

2017

Comity, Finality, and Oklahoma's Lethal Injection Protocol

Jon Yorke

Follow this and additional works at: <http://digitalcommons.law.ou.edu/olr>

 Part of the [Constitutional Law Commons](#)

Recommended Citation

Jon Yorke, *Comity, Finality, and Oklahoma's Lethal Injection Protocol*, 69 OKLA. L. REV. 545 (2017), <http://digitalcommons.law.ou.edu/olr/vol69/iss4/1>

This Article is brought to you for free and open access by University of Oklahoma College of Law Digital Commons. It has been accepted for inclusion in Oklahoma Law Review by an authorized editor of University of Oklahoma College of Law Digital Commons. For more information, please contact darinfox@ou.edu.

OKLAHOMA LAW REVIEW

VOLUME 69

SUMMER 2017

NUMBER 4

COMITY, FINALITY, AND OKLAHOMA'S LETHAL INJECTION PROTOCOL

JON YORKE*

Abstract

On October 10, 2014, the Oklahoma State Penitentiary opened its doors to the media to reveal a new state-of-the-art death chamber and announced that it had created an efficient execution facility. To complement the improvements to the prison architecture and the punishment technology, the Oklahoma legislature amended the state's execution protocol to formulate effective procedures delineating what it considered appropriate pharmacology to render a constitutional execution. This advance in design and regulation, however, has not prevented subsequent maladministration by various members of the Department of Corrections' execution teams. On January 16, 2015, Charles Warner was executed with the prison receiving and using the wrong drugs. On October 16, 2015, due to further operational mistakes, the District Court for the Western District of Oklahoma declared Richard Glossip's case to be administratively closed.

* Professor of Human Rights, Director of the BCU Centre for Human Rights, School of Law, Birmingham City University, The Curzon Building, 4 Cardigan Street, Birmingham, B4 7BD; Ph.D. (Law), Warwick University 2008; LL.M., Warwick University 2001; LL.B., (Hons) Birmingham City University 1997. This is an expanded version of the First Inaugural lecture for the BCU Professor of Human Rights, BCU School of Law, November 26, 2016. I would like to thank the included for comments on previous drafts and for conversations on the death penalty and pharmacological science which have informed this article: Marélice Yorke, Randall Coyne, Deborah Denno, Robin Konrad, Susan Otto, Kim Ludwig, Roger Hood, Carolyn Hoyle, Mark George, Jo Cecil, Sarah Cooper, Hannah Gorman, Haydn Davies, Anne Richardson Oakes, and Alice Storey. Thank you also for the fantastic editorial comments by Michael Waters, Michael Nash, and Simon Bright, members of the Oklahoma Law Review. All errors remain mine.

To investigate these systematic failings, a Multicounty Grand Jury was convened and it considered evidence from stakeholders in the execution process. Its Interim Report provided damning findings, which demonstrate that the death penalty is still struggling for institutional legitimacy. The continuation of botched executions, inappropriate alterations to the protocol, and the claims of punishment experimentation on non-consenting human subjects is contributing to a growing lack of confidence that Oklahoma can maintain a humane form of capital punishment through lethal injection.

These unacceptable circumstances occurred primarily as a result of the uncomfortable relationship between the purported “science” of lethal injection and the “constitutional law” of lethal injection, and therefore a clear interpretation of the intellectual interplay of these two disciplines is required. Both the procedural review parameters provided by the principles of comity and finality, and the scientific methodologies of atomism and holism for determining the epistemology of the pharmacology, will prove illuminating. There are compelling questions concerning whether the adjudicative process can produce sound reasoning for assessing the death penalty. We are left with the situation in which there are still, and perhaps always will be, ardent circumstances challenging the constitutionality of Oklahoma’s lethal injection.

Table of Contents

I. Introduction	547
II. Comity, Finality, and the Capital Judicial Process.....	553
A. Comity	553
B. Finality	563
III. Determining Scientific Evidence in the Courtroom.....	569
A. The Atomistic and Holistic Review of Scientific Evidence	570
B. The Role of the Judge as Scientific “Gatekeeper”	572
IV. The District Court’s Evidentiary Hearing in <i>Warner v. Gross</i>	576
A. Does Midazolam Have a Ceiling Effect?	578
B. Does Midazolam Have an Analgesic Effect?	582
C. Does Midazolam Produce Paradoxical Reactions?.....	583
D. The Scrutiny of the Expert’s Scientific Methodology	585
E. Elevating the Doctrine of Finality to Neutralize Legitimate State Comity	591
V. Finality and the Court of Appeals for the Tenth Circuit	594
VI. The SCOTUS Decision in <i>Glossip v. Gross</i>	597

A. The Brief of the Sixteen Professors of Pharmacology as Amicus Curiae 597

B. The Majority Decision on the Pharmacology of Midazolam..... 599

 1. Justice Alito and the Efficacy of Midazolam..... 599

 2. Justice Alito on Scientific Methodology 600

 3. The Privileging of the Doctrine of Finality 604

C. Justice Sotomayor in Dissent 605

 1. Seeking Transparency of the Pharmacology of Midazolam 605

 2. The Alternative Execution Method Requirement 608

VII. Almost a Postscript: Human Error and the Unfinal Decision Post-Glossip 611

 A. The Stay of Richard Glossip’s Execution: Negligence, But Not as Was Envisaged 611

 B. The False Comity and Illegitimate Finality in Charles Warner’s Execution..... 613

 C. The New Negligence in the Execution Procedure for Richard Glossip..... 615

VIII. Conclusion: The Interaction of Comity and Finality to Reveal the Irredeemable Constitutional Deficiencies of the Death Penalty in Oklahoma..... 619

“We only prepare what we regard as the normal dose, Socrates.”

“[I]t is a long time since we had a visitor . . . who could give us any definite information, except that he was executed by drinking hemlock; nobody could tell us anything more than that.”

— *Phaedo*, Plato, *The Last Days of Socrates***

I. Introduction

There is great pressure¹ placed upon the capital judicial process.² Each participant in the death penalty feels the extreme burden of their task, be it

** PLATO, THE LAST DAYS OF SOCRATES: EUTHYPHRO, APOLOGY, CRITO AND PHAEDO 198, 116 (Hugh Tredennick & Harold Tarrant trans., 2003).

1. See Robert M. Cover, *Violence and the Word*, 95 YALE L. J. 1601, 1601 (1986). Robert Cover cogently discusses the agonism inherent within the adjudicative method, saying that “[l]egal interpretation takes place in a field of pain and death,” that “[l]egal interpretative acts signal and occasion the imposition of violence upon others,” and, on the

the judge, the attorneys, the victims' families, the Office of the Governor, the Department of Corrections staff, police officers, witnesses, journalists, or the wider interested communities (for example, retentionist³ and abolitionist⁴ organizations). It is perhaps evident that this pressure is most acute in the build-up to, and in the administration of, an execution. There is systematic scrutiny being applied to the actions of the execution teams⁵ (with an emphasis on the Restraint Team, IV Team, and Special Operations Team⁶), the efficacy of the execution equipment, and the changing array of

death penalty, that "[t]he questions of whether the death sentence is constitutionally permissible and, if it is, whether to impose it, are among the most difficult problems a judge encounters" because "in capital punishment the action or *deed* is extreme and irrevocable, there is pressure placed upon the *word*." *Id.* at 1601, 1622 (footnote omitted).

2. In the Elkouri Inaugural Lecture on October 9, 2005, Professor Randall Coyne effectively demonstrated that the pressure that is placed upon Oklahoma's capital judicial system rendered unjust capital sentences for Adolph Munson, Ronald Williamson, and Robert Miller. Randall Coyne, *Dead Wrong in Oklahoma*, 42 TULSA L. REV. 209, 240 (2006). To emphasize the injustice, Coyne quoted the dissent of Justice Blackmun in *Callins v. Collins*: "[T]he basic question—does the system accurately and consistently determine which defendants 'deserve' to die?—can not be answered in the affirmative." *Id.* (quoting *Callins v. Collins*, 510 U.S. 1141, 1145 (1994)) (Blackman, J., dissenting).

3. *E.g.*, JUSTICE FOR ALL, <http://www.jfa.net/> (last updated Oct. 28, 2011); PRO-DEATH PENALTY.COM <http://www.prodeathpenalty.com/> (last updated Oct. 12, 2014).

4. *E.g.*, AMICUS, <http://www.amicus-alj.org/> (last visited May 12, 2017); *Cornell Law School: Death Penalty Project*, CORNELL L. SCH., <http://www.lawschool.cornell.edu/research/death-penalty-project/> (last visited May 12, 2017); *Death Penalty*, AMNESTY INT'L, <https://www.amnesty.org/en/what-we-do/death-penalty/> (last visited May 12, 2017); *Death Penalty*, REPRIEVE, <http://www.reprive.org.uk/topic/death-penalty/> (last visited May 12, 2017); DEATH PENALTY INFO. CTR., <http://www.deathpenaltyinfo.org/> (last visited May 12, 2017); MURDER VICTIMS' FAMILIES FOR RECONCILIATION, <http://www.mvfr.org/> (last visited May 12, 2017); OKLA. COALITION TO ABOLISH THE DEATH PENALTY, <http://okcadp.org/> (last visited May 12, 2017).

5. *See, e.g.*, Interim Report Number 14 of the Grand Jury, *In re* Multicounty Grand Jury, State of Oklahoma, Case No. SCAD-2014-70, at 100 (Okla. May 19, 2016); Jon Yorke, *Glossip v Gross: Taking Up Justice Breyer's Call to Question the Death Penalty*, OXFORD HUM. RTS. HUB: BLOG, (July 30, 2015), <http://ohrh.law.ox.ac.uk/glossip-v-gross-taking-up-justice-breyers-call-to-question-the-death-penalty/>; *Richard Glossip: Oklahoma Halts Execution 'to Check Drugs'*, BBC NEWS (Sept. 30, 2015), <http://www.bbc.com/news/world-us-canada-34405979>.

6. *See* Okla. Dep't of Corrections, Execution of Offenders Sentenced to Death, Operations Memorandum No. OP-040301 5-9 (June 30, 2015), <http://www.ok.gov/doc/documents/op040301.pdf>. Section IV records the following teams in Oklahoma's execution procedures: (a) Command Team; (b) H Unit Section Teams-Restraint Team, Special Operations Team; (c) Intravenous Team; (d) Maintenance Response Team; (e) Critical Incident Management Team; (f) Traffic Control Team; (g) Witness Escort Teams; and (h) Victim Services Team. *Id.*; *see, e.g.*, Interim Report Number 14 of the Grand Jury, *In re*

pharmacological substances used in lethal injection. This extensive evaluation has revealed, in the words of Deborah Denno, that there is currently a “lethal injection chaos”⁷ across the death penalty states, and recent events have demonstrated that the State of Oklahoma plays an unenviable role in the frantic practical and procedural vicissitudes that are occurring.

The source of the chaos in Oklahoma is found in the interaction between the different actors determining the purported “science” of lethal injection⁸ and the “constitutional law” of lethal injection.⁹ This interaction creates a “science-litigation interface”¹⁰ within which law as an institution and science as an institution are struggling for legitimacy.¹¹ The resultant procedural friction occasions the question as to whether the judicial proceedings have revealed the science of lethal injection to the best of our knowledge. There needs to be a clear articulation that the scientific findings, which the litigation has cast a lens upon, are not a mere assertion and affirmation of state policy-relevant science, or an illegitimate reduction of the science in an expression of *reductio ad absurdum* (Latin for, “reduction to absurdity”). What the courts need to provide is a transparent and accurate reflection of the pharmacological properties and biological effects of the execution drugs.¹² Ultimately, Oklahoma’s capital judicial

Multicounty Grand Jury, State of Oklahoma, Case No. SCAD-2014-70, at 100 (Okla. May 19, 2016).

7. Deborah W. Denno, *Lethal Injection Chaos Post-Baze*, 102 GEO. L.J. 1331, 1335 (2014) (discussing the evolution of pharmacological issues and the state’s attempts to ensure a constitutional death penalty) (“There have been more changes in lethal injection protocols during the past five years than there have been in the last three decades.”).

8. Deborah M. Hussey Freeland, *Speaking Science to Law*, 25 GEO. INT’L ENVTL. L. REV. 289, 327 (2013) (arguing that “[e]ven where a judge is an expert with regard to the subject of scientific testimony, the judge may take the structure of the two-party adversarial litigation process for granted, and forget that the presentation of scientific expertise by both sides will likely give the jury or even the judge himself the impression that science is agnostic on the matter”).

9. See Deborah W. Denno, *When Legislatures Delegate Death: The Troubling Paradox Behind State Uses of Electrocution and Lethal Injection and What It Says About Us*, 63 OHIO STATE L.J. 63 (2002).

10. Sanne H. Knudsen, *Adversarial Science*, 100 IOWA L. REV. 1503, 1507 (2015).

11. Sheila Jasanoff, *Just Evidence: The Limits of Science in the Legal Process*, 34 J.L. MED. & ETHICS 328, 330, 339, (2006) (arguing that law and science form a “social enterprise” for determining questions of method and data within the adjudicative process and that “science can deliver insights into matters otherwise hidden from judicial inquiry”).

12. See generally Shelia S. Jasanoff, *Contested Boundaries in Policy-Relevant Science*, 17 SOC. STUD. SCI. 195 (1987).

process needs to allow science to speak to law,¹³ and then listen and act reasonably. It is questionable whether this has hitherto occurred.

This article uses the *Warner-Glossip*¹⁴ litigation (specifically from 2014-2016) as a case study to reveal the pressure and resultant human error¹⁵ within Oklahoma's capital judicial process. To provide an interpretative lens for this assessment, a reading is offered of how the State has adopted (a) pharmacological science for the execution protocol through the procedures created by the "principle of comity"¹⁶ in the establishment of reciprocal federal-state governmental and adjudicative norms and (b) the "doctrine of finality"¹⁷ via the mechanisms for the closure of proceedings and the ultimate implementation of the punishment. At issue is the extent to which Oklahoma's government legitimately utilizes comity and finality, thus contributing to an effective and efficient capital judicial system or the

13. See generally Hussy Freeland, *supra* note 8 (providing useful insights into this narrative and discourse of science in the courtroom).

14. Charles Frederick Warner was convicted of the 1997 brutal rape and murder of eleven-month-old Adrianna Waller. *Warner v. State*, 2006 OK CR 40, ¶¶ 1-2, 144 P.3d 838, 856. Richard Eugene Glossip was sentenced to death for the commission of the 1997 murder of Barry Van Treese. *Glossip v. State*, 2001 OK CR 21, ¶¶ 1-5, 29 P.3d 597, 598-99. There are substantial grounds for arguing that Glossip is innocent of this crime. See *Richard Glossip Is Innocent*, MINISTRY AGAINST THE DEATH PENALTY, <http://www.sisterhelen.org/richard> (last visited May 12, 2017) (Sister Helen Prejean's campaign); RICHARD E. GLOSSIP, <http://www.richardeglossip.com/> (last visited Feb. 20, 2017) (Richard Glossip's website); see also *Glossip v. State*, 2007 OK CR 12, 157 P.3d 143 (discussing the case's history). The question of Glossip's culpability is outside of the scope of this article, but, considering the evidence in the case, this author is also convinced that beyond a reasonable doubt Glossip is innocent.

15. The Committee on Quality of Health Care in America has published detailed examples of human error in the American health care system and concludes that "[h]ealth care is not as safe as it should be. A substantial body of evidence points to medical errors as a leading cause of death and injury." COMM. ON QUALITY OF HEALTH CARE IN AM., *TO ERR IS HUMAN: BUILDING A SAFER HEALTH SYSTEM* 26 (Linda T. Kohn et al. eds., 2000). In studying human error, James Reason observed:

Not only must more effective methods of predicting and reducing dangerous errors emerge from a better understanding of mental processes, it has also become increasingly apparent that such theorising, if it is to provide an adequate picture of cognitive control processes, must explain not only correct performance, but also the more predictable varieties of human fallibility.

JAMES REASON, *HUMAN ERROR* 1 (1990).

16. See generally Gil Seinfeld, *Reflections on Comity in the Law of American Federalism*, 90 NOTRE DAME L. REV. 1309 (2015).

17. See generally Paul M. Bator, *Finality in Criminal Law and Federal Habeas Corpus for State Prisoners*, 76 HARV. L. REV. 441 (1963) (discussing the taxonomy of the doctrine of finality to facilitate effective legal process).

revealing under what circumstances these principles are asymmetrically applied and thus engender politico-legal problems.¹⁸ In assessing the death penalty, the comity-finality relationship is not merely expressed as a normative contingency, in that once comity has been completed the finality of an execution can automatically ensue. It is not that simple. This investigation aims to reveal that the two principles can interact to produce complex outcomes that do not necessarily facilitate a facially constitutional punishment, and this has been evident in Oklahoma, particularly in the procedure and process of lethal injection.

Part II of this article outlines the application of the principles of comity and finality within the architecture of American federalism. The general discourses on comity and finality provide interpretive methodologies for uncovering the current turbulence within Oklahoma's lethal injection protocol. These adjudicative mechanisms are then utilized to accommodate scientific methodologies for the interpretation of the biological effects of the pharmacological substances used in the executions. Part III analyzes the role of the judge as "scientific gatekeeper."¹⁹ The judicial guidance for assessing the presentation of expert testimony within the courtroom is set out, and the importance of the judge's understanding the technical interpretive methodologies of atomism (viewing scientific issues in a confined analysis)²⁰ and holism (placing a scientific issue on a horizon of interpretation with other relevant variables)²¹ is revealed. A frisson occurs in the identification of the appropriate methodology for the assessment of pharmacology to reveal whether Oklahoma's statute functions in the way that the State claims.

Following the discussion of these methodologies, the article then reviews state preparations and implementation of the execution protocol. Part IV deconstructs the District Court for the Western District of Oklahoma's ruling in *Warner v. Gross*,²² which considered Oklahoma's use of

18. See, e.g., Andrew Chongseh Kim, *Beyond Finality: How Making Criminal Judgments Less Final Can Further the "Interests of Finality,"* 2013 UTAH L. REV. 561; Lee Kovarsky, *AEDPA's Wrecks: Comity, Finality, and Federalism*, 82 TUL. L. REV. 443 (2007); JoAnn Lee, Note, *An Empirical Analysis of Habeas Corpus: The Impact of Teague v. Lane and the Anti-Terrorism and Death Penalty Act on Habeas Petition Success Rates and Judicial Efficiency*, 15 CORNELL J.L. & PUB. POL'Y 665 (2006).

19. See *Daubert v. Merrell Dow Pharma., Inc.*, 509 U.S. 579, 597 (1993).

20. Jennifer L. Mnookin, *Atomism, Holism, and the Judicial Assessment of Evidence*, 60 UCLA L. REV. 1524, 1527 (2013).

21. *Id.*

22. *Warner v. Gross*, No. CIV-14-665-F, 2014 WL 7671680 (W.D. Okla. 2014), *aff'd*, 776 F.3d 721 (10th Cir. 2015), *aff'd sub nom. Glossip v. Gross*, 135 S. Ct. 2726 (2015).

midazolam²³ as an anesthetic in lethal injection. During the evidentiary hearing, the parties presented conflicting expert testimony on the fundamental question of whether midazolam can induce and maintain a surgical plane of anesthesia during the execution. Of interpretive importance is the necessity for the court not to confine reasonable and significant bodies of scientific opinion but instead to provide a transparent and even-handed adjudication. It is argued, however, that an unjustified confining judgment was handed down through a selective use of the science. Part V outlines the Court of Appeals for the Tenth Circuit's affirmation of the district court judgment.²⁴ It appears apparent that restrictive, adjudicative, techniques were repeated in the appeal to affirm the State's use of midazolam. It becomes disputable whether the Tenth Circuit's self-reflective assessment of the sufficiency of the scientific scrutiny stands up to sound qualitative and quantitative methodology.

The majority and dissenting opinions of the Supreme Court in *Glossip v. Gross*²⁵ regarding the science and logistics of Oklahoma's execution protocol are reviewed in Part VI. Fundamental questions of the burden of proof, the extent to which comity has been observed, the promotion of atomism over holism concerning expert scientific testimony, and the shadow of finality over the process, reveal hidden truths concerning the interpretative and adjudicative mechanisms for the reducing and packaging of sound pharmacology to promote quixotic state policy outcomes. It appears that the Supreme Court failed to adhere to sound scientific principles and thus engendered a denial of the petitioner's constitutional rights. Part VII provides a commentary on the post-*Glossip* issues. Following the imprudent confidence of the district court—and the affirming judgments of the Tenth Circuit and the Supreme Court—for declaring the effectiveness of Oklahoma's new execution protocol, a damning further example of human error occurred resulting in *Glossip*'s execution being stayed and the proceedings being administratively closed.²⁶ The resultant Multicounty Grand Jury investigations into the opportunities for negligence within Oklahoma's execution protocol uncovers a significant array of

23. Midazolam was first synthesized in 1976 and it belongs to the class of drugs known as benzodiazepines. J.G. Reves et al., *Midazolam: Pharmacology and Uses*, 62 ANESTHESIOLOGY 310, 310 (1985).

24. Warner v. Gross, 776 F.3d 721 (10th Cir.), *aff'd sub nom.* *Glossip v. Gross*, 135 S. Ct. 2726 (2015).

25. 135 S. Ct. 2726 (2015).

26. Joint Stipulation for Administrative Closing of Case, *Glossip v. Gross*, Case No. CIV-14-665-F (W.D. Okla. Oct. 16, 2015).

reprimand-worthy mistakes in both the execution of Charles Warner and in the preparations for the execution of Richard Glossip. Part VIII concludes by questioning whether there will always be irredeemable vicissitudes within the execution protocol and considers whether it is now evidently futile to keep tinkering with Oklahoma's machinery of death. It seems clear that it is now time to banish the punishment to the state's annals of history.

II. Comity, Finality, and the Capital Judicial Process

A. Comity

Comity is a principle of international law for maintaining intergovernmental relationships²⁷ in a reciprocal procedural recognition of national legislation, judicial decisions, and other interests represented within bilateral and multilateral communications.²⁸ This principle has been used to facilitate a political and legal courtesy within the architecture of American federalism, and it promotes cooperative jurisdictional competencies. Whilst it is clear that a procedural hierarchy is created, the balance of the powers and responsibilities between the state and the federal government has become a sensitive, symbiotic, manifestation. Of relevance to this study, this includes the power of, and the responsibility for, administering punishment. At the apex is the Supremacy Clause of Article

27. See *Société Nationale Industrielle Aérospatiale v. U.S. District Court*, 482 U.S. 522, 543 n.27 (1987) ("Comity refers to the spirit of cooperation in which a domestic tribunal approaches the resolution of cases touching the laws and interests of other sovereign states."); *Hilton v. Guyot*, 159 U.S. 113, 163 (1895) ("The extent to which the law of one nation . . . shall be allowed to operate within the dominion of another nation, depends upon what our greatest jurists have been content to call 'the comity of nations.'"); *United States ex rel. Trantino v. Hatrack*, 563 F.2d 86, 103 (3d Cir. 1977).

28. See generally Paolo G. Carozza, "My Friend Is a Stranger": *The Death Penalty and the Global Ius Commune of Human Rights*, 81 TEX. L. REV. 1031 (2003) (providing an informative discussion on transnational adjudicative dialogue). Whilst it is true to state that the United States promotes comity of nations as a general principle of international law, it is significant for the theme of this article to note the theory of "American exceptionalism" in the application of the death penalty is increasing pulling America's penological practice outside the margins of civilized punishment. See generally Carol S. Steiker, *Capital Punishment and American Exceptionalism*, in AMERICAN EXCEPTIONALISM AND HUMAN RIGHTS 57 (Michael Ignatieff ed., 2005); FRANKLIN E. ZIMRING, THE CONTRADICTIONS OF AMERICAN CAPITAL PUNISHMENT (2004); David Garland, *Capital Punishment and American Culture*, 7 PUNISHMENT & SOC'Y 347 (2005); James Q. Whitman, *Response to Garland*, 7 PUNISHMENT & SOC'Y 389, 395 (2005); Franklin E. Zimring, *Path Dependence, Culture and State-Level Execution Policy: A Reply to David Garland*, 7 PUNISHMENT & SOC'Y 377 (2005).

IV of the U.S. Constitution,²⁹ which prohibits state law that conflicts with federal law, and in the event of a conflict, state law must yield to federal law.³⁰ The Supremacy Clause is initiated when the state attempts to “transcend [its] powers,”³¹ and up to this point the federal government allows state jurisdictional competence to rectify any unconstitutional issues. Concerning this competency evaluation, Randall Coyne and Lyn Entzeroth assert that “[c]omity dictates that the state should have an opportunity to correct errors within its judicial system”³² before being subject to the scrutiny of the federal government.³³ In *Ex parte Royall*, the Supreme Court

29. U.S. CONST. art. IV, § 2, cl. 2 (“This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”).

30. The Supremacy Clause, however, typically applies only where an “act of Congress fairly interpreted is in actual conflict with the law of the State.” *Savage v. Jones*, 225 U.S. 501, 533 (1912).

31. *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 211 (1824) (laying out the federal framework which ensures “State Legislatures . . . do not transcend their powers,” and stating that if a state law “interfere[s] with, or are contrary to the laws of Congress, made in pursuance of the constitution . . . [i]n every such case, the act of Congress . . . is supreme; and the law of the State, though enacted in the exercise of powers not controverted, must yield to it”).

32. RANDALL COYNE & LYN ENTZEROTH, *CAPITAL PUNISHMENT AND THE JUDICIAL PROCESS* 816 (4th ed. 2012) (noting that the “exhaustion requirement reflects the policies of comity and federalism between the state and federal governments”). Coyne and Entzeroth cite *Picard v. Connor*, in which the Supreme Court stated that “it would be unseemly in our dual system of government for a federal district court to upset a state court conviction without an opportunity for the state courts to correct a constitutional violation.” *Id.* (quoting *Picard v. Connor*, 404 U.S. 270, 275 (1971)). In criminal proceedings, if a prisoner contends that following state comity review that the state is still in violation of federal law the process for relief in the filing of a writ of habeas corpus helps to ensure that “no one is held in custody in either state or federal prison whose conviction or sentence was obtained or otherwise imposed in violation of the federal Constitution or federal law.” Lyn Entzeroth, *Federal Habeas Review of Death Sentences, Where We Are Now?: A Review of Wiggins v. Smith and Miller-el v. Cockrell*, 39 TULSA L. REV. 49, 51 (2003).

33. *Ex parte Royall*, 117 U.S. 241, 252-53 (1886); COYNE & ENTZEROTH, *supra* note 32, at 809 (stating that *Ex parte Royall* was “a judicially crafted limitation on the ability of federal courts to hear certain claims raised by state prisoners”). An adjudicative issue is not ripe for the federal courts to consider unless the state has had a full opportunity to rectify any unconstitutional issues, and Laurence Tribe noted that this juridico-political relationship was designed to “protect[] the integrity of state law from potentially erroneous or gratuitously intrusive federal judicial scrutiny.” LAURENCE TRIBE, *AMERICAN CONSTITUTIONAL LAW* § 3-29, at 573 (3d ed. 2000).

provided for the federal-state relationship regarding habeas corpus proceedings and formulated the exhaustion of state remedies requirement before federal intervention.³⁴ This exhaustive principle has subsequently been codified in 28 U.S.C. § 2254(a)-(d), which legislatively demarcates jurisdictional competencies.³⁵ Comity review issues include, *inter alia* (a) the abstention doctrine, which provides jurisdictional competence for the primacy of state law before federal intervention;³⁶ (b) the doctrine of adequate and independent state grounds, which allows for antecedent state decisions that “adequately” support the state dismissal of federal claims, and which are demonstrated to be “independent” of federal law;³⁷ (c) the jurisprudence of preemption, which is recognized above in the Supremacy Clause, in which the Supreme Court has affirmed state laws that conflict

34. 117 U.S. at 250-53.

35. 28 U.S.C. § 2254(b)(1)-(c) (2012). The section states:

(b)(1) An application for a writ of habeas corpus on behalf of a person in custody pursuant to the judgment of a State court shall not be granted unless it appears that—

(A) the applicant has exhausted the remedies available in the courts of the State; or

(B)(i) there is an absence of available State corrective process; or

(ii) circumstances exist that render such process ineffective to protect the rights of the applicant.

(2) An application for a writ of habeas corpus may be denied on the merits, notwithstanding the failure of the applicant to exhaust the remedies available in the courts of the State.

(3) A State shall not be deemed to have waived the exhaustion requirement or be estopped from reliance upon the requirement unless the State, through counsel, expressly waives the requirement.

(c) An applicant shall not be deemed to have exhausted the remedies available in the courts of the State, within the meaning of this section, if he has the right under the law of the State to raise, by any available procedure, the question presented.

Id. (see *infra*, 561, as 28 U.S.C. § 2254 is known as the Anti-Terrorism and Effective Death Penalty Act 1998).

36. See *Younger v. Harris*, 401 U.S. 37 (1971); *Burford v. Sun Oil Co.*, 319 U.S. 315 (1943); *Railroad Comm'n of Tex. v. Pullman Co.*, 312 U.S. 496 (1941) (for the principle of abstention).

37. See *Michigan v. Long*, 463 U.S. 1032 (1983) (for the doctrine of adequate and independent state grounds); *Erie R.R. Co. v. Tompkins*, 304 U.S. 64 (1938); *Murdock v. City of Memphis*, 87 U.S. (20 Wall.) 590 (1874) (for the primacy of state law).

with federal law are “without effect;”³⁸ and (d) the circumstances raised within habeas corpus appeals.³⁹

Criminal justice proceedings should maintain a careful balancing of the powers and interests of the national government, state government, and the individual, and this is also reflected within the capital judicial process.⁴⁰ Focusing upon the death penalty, the State and the petitioner use the principle of comity to ensure that there is fairness in the proceedings, equality of arms, and due process of law.⁴¹ The realization of the federal-state relationship, however, is assessed on a variable, contingent basis: in some circumstances, the federal government provides the scope for the states to determine issues individually,⁴² and in other examples, the evolution of the law becomes an assessment of the rates of change/lack of change in state legislation across the Union.⁴³ In the application of this contingency, the capital judicial system has adopted the “language of

38. See *Cipollone v. Liggett Grp., Inc.*, 505 U.S. 504, 516-18 (1992); *Maryland v. Louisiana*, 451 U.S. 725, 746 (1981); *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218 (1947) (for the jurisprudence of preemption).

39. See *United States v. Lopez*, 514 U.S. 549, 578 (1995) (Kennedy, J., concurring) (citations omitted) (stating that within the national review structure the Supreme Court maintains the “federal balance through judicial exposition of doctrines such as abstention, the rules for determining the primacy of state law, the doctrine of adequate and independent state grounds, the whole jurisprudence of preemption, and many of the rules governing our habeas jurisprudence” (internal citations omitted)); see also *Coleman v. Thompson*, 501 U.S. 722 (1991); *McCleskey v. Zant*, 499 U.S. 467 (1991) (for the rules governing habeas corpus).

40. David Gottlieb & Randall Coyne, *Habeas Corpus Practice in State and Federal Courts*, 31 N.M. L. REV. 201, 201 (2001) (noting that the writ of habeas corpus under 28 U.S.C. § 2254 has “retained a significant amount of vitality in death penalty cases”).

41. See generally Joseph Blocher, *The Death Penalty and the Fifth Amendment*, 111 Nw. U. L. REV. 275 (2016); Eric M. Freedman, *Giarratano Is a Scarecrow: The Right to Counsel in State Capital Postconviction Proceedings*, 91 CORNELL L. REV. 1079 (2006).

42. See, e.g., *Wiggins v. Smith*, 539 U.S. 510 (2003) (an example of the assessment of quality of counsel in state cases); Entzeroth, *supra* note 32.

43. For the assessment of the rate of the change of state legislation for the categorical exemption to the death penalty, see, for example, *Atkins v. Virginia*, 536 U.S. 304, 312-13 (2002). For the rate of change—in states adopting legislation to abolish the death penalty for people suffering from mental retardation—and Justice Steven’s observation on the passage of bills in selected states, see *id.* at 314-15. For the rate of change—in state law on juvenile capital offences—and Justice Kennedy’s observations on the changes, see *Roper v. Simmons*, 543 U.S. 551, 564 (2005). For a discussion on how the rate of change in state legislation can contribute to the national abolition of the death penalty see Brian Daniel Anderson, Comment, *Roper v. Simmons: How the Supreme Court of the United States Has Established the Framework for Judicial Abolition of the Death Penalty in the United States*, 37 OHIO N.U. L. REV. 221, 229-33 (2011).

experimentation”⁴⁴ and the courts have discerned the states as being “laboratories” to determine constitutional questions.⁴⁵ The usefulness of the analogy of the “laboratory” was identified by Justice Stevens in his memorandum respecting the denial of certiorari in *Lackey v. Texas*.⁴⁶ In considering the constitutionality of a prolonged stay on death row, which in 1995 was a “novel issue,” he held that new adjudicative circumstances will permit the states to “serve as laboratories in which the [length of stay on death row] receives further study before it is addressed by [the Supreme Court].”⁴⁷ Justice Thomas, however, argued that Justice Stevens’s invitation for the states to serve as “laboratories” was already completed.⁴⁸ Justice Breyer then rebutted this claim, stating that “although the experiment may have begun, it is hardly evident that we ‘should consider the experiment

44. Justice Kennedy stated in *United States v. Lopez*, “the theory and utility of our federalism are revealed, for the States may perform their role as laboratories for experimentation to devise various solutions when the best solution is far from clear.” 514 U.S. 549, 581 (1995) (Kennedy, J., concurring); *see also* JACK M. BALKIN, *LIVING ORIGINALISM* 170 (2011) (discussing experimentation in the federalism framework) (“We should take the language of experimentation seriously rather than as a rhetorical excuse for nonregulation or as a way to resist the application of federal constitutional rights. Experiments should be encouraged if they work to the benefit of the entire nation. But if these are genuine experiments, experiments generally end at some point and the results are tabulated; somebody has to decide whether the experiment is a success or a failure, and, if a success, adopt best practices nationwide.”); Harrison Blythe, Comment, “*Laboratories of Democracy*” or “*Machinery of Death*”? *The Story of Lethal Injection Secrecy and a Call to the Supreme Court for Intervention*, 65 CASE W. RES. L. REV. 1269 (2015); Abbe R. Gluck, *The States as Laboratories of Statutory Interpretation: Methodological Consensus and the New Modified Textualism*, 119 YALE L.J. 1750 (2010); Glen Staszewski, *The Dumbing Down of Statutory Interpretation*, 95 B.U. L. REV. 209 (2015).

45. *See Atkins*, 536 U.S. at 326 (Rehnquist, C.J., dissenting) (observing that the death penalty is primarily determined “through the workings of normal democratic processes in the laboratories of the States”).

46. 514 U.S. 1045 (1995).

47. *Id.* at 1047 (citing *McCray v. New York*, 461 U.S. 961, 963 (1983)). “Petitioner’s claim, with its legal complexity and its potential for far-reaching consequences, seems an ideal example of one which would benefit from such further study.” *Id.*

48. In *Knight v. Florida*, 120 S. Ct. 459, 461 (1999) (Thomas, J., concurring) (Justice Thomas argued that Justice Stevens’s invitation to state and lower courts to serve as “laboratories” in which the viability of this claim could receive further study has occurred, and to prove his argument, he cited a large corpus of cases: *White v. Johnson*, 79 F.3d 432 (5th Cir. 1996); *Stafford v. Ward*, 59 F.3d 1025 (10th Cir. 1995); *Ex parte Bush*, 695 So.2d 138 (Ala. 1997); *State v. Schackart*, 947 P.2d 315 (Ariz. 1997); *People v. Frye*, 959 P.2d 183 (Cal. 1998); *People v. Massie*, 967 P.2d 29 (Cal. 1998); *State v. Smith*, 931 P.2d 1272 (Mont. 1997); *Bell v. State*, 938 S.W.2d 35 (Tex. Crim. App. 1996)).

concluded.”⁴⁹ The disagreement on this aspect of the review of the death penalty means that the comity issues are ongoing.⁵⁰ Viewing this interaction between the Supreme Court Justices, the various aspects of the state experiment with the death penalty can be interpreted as being a soluble comity process of state policy and practice, state adjudication, and federal assessment of the outcome(s).

Comity interests advanced by the states include (a) the procedure of the capital judicial process to determine guilt or innocence, and if the defendant is found guilty, the appropriateness of the sentence; and then (b) the various components of the implementation of the punishment—from the physiological and psychological impact of incarceration on death row through to the preparations, adopted process, and method selected for an execution. On the procedural issues, the U.S. Constitution as interpreted by the Supreme Court focuses particularly on the Fifth Amendment, which provides for the possibility of the capital judicial process;⁵¹ the Sixth Amendment, which guarantees assistance of counsel in death penalty cases;⁵² the Eighth Amendment, which prohibits punishment that constitutes “cruel and unusual punishment;”⁵³ and the Fourteenth Amendment, which provides for “equal protection of the laws.”⁵⁴ However, the judicial assessment is not confined to the federal review of a state’s observance of these amendments, as the adjudication also encompasses state and federal consideration of international law.

The American federal architecture adopts mechanisms for discerning the extent to which the state provides to foreign nationals, who are brought within the capital judicial process, the right of access to their consular under

49. *Knight*, 120 S. Ct. at 465 (Breyer, J., dissenting) (citation omitted).

50. *See Valle v. Florida*, 564 U.S. 1067 (2011) (Breyer, J., dissenting).

51. U.S. CONST. amend. V (“No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of War or public danger . . .”).

52. U.S. CONST. amend. VI (“In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the Witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defence.”).

53. U.S. CONST. amend. VIII (“Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.”).

54. U.S. CONST. amend. XIV, § 1 (“[N]or shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.”).

Article 36 of the Vienna Convention on Consular Relations (hereinafter "VCCR").⁵⁵ Following the International Court of Justice's decision in *Avena and Other Mexican Nationals v. the United States*,⁵⁶ President George W. Bush withdrew the United States from the Optional Protocol of the VCCR.⁵⁷ This was an attempt to prevent international review of domestic cases involving foreign nationals. The action prima facie nullified the jurisdiction of the International Court of Justice to hear cases brought by the Member States of foreign nationals incarcerated on death row in the United States.⁵⁸ Consistent with this executive action, the Supreme Court

55. Section one of Article 36 reads:

1. With a view to facilitating the exercise of consular functions relating to nationals of the sending State:

(a) consular officers shall be free to communicate with nationals of the sending State and to have access to them. . . .;

(b) if he so requests, the competent authorities of the receiving State shall, without delay, inform the consular post of the sending State if, within its consular district, a national of that State is arrested or committed to prison or to custody pending trial or is detained in any other manner. Any communication addressed to the consular post by the person arrested, in prison, custody or detention shall also be forwarded by the said authorities without delay. The said authorities shall inform the person concerned without delay of his rights under this sub-paragraph;

(c) consular officers shall have the right to visit a national of the sending State who is in prison, custody or detention, to converse and correspond with him and to arrange for his legal representation. . . .

U.N. Conference on Consular Relations, *Vienna Convention on Consular Relations*, art. 36, § 1, 21 U.S.T. 77, 596 U.N.T.S. 261 (Apr. 24, 1963).

56. *Avena and Other Mexican Nationals (Mex. v. U.S.)*, 2004 I.C.J. 12 (Mar. 31).

57. See John Quigley, *The United States' Withdrawal from International Court of Justice Jurisdiction in Consular Cases: Reasons and Consequences*, 19 DUKE. J. COMP. & INT'L L. 263, 264-71 (2009).

58. Whilst in a normative application of the status of international conventions via Member State ratification, reservations, and revocation, it could be argued that the United States has severed the jurisdiction of the International Court of Justice. However, under the Charter of the United Nations, it appears that the U.S. is still bound to adhere to the judgments of the I.C.J. as Article 94 states:

1. Each Member of the United Nations undertakes to comply with the decision of the International Court of Justice in any case to which it is a party.

2. If any party to a case fails to perform the obligations incumbent upon it under a judgment rendered by the Court, the other party may have recourse to the Security Council, which may, if it deems necessary, make recommendations or decide upon measures to be taken to give effect to the judgment.

has denied it possesses jurisdictional competence to affirm the application of the VCCR as an expression of federal law across the Union.⁵⁹ Even so, some state courts have assessed the justifiable reach of Article 36. For example, in *Torres v. Oklahoma*,⁶⁰ the Oklahoma Court of Criminal Appeals held that it was appropriate to allow for an evidentiary hearing to consider whether the petitioner's VCCR rights applied to the capital judicial process in the state.⁶¹ In *Gutierrez v. Nevada*, the Nevada Supreme Court held that Article 36 applied to provide an adequate interpreter during court proceedings.⁶² As such, the states adhere to Congress' treaty signing powers (and thus, authority) under Article II, Section 2 of the Constitution,⁶³ but in an application of state comity, there are examples that the states themselves will consider the standards of international law.

Having reviewed selected wider factors of jurisdictional competence, this focus on the comity investigation now presents the narrowed considerations of state capital adjudicative processes and the use of punishment technologies. The Supreme Court held that the death penalty is to be reserved for the "worst of the worst"⁶⁴ criminal and that capital defendants and death row inmates need to be clearly classified via the Court's "narrowing jurisprudence, which seeks to ensure that only the most

See also Michael J. Glennon & Robert D. Sloane, *The Sad, Quiet Death of Missouri v. Holland: How Bond Hobbled the Treaty Power*, 41 YALE J. INT'L L. 51, 98 (2016) (discussing this application of international law).

59. See *Medellin v. Texas*, 554 U.S. 759, 759-60 (2008); *Sanchez-Llamas v. Oregon*, 548 U.S. 331 (2006); *Medellin v. Dretke*, 544 U.S. 660 (2005); *Breard v. Greene*, 523 U.S. 371 (1998).

60. *Torres v. State*, No. PCD-04-442, 2004 WL 3711623, at 1 (Okla. Crim. App. May 13, 2004) (order granting stay of execution and remanding case for evidentiary hearing).

61. See generally Heather L. Finstuen, Note, *From the World Court to Oklahoma Court: The Significance of Torres v. State for International Court of Justice Authority, Individual Rights, and the Availability of Remedy in Vienna Convention Disputes*, 58 OKLA. L. REV. 255 (2005).

62. *Gutierrez v. State*, No. 53506, 2012 WL 4355518 (Nev. Sept. 19, 2012); see also Sandra Babcock, *The Limits of International Law: Efforts to Enforce Rulings of the International Court of Justice in U.S. Death Penalty Cases*, 62 SYRACUSE L. REV. 183 (2012) (discussing the VCCR Article 36 case law).

63. U.S. CONST. art. II, § 2, cl. 2 ("[The President] shall have Power, by and with the Advice and Consent of the Senate, to make Treaties . . .").

64. *Kansas v. Marsh*, 548 U.S. 163, 206 (2006) (Souter, J., dissenting) ("[T]here is the point to which the particulars of crime and criminal are relevant: within the category of capital crimes, the death penalty must be reserved for 'the worst of the worst.'").

deserving of execution are put to death”⁶⁵ Once this narrow class of the worst criminal is identified, adjudicative assessment of the two main principles of punishment utilized by the state to legitimize the death penalty are initiated. Since the reintroduction of the death penalty in *Gregg v. Georgia*⁶⁶ in 1976, the penological interests for justifying the death penalty are most commonly found within the theories of retribution⁶⁷ and deterrence.⁶⁸ In the propositions for proportional retribution (which is classically formulated from the *lex talionis*⁶⁹ “eye-for-an-eye”⁷⁰ principle), it is claimed by retentionists that there exists a legitimate punishment interest to put to death the “worst of the worst” class of persons who commit homicide.⁷¹ In the application of deterrence, it is argued that there

65. See *Atkins*, 536 U.S. at 319; see also Chelsea C. Sharon, *The “Most Deserving” of Death: The Narrowing Requirement and the Proliferation of Aggravating Factors in Capital Sentencing Statutes*, 46 HARV. C.R.-C.L. L. REV. 223 (2011).

66. *Gregg v. Georgia*, 428 U.S. 153, 169 (1976).

67. See Andrew Oldenquist, *Retribution and the Death Penalty*, 29 U. DAYTON L. REV. 335 (2004). But see LLOYD STEFFEN, *EXECUTING JUSTICE: THE MORAL MEANING OF THE DEATH PENALTY* (1998) (rebutting the retribution argument for the application of the death penalty).

68. See Michael L. Radelet & Ronald L. Akers, *Deterrence and the Death Penalty: The Views of the Experts*, 87 J. CRIM. L. & CRIMINOLOGY 1 (1996); Carol S. Steiker, *No, Capital Punishment Is Not Morally Required: Deterrence, Deontology, and the Death Penalty*, 58 STAN. L. REV. 751 (2005).

69. Immanuel Kant famously declared in his formulation of talionic justice, “[I]f he has committed murder, he must die. In this case, no possible substitute can satisfy justice. . . . This equality of punishments is therefore possible only if the judge passes the death sentence in accordance with the strict law of retribution.” Immanuel Kant, *The Metaphysics of Morals*, in KANT: POLITICAL WRITINGS 131, 156 (Hans Reiss ed., H. B. Nisbet trans., 2d ed. 1991).

70. See WILLIAM A. SCHABAS, *THE ABOLITION OF THE DEATH PENALTY IN INTERNATIONAL LAW* 3 (3d ed. 2002); Erwin J. Urch, *The Law Code of Hammurabi*, 15 A.B.A. J. 437, 438 (1929).

71. It is highly debatable whether the capital judicial process can consistently and fairly identify the “worst of the worst” criminal. The Supreme Court decision in *Kansas v. Marsh*, 548 U.S. 163 (2006), considered the practical vicissitudes in the Kansas jury being presented with aggravating and mitigating circumstances which were evenly balanced. *Id.* at 165-66. The criminal could not be classified as the worst of the worst, but the court was allowed to impose a death sentence. *Id.* at 181. See generally Benjamin Barron, *Equipoise, Collective Rights and the Future of the Death Penalty: Kansas v. Marsh*, 126 S. Ct. 2516 (2006), 30 HARV. J.L. & POL’Y 439 (2006) (reviewing *Kansas v. Marsh*); Elizabeth Brandenburg, Note, *Kansas v. Marsh: A Thumb on the Scale of Death?*, 58 MERCER L. REV. 1447 (2007) (same). Due to the inherent persistence of arbitrary sentencing there is a practical impossibility of the capital judicial system maintaining a fair and consistent assessment of the “worst of the worst,” and this fanciful idea has been rejected by various sociologists, criminologists and

is a preventative phenomenon within the capital sanction and it can be proven to contribute to the reduction of serious crime.⁷² Retentionist states argue that if these two interests are reflected within the full comity review, the capital sanction through to an execution is a legitimate punishment.

The comity interests promoted by the defendants and post-conviction prisoners include ensuring an adequate process for the choice of whether to allow the execution through the prisoner's autonomous and informed decision renouncing all future appeals (known as "volunteering for execution"⁷³), or for the prisoner to pursue any direct review, collateral attack or further habeas corpus appeals available to him or her. Most people sentenced to death are interested in using the appeals process to ensure that life remains. The right to continue life claims will include, *inter alia*, that the sentence was wrong as petitioner maintains his or her innocence,⁷⁴ that the narrowing jurisprudence of the "worst of the worst" was misapplied,⁷⁵ that petitioner has mental health issues which should have reduced the moral culpability for the crime,⁷⁶ and that the quality of the defense team was below the standard of effective representation.⁷⁷ It is here that the comity principle to adequately review such claims has a direct relationship with protecting the right to life of the petitioner, as mechanisms are utilized to maintain life in the presence of an impending execution. However, even

human rights lawyers. For example, Jonathan Simon and Christina Spaulding have argued that the extent to which defendants are identified as "death eligible" from pre- to post-Furman, is almost indistinguishable. Jonathan Simon & Christina Spaulding, *Tokens of Our Esteem: Aggravating Factors in the Era of Deregulated Death Penalties*, in *THE KILLING STATE: CAPITAL PUNISHMENT IN LAW, POLITICS, AND CULTURE*, 86, 87 (Austin Sarat ed., 1999).

72. See *Gregg*, 428 U.S. at 183.

73. See John H. Blume, *Killing the Willing: "Volunteers," Suicide and Competency*, 103 MICH. L. REV. 939 (2005); Anthony J. Casey, *Maintaining the Integrity of Death: An Argument for Restricting a Defendant's Right to Volunteer for Execution at Certain Stages in Capital Proceedings*, 30 AM. J. CRIM. L. 75 (2002); Meredith M. Rountree, *Volunteers for Execution: Directions for Further Research into Grief, Culpability and Legal Structures*, 82 UMKC L. REV. 295 (2014).

74. See Lawrence C. Marshall, *The Innocence Revolution and the Death Penalty*, 1 OHIO ST. J. CRIM. L. 573 (2004); Michael L. Radelet, *The Role of the Innocence Argument in Contemporary Death Penalty Debates*, 41 TEX. TECH. L. REV. 199 (2008).

75. See *supra* note 71.

76. See *Hall v. Florida*, 134 S. Ct. 1986, 1991-92 (2014); *Atkins v. Virginia*, 536 U.S. 304, 320-21 (2002); Ashley Sachiko Wong, Note, *Aligning the Criminal Justice System with the Mental Health Profession in Response to Hall v. Florida*, 94 OR. L. REV. 425 (2016).

77. See *Wiggins v. Smith*, 539 U.S. 510, 534 (2003); *Strickland v. Washington*, 466 U.S. 668, 678 (1984).

if the prisoner wants to stay alive, but it is deemed that there is now approaching a moment of closure in the litigation and the execution can proceed, both the state and the prisoner still have comity interests in ensuring that the punishment method meets constitutional standards and does not impose “needless suffering.”⁷⁸ Indeed, this is the central focus of Parts III-VII below.

It is evident by this short review that comity in the death penalty is a complex principle within the federal architecture. In reaction to the bombing of the Alfred P. Murrah Building in Oklahoma City on April 19, 1995, there was great political pressure on President Bill Clinton for these complex issues to be processed in an expedient manner and thus the greasing of the death penalty wheels was created through the adoption of the Anti-Terrorism and Effective Death Penalty Act (“AEDPA”) in 1998.⁷⁹ The AEDPA limits both the procedural issues (for example, preventing successive petitions⁸⁰) and substantive issues (for example, the assessment of the performance of counsel⁸¹ or the diagnosis of the mental health of the petitioner⁸²), and so the legislation is designed to reduce the scope of the writ of habeas corpus. Consequently, this legislative provision is intended to streamline the review; however, a potential arises for the interests of comity to come into conflict with the doctrine of finality.

B. Finality

The AEDPA was designed to ensure that once comity is observed and completed by the state and federal courts, a different feature of the capital judicial process is then initiated—that of finality. In 1963, Paul Bator articulated a landmark taxonomy on the doctrine of finality,⁸³ and his work now finds a privileged status within “legal process theory” scholarship.⁸⁴

78. The prohibition of punishment which is “‘sure or very likely to cause serious illness or needless suffering,’ and give rise to ‘sufficiently imminent dangers,’” was affirmed in *Baze v. Rees*, 553 U.S. 35, 50 (2008) (quoting *Helling v. McKinney*, 509 U.S. 25, 33, 34-35 (1993)).

79. See Kovarsky, *supra* note 18 (critiquing the AEDPA); Lee, *supra* note 18 (same).

80. See Deborah L. Stahlkopf, *A Dark Day for Habeas Corpus: Successive Petitions Under the Anti-Terrorism and Effective Death Penalty Act of 1996*, 40 ARIZ. L. REV. 1115 (1998).

81. *Strickland v. Washington*, 466 U.S. 668 (1983); *Wiggins*, 539 U.S. at 534.

82. See *Hall*, 134 S. Ct. at 1986; *Atkins*, 536 U.S. at 304.

83. Bator, *supra* note 17, at 452-53. See generally Kim, *supra* note 18 (cogently critiquing the doctrine of finality).

84. William Eskridge explains that legal process theory is “set forth in a purpose-based version of legal positivism.” William N. Eskridge, Jr., *Nino’s Nightmare: Legal Process*

Bator's theory is based on the notion that the principle of comity cannot allow criminal proceedings to be unending as "[t]here comes a point where a procedural system which leaves matters perpetually open no longer reflects humane concern but merely anxiety and a desire for immobility."⁸⁵ The creation of a legitimate criminal (and thus, capital) justice process is thus contingent upon a moment in time at which the state can say—the case is now closed. It is final in an expression of procedural termination.⁸⁶ This is primarily an application of case management over the protection of constitutional rights because it is proposed that "[f]ew things have so plagued the administration of criminal justice, or contributed more to lower public confidence in the courts, than the interminable appeals, the retrials, and the lack of finality."⁸⁷ Even so, Bator still informed us that there is a "problem of finality" that needs to be resolved, "as it bears on the great task of creating rational institutional schemes for the administration of the criminal law."⁸⁸ Such rationality should also apply to the capital judicial system.

Theory as a Jurisprudence of Toggling Between Facts and Norms, 57 ST. LOUIS U. L.J. 865, 865 (2013). Brad Snyder identifies that the components of legal process theory involve "'reasoned elaboration' from judges, 'neutral principles' from judicial decisions, use of 'passive virtues' by the Supreme Court, and the understanding of institutional interrelationships among courts, legislatures, and administrative agencies." Brad Snyder, *Rejecting the Legal Process Theory Joker: Bill Nelson's Scholarship on Judge Edward Weinfeld and Justice Byron White*, 89 CHI-KENT. L. REV. 1065, 1066 (2014) (footnotes omitted); see also Steven Graines & Justin Wyatt, *The Rehnquist Court, Legal Process Theory, and McClesky v. Kemp*, 28 AM. J. CRIM. L. 1 (2000); Theodore W. Jones, *Textualism and Legal Process Theory: Alternative Approaches to Statutory Interpretation*, 26 J. LEGIS. 45 (2000).

85. Bator, *supra* note 17, at 452-53.

86. The Supreme Court has noted, "While we have long recognized that States have an interest in securing the finality of their judgments, finality is not a stand-alone value that trumps a State's overriding interest in ensuring that justice is done in its courts and secured to its citizens." *Dist. Attorney's Office for Third Judicial Dist. v. Osborne*, 557 U.S. 52, 98 (2009) (internal citations omitted).

87. *Evitts v. Lucey*, 469 U.S. 387, 405-06 (1985) (Burger, C.J., dissenting).

88. Bator, *supra* note 17, at 446. As detailed below in this article, there are many examples within the capital judicial system to challenge Bator's assumptions on the effectiveness and utility of finality. In the remarks given at the memorial service for Paul Bator at the University of Chicago Law School on March 4, 1989, Charles Fried commented on Bator's *Harvard Law Review* article of 1963, stating:

We can almost feel Paul working to tie some very technical and intricate matter to the most basic stuff of our institutions as thoughtful, decent citizens. And there is the underlying faith that there are thoughtful, decent persons—judges, students, lawyers—that they can understand and will respond.

The Supreme Court in *Herrera v. Collins* identified the “need for finality in capital cases,”⁸⁹ and it is most clearly expressed through the execution of the inmate. However, “finality” in the death penalty is a difficult phenomenon to legitimately achieve. There is a *beginning* of finality, which occurs at the pronouncement of the death sentence when the trial judge sets the original date for the execution.⁹⁰ The *end* of finality only occurs following an execution, or in the decision for a granting of a stay, or the finding of an exonerating circumstance and a parole board or governor granting clemency.⁹¹ What occurs in between the *beginning* and the *end* is the engagement, and potential friction or agonism, with comity interests. An interaction between comity and finality occurs, which can ferment the pressure of the need for the beginning to *become* the end.⁹² State interests in finality solidify when the appeals have been exhausted and the constitutionality of the method of the execution has been affirmed. After which, legitimate finality can be fulfilled in an execution. On the other hand, whilst an execution is a state finality-outcome interest, if the inmate files appeals, then he or she strives for an opposite finality-outcome in a decision that allows his or her life to continue. Therefore, the case becomes closed by the revocation of the death sentence, not its implementation. A finality outcome can thus be expressed in different ways by the different parties.⁹³

It may be because for a while that faith was shaken that he fell relatively silent.

Charles Fried, *Paul Bator*, 56 U. CHI. L. REV. 419, 420 (1989).

89. 506 U.S. 390, 418 (1993).

90. Or perhaps in some accused minds it occurs at the capital charge, as the realization of the possibility of being brought within the capital judicial system can initiate the adverse psychological effects of the death row phenomenon. See Jon Yorke, *Inhuman Punishment and the Abolition of the Death Penalty in the Council of Europe*, 16 EUR. PUB. L. 77 (2010).

91. Examples of the work of those exonerated fighting the death penalty can be found online at Witness to Innocence, the Equal Justice Initiative, and within the data on innocence collected by the Death Penalty Information Center. See WITNESS TO INNOCENCE, <http://www.witnesstoinnocence.org/> (last visited May 12, 2017); THE EQUAL JUSTICE INITIATIVE, <http://eji.org/death-penalty/innocence> (last visited May 12, 2017); DEATH PENALTY INFORMATION CENTER, <http://www.deathpenaltyinfo.org/innocence-and-death-penalty> (last visited May 12, 2017).

92. Lee Kovarsky has noted this tension as comity and finality are not necessarily “mutually reinforcing interests,” and in the “relationship between AEDPA’s exhaustion provision and its statute of limitations,” the friction is apparent. Kovarsky, *supra* note 18, at 457.

93. See generally AUSTIN SARAT, *MERCY ON TRIAL: WHAT IT MEANS TO STOP AN EXECUTION* (2007).

Generally, finality interests in death penalty cases are *prima facie* more difficult to achieve than in non-capital criminal proceedings. A key finality interest in non-capital criminal proceedings is that it preserves the resources of the criminal justice system to enable it to effectively determine future cases. They are not confined to fiscal calculations but extend to the “intellectual, moral and political resources involved in the legal system.”⁹⁴ It is further claimed that the closure of the proceedings incentivizes defense counsel to provide effective assistance for the defendant(s) as preserved within the Sixth Amendment’s “assistance of counsel” clause.⁹⁵ Also, it is maintained that the absoluteness of a decision contributes to the general and specific deterrent effect as a principle of penology—for example, found in the slogan, “life should mean life.”⁹⁶ Otherwise, society will question and potentially lose confidence in the effectiveness of the sentencing system.⁹⁷

These normative interests in finality, however, are not systematically reflected in the death penalty. In fact, the capital judicial process struggles to implement these interests, and in many instances, it blatantly fails. This is because of the significant expense in funding the resources for sufficient defense teams for both the guilt/innocence phase and the mitigation phase of the trial, and then the proceeding post-conviction appeals through to clemency hearings.⁹⁸ The American Bar Association’s *Guidelines for the Appointment and Performance of Defense Counsel in Death Penalty Cases*⁹⁹ provides a detailed framework for establishing capital representation from a multi-generational analysis of the client’s life history, through to effective trial (and appeals) representation, and the composition

94. Bator, *supra* note 17, at 451.

95. U.S. CONST. amend. VI; *Strickland*, 466 U.S. at 690, (holding that ineffective assistance of counsel claims had to show two elements: (i) the counsel’s representation fell below an objective standard of reasonableness; and, (ii) counsel’s performance prejudiced the defense so as to deny a fair trial).

96. See Jonathan Simon, *How Should We Punish Murder?*, 94 MARQ. L. REV. 1241 (2011) (discussing the appropriate punishment for murder).

97. See Sarah L. Cooper, *Judicial Responses to Challenges to Firearms-Identification Evidence: A Need for New Judicial Perspectives on Finality*, 31 T.M. COOLEY L. REV. 457 (2014) (critiquing finality interests); Kim, *supra* note 18 (same).

98. See *Costs of the Death Penalty*, DEATH PENALTY INFO. CTR., <http://www.deathpenaltyinfo.org/costs-death-penalty> (last visited May 12, 2017) (assessing the growing costs of the death penalty within individual states).

99. Am. Bar Ass’n, *Guidelines for the Appointment and Performance of Defense Counsel in Death Penalty Cases*, 31 HOFSTRA L. REV. 913 (2003); see also Am. Bar Ass’n, *Supplementary Guidelines for the Mitigation Function of Defense Teams in Death Penalty Cases*, 36 HOFSTRA L. REV. 677 (2008).

and role of the mitigation team.¹⁰⁰ When considering the interests of finality, it is clear that the death penalty consistently fails to meet these performance thresholds, as the capricious body of cases detailing substandard legal representation demonstrates that ineffective assistance of counsel is commonplace.¹⁰¹ There is no reliable evidence that the capital sanction and executions provide a general (or specific) deterrent effect,¹⁰² and executions are commonly botched, which violates the principle that finality in punishment must reflect only constitutional standards.¹⁰³ The result is that the capital judicial process poses the greatest opportunity for finality to compromise justice and confidence in a procedurally fair outcome.¹⁰⁴

Finality interests are further complicated by the wider consultation on the death penalty. The abolitionist community has lobbied politicians, initiated litigation, and sought to ensure that the commercial world is reflective of constitutional standards and human rights values. A very successful campaign resulted in international focus on pharmaceutical companies' contracts to manufacture and distribute substances for state prisons to use in executions.¹⁰⁵ For a combination of reasons, including human rights arguments,¹⁰⁶ the medical ethics of *primum non nocere* (Latin for, "first do

100. For further details on the standards of representation see the American Bar Association's Death Penalty Representation Project, which provides capital representation resources from both the federal and state jurisdictions. See *Death Penalty Representation Project*, AM. B. ASS'N, http://www.americanbar.org/groups/committees/death_penalty_representation.html (last visited May 12, 2017).

101. See, e.g., *Wiggins*, 539 U.S. at 510; *Strickland*, 466 U.S. at 668.

102. ROGER HOOD & CAROLYN HOYLE, *THE DEATH PENALTY: A WORLDWIDE PERSPECTIVE* 389-423 (5th ed. 2015).

103. See *infra* Part VII.

104. See Kovarsky, *supra* note 18, at 454.

105. The European Union was the first political region to adopt legislation banning the production and trade in execution technologies beginning in 2005 and it was strengthened in 2010. See European Parliament Resolution on Implementation of Council Regulation, Concerning Trade in Certain Goods Which Could be Used for Capital Punishment, Torture or Other Cruel, Inhuman or Degrading Treatment or Punishment, (EC) No. 1236/2005 of 17 June 2010, 2010 O.J. (C 236); see AMNESTY INT'L, FROM WORDS TO DEEDS: MAKING THE EU BAN ON THE TRADE IN 'TOOLS OF TORTURE' A REALITY (2010), <https://www.amnesty.org/en/documents/eur01/004/2010/en/> (examining the human rights arguments on the violations occurring from trade in execution technologies); Christian Behrmann & Jon Yorke, *The European Union and Abolition of the Death Penalty*, 4 PACE INT'L L. REV. ONLINE COMPANION 1 (2013), <http://digitalcommons.pace.edu/pilronline/39/> (reviewing the European Union's policies on the abolition of the death penalty).

106. See generally SANGMIN BAE, WHEN THE STATE NO LONGER KILLS: INTERNATIONAL HUMAN RIGHTS NORMS AND ABOLITION OF CAPITAL PUNISHMENT (2007); HOOD & HOYLE,

no harm”¹⁰⁷), and the growing sense of “corporate social responsibility,”¹⁰⁸ American pharmaceutical companies have revoked their licenses with the Food and Drug Administration (hereinafter “FDA”) to manufacture sodium thiopental for end-use as an anesthetic in the execution protocol. Consequently, retentionist states’ stocks of anesthetics for executions began to deplete, and run out,¹⁰⁹ and so to continue to administer the death penalty they have selected other drugs, such as pentobarbital¹¹⁰ and midazolam.¹¹¹ This has become necessary because of the Supreme Court’s awkward reasoning in *Baze v. Rees* that as the death penalty is constitutional “there must be a constitutional means to administer it.”¹¹² So the states now look to pharmacological science to *give life* to the capital judicial system. Oklahoma positions itself at the forefront of this incongruous endeavor.

supra note 102; SCHABAS, *supra* note 70; AGAINST THE DEATH PENALTY: INTERNATIONAL INITIATIVES AND IMPLICATIONS (Jon Yorke ed., 2008) [hereinafter AGAINST THE DEATH PENALTY].

107. See generally HUMAN RIGHTS WATCH, BREACH OF TRUST: PHYSICIAN PARTICIPATION IN EXECUTIONS IN THE U.S. (1994); William J. Curran & Ward Casscells, *The Ethics of Medical Participation in Capital Punishment by Intravenous Drug Injection*, 302 NEW ENG. J. MED. 226 (1980); Neil Farber et al., *Physicians’ Attitudes About Involvement in Lethal Injection for Capital Punishment*, 160 ARCHIVES INTERNAL MED. 2912 (2000); Lisa R. Hasday, *The Hippocratic Oath as Literary Text: A Dialogue between Law and Medicine*, 2 YALE J. HEALTH POL’Y, L. & ETHICS 299 (2002) (reviewing the legal implications of the Hippocratic Oath); Paul Litton, *Physician Participation in Executions, the Morality of Capital Punishment, and the Practical Implications of Their Relationship*, 41 J.L. MED. ETHICS 333 (2013).

108. See Evi Girling, *Looking Death in the Face: The Benetton Death Penalty Campaign*, 6 PUNISHMENT & SOC’Y 271 (2004); Clare Algar, *Big Pharma May Help End the Death Penalty*, NEW REPUBLIC (Oct. 22, 2013), <https://newrepublic.com/article/115284/big-pharma-may-end-death-penalty>; *Business and Human Rights*, AMNESTY INT’L, <http://www.amnestyusa.org/our-work/issues/business-and-human-rights> (last visited May 12, 2017) (generally outlining the commercial sector and human rights).

109. By 2009, state prisons had run out of sodium thiopental for use as an anesthetic in executions. See Brief for the Louis Stein Center for Law and Ethics at Fordham University School of Law as *Amicus Curiae* in Support of Petitioners at 22, *Glossip v. Gross* 135 S. Ct. 2726 (2015) (No. 14-7955), 2015 WL 1247189.

110. The pharmacological substance pentobarbital and its use in Kentucky’s execution protocol was considered in the litigation in *Baze*, 553 U.S. at 56-57.

111. See Brief of Sixteen Professors of Pharmacology as *Amici Curiae* in Support of Neither Party at 9, *Glossip v. Gross*, 135 S. Ct. 2726 (2015) (No. 14-7955), 2015 WL 1247193.

112. *Baze*, 553 U.S. at 47.

III. Determining Scientific Evidence in the Courtroom

The adjudication on the science for executions has become a key issue for balancing comity and finality interests. A central issue for determination is the management of pain in punishment under the Eighth Amendment,¹¹³ and it is of crucial importance that a transparent assessment of the pharmacology used in executions is available to discern the highest “epistemological quality of scientific research results.”¹¹⁴ In 1977, Oklahoma began its experiment with lethal injection as a method of execution and it adopted policies to attempt to ensure that appropriate drugs were used in executions.¹¹⁵ The inventor of lethal injection, Dr. Jay Chapman, cautiously advised members of Oklahoma’s legislature that he was “an expert in dead bodies but not an expert in getting them that way.”¹¹⁶ At the dawn of the state’s use of lethal injection, the journalist, Jim Killackey, noted the early observations on the need to constantly assess the pharmacology, as “[o]fficials feel that if and when they have to use the injection law, new and better ways may be available.”¹¹⁷

113. U.S. CONST. amend. VI.

114. Hussey Freeland, *supra* note 8. Carl Wenning stated that epistemology is the philosophical enquiry into “ways of knowing and how we know,” and “[s]cience is a way of knowing that requires a strong philosophical underpinning.” See Carl J. Wenning, *Scientific Epistemology: How Scientists Know What They Know*, ILL. STATE UNIV. J. OF PHYSICS TEACHER EDUC. ONLINE, Autumn 2009, at 3.

115. The possibility of lethal injection as a means of execution was considered by the Royal Commission on Capital Punishment in 1949-53. ROYAL COMM. ON CAPITAL PUNISHMENT, 1949-1953 REPORT, 1953, Cmd. 8932, at 257-61 (UK). In 1977, Dr. Jay Chapman identified what he thought were appropriate pharmacological substances for use in lethal injection as a new method of judicial execution in Oklahoma. See Denno, *supra* note 7, at 1340. Dr. Chapman has now recognized the problems inherent within the U.S. capital judicial system, and in an interview, he claimed, “I had no idea, I was so naïve” about the (in)effectiveness of the use of pharmacology in executions. Ed Pilkington, *It’s Problematic: Inventor of US Lethal Injection Reveals Death Penalty Doubts*, GUARDIAN (Apr. 29, 2015), <http://www.theguardian.com/world/2015/apr/29/supreme-court-lethal-injection-inventor-death-penalty-doubts>. In 1982, Texas was the first state to conduct a lethal injection and the prisoner executed was Charles Brooks. This marked the beginning of the implementation of this pharmacological process in the U.S. capital judicial system. Steve Carrell, *Execution Controversy Faces Physician*, AM. MED. NEWS, Jan. 21, 1983, at 37, cited in Deborah W. Denno, *The Lethal Injection Quandary: How Medicine Has Dismantled the Death Penalty*, 76 FORDHAM L. REV. 49, 79 (2007). For an excellent history of lethal injection, see generally Denno, *supra* note 9.

116. Email from A. Jay Chapman, Forensic Pathologist, Santa Rosa, Cal., to Professor Deborah Denno (Jan. 18, 2006) (on file with Denno), cited in Denno, *supra* note 7, at 1340.

117. Jim Killackey, *Officials Draw a Grim Execution Scene*, DAILY OKLAHOMAN, Nov. 12, 1979, at 1, cited in Denno, *supra* note 7, at 1340; see Brief for The Louis Stein Center

The original three drugs used in Oklahoma's lethal injection executions were sodium thiopental, pancuronium bromide, and potassium chloride.¹¹⁸ Over the past forty years there have been significant advances in pharmacological science and it is necessary that any change in the pharmacology should be adequately analyzed and tested to ensure that constitutional executions are maintained. A review is required of the established scientific methodologies and data results for determining the reliability of the State's propositions, and to highlight any findings concerning new drug limitations. As we will see, the scrutiny of the new pharmacology reached the state and federal courts, but the extent to which a transparent evaluation is achieved will depend upon the judiciary adopting sound investigative methodologies.

Before we engage with Oklahoma's assessment of the new pharmacology in the incorporation of midazolam to replace sodium thiopental in the protocol, it is useful to consider the utility of the scientific methodologies of atomism and holism, and the adjudicative guidelines for the courts via the Federal Rules of Evidence (hereinafter "FRE"). The judge's understanding of both scientific methodology and the legislative directions is fundamentally important for uncovering sound pharmacology and, in this instance, whether midazolam is an appropriate drug for lethal injection.

A. The Atomistic and Holistic Review of Scientific Evidence

When considering scientific evidence, the judge (as legal fact finder) is confronted with the need to understand the variables in the scientific methodology and data. Jennifer Mnookin reasons that the process becomes "one of interpretive convention, intuition and common sense," which is left fundamentally to the court's discretion, "framed primarily by the judges' inchoate and instinctive sense of how best to proceed."¹¹⁹ The judge

for Law and Ethics, *supra* note 109, at 12-18 (reviewing the early history of lethal injection in Oklahoma).

118. *See id.*

119. Mnookin, *supra* note 20, at 1528. In 2009, the National Research Council of the National Academies stated,

Scientists continually observe, test, and modify the body of knowledge. Rather than claiming absolute truth, science approaches truth either through breakthrough discoveries or incrementally, by testing theories repeatedly. . . . Typically, experiments or observations must be conducted over a broad range of conditions before the roles of specific factors, patterns, or variables can be understood.

initiates two important interpretive approaches in reviewing the science: these are classified through atomistic or holistic methodologies. An atomistic framing of the scientific testimony occurs when judges consider the “prejudice and probative value of [the evidence] taken by itself,” and a holistic weighing occurs when judges “evaluate both prejudice and probative value within a broader context . . . taking into consideration the other evidence adduced in the case.”¹²⁰

To approach the “truth” of a scientific claim there is often an interpretive frisson¹²¹ between the atomistic and holistic approaches. In an example of atomism, when the State applies a scientific perspective, it may only represent *doing science* in a confined box. The petitioner, however, may then present an alternative viewpoint, but again it may only represent science in a certain context. Hence, both the State and the petitioner have provided confined viewpoints, which in many ways may appear opposed to one another. An atomistic interpretation occurs when a singular perspective of the science is privileged, relied upon, and then used to inform a legal judgment. It is viewed in isolation and the alternative perspective on the science is rejected without any clear methodology and extraction of data interpretation explaining why. If the methodology and data variables are reviewed together, the adjudicative assessment may provide a holistic perspective placing the various scientific opinions on a wider interpretive horizon. The scientific nuances can produce more than two viewpoints and can reveal a need for a sensitive balancing of issues using all reasonably applicable methodology and data variables. It may be revealed in the litigation that one perspective is more accurate than another or that there is a resultant methodological flaw or data lacuna, which demonstrates that further testing is required.

NAT'L RESEARCH COUNCIL OF THE NAT'L ACAD., STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 112 (2009).

120. Mnookin, *supra* 20, at 1526. (Jennifer Mnookin identified that when a judge weighs the probative value of expert submissions, she can view each proposition in isolation in an “atomistic” investigation, but there is a danger that such an approach can be overly subjective, and have an appearance of bias to the detriment of heterogeneous outcomes. *Id.* at 1563-64. In utilizing this approach, there is an enhanced opportunity for the privileging of one scientific methodology and/or data over another. Alternatively, each aspect of scientific methodology and data can be placed within a “holistic” review, in a value-neutral analysis, and then all evidence can be viewed through the solidity of an encompassing consideration. In a holistic approach to science there is a greater opportunity for identifying the necessity for further testing to understand data variables. *See id.*)

121. *See* Sarah L. Cooper, *The Collision of Law and Science: American Court Responses to Developments in Forensic Science*, 33 PACE L. REV. 234, 238-39, 301 (2013).

As the judge may select the methodology which he or she deems appropriate, a potential arises for the adjudicative process to lead to what Deborah Hussey Freeland identifies as scientific “over-claiming.”¹²² The danger is that there can be an adjudicative misrepresentation of scientific principles by the judge failing to apply the nuances of reasoning and error rates within methodologies and data findings. The law can achieve this by framing the science within seemingly compact homogenous (legal) *proof-of-concept*. For example, if the capital judicial system seeks to promote the *Herrera v. Collins* standard of the “need for finality in capital cases,”¹²³ there is a danger that the rendering of an execution in service to the interests of finality can be facilitated through an adoption of atomism, over holism, in science. An atomistic approach can more readily facilitate finality, as science can be (incorrectly) perceived to provide mechanisms for expediency in sentencing. The danger is that a judicial *reductio ad absurdum* of science will place a veneer of legitimacy over prima facie, irredeemable, barbaric consequences within executions. It is here that the role of the judge as “scientific gatekeeper” becomes fundamentally important for the realization of accurate science in maintaining constitutionally permissible punishment.

B. The Role of the Judge as Scientific “Gatekeeper”

To help manage the parameters of judicial discretion in the review of science in the courtroom, guidelines have been created which are to be applied to the presented assessment methodology and data findings. The primary legislative provision is Rule 702 of the FRE, as amended in 2000, which establishes that a witness who is qualified as an expert by knowledge, skill, experience, training, or education may supply expert analysis in the form of a written submission and/or oral testimony, if (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.¹²⁴

In *Daubert v. Merrell Dow Pharmaceutical, Inc.*,¹²⁵ the Supreme Court held that under the FRE, the trial judge “must ensure that any and all

122. Hussey Freeland, *supra* note 8, at 538.

123. *Herrera v. Collins*, 506 U.S. 390, 417 (1993).

124. FED. R. OF EVID. 702.

125. 509 U.S. 579, 597 (1993).

scientific testimony or evidence is not only relevant, but reliable,”¹²⁶ and the “adjective ‘scientific’ implies a grounding in the methods and procedures of science.”¹²⁷ The Court explained that “scientific knowledge” means more than “subjective belief or unsupported speculation,”¹²⁸ and so it is expected that supportable scientific methodology and data is to be identified as probative. The Supreme Court subsequently solidified this adjudicative function by providing procedural protection for the judge’s decisions. For example, in *General Electrical Co. v. Joiner* it was held that the “judge’s determinations regarding the admissibility of expert testimony were to be reviewed only for abuse of discretion.”¹²⁹ This review standard for the “scientific expert” was then extended to all experts in *Khumo Tire Co. v. Carmichael*.¹³⁰ Cassandra Welch argues that the general application of the *Daubert* trilogy (*Daubert*, *Joiner*, and *Khumo*) will be an exercise of “deferential review” in which the legal fact finder will be provided extensive latitude.¹³¹ This corpus of cases was designed to provide courts a

126. *Id.* at 589.

127. *Id.* at 590.

128. *Id.* In applying Rule 702, *Daubert* overruled *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923). *Frye* created the standard of review in which a judges’ discretion was significantly curtailed by the weight of the scientific evidence, requiring judges determining the admissibility of scientific evidence to be sufficiently convinced that the testimony had “gained general acceptance in the particular field in which it belongs.” *Id.* at 1014. Some scholars have argued that an unreasonably high evidentiary burden was created which unjustifiably prevented decision-makers from considering new scientific data or methodologies which could aid the decision making process. Concerning the restrictive perspective, Judge Harvey Brown has argued:

The *Frye* test was criticized because the newness of a scientific theory does not necessarily reflect its unreliability, “nose counting” of the scientific community could be difficult and unhelpful, and the standard delays the admissibility of new evidence simply because the scientific community has not had adequate time to accept the new theory.

Harvey Brown, *Eight Gates for Expert Witnesses*, 36 HOUSTON L. REV. 743, 779 (1999). See generally Edward K. Cheng & Albert H. Yoon, *Does Frye or Daubert Matter? A Study of Scientific Admissibility Standards*, 91 VA. L. REV. 471 (2005).

129. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (establishing that “abuse of discretion is the proper standard by which to review a district court’s decision to admit or exclude scientific evidence”).

130. 527 U.S. 137, 138 (1999) (establishing the review standard for all experts presenting evidence to the courts).

131. Cassandra H. Welch, Note, *Flexible Standards, Deferential Review: Daubert’s Legacy of Confusion*, 29 HARV. J. L. & PUB. POL’Y 1085, 1089-90 (2006).

case management function with a significant degree of deference,¹³² which clearly raises the bar for any litigant claiming that the court was incorrect on the science. For the purpose of this article, any claims that the judge misapplied the pharmacological science to maintain an execution in an example of abuse of judicial discretion will be a high hurdle to get over.¹³³

The Advisory Committee to the Amendments of the FRE (2000) provided additional observations on Rule 702.¹³⁴ The Advisory Committee drew from case law to highlight evidentiary principles for identifying relevant and sufficiently reliable expert testimony, which included whether experts are proposing written and/or oral evidence about findings emerging naturally out of their research and whether such matters were conducted independent of the litigation. The court should identify if the expert has formulated his or her opinions specifically for the purposes of the judicial proceedings¹³⁵ or has provided any unjustifiable extrapolation from scientific opinion,¹³⁶ and whether the expert has adequately accounted for obvious alternative explanations.¹³⁷ The Advisory Committee also identified that the expert should provide the same caution and depth of analysis as he or she would to his or her regular professional work outside consulting contracts, and the field of expertise should be known to reach reliable results for the type of opinion the expert will give.¹³⁸ The *Daubert*

132. David L. Faigman, *The Daubert Revolution and the Birth of Modernity: Managing Scientific Evidence in the Age of Science*, 46 U.C. DAVIS L. REV. 893, 920-21 (2013); see David E. Bernstein, *The Misbegotten Judicial Resistance to the Daubert Revolution*, 89 NOTRE DAME L. REV. 27, 28, 66 (2013) (arguing that the additional provisions to the adjudicative role that a judge conducts means that “Rule 702 not only codifies revolutionary changes in the substantive law, but also places substantial new demands on judges by requiring a far more managerial role for judges than they are used to assuming in the American adversarial system”).

133. Megan J. Ryan, *Finality and Rehabilitation*, 4 WAKE FOREST J.L. & POL’Y 121, 121 (2014) (describing the doctrine of finality as creating a “high hurdle for individuals to overcome”).

134. FED. R. EVID. 702 advisory committee’s note to 2000 amendments.

135. See *Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995).

136. *Joiner*, 522 U.S. at 146 (stating that in some cases a trial court “may conclude that there is simply too great an analytical gap between the data and the opinion proffered”).

137. The Advisory Committee referred to *Claar v. Burlington Northern Railroad*, 29 F.3d 499, 500 (9th Cir. 1994), which included testimony where the expert failed to consider other obvious causes for the plaintiff’s condition and *Ambrosini v. Labarraque*, 101 F.3d 129, 141 (D.C. Cir. 1996), where the possibility of some non-eliminated causes presents a question of weight, so long as the most obvious causes have been considered and reasonably ruled out by the expert. FED. R. EVID. 702 advisory committee’s note to 2000 amendments.

138. The 2009 Report of the National Research Council engaged with the *Daubert* interpretation of Rule 702 and observed that the Supreme Court provided guidance for the

decision affirmed that in applying these principles to determine the admissibility of scientific evidence, the adversarial system would provide “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof” for “attacking shaky but admissible evidence.”¹³⁹ The judge utilizes this judicial guidance because Rule 702 is a “flexible one,”¹⁴⁰ but it is not “a ‘free-for-all’ in which befuddled juries [or judges] are confounded by absurd and irrational pseudoscientific assertions.”¹⁴¹

The challenge for the State was to adequately demonstrate that the execution protocol was not informed by absurd and irrational pseudoscientific assertions and that the pharmacology used by the Oklahoma Department of Corrections rendered a constitutionally permissible punishment. To determine this, the District Court for the Western District of Oklahoma needed to apply the abovementioned scientific methodology and FRE and *Daubert* standards to the assessment of Oklahoma’s execution protocol. The court focused particularly on the State’s (seemingly unusual) claims that midazolam can render anesthetic properties, whereas the pharmaceutical industry recognizes that the drug is in the benzodiazepine class commonly used as a sedative and for treating different manifestations of anxiety.¹⁴² A significant fact for the proceedings

trial judge to consider: (a) whether the scientific theory or mechanism had been tested; (b) whether the expert’s propositions had been subject to peer review; (c) any error rate of the scientific technique; (d) any procedural standards controlling the mechanism’s operation; and, (e) the technique’s acceptance within the scientific community. See NAT’L RESEARCH COUNCIL OF THE NAT’L ACAD., *supra* note 119, at 91.

139. *Daubert*, 509 U.S. at 596 (citation omitted).

140. *Id.* at 594.

141. *Id.* at 595-96. Bernstein argues that there is a need to “exclude expert testimony when experts cannot point to objective support for their conclusions, and instead intend to ask the trier of fact to trust their unconfirmed judgment. And that is precisely what Rule 702 accomplishes.” Bernstein, *supra* note 132, at 69-70. Hussey Freeland states that scientific researchers should meet a minimum threshold of scientific professional norms to formulate what she terms the “epistemological quality” of the scientific research through careful application of appropriate scientific methodologies. Hussey Freeland, *supra* note 8, at 292. The flexibility of the interpretive approach allows the court to decide on how best to evaluate scientific evidence. In practice, however, the Honorable William Giacomo has argued that “Rule 702[] is not a foolproof or error-free standard.” William J. Giacomo, *Scientific Proof: The Court’s Role as Gatekeeper for Admitting Scientific Expert Testimony*, N.Y. ST. B. ASS’N J., June 2014, at 23, 25.

142. See *Drug Fact Sheet: Benzodiazepines*, DRUG ENFORCEMENT ADMIN., https://www.dea.gov/druginfo/drug_data_sheets/Benzodiazepines.pdf (last visited May 12, 2017).

was that use of midazolam to act as an anesthetic in the death penalty had not been previously investigated through pharmacological trials.

IV. The District Court's Evidentiary Hearing in Warner v. Gross

The evidentiary hearing of the district court in *Warner v. Gross*¹⁴³ provided a potential fertile stage for determining the science and the legal boundaries of Oklahoma's execution protocol.¹⁴⁴ In an attempt to promote legitimate state comity and finality interests to attain a constitutional execution, Oklahoma revised its execution protocol with the (then) most recent amended version being on June 30, 2015.¹⁴⁵ There are four chemical charts (Charts A-D), which the Director of the Department of Corrections can select from for designating the specific drugs to be administered.¹⁴⁶ Chart D was chosen for the executions of Charles Warner and Richard Glossip, which set out the three-drug protocol of midazolam, vecuronium bromide, and potassium chloride.¹⁴⁷

In Chart D, the State's intended use of midazolam is as an anesthetic to induce and maintain a surgical plane of unconsciousness.¹⁴⁸ Following the initial injection, it allows the administration of vecuronium bromide to cause paralysis¹⁴⁹ and then the noxious stimuli of potassium chloride to

143. Warner, No. CIV 14-0665-F, 2014 WL 7671680 (W.D. Okla., Dec. 22, 2014).

144. Okla. Dep't of Corrections, *supra* note 6.

145. *Id.*

146. Attachment D to Okla. Dep't of Corrections, *supra* note 6, at 34 [hereinafter Attachment D] (follow hyperlink "Attachment D" to access charts). Chart A establishes a one-drug protocol with pentobarbital; Chart B establishes a one-drug protocol with sodium pentothal; Chart C is reserved; and Chart D establishes a three-drug protocol with the use of midazolam, vecuronium bromide, and potassium chloride. *Id.* at 2-4. Paragraph D "Choice of Chemicals," states, "The director shall have sole discretion as to which chemicals shall be used for the scheduled execution. This decision shall be provided to the offender in writing ten (10) calendar days prior to the scheduled execution date." *Id.* at 3.

147. See Attachment D, *supra* note 146, at 3. The section on midazolam states: "Syringes 1A and 2A shall each have a dose of 250 milligrams [of] midazolam for a total dose of 500 milligrams. Each syringe containing midazolam shall have a green label which contains the name of each chemical, the chemical amounts and the designated syringe number." *Id.*

148. As will be reviewed in detail below, the State's use of midazolam as an anesthetic in the execution protocol was significantly questioned and the leading pharmacological study on the drug identifies that it has insufficient analgesic properties. See *infra* Part VI; see also Reves et al., *supra* note 23, at 318.

149. See *Vecuronium Bromide*, DAILYMED, <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=d3b851af-f8e9-4375-bbbe-7132e66ee0d0> (last updated July 21, 2011).

trigger a cardiac arrest to render the death of the prisoner.¹⁵⁰ This process is designed by the State to attempt to inflict the minimal, if not eradicated, sensation of pain in the execution. On April 29, 2014, Clayton Lockett was the first Oklahoma inmate to be executed using the new protocol, but there were problems with the administration and the functioning of midazolam.¹⁵¹ The execution occurred following numerous failed attempts to establish the IV line.¹⁵² After the suspension of the execution and then the surgical insertion of the needle into Lockett's groin, he demonstrated consciousness by verbally complaining about the noxious effects of the drugs, and he physically struggled on the gurney before dying.¹⁵³ The traumatic events of the execution were reported globally.¹⁵⁴

Oklahoma Governor Mary Fallin issued Executive Order 2014-11 to appoint Mr. Michael Thompson, the Department of Public Safety Commissioner, to conduct an independent review of the events surrounding Lockett's execution.¹⁵⁵ On September 16, 2014, the "Executive Summary"¹⁵⁶ was published, adopting recommendations for improving Oklahoma's execution protocol.¹⁵⁷ The Commissioner's findings focused

150. See *Potassium Chloride*, DAILYMED, <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=333d672c-44bf-4544-bf8c-f6f72f3dfefe> (last updated Aug. 31, 2006).

151. Erik Eckholm, *One Execution Botched, Oklahoma Delays the Next*, N.Y. TIMES (Apr. 29, 2014), <https://www.theatlantic.com/national/archive/2014/04/Oklahoma/361414/>.

152. *Id.*

153. *Id.*

154. See, e.g., Jeffrey E. Stern, *The Cruel and Unusual Execution of Clayton Lockett*, ATLANTIC, June 2015, <https://www.theatlantic.com/magazine/archive/2015/06/execution-clayton-lockett/392069/>; Markus Feldenkirchen, *Botched Execution: The Death that Could Kill Lethal Injection*, SPIEGEL ONLINE INT'L (Sept. 18, 2014), <http://www.spiegel.de/international/world/execution-of-clayton-lockett-and-the-flaws-of-lethal-injection-a-992359.html>; Katie Fretland, *Scene at Botched Oklahoma Execution of Clayton Lockett Was "a Bloody Mess"*, GUARDIAN (Dec. 13, 2014), <https://www.theguardian.com/world/2014/dec/13/botched-oklahoma-execution-clayton-lockett-bloody-mess>; Josh Sanburn, *25 Secret Minutes Inside Oklahoma's Execution Chamber*, TIME (May 1, 2014), <http://time.com/82787/oklahoma-botched-execution-clayton-lockett-lethal-injection-problems/>; Paige Williams, *Witness to a Botched Execution*, NEW YORKER, (Apr. 30, 2014), <http://www.newyorker.com/news/news-desk/witnesses-to-a-botched-execution>.

155. See OKLA. DEP'T OF PUB. SAFETY, EXECUTIVE SUMMARY, THE EXECUTION OF CLAYTON D. LOCKETT: CASE NUMBER 14-0189SI 2 [hereinafter EXECUTIVE SUMMARY OF EXECUTION OF CLAYTON LOCKETT]. This document is available online through the Death Penalty Information Center at <http://deathpenaltyinfo.org/documents/LockettInvestigationReport.pdf>.

156. *Id.*

157. Governor Fallin's Executive Order 2014-11 stated that the DPS review must include:

on rectifying the identified difficulties, including procedures for locating appropriate veins for IV insertion, the maintenance of execution equipment, and the training of the execution teams (including the Restraint Team and the IV Team).¹⁵⁸ The three substances identified by the Oklahoma statute in Chart D were left unchanged following the acceptance of the pharmacological composition and the State's claimed biological effects on those injected, as the Executive Summary stated:

This investigation could not make a determination as to the effectiveness of the drugs at the specified concentration and volume. They were independently tested and found to be the appropriate potency as described. The IV failure complicated the ability to determine the effectiveness of the drugs.¹⁵⁹

This review was insufficient to determine the appropriateness of the execution drugs. Therefore, the evidentiary questions before the district court in *Warner* centered on deconstructing the pharmacology of midazolam and the rationale for Oklahoma adopting this substance to render an anesthetic state.¹⁶⁰ Following the inadequate pharmacological assessment in the Executive Summary, it was revealed three fundamental components of the drug were still to be analyzed: (a) whether midazolam has a ceiling effect; (b) the extent to which the drug renders an analgesic effect; and (c) whether those injected with the drug will experience paradoxical reactions.

A. Does Midazolam Have a Ceiling Effect?

In the district court's evidentiary hearing, Judge Friot weighed the expert testimony within the *Daubert* "gatekeeper" function.¹⁶¹ He identified that

[F]irst, an inquiry into the cause of death . . . by a forensic pathologist. Second, an inquiry into whether the Oklahoma Department of Corrections correctly followed the agency's current protocol for executions. Lastly . . . any recommendations to improve the execution protocol used by the Oklahoma Department of Corrections.

Okla. Exec. Dep't, Executive Order No. 2014-11 (Apr. 30, 2014), <https://www.sos.ok.gov/documents/executive/942.pdf>.

158. EXECUTIVE SUMMARY OF EXECUTION OF CLAYTON LOCKETT, *supra* note 155, at 26; *see* OKLA. DEP'T OF CORRECTIONS, *supra* note 6, at 8-10, 20, 22, 26.

159. EXECUTIVE SUMMARY OF EXECUTION OF CLAYTON LOCKETT, *supra* note 155, at 24.

160. *See infra* Section IV.A.1.

161. Court's Ruling on Plaintiffs' Motion for Preliminary Injunction at 36-40, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec 22, 2014), 2014 WL 10741415 [hereinafter Court's Preliminary Injunction Ruling]. The United States Court of Appeals for the Tenth

appropriate submissions would be a “product of application of that expertise” and that an expert should use “recognized and supportable methodologies” with recourse to “adequate data which is rationally tied” to the pharmacology of midazolam.¹⁶² Judge Friot heard evidence from the State’s expert, Dr. Roswell Evans,¹⁶³ and the petitioners’ experts, Dr. David Lubarsky¹⁶⁴ and Dr. Larry Sasich.¹⁶⁵ Mr. John Hadden of the Oklahoma Attorney General’s Office questioned Dr. Evans, who stated in oral testimony that midazolam is “primarily used as a drug to induce anesthesia, to actually facilitate minor procedures and decrease[] apprehension, [and] also [to] decrease[] memory of the event.”¹⁶⁶ While the inducing of an unconscious state may occur in minor procedures, Dr. Lubarsky provided a nuanced articulation of the pharmacological properties in his report for the district court¹⁶⁷ and stated that the FDA had not approved midazolam for invasive procedures (such as for an execution) because it is “not sufficient to produce a surgical plane of anesthesia in human beings.”¹⁶⁸ Dr. Sasich

Circuit, the circuit that Judge Friot is under, affirmed in *Goebel* that this interpretive function “requires the judge to assess the reasoning and methodology underlying the expert’s opinion, and determine whether it is scientifically valid and applicable to a particular set of facts.” *Goebel v. Denver and Rio Grande W. R.R. Co.*, 215 F.3d 1083, 1087 (2000).

162. Court’s Ruling Preliminary Injunction at 38, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec 22, 2014), 2014 WL 10741415. Judge Friot held the *Daubert* assessment of reliability is a

determination of whether the conclusions to be expressed by an expert possessed of the necessary qualifications in the relevant field are the product of application of that expertise using recognized and supportable methodologies on the basis of adequate data which is rationally tied to the opinions which purport to be based on that data.

Id.

163. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 630, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014).

164. *Id.* at 102.

165. *Id.* at 333-35.

166. *Id.* at 631.

167. Expert Report of David A. Lubarsky at 2, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014) (“Midazolam is known under the trade name Versed. It is the shortest acting benzodiazepine on the market. Benzodiazepines are a class of drugs primarily used for treating anxiety”). He affirmed this in oral testimony. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 105, 114, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014).

168. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 107, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014).

corroborated this alternative scientific viewpoint in his report to the court and in oral testimony.¹⁶⁹

To investigate the contested issues further, the experts considered whether if midazolam was not an anesthetic in the normal dose, an exponential dose of 500mg (which is over 100 times the normal therapeutic dose used in surgical procedures¹⁷⁰) could induce an anesthetic effect. In language approaching a value judgment amounting to certainty in science, Dr. Evans stated that it “will render the person unconscious and insensate during the remainder of the [execution] procedure,”¹⁷¹ and “the proper administration of 500 milligrams of midazolam . . . make[s] it a virtual certainty that any individual will be at a sufficient level of unconsciousness to resist the noxious stimuli which could occur.”¹⁷² Dr. Evans made the finite claim that there was “no ceiling effect at that level”¹⁷³ in the execution procedure, and that “as you increase the dose of midazolam, it’s a linear effect, so you’re going to continue to get an impact from higher doses of the drug.”¹⁷⁴ Drs. Lubarsky¹⁷⁵ and Sasich¹⁷⁶ disagreed and maintained that there was an effective dose limit to midazolam and the data supported this proposition.¹⁷⁷ In cross-examination, Dr. Evans provided a modified response to his previous definitive statement, stating that it “[d]epends on what [Drs. Lubarsky and Sasich are] referring to. If they’re talking about a spinal cord, I would tend to say, yes, that’s possible.”¹⁷⁸ However, Dr.

169. Report of Larry D. Sasich, at 3, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014); Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 345, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014).

170. This massively elevated dose was affirmed during the evidentiary hearing when Mr. John Hadden of the Attorney General’s Office, directly examined the State expert on the issue, and Dr. Evans affirmed, “This dose is at least 100 times the normal therapeutic dose.” Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 635, *Warner v. Gross*, (No. CIV-14-665F), 2014 WL 7671680. Depending upon the physiological variables of the person being executed, the dose will range from 1.5 milligrams to 5 milligrams per kilogram of weight. *Id.* at 631-39.

171. *Id.* at 635.

172. *Id.* at 648.

173. *Id.* at 636.

174. *Id.* at 663.

175. Dr. Lubarsky provided a nuanced explanation and stated the specific criteria and application of midazolam “[d]oes not block pain impulses coming from different parts of the body. Meaning things like surgical incision, manipulation of the bowel, injection of caustic substances. Those would not be blocked.” *Id.* at 107.

176. *Id.* at 342.

177. *Id.* at 107, 342.

178. *Id.* at 664.

Lubarsky did not see the relevance of the isolation of the effect to the spinal cord or on the brain, as midazolam “[d]oes not block pain impulses coming from different parts of the body,” and so “[w]hat you’re attempting to do with an execution is provide a surgical plane of anesthesia. Which . . . you cannot do with midazolam no matter how much you give.”¹⁷⁹

On the issue of midazolam’s anesthetic properties, Judge Friot observed, “[a]s described by Dr. Sasich and Dr. Lubarsky, midazolam has a ceiling effect which prevents an increase in dosage from having a corresponding incremental effect on anesthetic depth.”¹⁸⁰ Dr. Evans’s testimony, however, was recognized as probative for the judicial reasoning, as the judge claimed he “testified persuasively, in substance, that whatever the ceiling effect of midazolam may be with respect to anesthesia,” it is confined to the “spinal cord level.”¹⁸¹ Even though Drs. Lubarsky and Sasich testified that the ceiling effect was not anatomically confined,¹⁸² the district court privileged the uncorroborated testimony of Dr. Evans to make this legal decision. The court appeared to sideline the alternative science without providing any sound methodological reasons why.¹⁸³ Judge Friot maintained that the issue of the ceiling effect in the spinal cord was “unknown” but then in seeming inconsistency stated that “[t]he proper administration of midazolam . . . would make it a virtual certainty that any individual will be at a sufficient level of unconsciousness to resist the noxious stimuli.”¹⁸⁴ It is difficult to understand as a principle of science that, on one hand, the identification of the ceiling effect is unknown, and on the other hand, a sufficient level of the drug can be identified.

179. *Id.* at 107, 125.

180. Court’s Ruling Preliminary Injunction at 43, Warner v. Gross, No. CIV–14–0665–F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415.

181. *Id.*

182. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 345, Warner v. Gross, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014).

183. Court’s Ruling Preliminary Injunction at 43, Warner v. Gross, No. CIV–14–0665–F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415. Judge Friot proceeded to state in absolute terms:

[T]here is no ceiling effect with respect to the ability of a 500 milligram dose of midazolam to effectively paralyze the brain, a phenomenon which is not anesthesia but does have the effect of shutting down respiration and eliminating the individual’s awareness of pain. The dosage at which the ceiling effect may occur at the spinal cord level is unknown because no testing to ascertain the level at which the ceiling effect occurs has been documented.

Id.

184. *Id.* at 42.

B. Does Midazolam Have an Analgesic Effect?

The experts further disagreed on the second pharmacological property of whether midazolam has an “analgesic effect” and will thus inhibit the sensation of the painful stimuli during the execution. Midazolam affects the chemical binding of the gamma-aminobutyric acid (“GABA”) receptors, which inhibits the flow of electrical impulses in the neurons in the central nervous system. According to Dr. Evans, this inhibiting function would “prevent the reaction, the painful stimuli.”¹⁸⁵ Dr. Lubarsky provided a distinguishing point on GABA activity: although midazolam does bind to GABA receptors to induce unconsciousness, “it does not have any effect to produce deep anesthetic states.”¹⁸⁶ The petitioner’s experts affirmed that potassium chloride’s noxious stimuli to render death pulls the inmate out of unconsciousness so that he possesses sentience and experiences excruciating pain. In his report, Dr. Sasich went further when he stated that “midazolam increases the perception of pain” and that GABA “receptor agonists such as midazolam have been shown to enhance pain.”¹⁸⁷

If midazolam is ineffective, its failure will be obscured by the vecuronium bromide, which paralyzes the prisoner and renders him unable to convey the trauma that is occurring within his body to those witnessing the execution. Dr. Lubarsky affirmed in his report that “[t]he only purpose of the administration of the vecuronium bromide is to make the execution more aesthetically pleasing to observers in that it reduces the ability of the individual being executed to move or show any pain associated with the execution process.”¹⁸⁸ Even in the presence of this deprecating observation,

185. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 345, 2014 at 648, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014).

186. Dr. Evans affirmed in oral examination, “Midazolam attaches to GABA receptors, inhibiting GABA.” *Id.* at 637. Further, Dr. Evans indicated a 500mg dose of midazolam will inhibit GABA with the result being that the condemned “[w]ould not sense the pain.” *Id.* at 640.

187. Expert Report of Larry D. Sasich, *supra* note 169, at 4 (citing M.A. Frolich et al., *Effect of Sedation on Pain Perception*, 118 *ANESTHESIOLOGY* 611 (2013)).

188. Expert Report of David A. Lubarsky, *supra* note 169, at 4. In considering the State of Oklahoma’s use of vecuronium bromide, Austin Sarat is apposite here when he stated that science in executions “mediates between the state and death by masking physical pain and allowing citizens to imagine that state killing is painless.” AUSTIN SARAT, *WHEN THE STATE KILLS: CAPITAL PUNISHMENT AND THE AMERICAN CONDITION* 64 (2001). According to Timothy Kaufman-Osborn, the state’s quixotic maintenance of lethal injection is contingent upon the administration of effective pharmacological substances to render a body “that does not writhe uncontrollably, that does not emit unseemly noises, that does not jettison nasty fluids,” in order to ensure against any claims of barbarism inherent within executions.

however, the complex issue of the analgesic effect for pain relief was swiftly dispensed within Judge Friot's finding that in the administration of the exponential dose (of 500mg), there will be an elimination of the "individual's awareness of pain."¹⁸⁹ This finding on the phenomenon of pain is difficult to reconcile with the science. There was an insufficient engagement with the claim that midazolam has a weak effect as a receptor agonist and thus chemically contributes to increased pain perception of the noxious effects of the potassium chloride. The vecuronium bromide will primarily mask the presence of the internal trauma and thus make opaque the failure of midazolam to act as an anesthetic. This part of the judgment provided a substandard application of scientific methodology to interpret the data presented to the court and does not adequately reveal why the adverse reactions identified by Drs. Lubarsky and Sasich, would not occur.

C. Does Midazolam Produce Paradoxical Reactions?

The third pharmacological issue centered on the possibility that midazolam could induce a "paradoxical effect," in that the drug does not work as intended. Dr. Sasich stated that "the professional product label for midazolam warns of paradoxical reactions."¹⁹⁰ Dr. Lubarsky affirmed that these reactions occurred in "vulnerable populations," which includes "the elderly, people with a history of aggression, impulsivity, alcohol abuse or other psychiatric disorders," and "it manifest[s] in many ways such as hyperactivity and restlessness."¹⁹¹ What is most damning for Oklahoma's use of an exponential dose of 500mg is that when paradoxical reactions occur, they are "not attended by the expected sedative effects," but "are addressed by reversal of midazolam, not further administration."¹⁹² Thus it

TIMOTHY V. KAUFMAN-OSBORN, FROM NOOSE TO NEEDLE: CAPITAL PUNISHMENT AND THE LATE LIBERAL STATE 182 (2005).

189. Court's Ruling Preliminary Injunction at 43, Warner v. Gross, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415.

190. Expert Report of Larry D. Sasich, *supra* note 169, at 4. The Professional Product Label for Midazolam states:

Reactions such as agitation, involuntary movements (including tonic/clonic movements and muscle tremor), hyperactivity and combativeness have been reported in both adult and pediatric patients. These reactions may be due to inadequate or excessive dosing or improper administration of midazolam; however, consideration should be given to the possibility of cerebral hypoxia or true paradoxical reactions.

Id.

191. Expert Report of David A. Lubarsky, *supra* note 164, at 3.

192. *Id.* See also Expert Report of Larry D. Sasich, *supra* note 166, at 5 (citing Carissa E. Mancuso et al., *Paradoxical Reactions to Benzodiazepines: Literature Review and*

is the cessation of the administration of midazolam that would neutralize cruel manifestations in the punishment, but Oklahoma does the opposite. It injects more.¹⁹³

Judge Friot did identify the risks. However, he went on to state that the product label for midazolam demonstrates “[t]he likelihood that a paradoxical reaction will occur in any particular instance is *speculative*, but it occurs with the highest frequency in low therapeutic doses. Dr. Evans *estimated* that with a low therapeutic dose of midazolam there would be less than a one percent incidence of a paradoxical reaction.”¹⁹⁴ The district court did not provide a clear explanation as to why Drs. Sasich and Lubarsky were “speculative” in their reports and testimony, or why Dr. Evans’s reasoning of an estimation was acceptable. Judge Friot simply stated it as a fact or as a manifestation of judicial discretion, immunizing the adjudication from the need to provide a reasonable explanation.

There are significant reasons to argue that even though the district court cited the FRE and *Daubert*, it failed to apply adequate review mechanisms to the *Warner* evidentiary hearing.¹⁹⁵ It appears that the court paid lip service to the evidentiary standards without utilizing them in a fair and evenhanded way. This poses serious questions concerning whether the court applied an appropriate adjudicative methodology for discerning if midazolam has a ceiling effect, whether it possesses analgesic properties, and to what extent it produces paradoxical reactions within the person being

Treatment Options, 24 PHARMACOTHERAPY 1177, 1177-85 (2004); Young Hee Shin et al., *The Effect of Midazolam Dose and Age on the Paradoxical Midazolam Reaction in Korean Pediatric Patients*, 65 KOREAN J. ANESTHESIOLOGY 9, 9-13 (2013); Chandra R. Rodrigo, *Flumazenil Reverses Paradoxical Reaction with Midazolam*, 38 ANESTHESIA PROGRESS 65, 65-68 (1991)).

193. In his report, Dr. Sasich cited peer reviewed scientific investigations on the paradoxical effect of midazolam and affirmed that in an experiment, “[a]s the total dose of midazolam increased, symptoms of the paradoxical reaction became worse.” Expert Report of Larry D. Sasich, *supra* note 169, at 5.

194. Court’s Ruling Preliminary Injunction at 44, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415 (emphasis added).

195. Such adjudicative resistance is consistent with David Bernstein’s analysis of the judicial “counterevolution” to the tightening of the review and admissibility standards under the FRE and the *Daubert*-trilogy, and he notes that “many federal courts resisted” these rules of evidence, and “[a] few sought to retain the old let-it-all-in rules,” Bernstein, *supra* note 132, at 50. Such courts sought to operate under the preceding guidance of *Frye v. United States*, in which the Court of Appeals for the District of Columbia established the rule for admissibility as being to “admit[] expert testimony so long as [the] thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.” 293 F. 1013, 1014 (D.C. Cir. 1923).

executed. A review of the flawed scientific methodology by the district court is provided below.

D. The Scrutiny of the Expert's Scientific Methodology

At various moments in the *Warner* evidentiary hearing, the experts conceded that there was no available data to support the State of Oklahoma's claims concerning the drug's efficacy for lethal injection. By way of example of this specific lacuna in response to the petitioner's scientific findings, Dr. Evans stated that the paradoxical effect would only occur in one percent of cases, but he stated that "[t]here are really no studies that I'm aware of"¹⁹⁶ on the paradoxical reaction. Plaintiff's counsel, Robin Konrad, questioned Dr. Evans on this claim in cross-examination, and in viewing the possibility of the paradoxical reaction, Dr. Evans stated, "I don't think it's likely to happen."¹⁹⁷ Ms. Konrad then asked, "what are you basing your opinion on?"¹⁹⁸ and the answer was that "it's basically shutting down the central nervous system."¹⁹⁹ As Ms. Konrad was speaking to Dr. Evans's methodology, she pressed further in this line of questioning and asked him whether he was aware of the scholarship that was cited by Dr. Sasich in his report. She pointed Dr. Evans to page five of Dr. Sasich's report and asked, "have you reviewed those case studies that are cited there?"²⁰⁰ The answer was, "[n]o. No, I have not."²⁰¹ It is clear that there were significant unanswered questions concerning the complex data and methodology on the paradoxical reaction. In another example, Ms. Konrad cross-examined Dr. Evans on the purported ceiling effect and he answered, "[t]here is no data that suggests that there is or there isn't."²⁰² In

196. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 641, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014).

197. *Id.* at 669.

198. *Id.*

199. *Id.*

200. *Id.* at 670. The studies included: Mancuso, *supra* note 192; Shin, *supra* note 192; and Rodrigo, *supra* note 192.

201. *Id.*

202. *Id.* at 664. Similarly, Ms. Konrad asked Dr. Evans, "How do you know how long would it take for the effects of those drugs [500 milligrams of midazolam and 500 milligrams of hydromorphone] to cause death?" *Id.* at 666. Dr. Evans answered, "Well, there really isn't much concrete data about this." *Id.* Dr. Evans later discussed the 500 milligram dose of midazolam and stated, "I don't think anyone would be able to sustain life with that kind of dose on board." *Id.* at 667. Ms. Konrad replied, "You say you don't think, but do you know? Is there any data to show[?]" *Id.* The answer was, "No." *Id.* Then the question was asked whether 500 milligrams of midazolam would cause death. *Id.* Dr. Evans answered:

Only – no, not – yeah, the dose itself, 500 milligrams, there is nothing out there

providing the court with his data-collection methodology, Dr. Evans stated that “we’re essentially extrapolating this piece and saying that there is a linear effect in terms of administration of the drug and the concentrations you can receive centrally, [and] it makes sense, it’s a logical assumption to make in this case.”²⁰³

The source of this “extrapolation,” “mak[ing] sense,” and “logical assumption,” was primarily from the generic information on the Material Safety Data Sheet²⁰⁴ and the website, *drugs.com*,²⁰⁵ which is a web-based tertiary resource for providing basic information on drugs to the general public. For Dr. Evans, these appeared to be reasonable scientific sources upon which to base his highly complex pharmacological findings in a capital case. Dr. Sasich is an expert in drug safety information and is a member of an advisory committee to the FDA.²⁰⁶ In contrast, he stated that he would not rely on these generic resources to engage with complex pharmacology, and concerning *drugs.com*,²⁰⁷ Dr. Sasich stated that it uses “a number of other sources, for instance, Micromedex, Epocrates, [and] Lexi-Comp. Those publications or those products have been criticized in the peer-reviewed medical literature for poor editorial policies, including being out of date and incomplete.”²⁰⁸

in the literature that looks at 500 milligrams. There’s lots of literature to suggest that lower doses of the drug will cause death, so if we’re essentially extrapolating this piece and saying there is a linear effect in terms of administration of the drug and the concentrations you can receive centrally, then it makes sense, it’s a logical assumption to make in this case.

Id. at 667-68.

203. *Id.* at 667-68.

204. See MSDS SOLUTIONS CENTER, <http://www.msds.com/> (last visited May 12, 2017) (providing information on the Material Data Safety Sheets).

205. See DRUGS.COM, <https://www.drugs.com/> (last visited May 12, 2017); see also Michael S. Leonard, *Justices Uphold Oklahoma Lethal Injection, Tightening Standards for Death Penalty Plaintiffs*, WESTLAW J. HEALTH L., July 7, 2015, 23 No. 03 WJHTH 9.

206. Dr. Sasich stated that his professional experience included “[s]erving as a Consumer Representative on the Science Board of Food and Drug Administration, an advisory committee to the FDA Commissioner.” Expert Report of Larry D. Sasich, *supra* note 169, at 1.

207. Ms. Konrad asked, “Would you rely on a source such as *drugs.com*?” to which Dr. Sasich answered, “No, I wouldn’t. And I would probably not accept a work product from a student that provided me a report where *drugs.com* was used as the reference source.” Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 336, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014).

208. *Id.*

Dr. Sasich provided the court with a detailed methodology for extracting information on pharmacology and stated that the “[p]rofessional product labels” were the appropriate sources of information for determining the characteristics and usage(s) of a drug because “scientific studies have been submitted and reviewed by the FDA before any information can actually go into a professional product label.”²⁰⁹ Dr. Lubarsky agreed with Dr. Sasich’s observations in oral testimony,²¹⁰ and in his report he stated that “[m]idazolam is not FDA-approved as the *sole drug* to produce and maintain anesthesia in minor surgical procedures,”²¹¹ in which he cited a peer-reviewed article from the journal *Anesthesiology* to affirm this proposition.²¹² Dr. Evans offered his observations concerning generalized claims that deaths had resulted from large doses of midazolam,²¹³ but Dr. Lubarsky gave a nuanced explanation in oral testimony that “it is a true statement, but the part that’s left out is that those types of fatalities occur in 90-year-olds with congestive heart failure who have not had careful titration of the drug.”²¹⁴

In his report, Dr. Lubarsky discussed the problems with the executions of Clayton Lockett in the State of Oklahoma and Joseph Wood in the State of Arizona as examples of qualitative methodology and data.²¹⁵ Dr. Lubarsky identified the procedural complications that the execution team experienced in establishing venous access and the problems with the chemical effects within Lockett’s body, and ultimately he found that the use of midazolam as the first drug in Oklahoma’s execution protocol “creates a significant

209. *Id.*

210. Dr. Lubarsky testified that midazolam “was not approved by the FDA as a sole anesthetic because after the use of fairly large doses that were sufficient to reach the ceiling effect and produce induction of unconsciousness, the patients responded to the surgery.” *Id.* at 127.

211. Expert Report of David A. Lubarsky, *supra* note 167, at 2.

212. *Id.* at 2-3 (citing Reves et al, *supra* note 23, at 310-24).

213. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 633, Warner v. Gross, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014).

214. *Id.* at 124.

215. Dr. Lubarsky and Dr. Sasich were speaking on behalf of the future pain, as an example of Timothy Kaufman-Osborn’s observations of “the troublesome role of the human body in contemporary capital punishment.” KAUFMAN-OSBORN, *supra* note 188, at 182. Elaine Scarry is also reflective of the observations (and the role) of the petitioner’s experts when she stated that “[b]ecause the person in pain is ordinarily so bereft of the resources of speech, it is not surprising that the language for pain should sometimes be brought into being by those who are not themselves in pain but who speak *on behalf of* those who are.” ELAINE SCARRY, THE BODY IN PAIN: THE MAKING AND UNMAKING OF THE WORLD 6 (1985).

risk of serious harm to condemned prisoners.”²¹⁶ On July 23, 2014, Arizona botched the execution of Joseph Wood.²¹⁷ Arizona adopted the use of 750mg of midazolam (which is 250mg more than Oklahoma), but the source of the execution drugs were kept secret and there was insufficient information on the training of the execution personnel. The United States Court of Appeals for the Ninth Circuit granted a stay of execution,²¹⁸ but the Supreme Court lifted the stay and allowed the secrecy of the Arizona protocol to remain.²¹⁹ Nonetheless, the torturous manifestations of Wood’s execution emerged and revealed that he was injected fifteen times, he struggled against the restraints and gasped for air, and it was about one hour and fifty-seven minutes before he died.²²⁰ In the *Warner* evidentiary hearing, Dr. Lubarsky was asked about the effectiveness of 750mg of midazolam to induce and maintain unconsciousness, and he stated Wood’s execution in Arizona was

unintentional experimental proof that large doses of midazolam do not necessarily kill you, make you guarantee unconsciousness, and that the administration of additional doses do not cause further depression of consciousness or Mr. Wood would have stopped breathing and would have gone into a coma were such large doses are actually effective.²²¹

It therefore becomes difficult to understand the district court’s selective reasoning on the pharmacological science for the execution protocol. Indeed, the Ninth Circuit’s decision in *Landrigan v. Brewer*²²² affirmed the district court’s finding of an “unconstitutional risk of harm flowing from the state’s proposed use of drugs from a foreign source that was not approved by the FDA.”²²³ If the probative fact is FDA approval through the granting of a license (for a foreign or domestically manufactured drug), a logical application of this rule would be that it *prima facie* favors Drs.

216. Expert Report of David A. Lubarsky, *supra* note 167, at 6.

217. Tom Dart, *Arizona Inmate Joseph Wood Was Injected 15 Times with Execution Drugs*, *GUARDIAN* (Aug. 2, 2014 10:40 AM), <https://www.theguardian.com/world/2014/aug/02/arizona-inmate-injected-15-times-execution-drugs-joseph-wood>.

218. *Wood v. Ryan*, 759 F.3d 1076, 1088 (9th Cir. 2014).

219. *Ryan v. Wood*, 135 S. Ct. 21 (2014).

220. Dart, *supra* note 217.

221. Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 130, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014).

222. 625 F.3d 1132 (9th Cir. 2010).

223. Court’s Ruling on Plaintiffs’ Motion for Preliminary Injunction at 61, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415.

Lubarsky and Sasich, as they were the experts who affirmed that the FDA had not provided a license for midazolam to be used as an anesthetic in minor surgical procedures. If the basic question is whether the FDA has approved midazolam to act as an anesthetic for punishment procedures (for example, in executions), the answer is “no.” The significance of this lacuna is strengthened by the Supreme Court’s vacating of stay in *Brewer v. Landrigan*,²²⁴ when the Court held that the district court “was left to speculate as to the risk of harm. But speculation cannot substitute for evidence that the use of the drug is sure or very likely to cause serious illness and needless suffering.”²²⁵ If the rule is established that “speculation” is rendered when an expert provides evidence that a drug will perform in a way that the FDA has not accepted and thus endorsed through a license, then it is clear that this applies to the State of Oklahoma’s claim and not to that of the petitioners. The State was providing the greatest degree of subjectivity concerning the evidence. The petitioner pointed to the lacunae.

There are significant grounds for arguing that the district court failed to adequately apply Rule 702 within the *Warner* evidentiary hearing, and it is argued here that (a) the evidence presented did not amount to “sufficient facts or data;”²²⁶ (b) it did not adhere to the Supreme Court’s ruling in *Joiner*, which held that there must not be “too great an analytical gap between the data and the opinion proffered;”²²⁷ and (c) it did not meet the Tenth Circuit’s standard from *Goebel v. Denver & Rio Grande W. R.R. Co.* that the judge must “assess the reasoning and methodology” of the scientist’s opinion to “determine whether it is scientifically valid and applicable.”²²⁸ The district court meandered around the scientific evidence of Drs. Lubarsky and Sasich and applied judicial reductivism to make the science *fit* within the confines of a constitutional death penalty.²²⁹ The court seemed to adopt a judicial atomistic approach for an “assessment of a piece

224. *Brewer v. Landrigan*, 562 U.S. 996 (2010) (Mem.).

225. *Id.* (internal citations omitted).

226. FED. R. EVID. 702(b).

227. *Joiner*, 522 U.S. at 146.

228. 215 F.3d 1083, 1087 (10th Cir. 2000) (stating that *Daubert*’s gatekeeping function “requires the judge to assess the reasoning and methodology underlying the expert’s opinion, and determine whether it is scientifically valid and applicable to a particular set of facts”).

229. The court did so in a way which is consistent with the observations of the moral philosopher, Mary Midgley, who observed that “reductionism,” imposed by social/political institutions, is an exercise in, “reshaping [of the] intellectual landscape.” MARY MIDGLEY, *THE MYTHS WE LIVE BY* 43 (2011).

of evidence in a relative vacuum.”²³⁰ The district court committed a “false positive error,”²³¹ as it has unjustifiably provided a scientific overstatement to frame the pharmacology of midazolam and packaged it, cut off the boundaries of uncertainty²³² affirmed by the absence of an FDA license, and accepted the State’s speculation to render a death penalty judicially and legislatively imaginable.

This flawed reasoning, and thus, false comity, is consistent with Jonathan Maur and Lisa Larrimore Ouellette’s study on deference mistakes by district and appellate courts, and one contributing factor is the demonstration of a “pro-government” discretion.²³³ The district court applied a subjective management of the science to curtail the probative elements of the petitioner’s position in order to “restore order” within Oklahoma’s capital judicial system.²³⁴ The main interpretive mechanism to

230. Mnookin, *supra* note 20, at 1534.

231. Michael Traynor, *Communicating Scientific Uncertainty: A Lawyer’s Perspective*, 45 *Envtl. L. Rep.: News & Analysis* (Envtl. L. Inst.) 10159, 10164 (2015), 45 *ENVLRNA* 10159 (Westlaw). Traynor stated, “Varying standards of proof bear on the level of tolerable uncertainty; for example ‘beyond a reasonable doubt,’ ‘clear and convincing,’ and ‘preponderance of the evidence.’” *Id.* Professor David Faigman observed (in a personal communication to Traynor) that

the difference in standards “relates to the problem of balancing the likelihood of making false positive errors versus the prospect of making false negative errors. In criminal cases, the concern is with making false positive errors, thus resulting in a high burden of proof--and increasing the number of false negatives as a result.”

Id.

232. Drs. Lubarsky and Sasich attempted to show the District Court that, at a minimum, there were levels of uncertainty within Oklahoma’s use of midazolam, and at a maximum, it was clear that torturous executions will be maintained. In presenting this information, the petitioner’s experts were reliable scientists informing the court of the very real presence of uncertainty which could reach to a significant probability that Oklahoma is wrong on the pharmacology of midazolam. According to Kenny Walker, if a scientist “can be accurate yet still use uncertainty to frame the impact, [they are] not only trustworthy, [they are] interesting, and...effectively shape the terms of debate. We’ve all got to stop ignoring uncertainty, and instead learn to manage it.” Kenny Walker, “*Without Evidence, There Is No Answer: Uncertainty and Scientific Ethos in the Silent Spring(s) of Rachel Carson*,” 2 *ENVTL. HUMANITIES* 101, 114 (2013).

233. Jonathan S. Masur & Lisa Larrimore Ouellette, *Deference Mistakes*, 82 *U. CHI. L. REV.* 643, 686 (2015).

234. Masur and Larrimore Ouellette note that “deference mistakes are commonplace in . . . criminal procedure.” *Id.* at 731. Christina Boyd observes that within the appellate process, district court judges face potentially the most constraints upon their “decision-making behavior,” and that their work can involve “a complex, dynamic case environment

produce this false comity and the packaging of the pharmacological science for a manageable judicial expression was through the doctrine of finality.

E. Elevating the Doctrine of Finality to Neutralize Legitimate State Comity

Judge Friot utilized an atomistic privileging of the State's uncorroborated reasoning. It is reflective of the opinion of Michael Traynor, President Emeritus of the American Law Institute, who stated that "lawyers are experts at proceduralizing and compartmentalizing difficult problems. The legal system facilitates private ordering as well as the resolution of the disputes that come within it. Its main purpose is not the pursuit of scientific 'truth.'"²³⁵ If this procedural observation is correct, and it can be argued that "scientific truth" was not the primary aim of the district court, then what was the main purpose or "intention?"²³⁶ It appears that the adjudicative process adhered to the principle that has prominence at the end of the *Warner* judgment. The district court's citation of the *Baze v. Rees* reasoning is telling in that

an inmate cannot succeed on an Eighth Amendment claim simply by showing one more step the state could take as a fail-safe for other independently adequate measures. This approach would serve no meaningful purpose and would *frustrate the state's legitimate interest* in carrying out a sentence of death in a *timely manner*.²³⁷

In affirmation:

Plaintiffs have been successfully prosecuted, convicted, and sentenced to death in proceedings that have withstood *decades of trials, direct review, and collateral review*. The *equities of the*

that presents multiple decision-making opportunities." Christina L. Boyd, *The Hierarchical Influence of Courts of Appeals on District Courts*, 44 J. LEGAL STUD. 113, 114 (2015).

235. Traynor, *supra* note 231, at 10164 ("In general, courts, legislatures, and the legal profession attempt in various ways to address and communicate uncertainty, risk, unreliability, and incomplete information in a changing environment. They must do so within a system that has various objectives . . . includ[ing]: determining responsibility and resolving adversarial litigation with finality and transparency. . . ensuring the participants and the public a reasonable measure of fairness, acceptability, and predictability.").

236. Consistent with this observation, Mary Midgley reminds us that "[t]he point is not just that [there are] ways of simplifying the conceptual scene. It concerns the intention that underlines that simplification." Midgley, *supra* note 229, at 43.

237. Court's Ruling Preliminary Injunction at 71, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415 (emphasis added) (citing *Baze v. Rees*, 553 U.S. 35, 60-61 (2008)).

matter strongly favor bringing their cases *at long last to a conclusion* by carrying out the penalty that the courts have determined to have been constitutionally imposed.²³⁸

Here is the clear interaction of comity and finality. Comity is argued to have been facilitated through the “equities of the matter,” the “decades of trials,” and whilst this has suspended finality, it has done so for good reasons so as to provide an adjudicative process to legitimize state interests in the execution. Now, comity must give way to finality as “one more step” cannot be taken. The doctrine of finality is initiated following the comity review, and it steps in via the judicial declarations of the “timely manner” and to promote the “state’s legitimate interest” there is a need for a conclusion in the case. In promoting the finality interests here, the judicial process is trying to close the door in an attempt to put the petitioners “out of court and deny[] them the means of further” action.²³⁹

There are significant questions concerning the efficacy of this process and the court’s framing of the interaction of comity and finality. In making its assessment on the comity and finality issues, the district court seemingly conflated the factual predicates of (a) the new judicial consideration of the pharmacology of midazolam within the amended execution protocol with (b) the guilt/innocence and sentencing issues of the petitioner’s capital bifurcated trial in 1997, then direct review, and the eighteen years of further collateral attack and habeas corpus appeals. There are significant reasons to believe that the conflation of these issues has led to an abuse of discretion, as the arguments concerning the change in the pharmacology used in executions were a novel issue before the court since the amendments to the Execution Protocol were only adopted in 2014. Therefore, it should have been kept as a separate issue which would have (reasonably) led to the determination that new testing of midazolam was required. However, in furtherance of false comity and an illegitimate application of the doctrine of finality, the district court cited two Supreme Court decisions:²⁴⁰ *Nelson v. Campbell*, in which the Court held that the State has “a significant interest in meting out a sentence of death in a timely fashion,”²⁴¹ and *Calderon v. Thompson*, in which the Court held:

238. *Id.* at 79-80 (emphasis added).

239. KEVIN F. ARTHUR, FINALITY OF JUDGMENTS AND OTHER APPELLATE TRIGGER ISSUES § 4 (2014).

240. Court’s Ruling Preliminary Injunction at 80, *Warner v. Gross*, No. CIV-14-0665-F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415 (citing *Nelson v. Campbell*, 541 U.S. 637, 644 (2004); then citing *Calderon v. Thompson*, 523 U.S. 538, 556 (1998)).

241. *Nelson*, 541 U.S. at 644.

When lengthy federal proceedings have run their course and a mandate denying relief was issued, *finality acquires an added moral dimension*. Only with an assurance of *real finality* can the state execute its moral judgment in a case. Only with *real finality* can the victims of crime move forward knowing the moral judgment will be carried out. To unsettle these expectations is to inflict a profound injury to the *powerful and legitimate interest in punishing the guilty*, an interest shared by the State and the victims of crime alike.²⁴²

This section of the *Calderon* judgment is reflective of the bifurcated capital trial, the lengthy habeas corpus appeals, and the impact of the litigation on the victims of the crimes. It is not engaging with an evidentiary hearing considering for the first time an issue focusing on the constitutionality of the pharmacology used in a new execution protocol. Furthermore, the Supreme Court affirmed that the doctrine of finality is fundamentally contingent upon the fulfillment of genuine comity as the “proceedings [need to] have run their course.”²⁴³ Thus, the “moral dimension” of finality can only be legitimately demonstrated once the comity interests have been adequately adjudicated, and consequently, “real finality” can only occur once genuine comity has been completed. The paradox is that if genuine comity takes its course, it is very likely that the finality of an execution in Oklahoma will not be upheld. Hence, the district court has used this citation from *Calderon* to incorrectly support the State’s position.²⁴⁴ The Supreme Court’s intended purpose is to ensure that before finality in an execution can be imposed, legitimate comity should have manifested. It hitherto had not occurred in the *Warner* litigation. Therefore, due to the lack of sufficient comity consideration by the district court in *Warner*, *Calderon* has been misapplied. *Warner* demonstrates that, in various ways, the Oklahoma capital judicial system is failing to implement constitutional comity review.

Instead of providing a legitimate basis for finality to promote a legitimate execution, *Warner* threw open more questions concerning the execution drugs than it answered. The next court that considered the issues and

242. 523 U.S. 538, 556 (1998) (emphasis added) (internal citations omitted) (quoting *Herrera v. Collins*, 506 U.S. 390, 421 (1993) (O’Connor, J., concurring)).

243. *Id.*

244. Court’s Ruling Preliminary Injunction at 80, *Warner v. Gross*, No. CIV–14–0665–F (W.D. Okla. Dec. 22, 2014), 2014 WL 10741415 (citing *Calderon v. Thompson* 523 U.S. 538, 556 (1998)).

attempted to provide adequate explanations was the Court of Appeals for the Tenth Circuit.

V. Finality and the Court of Appeals for the Tenth Circuit

The petitioners filed for a preliminary injunction in the Tenth Circuit on the grounds that the district court had deferentially abused its discretion.²⁴⁵ The case considered whether (a) following the Department of Public Safety's independent review, there was a substantial risk that midazolam would be negligently administered;²⁴⁶ and (b) conducting executions using the changing array of untested drugs amounted to biological experimentation.²⁴⁷ The Tenth Circuit reviewed these issues following the acknowledgment that Clayton Lockett's execution "though ultimately successful, was a procedural disaster."²⁴⁸ So there were significant reasons for the court to apply a close reading of the district court's application of the FRE and the *Daubert* assessment concerning the parameters of judicial discretion.

The Tenth Circuit acknowledged the district court's *Daubert* proceedings and stated that under the abuse of discretion standard, the court will "reverse only if the district court's conclusion is arbitrary, capricious, whimsical or manifestly unreasonable or when [it is] convinced that the district court made a clear error of judgment or exceeded the bounds of permissible choice in the circumstances."²⁴⁹ These adjectives for assessment—"arbitrary" and "capricious," for example—complement the

245. See *Warner v. Gross*, 776 F.3d 721 (10th Cir. 2015). The petitioners were twenty-one Oklahoma death row inmates, led by Charles Warner, Richard Glossip, John Grant, and Benjamin Cole, bringing a 42 U.S.C. § 1983 lawsuit challenging the constitutionality of the State of Oklahoma's lethal injection protocol. *Id.* at 723.

246. *Id.* at 727. Chief Judge Briscoe identified the first substantive issue for the Tenth Circuit to consider was whether "there is a substantial risk that midazolam will, as exemplified by the Lockett execution, be negligently administered and thus result in an inmate consciously experiencing the painful effects of the second and third drugs utilized in the execution protocol." *Id.*

247. *Id.* Chief Judge Briscoe identified the second substantive issue to be determined was whether the use of midazolam amounted to experimentation on captive human subjects "[b]y attempting to conduct executions with an ever-changing array of untried drugs of unknown provenance, using untested procedures, . . . are engaging in a program of biological experimentation on captive and unwilling human subjects." *Id.* (alteration and omission in original) (citation omitted).

248. *Id.* at 725.

249. *Id.* at 733-34 (quoting *United States v. Avitia-Guillen*, 680 F.3d 1253, 1256 (10th Cir. 2012)).

analysis of “clear error” and the circumstances “exceeding the boundaries of permissible choice.” An array of options was affirmed which prima facie provided for a wide due process review. It would appear that following the denial of the petitioner’s claims by the district court, the State would have a higher burden to meet in the Tenth Circuit’s assessment of the State’s reliance on one pharmacologist’s scantily supported assertions on the biological effect of midazolam. The presence of the alternative science placed before it by the petitioner’s two experts, and the scholarly publications in support of the data rejecting the use of midazolam as an effective anesthetic, should reasonably have become probative to cast doubt upon the State’s position. However, a seeming aberrant reasoning occurred.

The Tenth Circuit accepted the State’s expert without a detailed consideration of the petitioner’s experts, Drs. Lubarsky and Sasich, and it concluded that Dr. Evans’s “testimony was the product of reliable principles and methods reliably applied to the facts of this case.”²⁵⁰ This reasoning followed the affirmation that “plaintiffs point to what *they perceive* as a number of errors in Dr. Evans’s testimony,” and—following juridical observations on the general legal arguments, but without detailed engagement with the propositions of science—concluded that “these errors were *not sufficiently serious* to render unreliable Dr. Evans’ testimony . . . or to persuade [the court] that the district court’s decision to admit Dr. Evan’s testimony amounted to an abuse of discretion.”²⁵¹ The court did recognize that the State’s witness’ possible deficiencies included the reported toxic dose range of midazolam, the cogency of the assertion that Material Safety Data Sheets are sufficient for FDA requirements, and the presence of conflicting expert testimony concerning whether midazolam inhibits GABA activity.²⁵² These complex issues, however, were swiftly dealt with by the Tenth Circuit²⁵³ without any adequately documented holistic balancing of the alternative viewpoints provided by the petitioners.

The Tenth Circuit’s decision inadequately engaged with the significance of these errors highlighted by the testimony and reports of Drs. Lubarsky and Sasich (as detailed in Part IV above). It did not reveal how the petitioners’ experts were less probative, or how Dr. Evans’s opinions were of a clearer scientific quality making his methodology and data authoritative for the appellate reasoning. It is therefore difficult to understand how the Tenth Circuit’s decision is not arbitrary or a very lax

250. *Id.* at 734.

251. *Id.* (emphasis added).

252. *Id.* at 735.

253. *Id.* at 735-36.

application of the review standards. What we are left with is an atomistic determination. The Tenth Circuit's decision galvanized a legal process that reduces the pharmacological science in curtailing the holistic consideration for adequately weighing the conflicting testimony of the petitioner's experts.²⁵⁴ This perpetuates the packaging of the science to achieve a result—in this case, marching the petitioner to the death chamber. Both the district court and the Tenth Circuit failed to adequately assess the “underlying reasoning” and “methodology” proscribed by the FRE.

Following this inadequate scientific evaluation, the Tenth Circuit makes two self-reflective claims concerning the quality of its own review in this case. The judgment states that “[a]fter carefully examining the record on appeal, we are unable to say that any of these factual findings are clearly erroneous,”²⁵⁵ and in footnote 10, it states that “[i]n an abundance of caution, this opinion was circulated to all active judges of this court prior to publication. No judge requested a poll on the questions presented by plaintiffs.”²⁵⁶ Considering the volume of expert evidence that the petitioners presented, it is difficult to accept such qualitative observations on the court's own role and performance. It would have benefitted the Tenth Circuit judgment if an extensive review of the complicated scientific claims of Drs. Lubarsky and Sasich were set out in the adjudication and clear reasoning applied as to why their methodology and data was incorrect. This would have enabled the reader of the judgment to consider a transparent weighing of the major factors of the scientific claims. Applying a holistic review of the evidence and the appellate judgment, it is argued that the Tenth Circuit failed to present the full reach of the competing scientific claims. An appropriate conclusion of this federal review is that the judgment was founded upon an overreliance on the State's one expert and applying insufficient and underdeveloped scientific propositions, the State's position was accepted and affirmed.

Perhaps it could be claimed that the Tenth Circuit's self-affirmation of its own (inadequate) methodology is an example of the defensive rhetoric of Queen Gertrude in *Hamlet* when she claimed, “The lady doth protest too much, methinks.”²⁵⁷ The proclamation of too many *vows* (solemn promises)

254. *Id.*

255. *Id.* at 735.

256. *Id.* at 736 n.10.

257. WILLIAM SHAKESPEARE, *HAMLET*, act 3, sc. 2. The emotional observation is by Queen Gertrude, who whilst watching the play *The Mouse-Trap* with Hamlet, provides this rather defensive line to reveal that she thought that in real life the opposite is true (in this case too many vows to be kept by a queen to a king). See *id.* *Hamlet* has many underlying

can lead the hearer (or reader) to conclude that in real life, the position is unrealistic, or in fact, the opposite *did, does, or will* occur.

The judgement of the Tenth Circuit, however, is not the end of the matter, as the adjudication reducing the science was challenged in the Supreme Court in the presence of another example of a torturous execution. The highest court in the land received the benefit of further supporting pharmacological evidence of the inappropriateness of midazolam for executions.

VI. *The SCOTUS Decision in Glossip v. Gross*

A. *The Brief of the Sixteen Professors of Pharmacology as Amicus Curiae*

After the completion of the Oklahoma Department of Public Safety's investigations²⁵⁸ and the amendment to Oklahoma's execution protocol,²⁵⁹ Charles Warner was executed on January 15, 2015.²⁶⁰ Consistent with the legal arguments concerning the inadequacy of midazolam filed on his behalf, he complained that the drug injected into him "feels like acid," and then exclaimed, "My body is on fire."²⁶¹ It was clear that further pharmacological investigations were required to understand the causes of this internal trauma. An opportunity was supplied in a writ for certiorari with Richard Glossip as the named first petitioner. In *Glossip v. Gross*,²⁶² the Supreme Court received additional expert opinions within various amicus curiae briefs,²⁶³ including a brief by sixteen professors of

pearls of wisdom for the study of law. *See, e.g.,* Stephen Breyer, *Shakespeare's Laws: A Justice, a Judge, a Philosopher, and an English Professor*, in *SHAKESPEARE AND THE LAW: A CONVERSATION AMONG DISCIPLINES AND PROFESSIONS* 301-22 (Bradin Cormack et al. eds., 2013) (discussing *Hamlet*). Hence, the claim is made that even though the Tenth Circuit provided to all of the judges an opportunity to read the case, it does not *ipso facto* equate to the affirmation that an accurate reading of the science had occurred. In fact, the argument of this article is that the opposite is the outcome.

258. *See generally* EXECUTIVE SUMMARY OF EXECUTION OF CLAYTON LOCKETT, *supra* note 155.

259. *See generally* Okla. Dep't of Corrections, *supra* note 6.

260. *See* Warner v. Gross, 135 S. Ct. 824 (2015) (denying a stay of Warner's execution).

261. Katie Fretland, *Oklahoma Carries out First Execution Since Botched Execution in April*, *GUARDIAN* (Jan. 16, 2015), <http://www.theguardian.com/world/2015/jan/16/oklahoma-executes-charles-warner>.

262. 135 S. Ct. 2726 (2015).

263. There were twelve amicus curiae briefs filed in *Glossip v. Gross*. *See Glossip v. Gross*, *SCOTUSBLOG*, <http://www.scotusblog.com/case-files/cases/glossip-v-gross/> (last visited March 21, 2017).

pharmacology filed in support of neither party.²⁶⁴ This litigant-neutral brief firmly disagreed with the State's reasoning concerning the use of midazolam in the execution protocol as the amici argued:

From a pharmacological perspective . . . [m]idazolam is incapable of rendering an inmate unconscious prior to the injection of the second and third drugs in the State of Oklahoma's lethal injection protocol. Therefore, midazolam is not appropriate for its intended purpose as the first drug in the State of Oklahoma's three-drug lethal injection protocol.²⁶⁵

The amici's scientific interpretation was contrary to the affirmation of the protocol within the preceding judicial determinations of the district court and the Tenth Circuit. They clearly set out the chemical interaction with the GABA receptors through the identified gradation of drugs as "agonists," in that "when a drug activates its receptor . . . to produce a maximal effect [it] is called a full agonist; one that cannot produce the maximal effect is called a partial agonist."²⁶⁶ It was argued that the drug does not produce a full agonistic inhibiting as "midazolam is only a partial agonist, and the depth of its inhibitory effect has limits," and consequently, the identification of the difference between the agonistic scales reveals how midazolam has a "ceiling effect."²⁶⁷ Taken on a holistic basis with the evidence of the three experts in the district court, it is reasonable to adduce that the objective, litigant-neutral clarity in the brief of the sixteen professors would have been persuasive.²⁶⁸ It was presented to the Supreme Court as clear and neutral scientific evidence that the inmate would be sentient and thus experience excruciating pain in the execution process. This is also consistent with what Charles Warner claimed he was subjected to during his execution.

264. Brief of Sixteen Professors of Pharmacology as *Amicus Curiae* in Support of Neither Party, *supra* note 111.

265. *Id.* at 20-21.

266. *Id.* at 17-18.

267. *Id.* at 18.

268. It is also consistent with Seema Shah's reasoning that "risk minimization likely puts extra scrutiny on particular aspects of execution by lethal injection. For instance, risk minimization may require Departments of Corrections to stop using the drug midazolam (which was implicated in three of the four botched executions that occurred in 2014)." Seema Shah, *Experimental Execution*, 90 WASH. L. REV. 147, 196-97 (2015).

B. The Majority Decision on the Pharmacology of Midazolam

1. Justice Alito and the Efficacy of Midazolam

In a five-four split decision, Justice Alito, joined by Chief Justice Roberts and Justices Scalia, Kennedy, and Thomas, wrote the majority opinion and agreed with the Tenth Circuit's affirmation of the district court's holding on the constitutionality of using midazolam in Oklahoma's lethal injection protocol.²⁶⁹ Justice Alito affirmed the efficacy of Dr. Evans's testimony that "although midazolam is not an analgesic, it can nonetheless 'render the person unconscious and "insensate" during the remainder of the procedure.'"²⁷⁰ Justice Alito followed the restrictive interpretive techniques of the district court and Tenth Circuit in privileging Dr. Evans's testimony without providing any scientifically corroborated evidence that speaks directly to the process for maintaining unconsciousness.²⁷¹ Concerning whether midazolam possesses a ceiling effect, Justice Alito stated that "[p]etitioners provided little probative evidence on this point, and the speculative evidence that they did present to the District Court does not come close to establishing that its factual findings were clearly erroneous."²⁷² There is no judicial explanation why Dr. Evans's "propositions" were not speculative and why his evidence was immunized against effective FRE peer-review standards. However, it does not change the fact that the State's position is contrary to Drs. Lubarsky and Sasich's interpretation of the complex pharmacology, which is underpinned by the findings of the amicus curiae brief of the sixteen professors of pharmacology.²⁷³ Justice Alito inadequately engaged with the testimony and expert reports and did not provide a reasonable deconstruction of the "speculative evidence."²⁷⁴ This reveals the dangers set by the district court

269. *Glossip v. Gross*, 135 S. Ct. 2726, 2730-31 (2015).

270. *Id.* at 2741 (citation omitted).

271. *See id.* at 2736.

272. *Id.* at 2743 (arguing that "Dr. Sasich stated in his expert report that the literature 'indicates' that midazolam has a ceiling effect, but he conceded that he 'was unable to determine the midazolam dose for a ceiling effect on unconsciousness because there is no literature in which such testing has been done'").

273. *See supra* Section VI.A.

274. The significant body of medical opinion which is against the District Court's decision has resulted in what the Honorable William J. Giacomo observed as the possibility of courts "admitting scientific testimony which is nonetheless unreliable or disputed in the scientific community." Giacomo, *supra* note 141, at 24-25. Cassandra Welch's observation of the quality of review is apposite, in that "under the *Daubert* trilogy, courts are free to use a flexible approach for all expert testimony in analyzing whether the proffered testimony is

precedent of an overstatement in science and it is subsequently very difficult to achieve an overruling of this initial reductive decision.

The dissymmetry in favor of the State did not end there. The majority opinion also negated the probative value of the absence of the FDA license and only referred to the FDA in a citation by Dr. Sasich.²⁷⁵ Such adjudication is indicative of the disconcerting reasoning in *Heckler v. Chaney*, in which the Supreme Court refused to mandate that the FDA should “exercise its enforcement power to ensure that States only use drugs that are ‘safe and effective’ for human execution.”²⁷⁶ *Heckler* held that the Food, Drug, and Cosmetic Act could not be interpreted to extend the FDA’s role in regulating drugs trials—including those on prisoners and veterinarians putting animals to death—to the state use of pharmacology in the death penalty.²⁷⁷ Such reasoning is an example that the underlying evidentiary vicissitudes are ultimately framed within an adjudicative process in which the courts, not the FDA, have the monopoly review. Timothy Kaufman-Osborn argued that the *Heckler* decision “appears to censure a specific way of taking life.”²⁷⁸ We are left with the very unsatisfactory position where “the administrative agency authorized to protect persons from dangerous drugs”²⁷⁹ is not the institution that ultimately determines what is the appropriate pharmacology for use in the lethal injection process. The states and the courts can thus maintain an opaque covering over the torturous ending of life.

2. Justice Alito on Scientific Methodology

Justice Alito privileged for assessment the importance of the improved execution technology and procedures as “the Oklahoma protocol featured numerous safeguards, including the establishment of two IV access sites” and “confirmation of the viability of those sites.”²⁸⁰ The amicus curiae brief of the sixteen professors did not see the issue of the procedures implementing the execution techniques and technologies (for example, those of the Restraint Team and IV Team) as determinative, because to the

reliable knowledge,” and it appears that the majority have adhered to the rule that “lower courts are insulated from rigorous review by the abuse of discretion standard, which is applied in all determinations of whether an expert should be allowed to testify.” Welch, *supra* note 131, at 1090-91.

275. See *Glossip*, 135 S. Ct. at 2742 n.5.

276. 470 U.S. 821, 827 (1985).

277. See *id.* at 823, 837-38.

278. KAUFMAN-OSBORN, *supra* note 188, at 204.

279. *Id.*

280. *Glossip*, 135 S. Ct. at 2736.

amici the foundational question for this litigation concerned the chemical composition of midazolam and its biological effects.²⁸¹ So the important question was not how to get midazolam into the body, but what happens once it is injected. On this issue, the majority opinion was focused upon the wrong aspect of the execution.

In further unsound methodology, Justice Alito sought to textually diminish the petitioner's position by classifying their legal and scientific arguments as "little more than a quibble about the wording chosen by Dr. Evans" and as "simply quarrelling with the words that Dr. Evans used."²⁸² Here, Justice Alito engaged with the arguments over midazolam's ceiling effect and the inhibiting of the GABA receptors.²⁸³ As a principle of science, it is difficult to understand this etymological critique of the petitioners' "words" used in their argument. In fact, this "quibble" was an engagement with the fundamental pharmacological questions, because following the clarification on the impact within the GABA receptors, the inhibiting function of midazolam is classified as only a partial agonist as opposed to a full agonist for an anesthetic effect.²⁸⁴ There is a real possibility that a surgical plane of unconsciousness will not be maintained.²⁸⁵ It is reasonable to state that the Supreme Court's majority opinion undermined the methodological approaches of the "responsible scientist" on the anesthetic effect, and instead provided a way for law to manipulate scientific research on this important issue.²⁸⁶ In the evidentiary hearing, a holistic reading would *prima facie* demonstrate that the responsible scientific methodology, presentation of data, and identification of lacunae, came from the petitioners. Drs. Lubarsky and Sasich were the

281. See Brief of Sixteen Professors of Pharmacology as *Amici Curiae* in Support of Neither Party, *supra* note 111, at 10-11.

282. *Glossip*, 135 S. Ct. at 2744.

283. *Id.*

284. See Brief of Sixteen Professors of Pharmacology as *Amici Curiae* in Support of Neither Party, *supra* note 111, at 17-20.

285. See *id.* at 20.

286. This is a dangerous decision concerning the use of science by legal institutions, and one which is used to deny a true reflection of the epistemology of pharmacological science. Deborah M. Hussey Freeland states:

A judge's decision in litigation has the greatest chance of legitimacy and justice if it is based on our best knowledge, our most honest and accurate accounts of real-world events—if it is based on legally found facts of the highest epistemological quality. If a judge were to base his opinion on lies or misleading facts, our confidence in his ability to produce a fair decision would be lessened.

Hussey Freeland, *supra* note 8, at 310.

experts who pointed to the unreliable scientific position within Oklahoma's execution protocol, which was subsequently corroborated by the amicus curiae brief of the sixteen professors of pharmacology.²⁸⁷

Anne Richardson Oakes and Haydn Davies affirm the importance of trust and confidence in the adjudicative process as the "acceptance of institutional legitimacy depends in large measure on the extent to which the procedures of the institution or decision-making body are perceived to be procedurally fair."²⁸⁸ There is significant evidence to demonstrate that the litigation over Oklahoma's protocol has been decided unfairly; at each stage of the appellate process the courts have failed to perform their procedural functions under the FRE and *Daubert*. Even worse, these legal results occurred despite the blatant evidence of the excruciating pain suffered by Wood, Lockett, and Warner. What Justice Alito's judgment demonstrates is that if science is not yet able to give the capital judicial system the answer it wants, then even with the examples of inmates suffering excruciating pain and trauma, retentionist mechanisms can be implemented by the highest level of the judiciary to mold the science to protect the death penalty.

A significant procedural technique for achieving this unsatisfactory result is placing the burden of proving that the pharmacology is inadequate onto the petitioner, and not the State. Justice Alito claimed:

When a method of execution is authorized under state law, a party contending that this method violates the Eighth Amendment bears the burden of showing that the method creates an unacceptable risk of pain. Here, petitioners' own experts effectively conceded that they lacked evidence to prove their case beyond dispute.²⁸⁹

Dr. Sasich stated that in comparison to the practice of reliable scientific methodology, the burden of proof in the capital judicial process "has really turned the whole situation backwards in terms of trying to assess the safety and effectiveness of these drugs."²⁹⁰ What remains is not a "pure science,"

287. See Brief of Sixteen Professors of Pharmacology as *Amici Curiae* in Support of Neither Party, *supra* note 111, at 18-20.

288. Anne Richardson Oakes & Haydn Davies, *Process, Outcomes and the Invention of Tradition: The Growing Importance of the Appearance of Judicial Neutrality*, 51 SANTA CLARA L. REV. 573, 573 (2011).

289. *Glossip*, 135 S. Ct. at 2741.

290. See Transcript of Preliminary Injunction Hearing on Dec. 17, 18, and 19 at 357, *Warner v. Gross*, No. CIV-14-665F (W.D. Okla. Dec. 22, 2014).

but a manifestation of what Sanne H. Knudsen describes as “policy-relevant science,” which is “shaped by institutional and political interests.”²⁹¹

The *Glossip* majority decision is reflective of Masur and Larrimore Ouellette’s observations on judicial deference mistakes, which have contributed to a “doctrinal creep by limiting the . . . substantive rights” of the petitioners.²⁹² What occurred within the district court was that the “information-forcing function”²⁹³ of the evidentiary hearing had not achieved the desired result for the capital judicial system through revealing a clear picture of the pharmacology to put inmates to death. Rather than providing the truth of scientific uncertainty in a commendable service to the court, the petitioners’ experts merely became problematic for retentionist interests and their evidence needed to be distilled and rendered inapplicable. Knudsen notes that “[t]here are asymmetrical standards of transparency that apply to government science and private science,”²⁹⁴ and it is clear that the “private science” of midazolam for use in medical procedures requires FDA approval and appropriate testing, but the “government science” of midazolam for use in an execution is a much lower methodological and scrutiny threshold. From the perspective of Eighth Amendment jurisprudence, and in the presence of supporting amici, this makes the Supreme Court’s decision more damning than those of the district court and the Tenth Circuit. The highest court had the significant benefit of the scientific insights from the amicus curiae brief of the sixteen litigant-neutral pharmacologists, and thus had a clearer scientific position placed before it. For this stage in the appeal there was a total of eighteen pharmacologists with the opinion that midazolam is not an effective anesthetic for executions and only one pharmacologist who disagreed. However, the Supreme Court still applied the standards of confined government science promoted by the lone pharmacologist over the alternative corroborated opinions of the eighteen pharmacologists, and to demonstrate impartiality, sixteen were neutral to the proceedings of the case.

The impetus for this abhorrent legal mechanism is therefore investigated. We need to discover the driving force molding the Supreme Court’s

291. Knudsen, *supra* note 10, at 1516.

292. See Masur & Larrimore Ouellette, *supra* note 233, at 674. The authors also state that when numerous courts make deference mistakes in habeas corpus petitions “the cumulative effect of such mistakes would be a systematic shrinking of federal rights.” *Id.* at 673.

293. Knudsen, *supra* note 10, at 1512-13 (highlighting the use of litigation as a way to engender scientific evidence).

294. *Id.* at 1533.

affirmation of such unsound pharmacological science. It appears that the determinative tool was the doctrine of finality, and we are now able to understand how the shadow of finality has been cast over the process from the beginning. It is a resolute presence throughout the genealogy of the judicial assessment of Oklahoma's execution pharmacology.

3. *The Privileging of the Doctrine of Finality*

In affirming the district court's reasoning, Justice Alito cited *Baze v. Rees*,²⁹⁵ which stated that allowing legal challenges solely as an avenue to show failsafe measures for adequate execution methods would "frustrate the State's legitimate interest in carrying out a sentence of death in a *timely manner*."²⁹⁶ This is an adjudicative concession to the jurisprudential corpus arising from the *Herrera v. Collins* binding of the doctrine of finality to capital cases,²⁹⁷ including the State's "significant interest" standard in *Nelson*,²⁹⁸ and the "moral dimension" of finality, in that "[o]nly with an assurance of real finality can the State execute its moral judgment in a case."²⁹⁹ Justice Alito asserted that "challenges to lethal injection protocols test the boundaries of the authority and competency of federal courts. Although we must invalidate a lethal injection protocol if it violates the Eighth Amendment, federal courts should not 'embroil [themselves] in ongoing scientific controversies beyond their expertise.'"³⁰⁰ What is damaging to the process is that the pharmacology of midazolam has stretched the boundary of the federal judiciary's competency, but instead of admitting a hitherto institutional incompetence and thus the need for further testing on the drug, the doctrine of finality has been adopted at all levels of the judiciary to manufacture a scientific position that packages the uncertainties of the pharmacological questions into a compartmentalized adjudicative result.³⁰¹ The *Glossip* majority did nothing to dispel the fact

295. *Glossip v. Gross*, 135 S. Ct. 2726, 2731 (2015) (citing *Baze v. Rees*, 553 U.S. 35, 61 (2008)).

296. *Baze*, 553 U.S. at 35, 61 (emphasis added).

297. *Herrera*, 506 U.S. at 417.

298. *Nelson*, 541 U.S. at 644.

299. *Calderon*, 523 U.S. at 556.

300. *Glossip*, 135 S. Ct. at 2740 (alteration in original) (quoting *Baze*, 553 U.S. at 51).

301. This is consistent with observations that institutions can hide behind the simulation of a pure scientific result, which is in reality a "science-laden policy decision[]." Holly Doremus, *Scientific and Political Integrity in Environmental Policy*, 86 TEX. L. REV. 1601, 1639-41, 1646 (2008). Sheila S. Jasanoff has argued that the processes for determining testing, methodology, and data in science during the regulatory process puts "unusual strains on science." Jasanoff, *supra* note 12, at 195.

that “[a]dversarial science conjures images of bias[ed], agenda-driven outcomes.”³⁰² It is evident that the doctrine of finality is a dominant component in the “machinery of death.”³⁰³

Consequently, in the evolution of humane Eighth Amendment jurisprudence, the *Glossip* minority opinion, written by Justice Sotomayor, provides the guiding moral and scientific light on this issue and renders transparent the failings of the majority opinion.

C. Justice Sotomayor in Dissent

1. Seeking Transparency of the Pharmacology of Midazolam

Justice Sotomayor’s dissent, which was joined by Justices Ginsberg, Breyer, and Kagan, sets out a holistic approach to the district court’s consideration of the expert evidence.³⁰⁴ It is clear to Justice Sotomayor that although there may have been a prima facie symmetrical weighing of each expert testimony throughout the appellate review, the final outcome is an unjustifiable dissymmetrical interpretive focus to illegitimately affirm the State’s position.³⁰⁵ The majority opinion “sweeps aside substantial evidence” of the petitioner’s experts, which showed that “while midazolam may be able to *induce* unconsciousness, it cannot be utilized to *maintain* unconsciousness in the face of agonizing stimuli.”³⁰⁶ Justice Sotomayor maintained that the majority followed the unsatisfactory district court opinion in affirming the “wholly unsupported claims that 500 milligrams of midazolam will ‘paralyz[e] the brain,’” and consequently the majority “disregards an objectively intolerable risk of severe pain.”³⁰⁷ The majority achieved this result “by deferring to the District Court’s decision to credit the scientifically unsupported and implausible testimony of a single expert witness,”³⁰⁸ because “Dr. Evans’ conclusions were entirely unsupported by any study or third-party source, contradicted by the extrinsic evidence proffered by petitioners, inconsistent with the scientific understanding of

302. Knudsen, *supra* note 10, at 1556.

303. *Callins v. Collins*, 510 U.S. 1141, 1145 (1994) (Blackmun, J., dissenting); *see also* Michael Hintze, *Tinkering with the Machinery of Death: Capital Punishment’s Toll on the American Judiciary*, 89 JUDICATURE 254, 256-57 (2006).

304. *See Glossip*, 135 S. Ct. at 2780-81 (Sotomayor, J., dissenting).

305. *See id.* at 2781, 2797.

306. *Id.* at 2785.

307. *Id.* at 2785-86 (alterations in original).

308. *Id.* at 2781.

midazolam's properties, and apparently premised on basic logical errors."³⁰⁹

Justice Sotomayor stated that “[g]iven these glaring flaws,” the district court judgment incorrectly elevated, and privileged, Dr. Evans’s evidence and, in effect, created the legal picture that the Court was presented with two equally plausible scientific perspectives on the pharmacology of midazolam.³¹⁰ In *Anderson v. City of Bessemer City*, the Supreme Court stated, “Where there are two permissible views of the evidence” that have been presented to reasonably demonstrate “equal scientific weight,” then the court has a legitimate function in selecting one scientific body of opinion over the other.³¹¹ However, Justice Sotomayor was of the opinion that the district court had not been presented with two permissible views of equal scientific weight, because the State’s expert had “failed to tell ‘a coherent and facially plausible story that is not contradicted by extrinsic evidence.’”³¹² At best, what had occurred was that a hypothesis was proposed by Oklahoma through its execution protocol and was supported by Dr. Evans through scantily corroborated opinions. The district court accepted an insufficiently supported proposition, so the Supreme Court should not abdicate its “duty to examine critically the factual predicates.”³¹³

In placing the evidence within a holistic evaluation, it is clear that Justice Sotomayor engaged the evidentiary guidance of the FRE Rule 702, in that the State’s case had not presented sufficient scientific data, it was not a product of reliable principles and methods, and the science was not reliably applied to the case. In support of her nuanced understanding of the law and science, Justice Sotomayor demonstrated an acute appreciation of the issue of GABA receptors and the insufficient inhibiting function of midazolam, which is supported by the amicus brief of the sixteen professors of pharmacology:

These inconsistencies and inaccuracies go to the very heart of Dr. Evans’ expert opinion, as they were the key components of his professed belief that one can extrapolate from what is known

309. *Id.* at 2788.

310. *See id.*

311. 470 U.S. 564, 574-75 (1985) (noting that two facially plausible stories “can virtually never be clear error”).

312. *Glossip*, 135 S. Ct. at 2788 (Sotomayor, J., dissenting) (quoting *Anderson*, 470 U.S. at 574-75).

313. *Id.* at 2786.

about midazolam's effect at low doses to conclude that the drug would "paralyz[e] the brain" at Oklahoma's planned dose.³¹⁴

To disprove this assertion, Justice Sotomayor cited the botched executions of Lockett and Wood.³¹⁵ She stated that Lockett's autopsy report determined "that the concentration of midazolam in Lockett's blood was more than sufficient to render an average person unconscious."³¹⁶ Concerning the execution of Wood, Justice Sotomayor argued that "[d]espite being given over 750 milligrams of midazolam, Wood gasped and snorted for nearly two hours. These reactions were, according to Dr. Lubarsky, inconsistent with Wood being fully anesthetized, and belie the claim that a lesser dose of 500 milligrams would somehow suffice."³¹⁷ Furthermore, the improvements in the execution technologies would not rectify the inherent problems with the pharmacology, as she argued that

none of the State's "safeguards" for administering these drugs would seem to mitigate the substantial risk that midazolam will not work, as the Court contends. Protections ensuring that officials have properly secured a viable IV site will not enable midazolam to have an effect that it is chemically incapable of having.³¹⁸

Justice Sotomayor opined that an adjudicative error was made. In *United States v. United States Gypsum Co.*, the Supreme Court held that clear error exists "when although there is evidence to support" a finding, "the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed."³¹⁹ A holistic review of the evidence was provided to argue that the district court clearly erred in relying on the State's singular scientific evidence. The majority opinion cited the three experts, but they did not provide an "entire review" that was necessary under *Gypsum* and the standards of review as guided by the FRE and *Daubert*. David Bernstein has argued that the Supreme Court should "step in at any time to reign in wayward circuits"³²⁰ in their misapplication of Rule 702, and this is what Justice Sotomayor and the minority tried to do. However, the majority opinion "has allowed lower court judges

314. *Id.* at 2787 (alteration in original).

315. *Id.* at 2790-91.

316. *Id.* at 2782.

317. *Id.* at 2791 (internal citation omitted).

318. *Id.* (internal citation omitted).

319. 333 U.S. 364, 395 (1948).

320. Bernstein, *supra* note 132, at 69.

significant latitude to ignore Rule 702,³²¹ or at least only pay lip service to the FRE while refusing to apply the codified evidentiary standards.

2. *The Alternative Execution Method Requirement*

Justice Sotomayor criticized the *Glossip* majority opinion for imputing the petitioner with a supposed *Baze* requirement of the need to identify an alternative execution method.³²² She argued that the majority converted “this categorical prohibition into a conditional one. A method of execution that is intolerably painful—even to the point of being the chemical equivalent of burning alive—will, the Court holds, be unconstitutional *if*, and only *if*, there is a ‘known and available alternative’ method of execution.”³²³ The *Baze* holding on the “known-and-available-alternative requirement” was based on a weak constitutional foundation of a plurality opinion,³²⁴ which did not create a solid precedent value.³²⁵ There is a prior example of this rule in death penalty jurisprudence. In 1972, the case of *Furman v. Georgia* provided a plurality opinion that the state capital statutes allowed too much discretion to the legal fact finder and were thus unconstitutional, but the plurality holding did not agree on the boundaries and applicability of the Eighth Amendment’s prohibition against cruel and unusual punishments or the scope of equal protection under law within the Fourteenth Amendment.³²⁶ Julian Killingley described the *Furman* judgment as an “anodyne *per curiam* opinion,”³²⁷ which consequently only suspended the death penalty in the United States, before the state capital statute’s deficiencies were perceived to be rectified by 1976 in *Gregg v. Georgia*.³²⁸ Therefore, the *ratio* of a judgment needs to be identified when plurality opinions are offered as precedent, and for guidance the Supreme Court stated in *Marks v. United States* that “the holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds.”³²⁹

321. *Id.*

322. *See Glossip*, 135 S. Ct. at 2793-94 (Sotomayor, J., dissenting).

323. *Id.* at 2793.

324. The plurality opinion judges were: Chief Justice Roberts, and Justices Stevens, Scalia, Kennedy, Thomas, and Breyer. *See Baze v. Rees*, 553 U.S. 35 (2008).

325. *Glossip*, 135 S. Ct. at 2793-94 (Sotomayor, J., dissenting).

326. *See generally* 408 U.S. 238 (1972) (*per curiam*).

327. Julian Killingley, *Constraining America’s Death Penalty: The Eighth Amendment and Excessive Punishment*, in *AGAINST THE DEATH PENALTY*, *supra* note 106, at 127, 139.

328. 428 U.S. 153 (1976).

329. 430 U.S. 188, 193 (1977) (citation omitted).

Justice Sotomayor stated that the *Glossip* majority unjustifiably deviated from the “narrowest grounds” principle, and thus “divines from *Baze*” that the petitioner must “prove the availability of an alternative means of execution,” and as such, it did not “represent the views of a majority of the Court”³³⁰ as is also required by *CTS Corp. v. Dynamics Corp. of America*.³³¹ The plurality opinion in *Baze* only speaks to the per se constitutionality of the death penalty by lethal injection,³³² and the alternative method is confined to the plurality holding and does not have the constitutional authority that the *Glossip* majority now seeks to impose upon the petitioners. It was thus wrongly decided and the district court made a deference mistake, which the majority now compounds.³³³ This is because the alternative method criteria is contingent upon the Supreme Court overruling *Hill v. McDonough*,³³⁴ which it did not do in *Baze*. In *Hill*, the Supreme Court held that in the plaintiff’s challenge to his execution under 42 U.S.C. § 1983, which provides a civil action for deprivation of rights including issues of prison confinement, he need not “identif[y] an alternative, authorized method of execution.”³³⁵ The Court affirmed that there was no constitutional basis for creating an “[i]mposition of heightened pleading requirements”³³⁶ upon the plaintiffs. Consequently, Justice Sotomayor reasoned that “[t]he *Baze* plurality opinion should not be understood to have so carelessly tossed aside *Hill*’s underlying premise.”³³⁷ This reasoning finds support in the amicus curiae brief of the Louis Stein Center for Law and Ethics at Fordham University School of Law, which argued that in 42 U.S.C. § 1983 litigation the “challenges to lethal injection

330. *Glossip*, 135 S. Ct. at 2793 (Sotomayor, J., dissenting).

331. 481 U.S. 69, 81 (1987).

332. *Glossip*, 135 S. Ct. at 2794 (Sotomayor, J., dissenting).

333. See Masur & Larrimore Ouellette, *supra* note 233, at 669-70. (The article engages with *Harris v. Stovall*, 212 F.3d 940 (6th Cir. 2000), in which it was argued that both the Court of Appeals for the Sixth Circuit and the Supreme Court of Ohio had made a deference mistake and wrongly applied the Supreme Court’s ruling in *Britt v. North Carolina*, 404 U.S. 226 (1971)). *Id.* *Britt* established that “the State must . . . provide indigent prisoners with the basic tools of an adequate defense or appeal, when those tools are available for a price to other prisoners.” *Britt*, 404 U.S. at 227.

334. 547 U.S. 573 (2006).

335. *Id.* at 582.

336. *Id.*

337. *Glossip*, 135 S. Ct. at 2795 (Sotomayor, J., dissenting).

protocols should not be restricted to instances in which an inmate can identify a specific available alternative.”³³⁸

To complete the deconstruction of the majority’s unsatisfactory reasoning on this issue, Justice Sotomayor stated that “[i]n reengineering *Baze* to support its newfound rule, the Court appears to rely on a flawed syllogism. If the death penalty is constitutional . . . then there must be a means of accomplishing it.”³³⁹ She continued to explain it is flawed because

[i]f all available means of conducting an execution constitute cruel and unusual punishment, then conducting the execution will constitute cruel and usual punishment. Nothing compels a State to perform an execution. It does not get a constitutional free pass simply because it desires to deliver the ultimate penalty; its ends do not justify any and all means. If a State wishes to carry out an execution, it must do so subject to the constraints that our Constitution imposes on it, including the obligation to ensure that its chosen method is not cruel and unusual. Certainly the condemned has no duty to devise or pick a constitutional instrument of his or her own death.³⁴⁰

Consequently, torturous levels are maintained within the capital judicial system, as Justice Sotomayor reasoned that “Oklahoma’s current protocol is a barbarous method of punishment—the chemical equivalent of being burned alive.”³⁴¹ Significantly, for the constitutional arguments that analyze cruel and unusual punishments,

it would not matter whether the State intended to use midazolam, or instead to have petitioners drawn and quartered, slowly tortured to death, or actually burned at the stake: because petitioners failed to prove the availability of sodium thiopental or pentobarbital, the State could execute them using whatever means it designated.³⁴²

This is a damning indictment of the majority opinion.

338. Brief for The Louis Stein Center for Law and Ethics at Fordham University School of Law, *supra* note 109, at 31-32 (citing *Hill*, 547 U.S. at 580-81; and *Jones v. Bock*, 549 U.S. 199, 213 (2007)). *Jones* stated that *Hill* “unanimously rejected a proposal that § 1983 suits challenging a method of execution must identify an acceptable alternative.” *Jones*, 549 U.S. at 213.

339. *Glossip*, 135 S. Ct. at 2795 (Sotomayor, J., dissenting).

340. *Id.*

341. *Id.*

342. *Id.*

The *Glossip* majority's confidence in the State was subsequently tested in the planning and logistics of the next execution. It will be determined whether the improvements to Oklahoma's execution protocol would render a constitutional punishment. Justice Sotomayor, along with Justices Ginsberg, Breyer, and Kagan, were unconfident about this possibility. Evaluating subsequent events in Oklahoma the minority sentiment was clearly justified.

*VII. Almost a Postscript: Human Error and
the Unfinal Decision Post-Glossip*

A. The Stay of Richard Glossip's Execution: Negligence, But Not as Was Envisaged

After the Supreme Court denied Glossip relief, Oklahoma initiated proceedings to judicially put him to death. From the State's position the comity interests had been adequately fulfilled and legitimate finality could now be initiated in the execution. A manifestation of human error occurred, however, that was not envisaged previously in the *Warner-Glossip* litigation. It was not the possibility of negligence regarding the use and biological effect of midazolam—it was an act of negligence in the pharmacist proscribing “potassium acetate” instead of “potassium chloride,” and the Department's chain of possession criteria failing to identify the error until the moment of the preparations for the execution.³⁴³ Thus, Governor Mary Fallin issued an Executive Order halting the execution,³⁴⁴ and the Oklahoma Court of Criminal Appeals then granted a stay on October 2, 2015.³⁴⁵ On October 16, 2015, the district court declared Richard Glossip's case to be “administratively closed”³⁴⁶ and held that it

343. See Okla. Exec. Dep't, Okla. Exec. Order No. 2015-42 (Sept. 30, 2015) (“This stay is ordered due to the Department of Corrections having received potassium acetate as drug number three for the three-drug protocol.”). Scott Pruitt, the Attorney General of Oklahoma, argued that “the Office of the Attorney General needs time to evaluate the events that transpired on September 30, 2015, ODOC's acquisition of a drug contrary to protocol, and ODOC's internal procedures relative to the protocol. The State has a strong interest in ensuring that the execution protocol is strictly followed.” State's Notice and Request for Stay of Execution Dates at 2, *Glossip v. Oklahoma*, Nos. D-2005-310 (*Glossip*), D-2000-653 (*Grant*), D-2004-1260 (*Cole*) (Okla. Crim. App. Oct. 1, 2015).

344. Okla. Exec. Dep't, Okla. Exec. Order No. 2015-42 (Sept. 30, 2015).

345. Order Issuing Stay at 2, *Glossip v. Oklahoma*, Nos. D-2005-310, D-2000-653, D-2004-1260 (Okla. Crim. App. Oct. 2, 2015).

346. Order Granting Joint Stipulation at 2, *Glossip v. Gross*, No. CIV-14-665-F (W.D. Okla. Oct. 16, 2015).

would not be in the “interests of judicial economy and comity” for Oklahoma to seek an execution at this time.³⁴⁷

Here, we see a transparent review of the logistics of Oklahoma’s execution protocol, and the initiation of comity interests to suspend the finality of an execution. To fulfill the “interests of judicial economy and comity,” a grand jury review commenced from October 2015³⁴⁸ through May 2016.³⁴⁹ Then on May 31, 2016, the Status Report noted that the Fifteenth Multicounty Grand Jury issued its findings³⁵⁰ and concluded that the “Department of Corrections staff, and others participating in the execution process, failed to perform their duties with the precision and attention to detail the exercise of state authority in such cases demands,”³⁵¹ and “[t]his investigation has revealed that *most* Department employees profoundly misunderstood the Protocol.”³⁵² Hence, there was a systematic failure to ensure the constitutionality of Oklahoma’s execution process, and based on these adverse incidents, and in an expression of finality interests, the Multicounty Grand Jury concluded that “justice has been *delayed* for the victims’ families and the citizens of Oklahoma, and confidence further shaken in the *ability of this State* to carry out the death penalty.”³⁵³

New issues of comity and finality have surfaced following the Supreme Court’s *Glossip* ruling, demonstrating that the overall confidence in the

347. *Id.* (stating that “[i]t would be in the interests of *judicial economy and comity* for the Oklahoma Attorney General not to seek an execution date” until the investigations into the protocol had concluded and the results reviewed, and any amendments to the protocol provided (emphasis added)).

348. Status Report at 2-3, *Glossip v. Oklahoma*, Nos. D-2005-310 (*Glossip*), D-2000-653 (*Grant*), D-2004-1260 (*Cole*) (Okla. Crim. App. Oct. 30, 2015).

349. Status Report at 1, *Glossip v. Oklahoma*, Nos. D-2005-310 (*Glossip*), D-2000-653 (*Grant*), D-2004-1260 (*Cole*), D-1996-121 (*Fairchild*), D-2006-38 (*Williams*) (Okla. Crim. App. May 17, 2016).

350. Status Report at 1, *Glossip v. Oklahoma*, Nos. D-2005-310 (*Glossip*), D-2000-653 (*Grant*), D-2004-1260 (*Cole*), D-1996-121 (*Fairchild*), D-2006-338 (*Williams*) (Okla. Crim. App. May 31, 2016). After the Fifteenth Multicounty Grand Jury issued its report setting out its findings, another updated Status Report referenced the jury report and noted: “The report made recommendations which must be reviewed, considered and, if deemed necessary, implemented by the Department of Corrections. Thus, although the investigation is complete, it is still not the appropriate time to set an execution date.” Status Report at 2, *Glossip v. Oklahoma*, Nos. D-2005-310 (*Glossip*), D-2000-653 (*Grant*), D-2004-1260 (*Cole*), D-1996-121 (*Fairchild*), D-2006-338 (*Williams*), D-2006-126 (*Hanson*) (Okla. Crim. App. June 30, 2016).

351. Interim Report Number 14, *supra* note 5, at 1.

352. *Id.* at 105.

353. *Id.* at 2 (emphasis added).

state's execution protocol was in many ways based upon illusory determinations. Due to the Multicounty Grand Jury investigations, it is no longer a foregone conclusion that Oklahoma can initiate effective comity review to create a constitutional execution. Furthermore, the investigations have brought to light that even in the previous execution of Charles Warner, there are now significant factors questioning the constitutionality of his execution as instead of potassium chloride, potassium acetate, a drug not included in the execution protocol, was wrongly provided and wrongly used. Warner's execution may now be regarded as an illegitimate application of finality in the death penalty.

B. The False Comity and Illegitimate Finality in Charles Warner's Execution

The investigations into the failings of the logistical preparations for Richard Glossip's execution uncovered that there was also hitherto unknown negligence in the preceding execution of Charles Warner. Before the execution of Warner, his attorneys were supplied with a notice from the Department that the three-drug protocol of Chart D (midazolam, vecuronium bromide, and potassium chloride) would be used in his execution on January 15, 2015.³⁵⁴ On the day of Warner's execution, an anonymized "Warden A" opened the box but did not realize that the wrong potassium had been ordered and sent by the pharmacist.³⁵⁵ Although the vials had "potassium acetate" written on them, the various members of the Department's execution teams did not notice that this drug was not mandated within the execution protocol.³⁵⁶ Warner's execution began at 7:10 p.m., and he was pronounced dead at 7:28 p.m.³⁵⁷

354. *Id.* at 30. "[T]he chain of custody form contains the Pharmacist's name, the receiving party's name, the date and time the drugs were received, and the drug's storage location upon receipt," but the form did not contain any information on the contents of the drugs. *Id.* at 31-32.

355. *See id.* at 33. The pharmacist explained to the Grand Jury:

When I looked through the ordering system, I looked at potassium. . . . I did not look at the salt form like I should have. In my pharmacy, my – in my brain, the potassiums are interchangeable. They're not generic. . . . but in a setting that they're used in, potassium is the drug that we're looking for. I did not look close enough and look at the acetate or chloride. I was looking at potassium.

Id. at 27-28.

356. *Id.* at 33-36. In responding to questions before the Grand Jury, the IV Team Leader stated:

All I can conjecture is that this was my first foray into this very unusual world of executions, lethal injections. And as you can imagine, my anxiety level was

Following the execution, a full inventory was taken of the drugs, the empty vials were stored, and an “After-Action Review” was held with the Director, the IV Team, the Restraint Team, and the Special Operations Team.³⁵⁸ At the briefing “no concerns were expressed regarding the execution drugs utilized.”³⁵⁹ Members of Oklahoma’s Chief Medical Examiner’s Office (“OCME”), then provided Charles Warner’s body and the drugs used for the autopsy report, which included photographs of the empty vials and syringes.³⁶⁰ In the autopsy report, the OCME noted that what was submitted with Warner’s body included a “[w]hite box containing 12 empty vials labelled ‘20 mL single dose Potassium Acetate Injection.’”³⁶¹ The OCME employees stated that they were not familiar with the specifics of Chart D drugs and had no reason to know the legal procedures in this specific execution.³⁶²

Upon completion of an execution, the Department’s Division Manager for Field Support is tasked with conducting a Quality Assurance Review to evaluate the performance of the execution process, and to report his findings to the Director.³⁶³ The report did not pick up on the use of “potassium acetate,” as opposed to “potassium chloride,” so the Division Manager did not record any of the failings in the chain of custody of the execution drugs.³⁶⁴ The Warner Autopsy Report was then circulated to various employees of the Department of Corrections, who along with the Office of the Governor, did not observe the reference in the report of the use of the “Potassium Acetate Injection.”³⁶⁵ In March and April 2015, as part of the investigations and litigation into Glossip’s case, the Attorney General’s Solicitor General’s Unit, the Litigation Unit, and the Federal Public Defender’s Office received a copy of the autopsy report, but the use

significant . . . the high stress environment is not new to me, but this was very unique and very unusual. *Id.* at 36.

357. *Id.* at 38-40.

358. *See id.* at 42-44.

359. *Id.* at 44.

360. *See id.* at 42-43.

361. *Id.* at 46-47 (emphasis added).

362. *Id.* at 47.

363. *Id.* at 49.

364. *See id.* at 49-51 (noting that “[a]lthough the Division Manager for Field Support had a PhD in clinical psychology, he had no specialized training in conducting quality assurance reviews of executions”).

365. *Id.* at 53.

of potassium acetate was not discovered at this point.³⁶⁶ A contributory factor was that the litigation at this time was intensely focused on the constitutionality of midazolam and its appropriateness for use as an anesthetic in the execution, rather than on the fact that potassium chloride and not potassium acetate was designated as the third drug within Chart D.³⁶⁷

C. The New Negligence in the Execution Procedure for Richard Glossip

In preparation for Richard Glossip's execution, the Office of the Attorney General's Litigation Unit notified Glossip's lawyers that the Department would use the drugs in Chart D.³⁶⁸ Following the same chain of custody that was used in the Warner execution, the anonymized "Warden A" unpacked the drugs and photographed them.³⁶⁹ This time he noticed the vials stated "potassium acetate," but he did not notify any of the execution teams that the drug was not the one classified in Chart D.³⁷⁰ Warden A assumed that the drugs had previously been checked and therefore proceeded with the execution.³⁷¹ When the IV Team Leader was drawing up the syringes he likewise noticed that some of the vials were labelled potassium acetate, but in deviating from the practice of Warden A, the Leader made the decision to notify the Department of Correction's General Counsel.³⁷²

The Attorney General's Office advised that the execution should not proceed if potassium chloride, the drug explicitly referred to in Chart D,

366. *Id.* at 54-55. It was decided that the Director of the DoC had orally modified the execution protocol with authority. *See id.* at 82-83. An agent with the Department's Office of Inspector General ("OIG Agent 1") failed to inspect the execution drugs while transporting them to the Oklahoma State Penitentiary, and Warden A failed to notify anyone in the Department that potassium acetate had been received. *Id.* at 57-58. The IV Team failed to observe the Department had received the wrong execution drugs. The Department's Execution Protocol failed to define important terms, and lacked controls to ensure the proper execution drugs were obtained and administered. *See id.* at 84-85.

367. *Id.* at 56-57.

368. *Id.*

369. *Id.* at 58.

370. *Id.* at 58-59. Before the Grand Jury, "Warden A," stated:

I didn't know who ordered the drugs. That's not part of my job duty. I didn't know it hadn't been looked at, I assumed it had been. I assumed that what the pharmacist provided was what [sic] we needed. So in my mind, that potassium acetate must have been the same thing as potassium chloride.

Id. at 59.

371. *Id.* at 59.

372. *Id.* at 63-64.

was not available.³⁷³ Governor Fallin was informed of the current legal position, and issued “Executive Order 2015-42, granting Glossip a thirty-seven day stay of execution.”³⁷⁴ The Office of the Governor put out a press release entitled, “Questions and Answers regarding Richard Glossip’s stay of execution,” which stated:

The decision to delay the execution was made because of the *legal ambiguity* surrounding the use of potassium acetate. Out of *an abundance of caution* and acting on the advice of the attorney general and her legal staff, Gov. Fallin delayed Glossip’s execution so any *legal ambiguities* could be addressed.³⁷⁵

The Office of the Attorney General then filed a Notice and Request for Stay of Execution on October 1, arguing that it needed “‘time to evaluate the events that transpired on September 30, 2015, the Department’s acquisition of a drug contrary to protocol, and the Department’s internal procedures relative to the protocol’ due to the State’s ‘strong interest in ensuring that the Execution Protocol is strictly followed.’”³⁷⁶ In this suspension of the finality of the execution, the State of Oklahoma initiated further review.

Following the submission of the Multicounty Grand Jury’s Interim Report, three key issues have emerged: (a) there was an unjustifiable oral change of the protocol to attempt to complete the execution;³⁷⁷ (b) there was a systematic failure of the staff of the Department of Corrections;³⁷⁸ and (c) in the attempt to prevent future problems and facilitate the Department staff’s adherence of the protocol,³⁷⁹ the Governor introduced initiatives for the Oklahoma State Penitentiary to obtain a license to store the drugs used in the execution protocol.³⁸⁰ This license is an attempt to rectify the issues preventing the obtaining of correct drugs.

373. *Id.* at 66.

374. *Id.* at 69.

375. *Id.* at 72-73 (emphasis added).

376. *Id.* at 73.

377. *Id.* at 82-83.

378. *Id.* at 74-75.

379. *Id.* at 100-06.

380. Whilst the Grand Jury was conducting its investigations, to help promote comity and finality, the governor identified a key problem to be rectified. Of issue was that controlled dangerous substances (“CDS”) are regulated in the State of Oklahoma within a dual-registration process by the U.S. Drug Enforcement Agency (“DEA”) and the Oklahoma Bureau of Narcotics and Dangerous Drugs (“OBNDD”). *Id.* at 18. Up until the date of the proposed Glossip execution, the Oklahoma Department of Corrections did not have a

The grand jury found that the execution protocol had been illegitimately changed by the Director and the Governor's General Counsel.³⁸¹ The Governor's General Counsel testified to the grand jury that even though he had learned that the pharmacist supplied the wrong potassium, his recommendation was to "proceed with Glossip's execution, and then seek 'clarification on the protocol' prior to the next execution."³⁸² This action is indicative of the promotion of the State's finality interest in rendering an execution, but in this instance, it was illegitimately applied and extra-legally pursued. The actions of the Governor's General Counsel clashed with Glossip's finality interest in protecting his rights to only have imposed upon him constitutional punishment, resulting in a suspension of the execution in a recognition of the need for further comity review. It is clear that the pressure on the system can cause decisions to be made that are not sanctioned by the execution protocol.

This pressure, which contributes to unjustifiable decisions, was compounded by the recent history of the increased difficulties in obtaining appropriate execution drugs.³⁸³ The Department's General Counsel noted that the pharmacy which supplied the drugs for the Lockett execution "refused to continue to participate in future executions."³⁸⁴ The Office of

registered license with the OBND to store CDS's at the Oklahoma State Penitentiary, and so CDS had to be transferred to the Penitentiary on the day of an execution. *See id.* at 18-21. This caused comity and finality problems, which are engaged with above, but on April 19, 2016, Governor Fallin signed Senate Bill 884 which came into effect on November 1, 2016, allowing the Department to register with OBND. It enables the Department to allow OSP to store CDS's to be used in executions. *Id.* at 21.

381. *Id.* at 67, 82-83.

382. *Id.* at 67. The Interim Report noted that on "the interchangeability of potassium chloride and potassium acetate, the Pharmacist explained to the Grand Jury that the active ingredient" was potassium ion and that the difference is that "[c]hloride and acetate are two types of salts to which the potassium ion attaches." *Id.* at 27. Thus, the active ingredient is the same (potassium) and it is still evident, following the Warner execution, that death occurs. *See id.* The question then comes whether the Execution Protocol allows "potassium acetate" to be used instead of the designated "potassium chloride" in Chart D.

383. *Id.* at 76 ("The Department's General Counsel explained that qualified doctors are often unwilling to assist or are prohibited from assisting in executions due to their medical ethics and professional societies' rules, even banning certain types of doctors from even being present at executions. Further, obtaining proper drugs from pharmacies has become increasingly difficult since pharmaceutical companies are limiting their supplies of lethal injection drugs, and pharmacies themselves are often unwilling to supply drugs to the Department due to privacy and safety concerns." (footnote omitted)).

384. *Id.* at 22 n.115. There is a growing moral and professional bulwark against healthcare professionals participating in executions. *See generally* Litton, *supra* note 107 (discussing the ethical assessments with physicians and executions).

the Attorney General revealed that it could not obtain pentobarbital and this was the reason for clarifying the use of the drugs in Chart D (which included midazolam).³⁸⁵ However, these reasons do not mitigate or render justifiable the actions of the Governor's General Counsel, as the Multicounty Grand Jury's Interim Report concluded:

It is unacceptable for the Governor's General Counsel to so flippantly and recklessly disregard the written Protocol and the rights of Richard Glossip. Given the gravity of the death penalty, as well as the national scrutiny following the Lockett execution, the Governor's Counsel should have been unwilling to take such chances. Regardless of the fact the wrong drug was used to execute Warner, the Governor's Counsel should have resoundingly recommended an immediate stay of execution to allow time to locate potassium chloride.³⁸⁶

This attempt to orally change the execution protocol unintentionally wove together the assessment of the unknown biological effects of an injection of potassium acetate with the assessment of the unknown effects of the injection of 500mg of midazolam. What is currently maintained is the possibility of creating the inmate in the guise of a death row version of "Schrödinger's Cat."³⁸⁷ The district court's evidentiary hearing and the Multicounty Grand Jury's deliberations on the human error in using potassium acetate demonstrate the danger that the physiology of death by execution can ultimately produce an opaque phenomenon in which there will be a superposition of coexisting possibilities—that the inmate strapped to the gurney will have his Eighth Amendment rights both protected *and* violated. Just as we do not know if Erwin Schrödinger's cat is dead or alive

385. Interim Report Number 14, *supra* note 5, at 22 ("The first pharmacist contacted refused, the second agreed to provide execution drugs but could not get pentobarbital, and the others also could not obtain pentobarbital. As a result, the Department decided to utilize Chart D of the Execution Protocol instead." (footnote omitted)).

386. *Id.* at 100.

387. Erwin Schrödinger created a thought experiment to solve the problem of the Copenhagen interpretation of quantum mechanics, and identified the paradox of a physical state of simultaneous existence. Joseph Blocher, *Schrödinger's Cross: The Quantum Mechanics of the Establishment Clause*, 96 VA. L. REV. IN BRIEF 51, 51-53 (2010). This theory has been applied to legal norms. See Barbara Yngvesson & Susan Coutin, *Schrödinger's Cat and the Ethnography of Law*, 31 POLAR: POL. & LEGAL ANTHROPOLOGY REV. 61 (2008); John D. Briggs, *Schrödinger's Cat and Extraterritoriality*, 29 ANTITRUST 79 (2014); Derek E. Bambauer, *Schrödinger's Cybersecurity*, 48 U.C. DAVIS L. REV. 791 (2015).

unless we lift the lid and take a look inside the box, we do not know to a reasonable level of scientific certainty whether the administration of midazolam and (if the Director and the Governor's General Counsel had gotten their way) potassium acetate, works in the way mandated by constitutional punishment until an autopsy report of the dead inmate can reveal what happened in his blood stream and internal organs.

If an execution is proven *ex post facto* to be torturous (as needless suffering was imposed) it is unconstitutional, and thus an illegitimate manifestation of finality has occurred (as in Warner's execution). This post-punishment revelation, however, does not help the inmate as he or she will already be dead. Indeed, the former Supreme Court Justice John Paul Stevens argued that "the finality of state action terminating the life of one of its citizens precludes any possible redress if a mistake does occur."³⁸⁸ Such presence of uncertainty, and thus the need for an *ex post facto* investigation, is unacceptable as a principle of Eighth Amendment jurisprudence and human dignity in punishment. Although the risk of the unknown for the existence of the superposition may be a legitimate basis for a hypothesis in physics for determining quantum theory, that risk in lethal injection procedure is unacceptable as a principle of humane punishment. We need to do better than that. And if we cannot, we need to admit it and discontinue this punishment.

VIII. Conclusion: The Interaction of Comity and Finality to Reveal the Irredeemable Constitutional Deficiencies of the Death Penalty in Oklahoma

This critique has placed the consideration of Oklahoma's execution protocol in the *Warner-Glossip* litigation within two methods of assessment to uncover the reasons for the human error and the lack of confidence in the state being able to maintain a humane lethal injection process. The methods presented were (a) the procedural review provided within the principles of comity and finality and (b) the scientific methodologies of atomism and holism for determining the epistemology of the pharmacology. These methods were used to provide a critique of the adjudicative assessment by the district court, the Tenth Circuit, and the Supreme Court so as to uncover the extent to which accurate data and methodologies were used in compliance or in violation of the FRE and *Daubert* standards of review. Then following further examples of human error in the execution protocol, the Multicounty Grand Jury's investigations were analyzed to consider the

388. JOHN PAUL STEVENS, SIX AMENDMENTS: HOW AND WHY WE SHOULD CHANGE THE CONSTITUTION 122 (2014).

questions concerning the maladministration of various members of the execution teams. The grand jury also reflected both comity and finality assessments in not only its procedural review but also in its search for the epistemology in the pharmacology for executions.

The above analysis has attempted to demonstrate that the State of Oklahoma, and the federal adjudicative process, has failed in the consideration of Oklahoma's lethal injection protocol. Sound scientific methodology and data has not been provided to affirm the claimed legitimacy of Oklahoma's use of midazolam in the protocol. It has been argued that the judicial system—from the district court to the Supreme Court—misapplied the comity and finality principles and unjustifiably sidelined sound science in providing a packaged, policy-driven outcome of the methodology and data. This occurred through a judicial management that protected the State's atomistic viewpoints on the science, to the detriment of sound pharmacology through holistic methodology. Consequently, torturous executions will be maintained, and the evidence of Drs. Lubarsky and Sasich, and of the sixteen litigant-neutral pharmacologists, clearly demonstrate that midazolam will not work in the way that the State claims. This is because the drug (a) has a ceiling effect, making it ineffective as an anesthetic in the execution; (b) does not have sufficient analgesic properties, resulting in the inmate's experience of an enhanced pain sensation (needless suffering); and (c) will very likely induce paradoxical manifestations resulting in the drug not producing its intended effects. It is most unsatisfactory in the presence of such overwhelming scientific evidence that the State of Oklahoma was allowed to maintain this drug within its execution protocol.

The governmental confidence in Oklahoma's capital judicial system—following the creation of the new execution facility, the enhanced execution procedures to eradicate human error, and the array of drug options in Charts A-D—should now be seen as unfounded. The negligence of the prison obtaining potassium acetate instead of potassium chloride, the use of this wrong drug in Charles Warner's execution, and the attempted use of it in Richard Glossip's execution, was the result of an illegitimate oral change in the execution protocol. Following this unconscionable event, Governor Fallin made a commendable decision to impose a detailed comity review of Oklahoma's execution protocol. The subsequent Multicounty Grand Jury affirmed the presence of human error and the unsanctioned oral change of the protocol. A logical conclusion can be drawn from the review, revealing that in the execution protocol, after forty years of experimentation (since

the invention of lethal injection in 1977), it is very likely that future human error will occur and even manifest in hitherto undiscovered ways.

In *Baze v. Rees*, Justice Stevens stated that the death penalty was a product of “habit and inattention rather than an acceptable deliberative process.”³⁸⁹ It is clear that Oklahoma reflects this damning inattention and thus maintains an unacceptable mode of punishment. We are at a moment in the history of the death penalty where we can say that the comity interests expressed in the capital judicial system will consistently demonstrate to the state-federal architecture that the death penalty is an unconstitutional punishment. The transparency offered by a detailed review will reveal that the death penalty is an illegitimate manifestation of finality, and thus should be found to be an unconstitutional punishment. We are now living in a moment in which the death penalty should be considered per se cruel and unusual punishment. The death penalty is a barbaric vestige of a bygone era, and it should be castigated to the historical annals of the State of Oklahoma.

389. 553 U.S. 35, 78 (2008) (Stevens, J., concurring in the judgment).