Adieu to Electrocution

Deborah W. Denno
Fordham University School of Law, DDENNO@law.fordham.edu

Follow this and additional works at: http://ir.lawnet.fordham.edu/faculty_scholarship
Part of the Criminal Procedure Commons

Recommended Citation
Available at: http://ir.lawnet.fordham.edu/faculty_scholarship/114
Adieu to Electrocution

DEBORAH W. DENNO

In Bryan v. Moore, the United States Supreme Court rewrote a part of death penalty history. For the first time ever, the Court granted certiorari to review arguments concerning whether execution by electrocution in any state—in this case Florida—violated the Eighth Amendment’s Cruel and Unusual Punishments Clause. The Court ultimately dismissed its certiorari grant in light of the Florida legislature’s decision to switch to lethal injection. Bryan also fueled comparable constitutional challenges in the two remaining electrocution states, Alabama and Nebraska. Within moments of legal time, the Millennium will bid electrocution adieu.

Much has been written about why electrocution has persisted so stubbornly over the course of the twentieth century. This Article focuses

* Professor of Law, Fordham University School of Law. B.A., 1974, University of Virginia; M.A., 1975, University of Toronto; Ph.D., 1982, J.D., 1989, University of Pennsylvania. I am most grateful for the very helpful comments and advice provided by Bruce Green, Edward Chikofsky, and Hunter Labovitz; however, these individuals are not responsible for my mistakes. I give special thanks to Juan Fernandez for his superb work in tabulating all the data that this Article analyzes, and for creating Tables 1-4 and 7-8. I also thank Greg Drenenstedt for initially creating Tables 5-6, and James Mowbray for offering information on Nebraska’s execution method status. On March 24, 2000, I presented an early version of this Article at the Claude W. Petit College of Law, Ohio Northern University Law Review Symposium on “The Ultimate Penalty: A Multifarious Look at Capital Punishment.” An early version of this Article also formed the basis of the amicus brief filed in Bryan v. Moore, 120 S. Ct. 394 (1999), by Fordham Law School’s Stein Center for Law and Ethics, and several other parties. See 1999 WL 1249430 (Amicus Brief), Bryan v. Moore, 120 S. Ct. 394 (1999).


2. See id.; see also Deborah W. Denno, Getting to Death: Are Executions Constitutional?, 82 IOWA L. REV. 319, 321 (1997) (emphasizing that “[t]he United States Supreme Court has never reviewed evidence concerning whether any particular execution method is unconstitutional and has rarely even broached the issue”).


4. See infra app. tbl.1. After Bryan, the Court denied certiorari to review the Supreme Court of Alabama’s finding that electrocution was constitutional. See Tarver v. Alabama, 120 S. Ct. 1669 (2000). Regardless, the Alabama legislature is considering two bills proposing that lethal injection be the state’s major means of execution. See Justices Block an Execution in Alabama’s Electric Chair, N.Y. TIMES, Feb. 5, 2000, at A12. In addition, a Nebraska district court held that the way electrocution has been applied in Nebraska (using four jolts instead of one long jolt), is unconstitutional. See State v. Mata, No. CR 99-52, Memorandum Order (D. Neb. May 8, 2000); see also Kim Cobb, Judges’ Ruling Could End Use of Electric Chair in Nebraska, HOUS. CHRON., May 10, 2000, at 7. The constitutionality of Nebraska’s electric chair will be a primary focus of Raymond Mata’s appeal to the Nebraska Supreme Court. See Todd Von Kampen, Death Sentence for Mata; His Attorneys Plan in Their Appeal to Challenge the Constitutionality of Nebraska’s Use of the Electric Chair, OMAHA WORLD-HERALD, June 2, 2000, at 1.

5. For summaries of the literature, see Denno, supra note 2, at 319, and Deborah W. Denno, Is Electrocutition an Unconstitutional Method of Execution? The Engineering of Death Over the Century, 35 WM. & MARY L. REV. 551 (1994).
briefly on more recent developments concerning why electrocution should be abolished entirely. Part I of this Article describes the facts and circumstances surrounding Bryan as well as Bryan's unusual world-wide notice due to the gruesome photos of the executed Allen Lee Davis posted on the Internet. Part II focuses on the sociological and legal history of electrocution, most particularly the inappropiate precedential impact of In re Kemmler. In Kemmler, the Court found the Eighth Amendment inapplicable to the states and deferred to the New York legislature's determination that electrocution was not cruel and unusual. Regardless, Kemmler has been cited repeatedly as Eighth Amendment support for electrocution despite Kemmler's lack of modern scientific and legal validity. Part III concludes that, under the Court's modern Eighth Amendment jurisprudence, electrocution is unconstitutional according to four criteria: (1) the "unnecessary and wanton infliction of pain," (2) "physical violence" and an affront to "human dignity," (3) the risk of "unnecessary and wanton infliction of pain," and (4) "evolving standards of decency."

Alabama and Nebraska remain the only electrocution states, after a steep decline over the decades in the number of states that have used electrocution in this country. This Article contends that there is no moral or legal reason to retain electrocution, particularly because other execution methods are available. It is clear that at some point soon, electrocution will no longer exist in this country and, as a result, throughout the world. By eliminating this perplexing vestige, the other problems with the death penalty may appear all that more offensive.

6. The impetus for this Article stems from my involvement as an expert in a number of cases challenging the constitutionality of electrocution, including some earlier Florida cases that paved the way for Bryan. See Jones v. State, 701 So. 2d 76 (Fla. 1997); Buenoano v. State, 565 So. 2d 309 (Fla. 1990).
7. 136 U.S. 436 (1890).
8. See id. at 446, 449.
10. Id. at 1085; see generally Furman v. Georgia, 408 U.S. 238, 270 (1972) (Brennan, J., concurring); Trop v. Dulles, 356 U.S. 86, 100 (1958).
12. Trop, 356 U.S. at 101; see also Furman, 408 U.S. at 269-70 (Brennan, J., concurring).
I. A Florida Electrocution Garners World-Wide Notice

On July 8, 1999, Allen Lee Davis’ execution in Florida’s electric chair gained worldwide notice and condemnation. The Florida Supreme Court’s color photos of the executed Davis, posted on the Internet, received so many “hits” from the several millions of interested viewers that the court’s computer system crashed and was disabled for months afterwards.

The photos and witnesses’ testimony indicated that Davis suffered a nose bleed that poured down his shirt, that he evidenced deep burns on his head, face, and body, and that he was partially asphyxiated before and during the electrocution from the five-inch-wide mouth strap that belted him to the chair’s head-rest. There was also testimony that after guards placed the mouth strap on him, Davis’ face became red and he made sounds in an effort to get the guards’ attention. Witnesses described Davis’ sounds as “screams,” ‘yells,’ ‘moans,’ ‘high-pitched murmurs,’ ‘squeals,’ or ‘groans,’ or like ‘a scream with someone having something over their—their mouth.’ Those execution team members who heard Davis’ noises “ignored them because they were not unusual during an electrocution.” In the post-execution photos taken by Department of Corrections personnel, a sponge placed under [Davis’] head-piece obscures the entire top portion of his head down to his eyebrows; because of the width of the mouth-strap, only a small portion of Davis’ face is visible above the mouth-strap and below the sponge, and that portion is bright purple and scrunched tightly upwards; his eyes are clenched shut and his nose is pushed so severely upward that it is barely visible above the mouth-strap.


15. See Osborne, supra note 14, at 20; Millions Flock to US Execution Site, supra note 14, at 22; Peltier, supra note 14, at A8.


17. See id. at 433.


19. Id. (citations omitted).

20. Provenzano, 744 So. 2d at 434 (Shaw, J., dissenting).
Thomas Provenzano, who was scheduled to be executed in the Florida State Prison the next day, filed a petition with the Florida Supreme Court seeking a stay of execution, arguing that the state’s electric chair was cruel and unusual punishment. The Florida Supreme Court remanded Provenzano’s case to the circuit court to conduct an evidentiary hearing on the constitutionality of Florida’s electric chair. After the hearing, the circuit court held that electrocution in Florida’s electric chair “is not unconstitutional.” In Provenzano v. Moore, a 4-3 per curiam opinion, a plurality of the Florida Supreme Court affirmed, in three pages, the circuit court’s “finding that the electric chair is not unconstitutional.” Moreover, the plurality reiterated its previous holding in Jones v. State which had rejected the claim that Florida’s use of electrocution violated “evolving standards of decency.” The court implied there was no need to readdress the “evolving standards of decency” issue.

In granting certiorari to review the issue in Bryan v. Moore, the Court defied history and expectations. Yet, it was also unclear why the Court made such a move after all these years. There were a range of possible views: (1) the Court wanted to declare electrocution constitutional once and for all to end the seemingly ceaseless stream of appeals challenging the method’s constitutionality over the years; (2) the Court wanted to examine the constitutionality of Allen Lee Davis’ execution in particular, in light of Florida’s history of botched executions; or (3) the Court wanted to examine whether electrocution in general, as well as applied specifically in Florida, was constitutional. This span of possible perspectives necessitated a sufficiently broad focus for challenging the constitutionality of electrocution, beginning with the method’s history.

II. ELECTROCUTION WARRANTS RECONSIDERATION UNDER MODERN EIGHTH AMENDMENT STANDARDS

When the United States Constitution was being ratified, the Framers included in the Bill of Rights a prohibition of cruel and unusual punishments created expressly to proscribe the kinds of “torturous” and “barbarous”

21. See id. at 413-15.
22. See id. at 413-14.
23. Id. at 414-15.
24. Id. at 413 (per curiam).
25. Id. at 416.
26. 701 So. 2d 76 (Fla. 1997).
27. Provenzano, 744 So. 2d at 415.
28. 120 S. Ct. 394 (1999).
penalties associated with certain methods of execution. To date, however, courts generally have provided only superficial Eighth Amendment review of the constitutionality of execution methods, particularly electrocution. Most commonly, courts dismiss the electrocution challenge entirely (often in one sentence) by relying on the century-old precedent of \textit{In re Kemmler}. In \textit{Kemmler}, the Court held that the Eighth Amendment did not apply to the states and deferred to the New York legislature's conclusion that electrocution was not a cruel and unusual punishment under the state's Electrical Execution Act.

For a range of reasons, \textit{Kemmler}'s precedential value has diminished substantially over the last century. First, the \textit{Kemmler} Court never specifically employed the Cruel and Unusual Punishments Clause even though post-incorporation cases have continued mistakenly to cite \textit{Kemmler} as an Eighth Amendment case. Next, the \textit{Kemmler} Court adopted the burden of proof promulgated by the New York court that required the prisoner to show "beyond doubt" that the execution method was cruel and unusual. However, this standard has not been used since \textit{Kemmler} in death penalty cases. Although courts, such as \textit{Provenzano v. Moore}, typically fail to identify the burden of proof when reviewing the constitutionality of execution methods, the burden of proof courts cite most frequently—preponderance of the evidence—is far less stringent. Moreover, a court reviewing electrocution under the Eighth Amendment would not defer to the state's legislature to the extent the Court did when deciding \textit{Kemmler}. Most critically, \textit{Kemmler} was

\begin{itemize}
  \item 30. 136 U.S. 436 (1890); \textit{see also} \textit{Denno, supra} note 5, at 616-23; \textit{Denno, supra} note 2, at 333-54.
  \item 31. \textit{See} \textit{Kemmler}, 136 U.S. at 442-43.
  \item 33. \textit{Kemmler}, 136 U.S. at 442.
  \item 34. 744 So. 2d 413 (Fla. 1999) (per curiam).
  \item 35. \textit{See Denno, supra} note 2, at 335; \textit{see also} \textit{Walton v. Arizona}, 497 U.S. 639, 649-51 (1990) (plurality opinion) (upholding Arizona's imposition on defendants the burden of establishing, "by a preponderance of the evidence, the existence of mitigating circumstances sufficiently substantial to call for leniency" in order to avoid the death penalty after the establishment of one or more aggravating factors); \textit{Blake v. Hall}, 668 F.2d 52, 57 (1st Cir. 1981) (determining that plaintiffs had failed to establish by "'a fair preponderance of the evidence'" that cell conditions at a prison constituted cruel and unusual punishment); \textit{McGill v. Duckworth}, 726 F. Supp. 1144, 1148-49 (N.D. Ind. 1989) (discussing the applicability of the preponderance of the evidence standard in suits against prison officials for failing to protect a prison inmate from attack by another inmate); \textit{Martin v. Foti}, 561 F. Supp. 252, 257 (E.D. La. 1983) (noting that plaintiffs had "failed to show by a preponderance of the evidence" that conditions were cruel and unusual).
  \item 36. \textit{See Kemmler}, 136 U.S. at 442-43 (quoting the New York Supreme Court's explanation of why it deferred to the legislature).
\end{itemize}
decided before anyone had been electrocuted; therefore, the Court had limited evidence in reaching its conclusion.37 Historical analyses suggest that Kemmler was based in large part on the law, science, and politics of the time as well as the particular uncertainties resulting from the passage of New York’s Electrocution Act.38

Both legally and scientifically, then, Kemmler’s 1890 electrocution was a human experiment. By all accounts, the experiment failed. In graphic detail, the media reported the confusion, mistakes, and physical violence that resulted from Kemmler’s execution.39 Regardless, electrocution became a popular means of execution in other states, which also reported mishaps and botches.40 Seemingly, the desire to perpetuate the death penalty outweighed any humanitarian goal to switch to a new method.41

The Kemmler Court’s factual assumptions regarding the acceptability of electrocution have no support in light of modern evidence of electrocution’s effects on the human body.42 One of the Kemmler Court’s legal conclusions,

37. See Far Worse Than Hanging, N.Y. TIMES, Aug. 7, 1890, at 1 (explaining that William Kemmler was the first person to be executed by electricity).

38. The events surrounding Kemmler suggest that political and financial forces outweighed the purported humanitarian concerns. For example, the New York Electrocution Act was a direct result of the Governor of New York’s 1885 message to the legislature decrying the barbarity of hanging and his appointment of a Commission to investigate “the most humane and practical method known to modern science” of carrying out executions. Denno, supra note 5, at 567 (citations omitted). Yet, compelling evidence suggests that the Commission’s ultimate recommendation of electrocution as the most humane method of effecting death was influenced heavily by a financial competition between Thomas Edison and George Westinghouse concerning whose current would dominate the electrical industry: Edison’s DC current or Westinghouse’s AC current. See id. at 568-73. Edison and his associates would have benefited by showing that George Westinghouse’s AC current was so lethal it could kill someone. See id. at 571. If AC current were used in the electric chair, people would be afraid to use the current in their own homes. See id. Indeed, this Edison-Westinghouse rivalry existed within and throughout the New York Supreme Court’s evidentiary hearings. See generally id. at 568-77. Edison testified that death by electrocution would be quick and painless and that electricity would not mutilate the victim’s body. See id. at 580; cf. Craig Brandon, The Electric Chair: An Unnatural American History 82 (1999). In contrast, Westinghouse reportedly financed William Kemmler’s appeal at a cost exceeding $100,000. See Denno, supra note 5, at 578. Both Edison and Westinghouse also relied on a series of experiments testing the effects of electrocution on animals, albeit emphasizing differing results. See id. at 574; see generally Brandon, supra, at 75-88. Yet, despite a cross examination demonstrating Edison’s ignorance of the effects of electrical currents on the human body as well as experimental results showing that electrocution did not quickly kill many of the animals tested, Edison’s enormous reputation at the time outweighed revelation of his or any other expert’s substantive flaws. See Denno, supra note 5, at 570. The New York legislature adopted electrocution and, with time, the medical community recommended AC current in particular. See id. at 572-77. For further details surrounding this controversy, see Brandon, supra, at 7-159; Denno supra note 5, at 562-604.

39. See, e.g., Far Worse Than Hanging, supra note 37, at 1.

40. See Brandon, supra note 38, at 205-57; Denno, supra note 5, at 624-76.

41. See Denno, supra note 2, at 388-94.

42. See, e.g., Poyner v. Murray, 508 U.S. 931, 933 (1993) (Souter, J., joined by Blackmun and
however, remains viable: "Punishments are cruel when they involve torture or a lingering death . . . . [S]omething more than the mere extinguishment of life." 43

Regardless of the problems with electrocution, the Court relied on Kemmler in Malloy v. South Carolina, 44 to conclude that the State's implementation of death through electrocution, rather than hanging, did not increase the punishment of murder but only changed its mode. 45 Thirty-two years later in Louisiana ex rel. Francis v. Resweber, 46 the issue was not whether electrocution was per se unconstitutional, but whether the State of Louisiana could constitutionally execute the appellant after the electric chair had malfunctioned during the first attempt. 47 In examining the circumstances of Francis "under the assumption, but without so deciding" that the Eighth Amendment applied, 48 a plurality of four Justices interpreted the Cruel and Unusual Punishments Clause as prohibiting only the "inflict[jion of] unnecessary pain," not the suffering created in an "unforeseeable accident." 49 The Justices thus assumed that state officials performed "their duties . . . in a careful and humane manner." 50 Justice Frankfurter explained, however, that his deciding fifth vote did "not mean that a hypothetical situation, which assumes a series of abortive attempts at electrocution . . . would not raise different questions." 51

Since 1962, when the Court held in Robinson v. California 52 that the Eighth Amendment applies to the states, the Court's Eighth Amendment doctrine has emphasized an "evolving standard of decency" of cruel and unusual punishment. 53 This evolution occurs because "[t]ime . . . brings into existence new conditions and purposes. Therefore a principle, to be vital, must be capable of wider application than the mischief which gave it birth." 54

Stevens, JJ., respecting denial of certiorari (emphasizing that Kemmler was not "a dispositive response to litigation of the issue [of the constitutionality of electrocution] in light of modern knowledge").

44. 237 U.S. 180 (1915).
45. See id. at 185.
46. 329 U.S. 459 (1947) (plurality opinion).
47. See id. at 461.
48. Id. at 462.
49. Id. at 464.
50. Id. at 462.
51. Id. at 471 (Frankfurter, J., concurring).
52. 370 U.S. 660, 666 (1962). In Farman v. Georgia, 408 U.S. 238 (1972), Justice Douglas relied on both Robinson and Francis to conclude that the Eighth Amendment's applicability to the states is "now settled." Id. at 241 (Douglas, J., concurring); see also Denno, supra note 2, at 337.
For these reasons, the Court has viewed the Eighth Amendment "in a flexible and dynamic manner," recognizing that the Clause "draw[s] its meaning from the evolving standards of decency that mark the progress of a maturing society." Current claims of cruel and unusual punishment must therefore be assessed "in the light of contemporary human knowledge."

Consistent with the "evolving standards of decency" and Kemmler's "torture and lingering death" standards, the Court's Eighth Amendment jurisprudence suggests four interrelated criteria for determining the constitutionality of an execution method: (1) "the unnecessary and wanton infliction of pain," (2) "nothing less than" human dignity (e.g., "a minimization of physical violence during execution"), (3) the risk of "unnecessary and wanton infliction of pain," and (4) "evolving standards of decency" as measured by "objective factors to the maximum extent possible," such as legislation passed by elected representatives or public attitudes.

In Provenzano, the Florida Supreme Court's skeletal per curiam opinion virtually ignored the great bulk of the Court's Eighth Amendment jurisprudence. Therefore, the Florida Supreme Court effectively begged the question of electrocution's continued propriety under an "evolving standards of decency" test. Indeed, no court has reviewed the constitutionality of electrocution under modern Eighth Amendment standards which consider, as a substantial part of an "evolving standards of decency" analysis, legislative trends and related information, such as public opinion polls.

III. A MODERN EIGHTH AMENDMENT ANALYSIS DEMONSTRATES THAT EXECUTION BY ELECTROCUTION CONSTITUTES CRUEL AND UNUSUAL PUNISHMENT

Under the Court's modern Eighth Amendment jurisprudence, pain is only one of a range of factors suggesting that an execution by electrocution constitutes cruel and unusual punishment. This section discusses briefly the pain and physical violence of electrocution, but then focuses on other Eighth Amendment criteria, most particularly the strong showing of legislative trends away from electrocution.

57. Robinson, 370 U.S. at 666.
58. See Denno, supra note 2, at 321-402 (citations omitted).
A. Electrocuti}' Constitutes "Unnecessary and Wanton Infliction of Pain"

The most recent research and eyewitness observations suggest that many factors associated with electrocuti}' such as severe burning, boiling body fluids, asphyxiation, and cardiac arrest, can cause extreme pain when unconsciousness is not instantaneous.\textsuperscript{59} Table 8\textsuperscript{60} provides brief summaries of nineteen botched electrocuti}'s following \textit{Gregg v. Georgia},\textsuperscript{61} when the Court ended its moratorium on the death penalty.\textsuperscript{62} These botches provide considerable evidence of extensive pain and suffering experienced by electrocuted prisoners. Notably, even a routine or "properly performed" electrocuti}' can cause intense pain and a lingering death.\textsuperscript{63}

B. Electrocuti}' Constitutes "Physical Violence" and Offends "Human Dignity"

Evidence of mutilation resulting from electrocuti}' is derived from three sources: post-execution autopsies, which are required in some states; observations provided by experts; and witnesses' descriptions of executions, some of which are detailed in Table 8.\textsuperscript{64} The effects of electrocuti}' on the human body include the following: charring of the skin and severe external burning, such as the possible burning away of the ear; exploding of the penis; defecation and micturition, which necessitate that the condemned person wear a diaper; drooling and vomiting; blood flowing from facial orifices; intense muscle spasms and contractions; odors resulting from the burning of the skin and the body; and extensive sweating and swelling of skin tissue.\textsuperscript{65}

Similar to Allen Lee Davis' execution, for example, the execution of Wilbert Lee Evans in Virginia resulted in substantial bleeding.\textsuperscript{66} According to accounts by witnesses and reporters, blood poured from Evans' eyes and nose, drenching his shirt.\textsuperscript{67} Moreover, the flames witnessed during the 1990 execution of Jesse Joseph Tafero and the 1997 execution of Pedro Medina

\textsuperscript{59} See id. at 354-58 (summarizing available medical publications, eyewitness reports, and affidavit testimony).
\textsuperscript{60} \textit{Infra} app. tbl.8.
\textsuperscript{61} 428 U.S. 153 (1976).
\textsuperscript{62} See id. at 168-207.
\textsuperscript{63} See Sherwin B. Nuland, \textit{Cruel and Unusual}, N.Y. TIMES, Nov. 9, 1999, at A25 ("Even when it functions exactly as it should, the electric chair is a brutal killer."); see generally SHERWIN B. NULAND, \textit{HOW WE DIE: REFLECTIONS ON LIFE'S FINAL CHAPTER} (1994) (discussing different methods of death and the pain associated with them).
\textsuperscript{64} \textit{Infra} app. tbl.8.
\textsuperscript{65} See Denno, \textit{supra} note 2, at 359.
\textsuperscript{66} See id. at 419-20.
\textsuperscript{67} See id.
made the public explicitly aware of how a human body could be burned and distorted during an electrocution.68

C. Electroocation Constitutes the Risk of “Unnecessary and Wanton Infliction of Pain”

When legislatures or courts validate the use of electrocution, they presume that prison officials will carry out executions properly and that equipment will not malfunction. A focus on electrocutions in all states and over time, however, reveals the potential for prison personnel’s contribution to a risk of unnecessary pain.

In 1990, for example, the botched electrocution of Jesse Joseph Tafero in Florida suggested there was a substantial likelihood that the state’s execution procedure could result in severe pain and prolonged agony.69 Subsequently, a pattern of consecutive malfunctions has been established with the botched electrocution of Pedro Medina and, now, James Allen Davis.70 Tafero’s and Medina’s executions shared similar problems (most particularly difficulties with the headset sponge), that created the flames, smoke, smell, and burning in both executions.71 Ironically, Tafero’s and Medina’s executions closely resembled William Kemmler’s over a century ago. The fact that a new and additional set of problems accompanied the execution of James Allen Davis suggests that a continuing pattern of botches is highly foreseeable. Indeed, a pattern of consecutive botching also occurred in Virginia even after the state rewired the electric chair due to prior botching.72 These problems prompted Virginia to allow inmates a choice between electrocution and lethal injection.73

D. Electroocation Contravenes “Evolving Standards of Decency”

“Evolving standards of decency” can be measured by legislative trends regarding the imposition of a particular punishment. A thorough assessment should consider legislative changes in execution methods over the course of the twentieth century, starting with the New York legislature’s 1888 selection of electrocution.74

68. See infra app. tbl.8.
69. See Denno, supra note 2, at 417-18.
70. See id. at 423; infra app. tbl.8; Death Penalty Information Center, Post-Furman Botched Executions (visited July 3, 2000) <http://www.essential.org/ogs/dpic/botched.html>.
71. See Denno, supra note 2, at 418, 424; infra app. tbl.8.
72. See Denno, supra note 2, at 362 & n.262.
73. See id. at 462; infra app. tbls.1 & 3.
74. See Denno, supra note 2, at 363-408, 439-64; infra app. tbls.2 & 3.
In general, three themes emerge from an 1888-1999 overview of legislative trends in the use of the five available methods of execution in the United States: hanging, firing squad, electrocution, lethal gas, and lethal injection. First, most state legislatures purport to change from one method of execution to another, or to a "choice" between a state's old method of execution and lethal injection, for humanitarian reasons, although other factors, such as cost, can also be influential. Second, legislatures evidence a fairly consistent pattern of movement from one method of execution to another, suggesting that states take notice of the methods used and the difficulties encountered, by other states. Third, since 1977, when lethal injection was first introduced, no state has changed to or included as an additional "choice," any other method of execution but lethal injection. In general, states' changes in execution methods have occurred in the following order: from hanging to electrocution to lethal gas to lethal injection. The firing squad has been used sporadically in only a few states.

In 1853, hanging, the "nearly universal form of execution," was used in forty-eight "states" (many were still considered territories at that time). Nearly four decades later, however, concerns over the barbarity of hanging and the subsequent advent of electrocution prompted states to change their method of execution from hanging to electrocution. Even though the first electrocutions were grotesquely botched, by 1913, a total of fifteen states had changed to electrocution as a result of "a well grounded belief that electrocution is less painful and more humane than hanging." By 1949, twenty-six states had changed to electrocution, the largest number of states to ever use electrocution at the same time. However, since 1949, no state has selected electrocution as its method of execution. In other words, it has been a half century since any legislature has adopted electrocution as a method of execution.

The gradual cessation of states' adoption of electrocution appears to be attributable to Nevada's switch in 1921 from hanging and shooting to lethal

75. See infra app. tbl. 1; Death Penalty Information Center, supra note 13.
76. See Denno, supra note 2, at 364.
77. See id. at 364-70, 373-75; infra app. tbls.2 & 3.
78. See Denno, supra note 2, at 439-64; infra app. tbl.1.
80. See Denno, supra note 2, at 364-65.
82. See infra app. tbl.2.
83. See infra app. tbls.2 & 3.
84. See Denno, supra note 2, at 363-408, 439-64; infra app. tbls.2 & 3.
gas in accordance with the state’s new Humane Death Bill. 85 By 1955, eleven states were using lethal gas, and twenty-two states were using electrocution. 86 By 1973, twelve states were using lethal gas and twenty states were using electrocution. 87 Since 1973, however, no state has selected lethal gas as a method of execution. 88 With each new lethal gas statute came controversy and constitutional challenges, both before and after the Court’s moratorium on capital punishment in Furman. 89 By 1994, there was a national consensus concluding that lethal gas was not an acceptable method of execution. 90

Recent research indicates that there is an even more striking national consensus rejecting electrocution. Since 1973, twelve states have abandoned lethal gas as their exclusive method of execution. 91 By contrast, since 1949, twenty-four states have abandoned electrocution as their exclusive method of execution. 92 Moreover, eight of these states have abandoned electrocution in the last five years. 93

There are historical differences between the uses of electrocution and lethal gas that point to states’ initial, relative reluctance, to reject electrocution. First, over the course of the century, states have relied on Kemmler to support the retention of electrocution whereas no Supreme Court case has addressed the constitutionality of lethal gas. 94 Next, electrocution was introduced three decades earlier than lethal gas during a time when science was substantially less advanced; therefore, lethal gas, which was also a considerably more visible method than electrocution, had the advantage of greater immediate scrutiny. 95 Nonetheless, electrocution and lethal gas have comparable “legislative lifelines” (61 years and 51 years, respectively) in terms of the point at which they were introduced and the point at which they were no longer adopted. This similarity suggests comparable periods of tolerance (electrocution was first introduced in 1888 and last adopted in 1949; lethal gas was first introduced in 1921 and last adopted in 1973). 96 Last, lethal gas is more expensive than electrocution, a factor that states have acknowledged when they have changed execution methods. 97

---

85. See Denno, supra note 2, at 366.
86. See id. at 367.
87. See id. at 405.
88. See id. at 367; infra app. tbl.3.
89. 408 U.S. 238, 240 (1972).
90. See Denno, supra note 2, at 368; infra app. tbl.3.
91. See Denno, supra note 2, at 405.
92. See id.; infra app. tbls.2 & 3.
93. See infra app. tbl.3.
94. See Denno, supra note 2, at 370 n.298.
95. See id.
96. See id.
97. See id.
Recent trends also suggest that state legislatures may have reached a "sufficient" degree of national consensus in rejecting both lethal gas and electrocution as execution methods.\textsuperscript{98} Although the Court has never specified how much of a consensus is considered "sufficient," it has rendered punishments unconstitutional with far less consensus than that shown for lethal gas or electrocution.\textsuperscript{99} In \textit{Enmund v. Florida},\textsuperscript{100} for example, the Court held the death penalty unconstitutional for some kinds of felony murder, explaining that of the thirty-six death penalty jurisdictions, only eight, "a small minority," allowed capital punishment for such an offense.\textsuperscript{101} Furthermore, even if the Court considered along with these eight states an additional nine jurisdictions that allowed the death penalty for an unintended felony murder if aggravating circumstances outweighed mitigating circumstances, the Court emphasized that still "only about a third of American jurisdictions" would allow a defendant to be sentenced to death for such offenses.\textsuperscript{102} The Court noted that even though this trend was not "'wholly unanimous among state legislatures,' . . . it nevertheless weighs on the side of rejecting capital punishment for the crime at issue."\textsuperscript{103} In those cases where the Court has rejected Eighth Amendment challenges to a particular punishment, there have been far more states employing that particular punishment than the number of states employing electrocution.\textsuperscript{104}

Over time, lethal injection has become the overwhelmingly dominant method of execution.\textsuperscript{105} Among those inmates executed by either electrocution or lethal injection between 1978-79 and 1998-99, 75\% were executed by lethal injection and 25\% were executed by electrocution.\textsuperscript{106} As the total number of executions from these two methods increased over time (from one execution in 1978-79 to 156 executions in 1998-99), the percentage of electrocution executions declined steadily.\textsuperscript{107} The percentage of electrocution executions declined rapidly from 1980-81 to 1986-87 (from

\textsuperscript{98} See \textit{id.} at 371.
\textsuperscript{99} See \textit{id.}
\textsuperscript{100} 458 U.S. 782 (1982).
\textsuperscript{101} \textit{id.} at 792.
\textsuperscript{102} \textit{id.} (emphasis added).
\textsuperscript{103} \textit{id.} at 793 (quoting Coker v. Georgia, 433 U.S. 584, 596 (1977)); see also Denno, \textit{supra} note 2, at 371.
\textsuperscript{104} See, e.g., Stanford v. Kentucky, 492 U.S. 361, 370-71 (1989) (rejecting a challenge to the constitutionality of the death penalty for 16-year-olds, noting that 22 of the 37 death penalty jurisdictions allowed capital punishment for such youths); Penry v. Lynaugh, 492 U.S. 302, 334-35 (1989) (rejecting a challenge to the constitutionality of the death penalty for mentally retarded persons, emphasizing that only two states had prohibited it). See also Denno, \textit{supra} note 2, at 371 & n.306.
\textsuperscript{105} See \textit{infra} app. tbls.4-6.
\textsuperscript{106} See \textit{infra} app. tbls.5 & 6.
\textsuperscript{107} See \textit{infra} app. tbls.5 & 6.
100% to 56%), increased briefly in 1988-89 (58%), then declined steadily thereafter. The rapid increase in the percentage of lethal injection executions can be attributed to the fact that the increases over time in the total number of executions was driven largely by increases in lethal injection executions.

There are other issues that bear on "evolving standards of decency." For example, apart from the United States, no other country in the world uses electrocution. Of the four states in this country that used electrocution at the time Provenzano v. Moore was decided (Alabama, Florida, Georgia, and Nebraska), Florida imposed the most electrocution executions. Since Gregg, more than half of the electrocutions in this country, and thus in the world, have taken place in Florida.

Electrocution is also not favored as a method of execution among respondents in recent public opinion polls. Lethal injection is preferred by most, if not the great majority, of respondents. Floridians also have indicated majority support for lethal injection after Davis' execution.

The Florida Corrections Commission, the body responsible for overseeing Florida's electric chair, has also recommended that Florida change to lethal injection. The Commission's survey of execution methods in other states revealed that "numerous states had recently changed to lethal injection from electrocution because it was considered to be a 'more humane method of execution.'" Lastly, the Humane Society of the United States and the American Veterinarian Medical Association consider electrocution a wholly unacceptable method of euthanasia for animals.

In Provenzano v. Moore, the Florida Supreme Court failed to address these critical "evolving standards of decency" factors. Clearly, a modern

108. See infra app. tbl.5.
109. See infra app. tbls.4-6.
110. See Provenzano v. Moore, 744 So. 2d 413, 436 (Fla. 1999) (Shaw, J., dissenting).
111. See infra app. tbl.7.
112. See infra app. tbl.7.
114. See Poll: State Should Kill by Injection, SENTINEL (Orlando), Nov. 8, 1999, at C1 (reporting the results of an October 1999, statewide poll conducted by The Miami Herald and The St. Petersburg Times, in which 58% of the 600 people questioned supported a state law to replace the electric chair with lethal injection). See also Poll: Electric Chair Unpopular in Florida, OMAHA WORLD-HERALD, Nov. 7, 1999, at A22.
115. See Provenzano, 744 So. 2d at 436 (Shaw, J., dissenting).
116. Id. at 437.
117. See id. at 436.
118. See generally id. at 413-22.
Eighth Amendment analysis of electrocution reveals the court’s unjustified conclusion that electrocution is constitutional.

SUMMARY AND CONCLUSION

The Eighth Amendment was enacted to proscribe "torturous" and "barbarous" punishments, the penalties most commonly associated with executions.\textsuperscript{119} As yet, however, no court has provided a modern and comprehensive Eighth Amendment review of any execution method, including electrocution. In general, courts dismiss constitutional challenges to electrocution entirely by relying on the outdated precedent of \textit{In re Kemmler}.\textsuperscript{120} In \textit{Kemmler}, the Court held that the Eighth Amendment did not apply to the states and therefore never addressed directly the constitutionality of electrocution.\textsuperscript{121} Alternatively, as in \textit{Provenzano}, courts engage in a brief Eighth Amendment review that focuses predominantly on the amount of pain inflicted while ignoring other Eighth Amendment standards.

A modern and comprehensive Eighth Amendment review of medical, historical, and societal evidence demonstrates that electrocution does not comport with "evolving standards of decency." Electrocution inflicts unnecessary pain and physical violence, and is at risk of continuing to do so given a demonstrated pattern of botched electrocutions. Moreover, legislative trends show a clear and consistent break from electrocution. Indeed, there are only two states that currently apply it (Alabama and Nebraska). If the Cruel and Unusual Punishments Clause is applied in the way that it was originally intended, the Court would find electrocution unconstitutional.

\textsuperscript{119} See Furman v. Georgia, 408 U.S. 238 (1972) (per curiam).
\textsuperscript{120} 136 U.S. 436 (1890).
\textsuperscript{121} See id. at 442-43.
APPENDIX

**TABLE 1**
CURRENT METHODS OF EXECUTION BY STATE*

<table>
<thead>
<tr>
<th>SINGLE METHOD STATES (28)</th>
<th>CHOICE STATES (11)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LETHAL INJECTION (25)</strong></td>
<td>INJECTION OR HANGING (3)</td>
</tr>
<tr>
<td>Arizona</td>
<td>Montana</td>
</tr>
<tr>
<td>Arkansas</td>
<td>New Hampshire</td>
</tr>
<tr>
<td>California</td>
<td>Washington</td>
</tr>
<tr>
<td>Colorado</td>
<td><strong>ELECTROCUTION (2)</strong></td>
</tr>
<tr>
<td>Connecticut</td>
<td>Alabama</td>
</tr>
<tr>
<td>Delaware</td>
<td>Nebraska</td>
</tr>
<tr>
<td>Georgia</td>
<td><strong>HANGING (3)</strong></td>
</tr>
<tr>
<td>Illinois</td>
<td><strong>INOJECTION OR FIRING SQUAD (2)</strong></td>
</tr>
<tr>
<td>Indiana</td>
<td>Idaho</td>
</tr>
<tr>
<td>Kansas</td>
<td>Utah</td>
</tr>
<tr>
<td>Kentucky</td>
<td><strong>INJECTION OR ELECTROCUTION (4)</strong></td>
</tr>
<tr>
<td>Louisiana</td>
<td>Florida</td>
</tr>
<tr>
<td>Maryland</td>
<td>Ohio</td>
</tr>
<tr>
<td>Mississippi</td>
<td>South Carolina</td>
</tr>
<tr>
<td>Nevada</td>
<td>Virginia</td>
</tr>
<tr>
<td>New Jersey</td>
<td><strong>INJECTION OR GAS (2)</strong></td>
</tr>
<tr>
<td>New Mexico</td>
<td>Missouri</td>
</tr>
<tr>
<td>New York</td>
<td>North Carolina</td>
</tr>
<tr>
<td>Oklahoma</td>
<td><strong>GAS (2)</strong></td>
</tr>
<tr>
<td>Oregon</td>
<td><strong>INJECTION OR ELECTROCUTION (4)</strong></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td><strong>GAS (2)</strong></td>
</tr>
<tr>
<td>South Dakota</td>
<td><strong>INJECTION OR GAS (2)</strong></td>
</tr>
<tr>
<td>Tennessee</td>
<td>Mississippi</td>
</tr>
<tr>
<td>Texas</td>
<td>Nevada</td>
</tr>
<tr>
<td>Wyoming</td>
<td><strong>ELECTROCUTION (2)</strong></td>
</tr>
</tbody>
</table>

*Statutory and case law documentation for each state can be found in Denno, *supra* note 2, at 439-64; KY. REV. STAT. ANN. § 431.220 (Michie 1998); TENN. CODE ANN. § 40-23-114 (1998); *LaGrande v. Stewart*, 173 F.3d 1144 (9th Cir. 1999) (California and Arizona); 2000 Fla. Sess. Law Serv. Ch. 00-2 (West); H. B. 1284, 2000 Sess. (Ga. 2000).
<table>
<thead>
<tr>
<th>YEAR</th>
<th>STATE</th>
<th>HANGING TO ELECTROCUTION</th>
<th>ELECTROCUTION TO LETHAL GAS</th>
<th>ELECTROCUTION TO LETHAL INJECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1888</td>
<td>NY</td>
<td>NY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1896</td>
<td>OH</td>
<td>OH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1898</td>
<td>MA</td>
<td>MA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1906</td>
<td>NJ</td>
<td>NJ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1908</td>
<td>VA</td>
<td>VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1909</td>
<td>NC</td>
<td>NC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td>KY</td>
<td>KY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1912</td>
<td>SC</td>
<td>SC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1913</td>
<td>AR</td>
<td>AR</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IN</td>
<td>IN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>NE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OK</td>
<td>OK</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PA</td>
<td>PA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TN</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1923</td>
<td>AL</td>
<td>AL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FL</td>
<td>FL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TX</td>
<td>TX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1924</td>
<td>GA</td>
<td>GA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1927</td>
<td>IL</td>
<td>IL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1929</td>
<td>NM</td>
<td>NM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1935</td>
<td>CT</td>
<td>CT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>NC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1939</td>
<td>SD</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940</td>
<td>LA</td>
<td>LA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td>MS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1949</td>
<td>WV</td>
<td>WV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1951</td>
<td>OK</td>
<td>OK</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 2**

**CHANGES IN THE USE OF ELECTROCUTION BY STATE: 1888-1951**

- **No Change in Execution Method**: The method of execution did not change for the states listed.
- **Change in Execution Method**: The method of execution changed for the states listed.

HeinOnline -- 26 Ohio N.U. L. Rev. 665 2000
TABLE 3
CHANGES IN THE USE OF ELECTROCUTION BY STATE: 1954-2000

<table>
<thead>
<tr>
<th>YEAR</th>
<th>STATE</th>
<th>HANGING TO ELECTROCUTION</th>
<th>ELECTROCUTION TO LETHAL GAS</th>
<th>ELECTROCUTION TO LETHAL INJECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>MS</td>
<td></td>
<td>MS</td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td>NM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>VT*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1977</td>
<td>TX</td>
<td></td>
<td>TX</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>MA</td>
<td></td>
<td>MA**</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>AR</td>
<td></td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>MA*</td>
<td></td>
<td>MA*</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>LA</td>
<td></td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>OH</td>
<td></td>
<td>OH**</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>VA</td>
<td></td>
<td>VA**</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>CT</td>
<td></td>
<td>CT</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>KY</td>
<td></td>
<td>KY</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>FL</td>
<td></td>
<td>FL**</td>
<td></td>
</tr>
</tbody>
</table>

* Year these states abolished the death penalty.
** Choice states. For example, if a state (e.g., Massachusetts) changes from one execution method (electrocution) to a choice between that method and a new method (a choice between electrocution and lethal injection in 1982), the new method (lethal injection) only is shown in the Table.

Note: Statutory and case law documentation for each state in Tables 2 & 3 may be found in Denno, supra note 2, at 439-64; KY. REV. STAT. ANN. §431.220 (Michie 1998); TENN. CODE ANN. § 40-23-114 (1998); LaGrande v. Stewart, 173 F.3d 1144 (9th Cir. 1999) (California and Arizona); 2000 Fla. Sess. Law Serv. Ch. 00-2 (West); H. B. 1284, 2000 Sess. (Ga. 2000).
<table>
<thead>
<tr>
<th>YEARS</th>
<th>ELECTROCUTION</th>
<th>LETHAL INJECTION</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-1977</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1978-1979</td>
<td>1 (1.00)</td>
<td>0 (0.00)</td>
<td>1</td>
</tr>
<tr>
<td>1980-1981</td>
<td>1 (1.00)</td>
<td>0 (0.00)</td>
<td>1</td>
</tr>
<tr>
<td>1982-1983</td>
<td>5 (0.83)</td>
<td>1 (0.17)</td>
<td>6</td>
</tr>
<tr>
<td>1984-1985</td>
<td>27 (0.69)</td>
<td>12 (0.31)</td>
<td>39</td>
</tr>
<tr>
<td>1986-1987</td>
<td>23 (0.56)</td>
<td>18 (0.44)</td>
<td>41</td>
</tr>
<tr>
<td>1988-1989</td>
<td>15 (0.58)</td>
<td>11 (0.42)</td>
<td>26</td>
</tr>
<tr>
<td>1990-1991</td>
<td>18 (0.50)</td>
<td>18 (0.50)</td>
<td>36</td>
</tr>
<tr>
<td>1992-1993</td>
<td>18 (0.28)</td>
<td>47 (0.72)</td>
<td>65</td>
</tr>
<tr>
<td>1994-1995</td>
<td>13 (0.15)</td>
<td>72 (0.85)</td>
<td>85</td>
</tr>
<tr>
<td>1996-1997</td>
<td>13 (0.11)</td>
<td>104 (0.89)</td>
<td>117</td>
</tr>
<tr>
<td>1998-1999</td>
<td>10 (0.06)</td>
<td>146 (0.94)</td>
<td>156</td>
</tr>
<tr>
<td>2000</td>
<td>3 (0.09)</td>
<td>29 (0.91)</td>
<td>32</td>
</tr>
<tr>
<td>TOTAL</td>
<td>147 (0.24)</td>
<td>458 (0.76)</td>
<td>605</td>
</tr>
</tbody>
</table>

TABLE 5
PERCENTAGES OF ELECTROCUTIONS AND LETHAL INJECTIONS:
1976-2000*

---

**TABLE 6**

**NUMBERS OF ELECTROCUTIONS AND LETHAL INJECTIONS: 1976-2000**

TABLE 7
PERCENTAGES OF EXECUTIONS IN ELECTROCUTION-ONLY STATES BEFORE 2000: 1976-1999*

*Total number of executions: 89. In 2000, Georgia changed its method of execution to lethal injection, and Florida became a choice state. See Table 3, supra.
1. John Spenkelink, May 25, 1979, Florida: It took three separate jolts of electricity spread over five minutes to kill Spenkelink. After the first jolt, smoke filled the room and a three-inch wound scorched on his right leg.

2. Frank J. Coppola, August 10, 1982, Virginia: After a second jolt of electrical current, the death chamber filled with the smell and sizzle of burning as Coppola's head and leg burst into flames.

3. John Louis Evans III, April 22, 1983, Alabama: Three separate jolts over 14 minutes were required to kill Evans. Flames erupted from the electrode tied to his leg, and smoke was seen coming from his head and leg.

4. Robert W. Williams, December 14, 1983, Louisiana: When the electricity was applied, smoke and sparks appeared from Williams's head. Witnesses reported the smell of "burning flesh" and "excessive burning."

5. Alpha Otis Stephens, December 12, 1984, Georgia: It took two two-minute jolts of 2,080-volt electricity, eight minutes apart, to kill Stephens. After the first jolt, doctors had to wait six minutes for the body to cool down before examining it. During this time, Stephens took about 23 breaths.

6. William E. Vandiver, October 16, 1985, Indiana: Indiana's seventy-two year old electric chair took seventeen minutes and five jolts of electricity to kill Vandiver.

7. Alvin Moore, June 9, 1987, Louisiana: When examined after his execution, Moore was severely burned on the top of his head and his epidermis was found to be missing in a wide circular pattern.

8. Wayne Robert Felde, March 15, 1988, Louisiana: Felde's body evidenced severe third and fourth degree burns. His leg was mutilated, his skin was coming loose, and "chunks of skin" had been "burned off the left side of his head . . . revealing his skull bone."

For four minutes, the executioner applied three 2,000-volt jolts of electricity, causing flames to shoot from Tafero's head. The medical examiner could not determine whether Tafero survived the first two jolts.

11. Robert T. Boggs, July 19, 1990, Virginia:
Boggs required two fifty-five second applications of 2,500-volts of electricity.

12. Wilbert Lee Evans, October 17, 1990, Virginia:
During the execution, blood poured from Evans's eyes and nose. Witnesses heard an audible moan, suggesting suffering.

13. Derick Lynn Peterson, August 22, 1991, Virginia:
Peterson's death occurred after thirteen minutes and two separate jolts of electricity. After the first series of jolts, Peterson's heart appeared to still be beating.

14. Roger Keith Coleman, May 20, 1992, Virginia:
Executioners applied two 1,700-volt jolts to kill Coleman. A witness spoke of smoke coming from Coleman's leg during the execution.

15. Gregory Resnover, December 8, 1994, Indiana:
When the electricity was applied, Resnover rose suddenly "from his chair in a giant spasm . . . His head jerked back and smoke and spark-like flames came out of the top of his head."

16. Jerry White, December 4, 1995, Florida:
There were reports that White lunged and screamed during his execution.

17. Larry Lonchar, November 14, 1996, Georgia:
Lonchar moaned and "seemed to gasp for air" as the executioner applied two jolts of 2,000 volts each to Lonchar's body before he was pronounced dead.

18. Pedro Medina, March 25, 1997, Florida:
"Blue and orange flames up to a foot long shot from the right side of Mr. Medina's head and flickered for 6 to 10 seconds, filling the execution chamber with smoke."

19. Allen Lee Davis, July 8, 1999, Florida:
After being jolted with 2,300 volts, blood poured from Davis' face, and soaked a large portion of his shirt. Testimony indicated that the strap placed across Davis' mouth hindered his breathing and partially asphyxiated him prior to and during the electrocution.

* Documentation for each botched electrocution can be found in Denno, supra note 5, at 664-74, and Denno, supra note 2 at 412-24, as supplemented by Provenzano v. Moore, 744 So.2d 413, 433-35 (Fla. 1999) (Shaw, J., dissenting) (describing Allen Lee Davis execution).