations about the potential impact of legal rules. A party may include a legislative fact in a brief or submit it as evidence in a trial with the hope that such a showing will encourage a court to make a particular legal ruling. Moreover, a judge may recognize legislative facts through judicial notice. The famous legislative fact in Brown v. Board of Education was the Court's observation that segregation of children in public schools causes a sense of inferiority that affected their ability to learn. Thus, the Court concluded that segregation inherently resulted in unequal treatment. An important legislative fact to the Court in Roe was the finding that fetal viability usually occurs between

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42 See Ann Woolhandler, Rethinking the Judicial Reception of Legislative Facts, 41 Vand. L. Rev. 111, 113 (1988).
43 See id.
45 Id. at 486-88 n.1.
46 410 U.S. 113 (1973).
47 See id. at 120.
48 Davis, supra note 6, at 402.
49 Woolhandler, supra note 42, at 114.
50 Id.
51 Professor Davis noted that an appellate judge may be exposed to legislative facts through the trial court adjudication, briefs by parties, or judicial notice. Davis, supra note 6, at 403.
53 Id. at 495.
The Court used this fact in defining where the state’s interest in potential life became compelling. The Court uses legislative facts to justify legal rules that have ramifications beyond the particular case which it is resolving.

A method of constitutional interpretation that relies on factual information is the balancing test. This form of constitutional reasoning “has become widespread, if not dominant, over the last four decades.” In balancing, the Court focuses on each interest and makes comparisons between competing interests. When the Court relies on a balancing test, it uses legislative facts to decide on the proper choice of legal rules. Adjudicative and legislative facts differ primarily in their functions rather than their characteristics as particular versus general facts. In applying a balancing test, the Court uses legislative facts to create rules; it then relies on adjudicative facts in applying the chosen rules to the case at hand.

Davis contends that the categorization of a fact as adjudicative or legislative should have procedural consequences. In essence, he believes that legislative facts should be treated in certain respects as similar to legal rules, while adjudicative facts should be treated in the traditional way. It was appropriate to continue the legal tradition of presenting adjudicative facts to factfinders such as juries for decision-making; by contrast, legislative facts are presented to judges in their capacity as lawmakers. Similarly, while appellate courts should freely reexamine judicial findings of legislative facts as they would findings of law, they should continue to accord factfinders at the trial court level reasonable discretion in their findings of adjudicative facts. The Federal Rules of Evidence eventually incorporated Professor Davis’

55 See id. at 163.
57 See id. at 945.
58 See Woolhandler, supra note 42, at 114.
60 Id.
61 According to the advisory committee note in the Federal Rules of Evidence, the appellate court may either perform its own independent research of legislative facts or remand to the trial court the task of finding legislative facts. See Fed. R. Evid. 201(a) advisory committee’s note; see also Monahan & Walker, supra note 22, at 486.
conclusions.  
Although Davis recognized that facts can play two distinct roles in legal decision-making, he preserved the traditional fact/law distinction. Professors John Monahan and Laurens Walker have observed that:

in distinguishing “legislative” from “adjudicative” fact, Davis perpetuated the old pre-Realist boundaries of the distinction between “fact” and “law.” He left the classification of empirical information as fact, and merely divided the category of fact into two subcategories, one of which (legislative) reflected the Realist position that judges make law. The procedural ramifications emanating from Davis’s tacit acceptance of the manner in which classical jurisprudence separated fact and law have been limited to the largely negative proposal that facts used to create a rule of law are not to be treated as other facts are treated in court. This view fails to provide clear direction regarding how courts should obtain social science data, and contains no information about how courts should evaluate what they have obtained, or what effect they should give to the evaluation of other courts.

Despite this kind of criticism, the position taken by Davis has achieved widespread acceptance.  
Thus, the law/fact distinction retains its vitality in the present day.

B. The Evidentiary Function

Most scholars who have examined the role of scientific evidence in constitutional law focus on how scientific information—in the form of legislative facts—serves an evidentiary function. They believe that the Court relies on scientific information in its decision-making to assist its quest for truth. While adhering to the fact/law distinction, they recognize that scientific legislative

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63 Monahan & Walker, supra note 22, at 485.

64 Id. at 484 & n.25.


66 See, e.g., Pine, supra note 12, at 661-63.
facts influence constitutional decision-making. For example, civil rights attorney Rachal N. Pine examines the role of empirical legislative facts on constitutional decision-making and argues in favor of their usage to advance the protection of fundamental rights.  

Pine argues that courts should be receptive to empirical information pertinent to constitutional analysis. She analyzes the potential role of scientific information in “operational challenges” to the constitutionality of law. In operational challenges, the plaintiffs challenge the constitutionality of a statute based on its operational impact throughout the effective period of the law. Pine observes that courts presently reject operational challenges based on information disproving the factual bases for constitutional decisions by the Supreme Court. Courts reject these challenges because they consider the factual bases of earlier Supreme Court opinions to be legislative facts binding on lower courts and not subject to dispute. Pine challenges the wisdom of this doctrine and argues that lower courts should be allowed to decide on the validity of factual assumptions made by the Supreme Court.

Pine relies on *Hodgson v. Minnesota* as the most important example of this phenomenon. In a series of cases prior to this litigation, the Court had upheld a state statute requiring parental notification or consent if a minor wished to have an abortion provided that there was an adequate waiver procedure. Pine argues that the factual bases for these Supreme Court decisions turned out to be incorrect based on empirical studies conducted.

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67 Id.
68 Id. at 657.
69 Id.
70 Id. at 702. Operational challenges appear to be a hybrid of “facial” and “as applied” challenges. In facial challenges to legislation, the plaintiffs must show that no set of circumstances exist under which the legislation can be constitutionally valid. Id. at 698. In challenges to legislation as applied, the plaintiffs assert that the law as applied is unconstitutional. Id. at 701. In contrast with applied challenges, in operational challenges plaintiffs are seeking across-the-board relief. Furthermore, an operational challenge is not equivalent to a facial challenge because facial validity may have already been adjudicated. See id. at 702-03.
71 Id. at 696. This view is consistent with Professor Davis’ view discussed supra notes 41-55 and accompanying text.
72 Id. at 697-98.
73 Id. at 679.
subsequent to these decisions. She states:

A growing body of psychological and medical research has confirmed what the [trial] court in *Hodgson* found: the harm imposed on minors by mandatory parental involvement laws cannot be justified by any of the asserted state interests because these interests have turned out to be based more on cliche and folklore than on empirical fact. For example, contrary to the assumptions made by both legislatures and courts, by all available measures minors are on average indistinguishable from adults in their ability to understand and reason about health care alternatives.

Pine also notes other factual assumptions made by the Court that had been disproved empirically. These included the safety of the abortion procedure and the advantage of parental input into the decision-making by adolescents. She argues that because empirical studies had disproven the Court's factual conclusions, litigants should be allowed to challenge the validity of the Court's decisions in the lower courts. Yet lower courts, including the trial court in *Hodgson*, dismissed challenges based on new empirical information.

In summary, Pine believes that the Court relies on scientific facts as a guide to constitutional law. She assumes that the Court's inclusion of empirical facts within its opinions means that such facts influence the Court's legal decision-making. Pine points to the Supreme Court's incorrect empirical assumptions and contends that the Court's reliance on legislative facts should be subject to subsequent challenge in lower courts if later empirical studies demonstrated the invalidity of those legislative facts. Pine thus conceives of the scientific information as serving an important evidentiary function in the Court's decision-making.

**C. The Interpretive Function**

Some scholars argue that scientific facts have become so important to judicial decision-making that the fact/law distinction has dissolved. They contend that the Court's evaluation of sci-
entific facts has become an interpretive method in constitutional law. In this view, the Court's use of such facts serves functions similar to other traditional interpretive methods that rely on constitutional text, original intent, or precedent. This phenomenon may have resulted from the legal realists' contention that a good legal rule should be one that causes a desirable social result.\(^{82}\) In an age of pragmatic balancing, a legal realist may advocate that a legal rule should be changed if it can be shown empirically that it will not advance its intended objective, that it will cause harm, or that another rule better achieves the desired result.\(^{83}\)

Professor David Faigman offers a detailed analysis contending that the Court's use of empirical facts constituted an interpretive method which he termed "normative constitutional fact-finding."\(^{84}\) He believes that science strengthens the role of fact-finding in a special way that guides and restrains the Court's constitutional discretion.\(^{85}\) This kind of constitutional fact-finding, according to Faigman, constitutes a type of interpretation that is as important as reliance on other interpretive methods that look to constitutional text, original intent, and precedent.\(^{86}\)

Faigman acknowledges that most constitutional fact-finding in the past relied on the Court's "best guess" on any given factual matter.\(^{87}\) For example, in *Gibbons v. Ogden*, the Court made the empirical statement (without empirical support) that "[a]ll America understands, and has uniformly understood, the word 'commerce,' to comprehend navigation."\(^{88}\) Faigman acknowledges that Chief Justice Marshall's assertion in *Gibbons* served only a rhetorical purpose. Although it lent support to the Court's definition of the word "commerce," it was not necessary for the Court's conclusion.\(^{89}\) Faigman therefore concludes that

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\(^{82}\) See Woolhandler, *supra* note 42, at 115.

\(^{83}\) *Id.* at 116.

\(^{84}\) Faigman, *Normative Constitutional Fact-Finding*, *supra* note 7, at 544-45.

\(^{85}\) *Id.* at 545.

\(^{86}\) *Id.* at 543-44.

\(^{87}\) *Id.* at 545.


\(^{89}\) Faigman, *Normative Constitutional Fact-Finding*, *supra* note 7, at 546.
even empirical evidence to the contrary would not have changed the result.\textsuperscript{90}

Faigman observes, however, that the Court’s traditional factfinding approach based on such casual “best guesses” has changed substantially because litigants now introduce contemporary scientific studies into constitutional litigation.\textsuperscript{91} These empirical studies may cast doubt on any best guesses by the Court, and thus they serve to exert a strong restraining influence.\textsuperscript{92} Faigman acknowledges the Court’s tendency to use scientific facts only to bolster its results, and not to dictate them.\textsuperscript{93} He rejects, however, the conclusion by most scholars that the Court is disingenuous in behaving in this manner because “the Court cites empirical research when it fits the Court’s particular needs, but eschews it when it does not.”\textsuperscript{94} Faigman believes that scientific facts influence constitutional interpretation even when the Court does not rely on them because such facts force the Court to justify whatever result is reached.\textsuperscript{95}

What is striking about this literature is the preoccupation of scholars with the presumed logical usage of scientific facts; that is, they assume that the inclusion of facts in a judicial opinion indicates that those facts actually played an important role in the logic of constitutional decision-making.\textsuperscript{96} These scholars presume that when scientific facts appear in judicial opinions, the Court is thereby signifying that it logically relied on the empirical information in the course of its decision-making. Scholars make this assumption without exploring other possibilities. In Part II, I argue that in fact the Court’s predominant usage of scientific facts is not compatible with this assumption by scholars. Instead, the Court’s predominant usage is more consistent with reliance on scientific facts for rhetorical or metaphorical purposes.

\textsuperscript{90} Id.
\textsuperscript{91} Id. at 547-49.
\textsuperscript{92} Id. at 548-49.
\textsuperscript{93} Id. at 549 & n.27.
\textsuperscript{94} Id.
\textsuperscript{95} Id. at 550. I disagree with Professor Faigman’s analysis of the Court’s use of scientific materials. \textit{See infra} notes 257-63 and accompanying text.
\textsuperscript{96} \textit{See supra} note 27 and accompanying text (referring to Plato’s distinction between \textit{logos} and \textit{mythos}).
II

THE RHETORICAL FUNCTION OF SCIENTIFIC FACTS

Plato emphasized an important distinction between two types of narratives: *mythos* and *logos*. To characterize a narrative as *logos* means to accept it as a true account.97 Scholars tend to perceive the Court's inclusion of scientific facts in its opinions as a literal description of the role of that information in its decision-making. I propose, however, that the predominant role of scientific facts in constitutional law opinions may be better understood in terms of myth. The Court uses scientific facts for mainly persuasive purposes. The Court finds scientific facts to be useful rhetorically because our society associates certain values, such as objectivity and neutrality, with scientific information. I arrive at this conclusion after critiquing the deficiencies in the present scholarly literature.

I critique the current literature in three ways. First, despite suggestions to the contrary, the legal system still hews to the traditional law/fact distinction, which preserves the judicial discretion necessary to allow courts to use facts in a purely persuasive way. Second, the Court's persistent, careless, and result-oriented use of scientific facts is more consistent with rhetorical reliance. Despite numerous proposals by scholars to require courts to scrutinize scientific facts more carefully and the apparent ease with which this could be accomplished, the evidentiary rules regarding legislative facts continue to provide for unregulated judicial factfinding of legislative facts. Third, the Court may believe it unwise to rely heavily on scientific facts in a logical way in its constitutional decision-making. The Court therefore may rely more heavily on the rhetorical use of scientific facts because it is simply the more effective approach.

A. The Continued Reliance on the Law/Fact Distinction

The law/fact distinction retains its vitality. The law/fact distinction has not disappeared because some scholars incorrectly assume that legislative facts have largely been incorporated into the role of lawmaking. They believe, therefore, that scientific factfinding may constitute a distinct interpretive method. The

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legal system keeps the law/fact distinction intact, however, because the Court primarily makes rhetorical use of scientific legislative facts. The preservation of the law/fact distinction remains important because complete dissolution would lead to at least three practical and legal problems.

First, with the dissolution of the law/fact distinction, stricter regulation would probably be imposed on legislative factfinding because of its lawmaking function. For example, the Court in *Daubert* provided scientific criteria to evaluate the admissibility of adjudicative facts. If evaluation of scientific facts were also central to legislative factfinding, then we would expect that similar criteria would be applied. The Court, however, would find it more difficult to rely on its scientific rhetoric if the Court's use of all scientific facts were regulated under stringent procedural and accuracy requirements. The Federal Rules of Evidence do not regulate legislative fact information. An Advisory Committee Note states that courts should be allowed to initiate an independent search for legislative facts and take judicial notice of these facts. Professor Davis describes this as a rule of convenience: "The reason we allow judicial notice to be taken of extra-record [legislative] facts is . . . to promote convenience. Tribunals make factual assumptions because it is convenient to do so. Indeed, to fail to make factual assumptions would mean extreme inconvenience." Because scholars tend to believe that scientific facts play an important role in judicial decision-making, many contend that the Court should be more rigorous in evaluating this information. While the Court tends to rely on its own unaided evaluations of legislative facts, it could easily avail itself of procedural mechanisms in pursuit of factual accuracy. For example, it could remand to lower courts for further consideration of the legislative facts, or it might order further briefing. Alternatively, the system could be modified to allow court-appointed

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100 Kenneth C. Davis, *A System of Judicial Notice Based on Fairness and Convenience*, in *Perspectives of Law* 69, 93 (Roscoe Pound et al. eds., 1964).
101 See supra notes 1-5 and accompanying text.
103 See id. at 95. Under this approach, lower courts could subject legislative facts to a *Daubert* analysis and to rigorous evaluation using other evidentiary rules as well.
experts or consultants.104 The fact that the Court does not avail itself of existing mechanisms and has not sought to increase its expertise suggests that there may be some advantage to keeping legislative factfinding based on judicial convenience rather than imposing scientific rigor.

Second, if all legislative facts were elevated to legal principles, lower courts seemingly would be invited to overrule Supreme Court holdings if newer scientific facts demonstrated the inaccuracy of the Court’s prior decision—even if the original scientific facts were rhetorical in nature.105 This explains Pine’s recognition that under present doctrine lower courts are not allowed to review legislative factual assumptions made by the Court in constitutional lawmaking.106 If legislative facts serve a primarily rhetorical function, then lower courts should not be allowed to ignore or overrule a Supreme Court opinion because of their belief that the Court used incorrect legislative facts. For example, while the Court may have been empirically incorrect in its assumptions of legislative facts in upholding parental notification requirements prior to *Hodgson*, this error could not justify a lower court in overruling that decision.107 Indeed, the Supreme Court ultimately upheld the parental notification requirements in *Hodgson* and predictably elicited a dissent by Justice Thurgood Marshall based on the view that it was ignoring “a sizable and impressive collection of empirical data.”108

Third, if the law/fact distinction were dissolved, the Supreme Court would be obliged to treat legislative facts like law and would be committed to serious empirical factfinding.109 For example, Professors Monahan and Walker propose the dissolution of the law/fact distinction. Under their proposal, empirical information would be received by courts as “social authority” relevant

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105 Monahan and Walker would depart from the present rule that binds lower courts to appellate court’s findings of legislative facts even if new empirical studies prove otherwise. They reason that new empirical studies should be received by lower courts like new precedent, and thus can be used to “overrule” past findings of legislative facts by appellate courts. See Monahan & Walker, *supra* note 22, at 515.


107 See *supra* text accompanying notes 71 and 80.


109 Monahan and Walker propose that courts treat empirical research in the same way as legal cases. They agree with the present rule that appellate courts should not be bound by legislative facts determined by trial courts. Monahan & Walker, *supra* note 22, at 513-14.
to creating rules of law. In their view, courts should rely on empirical facts in the same way that they rely on precedent under the common law. While this reform is of scholarly interest, it has not been implemented. The Court keeps intact the law/fact distinction. While this distinction retains vitality, the Court's current approach merges the roles of facts and values. The Court sprinkles certain scientific facts in its opinions because they represent certain values in our culture. Thus, it is the fact/value distinction that has been de-emphasized, rather than the distinction between law and fact.

B. Careless and Result-Oriented Usage

Scholars have written voluminously about the Court's careless and result-oriented use of scientific information in constitutional opinions. Faigman observes that "even a cursory inspection of the Court's constitutional cases demonstrates an uneven use of empirical research." Faigman cites only two cases in which the Court conformed its conclusions to available scientific findings, Brown and Roe, and he criticizes the Court's careless analysis in both instances. He describes all other cases in which the Court has used scientific facts as falling into the following categories: (1) the Court conforms its conclusions to the available findings; (2) the Court claims to follow scientific facts, but misapplies the findings; (3) the Court misunderstands or ignores valid empirical research or finds it inconclusive; or (4) the Court dismisses the importance of a particular scientific fact and relies instead on some other authority.

Recently, Professors Donald Bersoff and David Glass have criticized the Court for its misuse of social science research and its tendency to rely instead on the "pages of human experience." They summarize the Court's reliance on empirical data in the following way:

\[110 Id. at 488.\]
\[111 Id.\]
\[113 Id. at 549.\]
\[114 Id. at 565-77.\]
\[115 Id. at 550.\]
The Court has (1) misused or misapplied data when it believes the data will enhance the persuasiveness of its opinions; (2) ignored or rejected data despite its assertion of empirically testable statements; and (3) disparaged data when the research does not support its views. In some cases, it has done all three.\(^{117}\)

Bersoff and Glass conclude by observing the "puzzling disjunction" between the world as depicted by empiricism and the world as perceived by the Supreme Court.\(^{118}\) They believe that the Court's "consistent inconsistency" in using empirical research is likely to remain a "puzzling mystery" because of the Court's tendency to refuse to explain its decisions, despite the attempts of many scholars to offer explanations for this phenomenon.\(^{119}\)

The Court's consistently careless and result-oriented use of scientific facts remains a mystery to scholars because they assume that the Court uses this information in a logical way. If the Court relies on scientific facts as clues to assist it in constitutional interpretation, then it will undoubtedly be more detailed and careful in its analysis of empirical information. The fact that the Court does not do so suggests strongly that it is using scientific facts primarily for another purpose.

C. The Undesirability of Heavy Reliance on Scientific Facts to Decide Cases

The Court may rely primarily on scientific facts for rhetorical purposes because of the relative undesirability of using them in constitutional interpretation. The Court may be avoiding heavy reliance on scientific factfinding as an interpretive method because: (1) the Court is less competent than legislatures to evaluate scientific facts; (2) its accuracy in interpretation may not necessarily be increased; (3) reliance on scientific factfinding may reduce the emphasis on important normative concerns; and (4) the Court may prefer other types of constitutional interpretation over a pragmatic approach that relies on scientific factfinding.

First, the Court may feel that evaluating statutes based on scientific factfinding is unwise, especially if it results in striking down legislation as unconstitutional. In *McCleskey v. Kemp*, the Court stated that legislatures were better qualified than the

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\(^{117}\) *Id.* at 293.

\(^{118}\) *Id.* at 301-02.

\(^{119}\) *Id.* at 302.
Court to evaluate statistical studies.\textsuperscript{120} Legislatures and agencies have ready access to scientific experts and do not face the immediate problems of deciding disputes.\textsuperscript{121} Furthermore, the Court's reliance on the adversary system may produce expert opinions that are highly polarized.\textsuperscript{122}

Second, a greater reliance on scientific facts in constitutional interpretation would not necessarily result in greater accuracy. When the Court uses legislative facts, they are offered as predictions about the effects of legal rules and are inherently disputable.\textsuperscript{123} While scientific facts may provide some information for the pragmatic balancing of desirable effects, these same facts cannot be used to decide what effects are desirable or how much weight should be assigned to various factors. \textsuperscript{124} "Good" constitutional interpretation requires normative judgment and is not necessarily improved by better quantitation. No one has yet been able to devise a scientific method of valuing competing interests.\textsuperscript{125}

Third, the Court may wish to avoid reliance on a cost/benefit calculus and thus avoid the temptation to abdicate moral responsibility by relying on empiricism.\textsuperscript{126} If the Court relies on a balancing test, it may tend to allow readily quantifiable variables to dwarf those values that are harder to measure.\textsuperscript{127} For example, if the Court relies heavily on quantification, values such as process, personal and group dignity,\textsuperscript{128} and distributional concerns\textsuperscript{129} may be discounted. An increased emphasis on empiricism favors quantification over moral reasoning.

Finally, the Court may wish to avoid expressing a preference for scientific factfinding over the traditional methods of text that look to the constitutional, original intent, and precedent. The

\textsuperscript{120}McCleskey v. Kemp, 481 U.S. 279, 319 (1987).


\textsuperscript{123}See Woolhandler, supra note 42, at 123.

\textsuperscript{124}Id.

\textsuperscript{125}See Aleinikoff, supra note 56, at 973.

\textsuperscript{126}See Tribe, supra note 10, at 157.


\textsuperscript{128}See Tribe, supra note 10, at 157.

\textsuperscript{129}Id. at 167.

\textsuperscript{130}Id. at 158.
Court may not wish to express a preference for the kind of pragmatic decision-making that incorporates empiricism over what the constitutional text, its framers, and precedent say about who and what we are as people and how we constitute a nation.\textsuperscript{131}

The Court does not view itself as a legislative body, but rather as an adjudicator in a process in which text, precedent, and legal principle play primary roles.\textsuperscript{132}

The Court may therefore find it desirable to avoid heavy reliance on scientific facts in constitutional interpretation. However, the Court may also find it awkward to ignore empirical information when it is presented. A court's silent avoidance of scientific information may create an undesirable image. Thus, the Court may instead incorporate scientific facts in its opinions for their rhetorical effect and to avoid appearing unscientific.

III

THE COURT'S RELIANCE ON SCIENTIFIC FACTS IS MORE CONSISTENT WITH RHETORICAL USAGE

If scientific facts serve an evidentiary or interpretive function, then they may guide the Court toward particular results. In essence, scholars perceive scientific facts as providing the Court with a clue as to what should be the proper holding. In medieval England, the word "clue," then spelled "clew," meant a ball of string. "Clew" was used repeatedly in the telling of the myth of the Greek hero Theseus, who killed the Minotaur on the island of Crete.\textsuperscript{133} Theseus, the only person to escape from the monster's deadly labyrinth, did so by retracing the string he had unwound when he entered. He followed the clew. Analogously, scholars envision the Court finding its way out of the complexity of cases by following a clew spun from scientific facts. This scholarly vision is, however, out of touch with reality. To demonstrate this point, I turn to notable cases which scholars rely on to show the evidentiary or interpretive function of scientific facts.

Scholars often cite to five famous cases to demonstrate the Court's reliance on scientific facts. Some refer to \textit{Buck v. Bell} as a prime example of this phenomenon.\textsuperscript{134} Still others cite \textit{Muller}

\textsuperscript{131} \textit{Id.} at 165.
\textsuperscript{132} \textit{See} Woolhandler, \textit{supra} note 42, at 116.
\textsuperscript{133} \textit{See} \textit{The Odyssey of Homer} 525 (Allen Mandelbaum trans., 1990).
\textsuperscript{134} \textit{See, e.g.}, Conley, \textit{supra} note 64, at 936-40 (1987).
v. Oregon as the Court's initiation in scientific factfinding because of its reliance on the Brandeis brief. Brown v. Board of Education and Roe v. Wade are, of course, the most renowned cases. Finally, McCleskey v. Kemp is a recent example in which the Court was confronted with a large empirical study. While scholars rely on these cases to describe the Court's logical reliance on science, the cases actually demonstrate that the Court uses scientific facts mainly for rhetorical purposes.

A. Buck v. Bell

Professor Conley believes that "[o]n a number of memorable occasions, courts facing constitutional issues have looked directly to the most advanced science of the time for crucial evidence, or even for decision-making standards." He is concerned about the willingness of courts to turn to scientific information and to rely on it as "debatable premises" for constitutional decision-making. He points to the case of Buck v. Bell as his prime example of this phenomenon. In that case, the U.S. Supreme Court upheld as constitutional a state-sponsored program of compulsory sterilization of the mentally retarded. The plaintiff, Carrie Buck, was a poor white woman who resided in the Virginia State Colony for Epileptics and Feeble Minded. State health authorities had classified her, her mother, and her daught-

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135 208 U.S. 412 (1908).
136 See generally Marion E. Doro, The Brandeis Brief, 11 VAND. L. REV. 783 (1958). Scholars have concluded that the Court relied on the empirical evidence in the Brandeis brief to decide Muller. Faigman, Normative Constitutional Fact-Finding, supra note 7, at 561 ("[T]he state in Muller apparently satisfied its burden by introducing sufficient constitutional-review facts to demonstrate a significant state interest."); Pine, supra note 12, at 662 (referring to the Court's reliance on Brandeis brief); Monahan & Walker, supra note 22, at 480-81 (noting that the Court gave judicial cognizance to the social science facts). I believe that the Muller Court reached its result based on a normative, rather than empirical, judgment. Thus, its reference to empirical information did not document its methodology in reaching its conclusions but rather served a rhetorical purpose. See Part IV, infra.
137 See Faigman, Normative Constitutional Fact-Finding, supra note 7, at 565-66 (concluding that the court heeded empirical research in Brown and Roe); Pine, supra note 12, at 661-62 (noting that the Court relied on social science facts in Brown); Monahan & Walker, supra note 22, at 484 n.24 (concluding that in Brown the empirical research was used to overrule a prior decision).
138 Conley, supra note 64, at 935.
139 Id.
140 274 U.S. 200 (1927).
141 Id. at 205-07.
142 Id. at 205.
ter as "feeble minded." They obtained a court order for the sterilization of Carrie Buck under a statute allowing sterilization of those "afflicted with hereditary forms of insanity" when doing so was in "the best interests of the [patient] and society." Justice Oliver Wendell Holmes, Jr., wrote the Court's opinion which upheld the statute as constitutional; in that opinion he made his famous declaration that "Three generations of imbeciles are enough."

According to Conley, Justice Holmes' famous remark was a "carefully worded statement" of his belief in a scientific theory that justified the compulsory sterilization of the mentally retarded. Conley notes that the Virginia compulsory sterilization statute was a product of the eugenics movement of the 1920s. He traces the eugenics movement to a group of psychologists who developed empirical tests, including the Binet intelligence test, at the beginning of this century. Other psychologists thereafter used these intelligence tests and found striking differences among racial and ethnic groups, especially between those of Anglo-Saxon and Nordic ancestry—who tended to receive higher scores—and those who were black or immigrants from Southeastern Europe, who tended to perform the worst. Although the intelligence scores also correlated with differences in the levels of education and linguistic skills, the researchers concluded that the empirical results demonstrated that races and ethnic groups had largely immutable intelligence capabilities; those who were more innately intelligent tended to seek better schooling and to develop more sophisticated linguistic abilities. Researchers thus interpreted the empirical data to demonstrate that intelligence tests measured innate abilities and that intelligence was controlled by heredity. On the basis of

143 Id.
145 Buck, 274 U.S. at 207.
146 Conley, supra note 64, at 935.
147 Id. at 936.
148 Id. at 936-37.
149 Id.
150 Id. at 937. According to Professor Conley, this scientific theory not only helped fuel the eugenics movement, but also influenced contemporary legislation. C.C. Brigham, a Princeton psychologist, warned against the deterioration of the public's general intelligence, which he attributed to recent immigration patterns and "the importation of the negro." Id. at 937 (quoting C. Brigham, A Study of American Intelligence at xxi (1923)). Legislative concern about preserving the
these considerations, Conley concludes that the Virginia eugenics sterilization statute was a product of the scientific theory underlying the eugenics movement.

Conley further contends that the Court relied on the empirical information that informed the eugenics movement in *Buck v. Bell*, although the court did not cite to these empirical studies. The Court did state "that experience has shown that heredity plays an important part in the transmission of insanity, imbecility, etc." Furthermore, the opinion by Justice Holmes referred to the state court's finding that the plaintiff was "'the probable potential parent of socially inadequate offspring.'" On the basis of this evidence Conley argues that the Court balanced "the scientifically justified interests of the state against the interests of Carrie Buck" and found that "it is better for all the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind."

While Conley provides an interesting analysis of *Buck v. Bell*, he makes assumptions about the Court's decision-making that cannot be based on the text of the opinion. The opinion itself contained no specific references to empirical or other scientific facts. Conley speculates that the Court relied on scientific information from the eugenics movement, but he does not point to any specific scientific facts within the opinion itself. Justice Holmes found the state law to be constitutional because the Court was satisfied that the legislature which passed the statute

general intelligence of the public mightily aided the passage of the Immigration Act of 1924, which put severe limits on immigration from Southeastern Europe while allowing increased immigration from Northern Europe. *Id.* at 938. A majority of states enacted sterilization statutes for the mentally retarded and insane. *Id.* See also Stephen J. Gould, *The Mismeasure of Man* 335-36 (1981).

151 *Id.* at 938-39.
153 *Id.*
154 *Id.* at 207 (quoting lower court opinion, 130 S.E. 516, 517 (Va. 1925)).
156 *Buck*, 274 U.S. at 207. Conley contends that this example of the Court's reliance on science in *Buck v. Bell* revealed the danger in responding "quickly and decisively to science." Conley, *supra* note 64, at 940. He argues that courts lack the necessary expertise to evaluate whether fundamental theoretical premises of an entire discipline are true. *Id.* Because science is a human endeavor, he cautions against creating new legal doctrine or radically altering existing doctrine even if science may appear to demand it. *Id.* at 943.
had sufficient grounds and that adequate procedures were followed.\textsuperscript{157} The statute purportedly promoted "the health of the patient and the welfare of society" because "many defective persons who if now discharged [from public institutions] would become a menace but if incapable of procreating might be discharged with safety and become self-supporting with benefit to themselves and to society."\textsuperscript{158} The legislative purpose of the Virginia statute was not unlike the Chief Justice's utterance in \textit{Gibbons}: it could have been subject to empirical inquiry, but it is doubtful that any empirical information would have redirected the result. The "best guess" of the Virginia legislature—which the Court clearly was reluctant to second-guess—was that the mentally ill would otherwise pose a menace and cost the state money unless they were sterilized.

Conley also believes that Justice Holmes' famous remark—"Three generations of imbeciles are enough"\textsuperscript{159}—underscores his belief in "an irrefutable scientific basis for upholding the compulsory sterilization."\textsuperscript{160} Yet this remark lacks the hallmarks of a scientific statement.\textsuperscript{161} The Court was not referring to any empirical finding, but simply alluding to the lower court's findings regarding Carrie Buck and her genetic lineage. Justice Holmes made this statement to persuade the public that the Court was correct in its assessment. The statement referred to an adjudicative fact—pertinent only to the outcome of this particular litigation—that clearly could not constitute a legislative fact that could be used more generally in lawmaking. The comment was rhetorical; it was not factually grounded in science. Indeed, Conley acknowledges that by the time the Court decided \textit{Buck v. Bell}, the eugenics movement "had already begun to collapse as a scientific discipline."\textsuperscript{162}

The next time that the Court considered the constitutionality of a compulsory sterilization program, it explicitly disavowed any reliance on scientific facts. In \textit{Skinner v. Oklahoma},\textsuperscript{163} the Court

\textsuperscript{157} \textit{Buck}, 274 U.S. at 206-07.
\textsuperscript{158} Id. at 205-06.
\textsuperscript{159} Id. at 207.
\textsuperscript{160} Conley, \textit{supra} note 64, at 935.
\textsuperscript{162} Conley, \textit{supra} note 64, at 939.
\textsuperscript{163} 316 U.S. 535 (1942).
found unconstitutional a state criminal statute that provided for the sterilization of persons convicted of multiple crimes of moral turpitude, such as those convicted two or more times of larceny. The statute expressly exempted embezzlement. The petitioner's attorney presented evidence that scientific authorities had demonstrated that criminal traits were not heritable. The Court stated that it did not decide the case based on this point, but instead relied upon the unacceptable inequality of sterilizing those who commit larceny, but not those who embezzle. The Court in Skinner did not overrule Buck, but distinguished it by stating that the issues of reproductive freedom and social benefit implicated in the sterilization of "feeble-minded" persons justified the different result. The Court in Skinner thus interpreted Buck v. Bell as a case decided on a normative principle rather than as one premised on an empirical basis.

B. Muller v. Oregon

Professors Monahan and Walker point to the case of Muller v. Oregon as the first instance of the Court's use of empirical studies as legislative facts. In Muller, the Court upheld an Oregon statute that limited the work day of any female employee in a factory or a laundry to ten hours. In support of the Oregon statute, Louis Brandeis assembled his famous brief replete with descriptions and references to a "substantial body of medical and social science research tending to show the debilitating effect on women of working long hours." Monahan and Walker concede that, given the classical jurisprudence of that time, both Brandeis and the Muller Court conceived of this empirical information as "facts" rather than as "law." However, they point to the Court's apparent belief that this distinction was only a legal formality. The majority opinion stated that the empirical infor-
mation "may not be, technically speaking, authorities,"\textsuperscript{173} but that nevertheless such information should receive "judicial cognizance."\textsuperscript{174} Monahan and Walker understand this latter phrase to suggest that "even in the jurisprudential climate of 1908, some members of the Court believed that only 'technicalities' prevented them from viewing social science research as a form of authority."\textsuperscript{175}

The Court's reference to the Brandeis brief, however, did not specify what empirical information the Court found decisive. By making this statement, the Court acknowledged information in reports by various committees, bureaus, and commissions which may have contained some empirical information.\textsuperscript{176} But the Court listed this information without giving any specifics.\textsuperscript{177} Furthermore, the Court's remark was alluding not only to this kind of information but also to the foreign and domestic legislation cited by Brandeis that imposed similar restrictions on the working hours of women.\textsuperscript{178} Indeed, it may well have been this legislation that elicited the Court's remark suggesting that what was in the Brandeis brief was technically not legal authority governing constitutional interpretation.

The Court in \textit{Muller} made it quite clear that it was not relying on any specific empirical information but rather upon its general assessment of the facts. The Court explicitly recognized that its opinion about inherent sex differences was based on "widespread and long continued belief" and "a consensus of present public opinion."\textsuperscript{179} The Court then stated that it was taking "judicial cognizance of all matters of general knowledge."\textsuperscript{180} Thus, it does not appear that the Court responded to specific empirical information; instead, it acknowledged a long-standing cultural bias about the physical weaknesses of women. The Court summarized the information in the Brandeis brief in the following way:

Perhaps the general scope and character of all these reports [in the Brandeis brief] may be summed up in what an inspector for Hanover says: "The reasons for the reduction of the

\begin{itemize}
\item \textsuperscript{173} \textit{Id.} at 480 (emphasis added by Monahan and Walker) (citing \textit{Muller}, 208 U.S. at 420).
\item \textsuperscript{174} \textit{Id.} at 481 (citing \textit{Muller}, 208 U.S. at 421).
\item \textsuperscript{175} \textit{Id.} at 481.
\item \textsuperscript{176} \textit{Muller}, 208 U.S. at 420-21.
\item \textsuperscript{177} \textit{Id.}
\item \textsuperscript{178} \textit{Id.} at 419-20.
\item \textsuperscript{179} \textit{Id.} at 420-21.
\item \textsuperscript{180} \textit{Id.} at 421.
\end{itemize}
working day to ten hours—(a) the physical organization of women, (b) her maternal functions, (c) the rearing and education of the children, (d) the maintenance of the home—are all so important and so farreaching that the need for such reduction [in working hours per week] need hardly be discussed.”

In *Muller*, the Court clearly seemed to be responding to a general societal bias rather than analyzing any particular scientific information. Scholars are thus misguided in attributing much importance to the effect of scientific facts in *Muller*.

Indeed, the Court's earlier decision in *Lochner v. New York* illustrates the relatively insignificant impact of scientific facts on the Court's decision-making. In *Lochner* the Court held unconstitutional a state statute regulating the working hours of bakers for health reasons. The state presented statistics and medical authorities that substantiated the health dangers of prolonged work in bakeries. The Court, however, summarily dismissed this information by stating that “almost all occupations more or less affect the health.” The Court did not engage in more specific discussion of these scientific facts. The Court's reference to scientific facts in *Muller* and its lack of reliance on similar facts in *Lochner* demonstrate that the Court did not base its resort to scientific facts on logic. The Court in *Lochner* ignored scientific facts despite having to provide justification for striking down a state law as unconstitutional. By contrast, in *Muller*, the Court merely had to point to some reasonable basis for upholding a statute and certainly did not require such scientific support as it cited. This result-oriented usage of scientific facts was more compatible with a rhetorical, rather than logical, approach.

**C. Brown v. Board of Education**

Scholars probably have devoted the largest amount of commentary to the Court's famous citation to sociological studies

181 *Id.* at 419-20 n.1.
182 198 U.S. 45 (1905).
183 *Id.* at 64.
184 The occupation of baker has long been known to be quite hazardous, especially because of lung disease associated with inhaling flour dust. See *id.* at 70-71 (Harlan, J., dissenting) (citing statistics and medical authorities describing occupational health problems associated with bakery).
185 *Id.* at 59.
in footnote 11 of *Brown v. Board of Education*.

The Court's text at the point of the footnote stated that segregation generated a feeling of inferiority in children in public elementary schools that affected their educational and mental development. Chief Justice Earl Warren later expressed surprise that this footnote generated so much discussion in the academic community; he reportedly stated, "It was only a note, after all." Scholars have overemphasized the significance of this citation as evidence of the Court's deliberative process. As the Chief Justice's remark indicated, the footnote did not signify that the Court's decision turned on this empirical finding. The Court's decision in *Brown* really depended on a broader social understanding that "[s]eparate educational facilities are inherently unequal." The general experience of members of the Court, and not particular empirical data, provided the basis for the Court's opinion on this matter. The Court's citation to empirical studies was what it literally appeared to be—merely a passing nod to persuasive support. As Sigmund Freud purportedly stated, "Sometimes a cigar is just a cigar."  

Footnote 11 in *Brown* has been described as "the most controversial . . . in American constitutional law." The empirical studies of schoolchildren by Professor Kenneth Clark, cited in that footnote, were subsequently heavily criticized on a number of methodological grounds including (1) the small sample size; (2) the introduction of bias from Clark's participation as interviewer, since he served as a science adviser to the plaintiffs in *Brown*; and (3) the failure to show that the children's

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188 *Id.* at 494-95 n.11.
189 See *id.* (quotation by Chief Justice was meant to stress that empirical information was "merely supportive" and not the "substance" of the holding).
190 *Brown*, 347 U.S. at 495.
194 See, e.g., Karst, supra note 102; van den Hag, supra note 186.
196 See *id.* at 159; Bersoff & Glass, supra note 25, at 294 n.109.
performance was related to segregation.\textsuperscript{197}

Such criticism misses the point of the Court's use of the studies. After noting that the trial court concluded that segregation may cause a sense of inferiority in schoolchildren that may tend to affect their academic and psychological development, the Court simply stated that "this finding is amply supported by modern authority."\textsuperscript{198} It then listed seven publications in a footnote.\textsuperscript{199} The Court did not describe these sources of authority in any way. It did not even state which of these sources were empirical and which were essays. The Court's approach rendered this information inaccessible to the reader of the \textit{Brown} opinion by its failure to provide any analysis or description. Had the Court been serious about the substance of these empirical studies, it would have provided some scientific analysis. Even a basic analysis would have included a discussion about the potential roles of chance, bias, and confounding.\textsuperscript{200} The Court's failure to give even a limited description of scientific facts, much less analyze its strengths or weaknesses, suggests that it did not seriously analyze the scientific facts.

Had the Court's decision in \textit{Brown} depended on the empirical findings in this footnote, we should expect courts to follow the scientific facts if they provided an evidentiary or interpretive basis for legal decision-making. However, neither the Supreme Court nor lower federal courts engaged in further empirical factfinding in later cases. Professor Robert Bork observed that the Supreme Court did not rely on empirical evidence in the per curiam decisions following \textit{Brown},\textsuperscript{201} which required desegregation in public facilities other than elementary schools. If the Court had relied on the empirical evidence demonstrating the harmful effects of segregation on black children, then we would expect that the Court would have examined different studies in decisions outlawing segregation in other areas, such as public beaches or public golf courses. The Court did not, however, find it necessary to include further empirical studies regarding these

\textsuperscript{197} See Cahn, \textit{supra} note 195, at 163-64; Bersoff & Glass, \textit{supra}, note 25.
\textsuperscript{199} Id. at 494 n.11.
matters. 202

The Supreme Court also summarily affirmed 203 or denied certiorari to 204 lower federal court decisions that refused to change the course of desegregation in public facilities even when confronted with opposing data suggesting that desegregation was not beneficial. In *New Orleans City Park Improvement Association v. DeTiege*, defendants contended that the trial court should hear their evidence, which purportedly showed that the psychological considerations present in *Brown* were not relevant to the segregation of a public golf course and park facilities.205 The trial court granted summary judgment for the plaintiffs and refused to hear this evidence. The federal court of appeals affirmed. 206 It interpreted cases subsequent to *Brown* as constituting broad precedent for desegregation of public facilities based on the principle of equal protection; it thus held that the trial court was correct in not hearing the psychological evidence which contradicted the necessity for desegregation. 207 The Supreme Court summarily affirmed the appellate court's holding.208

In *Stell v. Savannah-Chatham County Board of Education*, 209 a federal district court arrived at a contrary conclusion. It first found that the Supreme Court's holding in *Brown* relied on empirical factual findings that could be subject to later challenge in inferior courts.210 After it had heard evidence submitted by all litigants, the trial court concluded further that the Supreme Court in *Brown* had erred by relying on flawed psychological studies.211 The trial court found that scientific evidence demonstrated that desegregation had a harmful impact on the academic achievement and psychology of both black and white children.212 Finally, the district court concluded that public schools should be

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202 Id.
203 New Orleans City Park Improvement Ass'n v. DeTiege, 252 F.2d 122 (5th Cir.), aff'd, 358 U.S. 54 (1958).
205 DeTiege, 252 F.2d at 123.
206 Id.
207 Id.
210 Stell, 220 F. Supp. at 678.
211 Id. at 679-80.
212 Id. at 668-75.
allowed to segregate students based on “racial traits” that are of “compelling educational significance.”

Not surprisingly, the federal court of appeals reversed the district court’s holdings. It stated that “no inferior federal court may refrain from acting as required by [Brown] even if such a court should conclude that the Supreme Court erred either as to its facts or as to the law.” The appellate court read Brown as proscribing segregation in public education because racially separate but equal schools are inherently unequal. The Supreme Court denied certiorari.

While many scholars point to Brown as a leading case of empirical jurisprudence, the Court’s citation to empirical studies should not be construed as denoting the decisive reason for its decision. The Court did not find a need to cite to other scientific studies when it applied the antidiscrimination principle in Brown to other types of public facilities. Furthermore, after Brown the Supreme Court and lower federal courts did not follow the empirical facts to whatever conclusions they led. Instead, it became clear after Brown that the legal basis for the opinion rested on a broader principle that segregation of public facilities was inherently unequal.

The Court in Brown ordered the desegregation of public elementary schools despite the lower courts’ findings that important “tangible” factors, such as quality of teachers and curricula, had been equalized. The Court held that segregated schools were inherently unequal because black children developed feelings of inferiority that affected “their hearts and minds.” The Court knew that its desegregation decree would meet with substantial resistance and so it provided this explanation for the cause of the desegregation decree. In explaining why desegregation was nec-

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213 Id. at 681.
215 Id.
217 See, e.g., Monahan & Walker, supra note 22, at 483-84.
218 This view is consistent with Professor Dennis Hutchinson’s history of the inner workings of the Court in forging a unanimous opinion in Brown. See Dennis J. Hutchinson, Unanimity and Desegregation: Decision-making in the Supreme Court, 1948-58, 68 GEO. L.J. 1, 34-44 (1979). This history reveals that the justices did not decide the outcome of Brown based on empirical information.
220 Id. at 494.
necessary, the Court pointed to sympathetic figures—black children—who were suffering academically and psychologically from segregation. It was a direct appeal to others in society to help these children. In a sense, the Court was turning the focus away from itself and giving an explanation that would invite sympathy from those it needed to persuade. The Court’s reference to empirical studies assisted further in pushing the focus away from the Court as the cause for the desegregation by pointing to an apparently objective justification.

The Court could have provided other explanations or metaphors. Indeed, the Court relied on some of the weakest evidence presented in the appellant’s brief: the Court’s footnote includes an article that concluded that no accurate method of proving the effects on segregation had yet been developed. The Court did not have to show that children were academically or emotionally harmed by segregation. The appendix to the appellant’s brief, which was devoted to pertinent social science information, provided other empirical information. The Court could have condemned the feelings of superiority held by whites by referring to empirical information suggesting that segregation reinforced these feelings of superiority. But this would not have been a persuasive symbol. It also could have criticized segregation’s detrimental effects on communication between racial groups, but perhaps this critique would have been too abstract. The Court did not have to rely on any empirical information and could have emphasized that the unfairness associated with segregation justified its conclusion. The Court chose instead an empirical symbol that invited whites to be helpful. It did not criticize whites for their biases, but invited sympathy for the plight of black children.

D. Roe v. Wade

The Court in Roe v. Wade based its holding on a medical description of the trimester system. Physicians divide a woman’s term of pregnancy into three periods with dividing lines at twelve

221 Id. at 494 n.11; see K.B. Clark, Effect of Prejudice and Discrimination on Personality Development 139 (1950).
222 See Brief for Appellants at 8 (segregation reinforces feelings of superiority by whites).
223 Id. (segregation leads to blockage of communication and hostility).
224 Id. at 9.
and twenty-four weeks. In Roe the Court focused on the division between the first and second trimesters and the point of fetal viability. It stated that the State’s interest in the health of the mother does not become compelling until the end of the first trimester. The Court’s explanation for choosing this point in fetal development rested on what it called a “now-established medical fact” that up until this point “mortality in abortion may be less than mortality [associated with] normal childbirth.” The Court chose to make the second important delineation at the time of fetal viability. It stated that the State’s interest in fetal life became compelling at viability and thus might justify regulations designed to protect the fetus. Thus, the Court appeared to create legal tests that rested on medical information. In defining the point in time when the State may initially regulate abortions, the Court in Roe stressed the importance of comparing maternal mortality rates associated with abortions and normal childbirth.

Much as it had in Brown, the Court cited to medical authorities, including scientific articles, medical dictionaries, and textbooks, to support its claim that “maternal health” and “viability” were important medical and legal demarcations in the allocation of these rights and powers. In a later case, however, the Court failed to follow through in implementing this empirical test. In City of Akron v. Akron Center for Reproductive Health, the Court confronted “substantial” data which indicated that abortions were safer than normal childbirth at up to

226 See Carole P. Clark, Survey of Abortion Law: Perspectives of Viability, 1980 Ariz. St. L.J. 67, 139-42 (noting the difference between medical trimesters delineated by physicians, which are three equal divisions of pregnancy, and the three legal stages delineated by Roe).

227 In Roe, the Court did not speak of the division between the second and third trimesters. See Roe, 410 U.S. at 163-66. Only after Roe did the Court address this division. See City of Akron v. Akron Ctr. for Reproductive Health, 462 U.S. 416, 434-37 (1983).

228 Roe, 410 U.S. at 163.

229 Id.

230 Id.

231 Id.

232 Id. at 149 n.44.

233 Id. at 159, 160.

234 Id. at 160.

235 Id. at 163.

236 Id. at 160, 163.

sixteen weeks. Instead of changing the legal demarcation from twelve to sixteen weeks, the Court decided to abide by the first/second trimester division although that division no longer reflected the Court's empirical reasoning in Roe. By so doing, the Court transformed the trimester system into a rigid legal construct that governed abortion restrictions and no longer responded to empirical facts. The Court in Akron did not clearly indicate why it rejected the empirical reasoning.

Why did the Roe Court choose the empirical test based on mortality rates? The Court's choice of this metaphor may have to do with its emphasis on protecting the right of "the attending physician, in consultation with his patient" to make "his medical judgment." While the Court in Roe discussed the role of state regulation and mentioned the rights of the pregnant mother, it placed its heaviest emphasis on the right of the physician to exercise his medical judgment. The Court chose the mortality rate test as an important metaphor in Roe because it served to justify the physician as the central decisionmaker. Who would be in a better position to make this calculation?

It is ironic that Roe is widely known for declaring a woman's right to an abortion, because the central thrust of Roe was clearly aimed at protecting physicians' rights to control abortion decisions. The Court chose the empirical test based on maternal abortion and childbirth rates because it demonstrated the power of physician decision-making.

238 Id. at 429 n.11.
239 Id.
240 In a footnote, the Court cited to medical materials indicating that uncomplicated abortions generally could be performed safely in a physician's office up to 14 weeks and that midtrimester abortions are more hazardous than earlier abortions. It also noted that abortion and childbirth mortality rates may be relevant when the State relies on a health rationale as a complete prohibition of abortions. The Court's rationale therefore was quite oblique and unclear. Id. In Planned Parenthood of Southeastern Pa. v. Casey, 505 U.S. 833, 870 (1992), the Court gave this example as one of the reasons for rejecting the trimester framework entirely. Before that, a Court plurality had criticized the rigid application of the trimester approach as a "Procrustean bed." Webster v. Reproductive Health Svcs., 492 U.S. 490, 517 (1989).
242 In the abortion cases after Roe, the Court reformed the constitutional right to encompass the mother's right to make the abortion decision. See Harold Hongju Koh, Rebalancing the Medical Triad: Justice Blackmun's Contributions to Law and Medicine, 13 Am. J.L. & Med. 315, 315-16, 319-23 (1987) (describing how Justice Blackmun's description of the right to privacy evolved from protecting physicians' choices to vindicating women's rights).
The Court moved away from this metaphor in Akron because it had become clearer in the precedents after Roe that the right to privacy protected primarily the pregnant woman's decision. The Court replaced the empirical test with a demarcation based on twelve weeks of gestation. Arguably, both the pregnant mother and the State can make this determination more readily as compared to the empirical test that favored the physician's empirical knowledge of mortality rates. Thus, the empirical test became less relevant as the Court's emphasis changed regarding the decision-making rights of pregnant women.

E. McCleskey v. Kemp

In McCleskey v. Kemp, the Court held that statistical evidence was insufficient to prove that a state's capital punishment statute was arbitrary and capricious in violation of the Eighth Amendment. The Court thus avoided the implications of an impressive empirical study that demonstrated that defendants in Georgia who were charged with killing white victims were 4.3 times as likely to receive a death sentence in comparison to defendants charged with killing black victims. This empirical finding meant that in the Georgia system race would more likely than not influence the decision to impose the death penalty— or in other words, a majority of defendants in white-victim crimes would not have received the death penalty if their victims had been black.

McCleskey's strongest constitutional argument rested on his Eighth Amendment claim alleging cruel and unusual punishment. Under prior doctrine, the death penalty could not be

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243 See id. at 315-16, 319-23.
244 Similarly, the Court changed the viability determination from that which was within the doctor's expertise to a point which could be set by the State. In Webster, the Court held that the State could require doctors to assess viability at 20 weeks—although fetuses were not viable until 24 weeks—because of the possible margin of error in determining the number of weeks of gestation. 492 U.S. at 515-16.
246 Id. at 308-13. In McCleskey, the Court also addressed other issues relating to the Equal Protection Clause. See id. at 291-99. I address the Eighth Amendment claim because it was the strongest argument made by the petitioner. See infra notes 248-56 and accompanying text.
247 McCleskey, 481 U.S. at 287.
248 Id. at 328 (Brennan, J., dissenting).
249 Id.
250 Professor Faigman discusses McCleskey's Equal Protection claim, but notes that the Eighth Amendment claim was the stronger challenge. Faigman, Normative
imposed by sentencing procedures that created a substantial risk that the punishment would be given in an arbitrary or capricious manner.\textsuperscript{251} In contrast with cases reviewing equal protection claims,\textsuperscript{252} in court decisions before \textit{McCleskey} the defendant was not required to show that race affected his or her particular sentencing decision.\textsuperscript{253} Instead, the Court had focused on patterns of arbitrary and capricious sentencing.\textsuperscript{254} The Baldus study, which collected data empirically describing sentencing patterns in the Georgia system, appeared to be exactly the kind of information appropriate to the sort of inquiry in which the Court had previously engaged.\textsuperscript{255} To avoid the obvious implications of this information, the Court had to revise Eighth Amendment doctrine that forbade the imposition of sentencing procedures if they created a substantial risk that the punishment would be assigned in an arbitrary and capricious manner.\textsuperscript{256} Faigman observes that the Court manipulated the legal doctrine to render the empirical facts irrelevant by shifting to a particularized perspective, requiring that the criminal defendant show that racial prejudice had affected the result in his or her individual case.\textsuperscript{257} Faigman argues that this shift in doctrine illustrates his thesis that scientific factfinding serves as a restraining principle of constitutional

\textit{Constitutional Fact-Finding, supra} note 7, at 598. The Court rejected \textit{McCleskey}'s Equal Protection claim by limiting the relevance of statistical studies to claims involving jury venire selection and Title VII cases. \textit{McCleskey}, 481 U.S. at 294-95. The Court reasoned that in cases involving venire selection and Title VII, “the statistics relate to fewer entities, and fewer variables are relevant to the challenged decisions.” \textit{Id.} at 295. Furthermore, the Court noted that the decisionmaker has an opportunity to provide an explanation for any statistical disparity in cases involving venire selection and Title VII, while it is against public policy to have jurors or prosecutors discuss their decisions in cases such as \textit{McCleskey}. \textit{Id.} at 296. Finally, the Court decided that the petitioner had to provide something more than a statistical study to justify striking down criminal laws against murder and reducing the discretion necessary to enforce these statutes. \textit{Id.} at 297. \textit{McCleskey}'s Eighth Amendment claim was stronger than his Equal Protection claim because the Court had not before required more than a showing of risk of arbitrariness and capriciousness to strike down a capital punishment system. \textit{Id.} at 323-24 (Brennan, J., dissenting).


\textsuperscript{252} See \textit{ supra} note 248.

\textsuperscript{253} \textit{McCleskey}, 481 U.S. at 323-24 (Brennan, J., dissenting) (citing \textit{Gregg} v. Georgia, 428 U.S. 153, 200 (1976)).

\textsuperscript{254} \textit{Id.} at 323 (citing \textit{Gregg}, 428 U.S. at 195 n.46).

\textsuperscript{255} See Faigman, \textit{Normative Constitutional Fact-Finding, supra} note 7, at 599.

\textsuperscript{256} See \textit{Gregg}, 428 U.S. at 200.

\textsuperscript{257} See Faigman, \textit{Normative Constitutional Factfinding, supra} note 7, at 599.
interpretation. 258

Faigman overestimates the degree to which scientific factfinding serves as a restraining and guiding principle. 259 He also does not describe the shoals from which these interpretive methods are supposed to be restraining or guiding us. Courts are different from legislatures because of their reliance on interpretive methods emphasizing the constitutional text and the original intent of the Constitution's framers. These interpretive methods restrain courts from relying entirely on what Faigman would call their "best guess" or what most of us would describe as general experience. Reliance on text or original intent constitutes an interpretive method because such approaches restrain the Court or guide the Court away from reliance merely on its general experience in deciding cases. Unless scientific factfinding can be shown to act similarly, then Faigman's analysis does not establish that this methodology constitutes an interpretive method.

Faigman acknowledges that empirical information would never mandate a certain result, unlike, for example, reliance on constitutional text. 260 He concludes, however, that scientific facts may constitute an integral part of the interpretive calculus. 261 Faigman points to the Court's modification of Eighth Amendment doctrine in *McCleskey* as an example of how constitutional fact-finding may act as an interpretive method. 262 However, empirical information has never mandated a particular result in constitutional law because of its relatively weak influence in restraining the Court from relying on its general experience as the predominant source for legislative facts. *McCleskey* is a prime example. Because the Court did not want to be restrained or guided by statistical analysis, it held that such factual information could not constitute an adequate basis for an Eighth Amendment violation. The Court gave reasons why empirical facts should not shape constitutional doctrine in criminal law. The Court stated that acceptance of McCleskey's claim would

258 See *id.* at 611-13.
259 The law/fact distinction is not just a modern formalism, despite the revision by Professor Davis. See generally Davis, *supra* note 7. The legal system does not treat legislative facts as "law." However, my central thesis rests on offering a descriptive observation about how minimally scientific facts have informed constitutional lawmaking. My main disagreement with Faigman is over the degree to which scientific factfinding serves as a restraining and guiding principle.
261 *Id.*
262 *Id.*
open up the entire criminal justice system to questioning by empirical studies.\textsuperscript{263} Furthermore, legislatures were in a better position than courts to assess empirical studies.\textsuperscript{264} While Faigman emphasizes that the empirical facts constitute an interpretive methodology because they affected constitutional law doctrine in \textit{McCleskey}, the more direct explanation is that the Court rejected empirical factfinding as an interpretive methodology. \textit{McCleskey} constitutes yet another example of the Court's refusal to allow scientific facts to guide its constitutional interpretation.

Faigman concludes his argument by stating that the empirical evidence in \textit{McCleskey} forced the Court to state normative reasons for rejecting these facts.\textsuperscript{265} He reasoned that this phenomenon again demonstrates the ability of scientific facts to restrain and direct the Court's interpretation. Like other scholars, Faigman confuses the rhetoric of scientific facts with their logic. The Court in \textit{McCleskey} felt compelled to defend its position vigorously to counter the strong symbolic impact of rejecting empirical facts. The Court's rejection of the implicit logic that flowed from the empirical facts in \textit{McCleskey} was hardly difficult from a legal standpoint because, as Faigman admits, the Court has never allowed scientific facts to mandate outcomes in constitutional law. The Court's more difficult task was persuading the public that it made the correct decision by ignoring the implications of empirical science.

IV

SCIENCE AS A MODERN MYTHOLOGY IN
CONSTITUTIONAL LAW

\textit{M}yth . . . is not an explanation in satisfaction of a scientific interest, but a narrative resurrection of a primeval reality, told in satisfaction of deep religious wants, moral cravings, social submissions, assertions, even practical requirements. Myth fulfills in primitive culture an indispensable function: It expresses, enhances, and codifies belief. . . . \textit{I}t . . . contains practical rules for the guidance of man. . . . \textit{I}t is not an intellectual explanation or an artistic imagery, but a pragmatic charter of primitive faith and moral wisdom.

—Bronislaw Malinowski, \textit{Myth in Primitive Psychology}\textsuperscript{266}

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{263} \textit{McCleskey} v. Kemp, 481 U.S. 279, 315 (1987).
\item \textsuperscript{264} \textit{Id.} at 319.
\item \textsuperscript{265} Faigman, \textit{Normative Constitutional Fact-Finding}, \textit{supra} note 7, at 611.
\item \textsuperscript{266} Eliade, \textit{supra} note 28, at 20 (quoting Bronislaw Malinowski, \textit{Myth in Primitive Psychology} 19 (1926)).
\end{enumerate}
\end{footnotesize}
The U.S. Supreme Court includes scientific facts in its constitutional law opinions mostly for their persuasive appeal and symbolic expression. Empirical results underscore the rightness of the legal rule announced by the Court. Scholars have mistaken these scientific facts as being science when in fact they are representations of science. The function of these scientific facts is similar to the function of facts found in mythology in primitive society. The facts found within myth and science may serve to harmonize social principles with culture. 267 Thus, scientific facts express, enhance, and codify legal rules in constitutional law cases. Mythology seeks to provide a "true" view of the world, something that pure rationality cannot do. 268 Similarly, the Court uses scientific facts in its opinions as "truth," something that modern science does not claim to be. If "scientific" legislative facts are understood in this way, the Court's increasing reliance on them suggests that the Court believes that this kind of rhetoric is effective in securing public acceptance of its constitutional interpretations.

If we accept that science serves as mythology in constitutional law, then the scholarly observations (and complaints) about the way that the Court uses scientific facts can be easily explained. Scientific facts do not guide the Court to particular results. Instead, the Court uses scientific facts as reassuring symbols to demonstrate that the legal rule is in harmony with our society's culture. The Court does not subject scientific facts to serious substantive analysis because they serve as symbols, not as empirical statements. The Court's use of scientific facts appears to be sloppy and often incorrect because empirical correctness is not the purpose of symbols. Scientific facts in judicial opinions must look scientific to be persuasive, but they do not have to be particularly accurate. The Court appears to be result-oriented in its reliance on science because it selectively chooses these facts for their rhetorical value. Finally, mythology exerts social authority on the basis not of empiricism but of sacred meanings. 269 Similarly, the Court invokes the sacred voice of science, not its empirical correctness.

"The root difficulty" of judicial review, according to Professor

267 See Hatab, supra note 30, at 62 ("Myth, too, strives for a 'unity of the world.'"); id. at 21 ("Myth is therefore another way of saying culture").
268 See id. at 298.
269 See id. at 24.
Alexander Bickel, is that it "is a counter-majoritarian force in our system."270 Because the Court is not supposed to rely on polling the public to decide how to interpret the Constitution, one of the Court's important tasks is to persuade the public to obey its judgments. One of the court's rhetorical tools is the manipulation of scientific "facts." "Science is the American faith."271 Our society associates science with objectivity, productivity, and progress. Because nonscientists find scientific empiricism and terminology inaccessible, science also has a mystique. Science thus resembles ancient mythology. Mythology contains references to the supernatural and provides sacred explanations that justify social order. Primitive societies relied on mythology to reinforce social order.272 Myths make the world coherent and meaningful by describing the social order and showing why it came into being.273 Modern courts take on a similar task when faced with controversies which question the fairness of the present social structure.

One of the foremost experts on mythology, Mircea Eliade, explained the ways in which mythology created social harmony within primitive cultures. The primary function of mythology, according to Eliade, is to provide "models for human behavior and, by that very fact, [it] gives meaning and value to life."274 Similarly, the important role of scientific facts in the Court's opinions is to encourage public acceptance of legal rules that regulate its activities and to assign these rules meaning and value. For example, in Muller v. Oregon the Court was not appealing to the public's scientific knowledge when it referred to the empirical studies cited in the Brandeis brief showing the detrimental effect of long working hours on women. Instead, the Court was providing emotional—not necessarily logical—reassurance to the general public that this paternalistic approach was the right one. Scientific facts serve to reaffirm the rightness of constitutional rules by providing emotional reassurance for an intuition.

Eliade advises us that "the myth is regarded as a sacred story, and hence a 'true history,' because it always deals with realities."275 By "realities" Eliade means that the truth of myths

270 BICKEL, supra note 34, at 16.
272 See AUSBAND, supra note 29, at 2-5.
273 See id.
274 ELIADE, supra note 28, at 2.
275 Id. at 60.
comes from observation of what presently exists. Myths explain how we became mortal and sexed, and they reflect a "true history" because we can observe that we are now mortal and sexed. The Court quite similarly tends to use scientific facts in ipso facto fashion. For example, Professor Clark's study in Brown v. Board of Education did not look at the effects of segregation; instead, it simply compared the performance of black and white schoolchildren. Nevertheless, the Court cites to Clark's study as evidence of how school segregation affected the performance and psychology of black children. Thus, the fact that Clark found that black children did not score as well as white children was assumed to be the historical result of school segregation. Mythology relies on the reality of the present to affirm the truth of its narrative. By functioning as mythology, scientific facts in court opinions do not invite analysis. Instead, they ask us to accept the underlying premises of legal rules as truth. Myth "gives man . . . the illusion that he can understand the universe and that he does understand the universe."

CONCLUSION

During this century, the Court's growing propensity for using scientific facts in its constitutional law opinions suggests a deep-felt wish by the Court to be perceived as capable of analyzing abstruse and objective information. The Court thus may hope to be perceived as herculean:

Herakles was the Greek Superman, and many of the stories of his deeds are simply gripping tales of superhuman achievements and fabulous monsters. At the same time Herakles, like Odysseus, stands for the average man, and his adventures are exaggerated parables for human experience. . . . [O]n the whole his example was to be emulated, for he destroyed evil and championed good, rising above all the blows that fortune showered on him.280

The Court's wish to be perceived as scientific is part of a long-standing tradition. Legal scholars of the eighteenth and nineteenth centuries envisioned law as being susceptible to the same

276 Id.
277 See Cahn, supra note 193, at 163-64.
278 See Eliade, supra note 28, at 11.
279 CLAUDE LÉVI-STRAUSS, MYTH AND MEANING 17 (1979).
forms of analysis and investigation that were believed to guide the natural sciences.281 Christopher Langdell, dean of the Harvard Law School, believed that the development of natural law was akin to the discovery of scientific natural principles. 282 Of course, scholars have criticized Langdell’s methodology as not really scientific because it requires subjectivity in selecting correct cases and then using appropriate rules to evaluate other cases.283

In the late nineteenth century, Judge Oliver Wendell Holmes, Jr., declared that the “black-letter man” would give way to the “man of statistics and the master of economics.” 284 Professor Roscoe Pound urged law students and lawyers to “look to economics and sociology and philosophy, and cease to assume that jurisprudence is self-sufficient.” 285 The era of sociological jurisprudence helped lead to what became known as legal realism.286 Legal realism embraced the impact of empiricism on the evolution of law. In response to this evolution of legal thought, the Court has increasingly included scientific and empirical facts in constitutional law opinions in this century. Thus, classical jurisprudence gave way to sociological jurisprudence and then legal realism; during all these eras, science fascinated scholars and courts. This essay suggests that the Court’s use of scientific facts in its constitutional opinions actually does not mean that scientific factfinding has become an important interpretive method. Facts have not become indistinguishable from law. Instead, facts and the methodology of law continue to be a mythology.

282 See id. at 1975.
283 See id. at 1976.
284 Oliver Wendell Holmes, The Path of the Law, 10 HARV. L. REV. 457, 469 (1897).