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Paul C. Giannelli

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JUNK SCIENCE AND THE EXECUTION OF AN  
INNOCENT MAN

*Paul C. Giannelli*

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## JUNK SCIENCE AND THE EXECUTION OF AN INNOCENT MAN

**Paul C. Giannelli\***

“The only statement I want to make is that I am an innocent man convicted of a crime I did not commit. I have been persecuted for twelve years for something I did not do.” — Cameron Todd Willingham’s words before his execution.<sup>1</sup>

### I. INTRODUCTION

Two-year-old Amber Willingham, along with her younger twin sisters, Karmon and Kameron, died in a fire on December 23, 1991 in Corsicana, Texas. Their father Cameron Todd Willingham escaped from the fire, was tried, and eventually executed for their deaths. The expert testimony offered against him to prove arson

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\* Distinguished University Professor & Weatherhead Professor, Case Western Reserve University; J.D., 1970, LL.M. 1975, University of Virginia; M.S. Forensic Science, 1973, George Washington University.

<sup>1</sup> See David Grann, *Trial by Fire: Did Texas Execute an Innocent Man?*, THE NEW YORKER, Sept. 7, 2009, at 63.

was “junk science.”<sup>2</sup> The case has since become infamous — the subject of an award-winning New Yorker article,<sup>3</sup> numerous newspaper accounts,<sup>4</sup> and several television shows.<sup>5</sup> It also became enmeshed in the death penalty debate<sup>6</sup> and the reelection of Texas Governor Rick Perry, who refused to grant a stay of execution after a noted expert submitted a report debunking the arson “science” offered at Willingham’s trial.<sup>7</sup> The Governor later attempted to de-

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<sup>2</sup> Christy Hoppe, *Some Experts Question Science in Texas Arson Cases*, CHARLESTON GAZETTE & DAILY MAIL (W. VA.), Sept. 20, 2009, at 11A (“Arson investigators in Texas have relied on old wives’ tales and junk science to send men to prison, and perhaps even the death chamber, top experts on fire behavior say.”).

<sup>3</sup> See Grann, *supra* note 1. Grann’s article won the 2009 George Polk Award for Magazine Reporting, the America Bar Association’s 2010 Silver Gavel Award for Media and the Arts, and the 2009 Sigma Delta Chi Award for magazine investigative reporting from the Society of Professional Journalists.

<sup>4</sup> See, e.g., Jennifer Emily, *Texas Forensic Science Commission Refuses to End Inquiry into Willingham Arson Case*, DALL. MORNING NEWS, Sept. 18, 2010; Steve Mills & Maurice Possley, *Texas Man Executed on Disproved Forensics: Fire that Killed his 3 Children Could Have Been Accidental*, CHI. TRIB., Dec. 9, 2004, at C1; Steve Mills, *Texas May Have Put Innocent Man to Death, Panel Told; Nobody Would Listen, Lawyer, Expert Say*, CHI. TRIB., Apr. 20, 2005, available at [http://articles.chicagotribune.com/2005-04-20/news/0504200146\\_1\\_cameron-todd-willingham-willingham-case-gerald-hurst](http://articles.chicagotribune.com/2005-04-20/news/0504200146_1_cameron-todd-willingham-willingham-case-gerald-hurst).

<sup>5</sup> See *Frontline: Death by Fire* (PBS television broadcast Oct. 19, 2010); *Nightline* (ABC television broadcast Sept. 17, 2009). A documentary film, *Incendiary*, has also been released.

<sup>6</sup> See Emily, *supra* note 4 (“The Willingham case has drawn worldwide attention from death-penalty opponents and others since questions were raised about the integrity of the science evidence used to convict him of murder.”). Justice Scalia once wrote: “It should be noted at the outset that the dissent does not discuss a single case—not one—in which it is clear that a person was executed for a crime he did not commit. If such an event had occurred in recent years, we would not have to hunt for it; the innocent’s name would be shouted from the rooftops by the abolition lobby.” *Kansas v. Marsh*, 548 U.S. 163, 188 (2006).

<sup>7</sup> See Mary Alice Robbins, *Fired Up: Changes Sought for Texas Forensic Science Commission at Center of Heated Controversy*, 25 TEX. LAWYER, Nov. 9, 2009 (“Anti-death penalty activists have contended that Willingham was innocent and that [Governor] Perry replaced the commission members to block a review of a report questioning whether the fire Willingham was accused of starting was arson.”).

rail an investigation by the Texas Forensic Science Commission into the arson evidence presented at Willingham's trial.<sup>8</sup>

Whatever else the Willingham case may stand for, it is a trenchant illustration of the judicial acceptance of expert testimony devoid of empirical support and the legal system's inability to effectively police such testimony. The National Academy of Science's landmark 2009 report on forensic science, *Strengthening Forensic Science in the United States: A Path Forward*, made the breathtaking observation that, "[a]mong existing forensic methods, only nuclear DNA analysis has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between an evidentiary sample and a specific individual or source."<sup>9</sup> The report went on to observe: "In a number of forensic science disciplines, forensic science professionals have yet to establish either the validity of their approach or the accuracy of their conclusions, and the courts have been *utterly ineffective* in addressing this problem."<sup>10</sup> Moreover, recent studies document the role that forensic science played in convicting the innocent.<sup>11</sup> The

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<sup>8</sup> See *infra* text accompanying notes 100-15.

<sup>9</sup> Nat'l Research Council, National Academy of Sciences, *Strengthening Forensic Science in the United States: A Path Forward* 100 (2009).

<sup>10</sup> *Id.* at 53 (emphasis added). The Report devotes only two paragraphs to arson investigations: "Despite the paucity of research, some arson investigators continue to make determinations about whether or not a particular fire was set. However, according to testimony presented to the committee, many of the rules of thumb that are typically assumed to indicate that an accelerant was used (e.g., 'alligatoring' of wood, specific char patterns) have been shown not to be true. *Experiments should be designed to put arson investigations on a more solid scientific footing.*" *Id.* at 173 (emphasis added).

<sup>11</sup> A study of 200 DNA exonerations found that forensic evidence (fifty-five percent) was the second leading type of evidence (after eyewitness identifications, seventy-nine percent) used in the wrongful conviction cases. Of the types of forensic evidence introduced at trial, "serological analysis of blood or semen [was] the most common (79 cases), followed by expert comparison of hair evidence (43 cases), soil comparison (5 cases), DNA tests (3 cases), bite mark evidence (3 cases), fingerprint

Willingham case also highlights the corrosive effect of death-penalty politics—the extraordinary lengths a state has undertaken to avoid investigating the possibility that it had executed an innocent man.

## II. THE TRIAL

### A. THE ARSON EVIDENCE

Willingham's capital trial began in August 1992. Proclaiming his innocence from the beginning, Willingham refused to plead guilty in exchange for life imprisonment in lieu of the death penalty.<sup>12</sup>

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evidence (2 cases), dog scent (2 cases), spectrographic voice evidence (1 case), shoe prints (1 case) and fiber comparison (1 case)." Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 81 (2008). See also Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 14–15 (2009) ("Of the 100 cases involving serology in which transcripts were located, 57 cases, or 57%, had invalid forensic science testimony. Of the 65 cases involving microscopic hair comparison in which transcripts were located, 25 cases, or 38%, had invalid forensic science testimony."); Paul C. Giannelli, *Wrongful Convictions and Forensic Science: The Need to Regulate Crime Labs*, 86 N.C. L. REV. 163 (2007) (discussing lab scandals in West Virginia, Oklahoma City, Chicago, Houston, Virginia, Montana, and the FBI Lab).

<sup>12</sup> Willingham's court-appointed trial attorneys, John Martin and Robert Dunn, advised him to accept the offer, but he refused. "Willingham was implacable. 'I ain't gonna plead to something I didn't do, especially killing my own kids,' he said. It was his final decision. Martin says, 'I thought it was nuts at the time—and I think it's nuts now.'" Grann, *supra* note 1, at 48. "Though his father did not believe that he should plead guilty if he were innocent, his stepmother beseeched him to take the deal. 'I just wanted to keep my boy alive,' she told me." *Id.*

### 1. *Arson Investigations*

The arson evidence was critical. No arson, no crime.<sup>13</sup> The prosecution proffered two experts: Manuel Vasquez, a deputy state fire marshal, and Douglas Fogg, an assistant fire chief in Corsicana.<sup>14</sup> With years of experience, they came from the “old school” of investigators – those who used intuition and a number of rules of thumb to determine whether a fire was incendiary.<sup>15</sup> In Vasquez’s words: “The fire tells a story. I am just the interpreter. . . . And the fire does not lie. It tells me the truth.”<sup>16</sup>

Critics of this approach complained that it lacked a scientific foundation. Rather, it was based on folklore that had been passed down from generation to generation without any empirical testing.<sup>17</sup> As early as 1977, a government report noted that common arson indicators had “received little or no scientific testing” and “[t]here appears to be no published material in the scientific literature to substantiate their validity.”<sup>18</sup> Through the 1980s, proponents of a science-based approach to arson investigations waged an uphill battle, finally winning a major victory in 1992 when the National

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<sup>13</sup> See generally PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, *SCIENTIFIC EVIDENCE* ch. 26 (4th ed. 2007) (discussing legal and scientific issues associated with arson evidence).

<sup>14</sup> Under state law, the Texas State Fire Marshal is responsible for investigating suspicious fires. TEX. GOV’T CODE § 417.007 (West 2004).

<sup>15</sup> “Often, the bulk of an investigator’s training came on the job, learning from ‘old-timers’ in the field, who passed down a body of wisdom about the telltale signs of arson . . . .” Grann, *supra* note 1, at 58.

<sup>16</sup> Transcript of Statement of Facts, *State v. Willingham*, (Tex.13th D. 1991) (No. 24240-CR) (vol. XI), at 244 [hereinafter Willingham Transcript], *aff’d*, *Willingham v. State*, 897 S.W.2d 351, 354 (Tex. Crim. App. 1995).

<sup>17</sup> See JOHN J. LENTINI, *SCIENTIFIC PROTOCOLS FOR FIRE INVESTIGATION* ch. 8 (2006) (discussing myths of arson investigations).

<sup>18</sup> J.F. Boudreau et al., National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Dep’t of Justice, *Arson and Arson Investigation: A Survey and Assessment* 88 (1977).

Fire Protection Association (NFPA) published its *Guide for Fire and Explosion Investigations* (NFPA 921).<sup>19</sup> Although NFPA 921 would subsequently become the bible in fire and arson investigations,<sup>20</sup> it was published weeks after Willingham's trial.

## 2. *The Willingham Fire*

Deputy Fire Marshal Vasquez told the jury that he had found twenty indicators of arson during his post-fire investigation of Willingham's house.<sup>21</sup> One indicator was a low burning fire.<sup>22</sup> "All fire goes up," Vasquez testified.<sup>23</sup> Thus, burn patterns on the lower walls and floor suggested that an accelerant was used.<sup>24</sup>

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<sup>19</sup> NATIONAL FIRE PROTECTION ASSOCIATION, GUIDE FOR FIRE AND EXPLOSION INVESTIGATION (1992). The NFPA promotes fire prevention and safety. The most recent edition of NFPA 921 was published in 2011.

<sup>20</sup> See *United States v. Hebshie*, 754 F. Supp. 2d 89, 109 n.39 (D. Mass. 2010) (NFPA 921 "is widely accepted as the standard guide in the field of fire investigation."); Thomas M. May, *Fire Pattern Analysis, Junk Science, Old Wives Tales, and Ipse Dixit: Emerging Forensic 3D Imaging Technologies to the Rescue?*, 16 RICHMOND J.L. & TECH. 1, 5 (2010) (noting that NFPA 921 has "become the *de facto* national standard for fire scene examination and analysis").

<sup>21</sup> Assistant Chief Fogg's testimony essentially tracked Vasquez's.

<sup>22</sup> Vasquez testified that there was "char burning, like, for example, this is the bottom here. It's burned down here at the bottom. That is an indicator in my investigation of an origin of fire because it's the lowest part of the fire." Willingham transcript, *supra* note 16, vol. XI, at 239. See also *Willingham v. State*, 897 S.W.2d 351, 354 (Tex. Crim. App. 1995) ("An expert witness for the State testified that the floors, front threshold, and front concrete porch were burned, which only occurs when an accelerant has been used to purposely burn these areas. This witness further testified that this igniting of the floors and thresholds is typically employed to impede firemen in their rescue attempts.").

<sup>23</sup> Willingham transcript, *supra* note 16, vol. XI, at 232.

<sup>24</sup> "So when I found that the floor is hotter than the ceiling, that's backwards, upside down. It shouldn't be like that. The only reason that the floor is hotter is because there was an accelerant." *Id.* at 256.



This common-sense notion, however, has its limitations, especially when a fire occurs in a contained area, such as a house. Due to buoyancy, a thermal plume initially rises once a fire is ignited. As the fire continues, the plume reaches the ceiling, which causes it to spread outward towards the walls. When it reaches the walls, the combustion products press down from the ceiling creating an upper level, which continues to increase in depth and temperature. Eventually thermal radiation replaces convection as the principal method of heat transfer. When the temperature of the hot gas layer reaches approximately 1100-1200 degrees Fahrenheit, every exposed combustible surface in the room will burst into flames. This phenomenon, known as “flashover,” can occur within minutes. After flashover, the entire room is engulfed in flames, including the lower walls and floor.<sup>25</sup> Flashover, according to one authority, is the point at which the fire transitions from a “fire in a room” to a “room on fire.”<sup>26</sup> Consequently, a low burning fire is not necessarily indicative of an incendiary origin.

Moreover, some of Vasquez’s other “indicators” – splotchy looking areas called “puddle configurations” and “pour patterns” – are present after flashover in an accidental fire.<sup>27</sup> Similarly, additional indicators such as “alligatoring” marks on wood (char blisters) are explained by flashover. Flashover also accounts for another fact that Vasquez thought incriminatory. Willingham told investiga-

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<sup>25</sup> See *id.* at 75 (“The windows, the electricity started crackling and popping, and the top of the well – well, I was facing the side of the house, and it just blew out. The flames just blew out. . . . All the windows and the front room was engulfed.”) (testimony of Dianne Barbe); *id.* at 96 (“We was running towards the house, me and my mother, we was fixing to go and try to get in, and that’s when it was an explosion . . . .”) (testimony of Brandy Barbe). Vasquez mentioned flashover in his testimony (See *id.* vol. XII. at 47–48), but he does not appear to understand its implications.

<sup>26</sup> LENTINI, *supra* note 17, at 68–70.

<sup>27</sup> According to Vasquez, a burn “trailer” was etched on the floor. Willingham Transcript, *supra* note 16, vol. XI, at 244 (“You can see that on the burnt patterns on this puddle configuration on Exhibit No. 36. This is a strong indicator of a liquid.”).

tors that he had attempted to save his daughters, but the heat was too great and he was forced to run from the house without shoes. Willingham's feet were not burnt, and in Vasquez's mind, burnt debris on the floor made that impossible.<sup>28</sup> However, if Willingham left his home before flashover, his feet would not have been burnt. (Willingham exaggerated his attempts to save his children—a common occurrence when a parent survives a fatal fire.)

Still another clue was charring under an aluminum threshold of an interior door. Here, again, this may occur in a flashover. Still other arson indicators—melted bedsprings,<sup>29</sup> multiple points of origin,<sup>30</sup> and brown stains on a concrete floor<sup>31</sup>—are also consistent with an accidental blaze.<sup>32</sup> In addition, Vasquez relied on the presence of “crazed glass” — spider-web patterns on the windows as an

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<sup>28</sup> “There was fire on the floor. . . . He had no injuries on his feet.” *Id.* at 267.

<sup>29</sup> “[T]he springs were burned from underneath. This indicates there was a fire under this bed because of the burn underneath the bed.” *Id.* at 241.

<sup>30</sup> “Multiple areas of origin indicate—especially if there is no connecting path, that they were intentionally set by human hands.” *Id.* at 255. There are two problems here. First, the fire scene did not exhibit multiple origins, according to independent experts. See DOUGLAS CARPENTER ET AL., REPORT ON THE PEER REVIEW OF THE EXPERT TESTIMONY IN THE CASES OF STATE OF TEXAS V. CAMERON TODD WILLINGHAM AND STATE OF TEXAS V. EARNEST RAY WILLIS 11–12 (2006). Second, even if the fire scene had shown multiple points of origin, this would not necessarily indicate an intentional fire. LENTINI, *supra* note 17, at 461–62.

<sup>31</sup> Willingham Transcript, *supra* note 16, vol. XI, at 248–49. Fire experts reviewing the evidence from Willingham's trial pointed out that “[t]he behavior of concrete in fires, including the development of various colors, has been extensively studied.” CARPENTER ET AL., *supra* note 30, at 18. These experts concluded that there is simply “no scientific basis for Mr. Vasquez's statement about the brown discoloration being an indication of the presence of accelerants.” *Id.*

<sup>32</sup> Vasquez's testimony also demonstrated other misconceptions. A common one is that arson fires burn hotter and faster than “normal” fires: “You know, it makes the fire hotter. It's not a normal fire.” Willingham Transcript, *supra* note 16, vol. XI, at 249. However, the temperature of burning wood and burning gasoline are nearly identical, so to claim that a fire using liquid accelerants burns “hotter” than a wood fire is wrong. LENTINI, *supra* note 17, at 465.

indication of arson.<sup>33</sup> It was long believed that crazed glass resulted from a fire that burned fast and hot—i.e., one fueled by a liquid accelerant. Yet, subsequent research demonstrated that crazing occurs only from rapid cooling when water from fire hoses is sprayed on heated windows.<sup>34</sup>

In retrospect, the most damning piece of evidence involved one of the numerous debris samples submitted for laboratory analysis.<sup>35</sup> It came from an area near the front door and was the *only* sample that tested positive for a chemical commonly used in charcoal lighter fluids. Nevertheless, this finding can be explained by the fact that a charcoal grill and lighter fluid were on the front porch at the time of the fire.<sup>36</sup> Eyewitnesses reported no fire at the front door when they first saw Willingham on the porch. In fact, the negative results from the other samples support Willingham's case.<sup>37</sup>

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<sup>33</sup> "The pieces of broken window glass on the ledge of the north windows to the northeast bedroom disclosed a crazed 'spider webbing' condition. This condition is an indication that the fire burned fast and hot." CARPENTER ET AL., *supra* note 30, at 18 (citing Vasquez's written report on the Willingham fire).

<sup>34</sup> LENTINI, *supra* note 17, at 439 ("It is unclear why anyone ever thought that crazing of glass indicated rapid heating.").

<sup>35</sup> In closing argument, the defense counsel referred to a "dozen samples." Willingham Transcript, *supra* note 16, vol. XIII, at 20.

<sup>36</sup> *Id.*, vol. XII, at 15 (although photographs show a grill, Vasquez apparently did not know of the grill's presence); *id.* at 16 (acknowledging that a fire-damaged charcoal lighter fluid container was found on the front porch).

<sup>37</sup> The prosecutor would later say that he "never did understand why they weren't able to recover positive tests in these parts." Grann, *supra* note 1, at 61. At trial, he argued that the "liquid burned away in that destructive madness created by Cameron Todd Willingham." Willingham Transcript, *supra* note 16, vol. XIII, at 45.

The cause of the fire remains unknown,<sup>38</sup> and the scene cannot be reconstructed due in part to the disappearance of records.<sup>39</sup>

### 3. *Credibility Testimony*

Vasquez did not limit himself to an opinion on the cause of the fire. He also testified that Willingham was not truthful, informing the jury that during an interview Willingham “told me a story of pure fabrication”<sup>40</sup> and, “[h]e just talked and he talked and all he did was lie.”<sup>41</sup> This testimony was improper and extremely prejudicial. Vasquez was accepted by the court as an arson investigator, not as an expert on credibility. He was thus testifying beyond his

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<sup>38</sup> Willingham’s defense suggested at trial that Amber, the two-year old, could have caused the fire by knocking over a kerosene lamp. This seems like speculation. In his 2009 New Yorker article, Grann raised another theory—a space heater in the children’s bed room—which was never confirmed. Both Willingham and his wife, Stacy, had warned Amber not to play with it. Willingham told investigators that “[h]e and Stacy used three space heaters to keep the house warm, and one of them was in the children’s room. ‘I taught Amber not to play with it,’ he said, adding that she got ‘whuppings every once in a while for messing with it.’” Grann, *supra* note 1, at 46. Although Vasquez testified that the heater was off when he inspected the premises four days after the fire, Stacy said it was on when she left the house on the morning of the fire. Elizabeth Gilbert, who befriended Willingham in 2000 when he was on death row, eventually began to investigate his case after initially believing that he was guilty. During this process, she conducted a taped interview with Stacy: “Stacy was sure that, at least on the day of the incident—a cool winter morning—it had been on. ‘I remember turning it down,’ she recalled. ‘I always thought, Gosh, could Amber have put something there?’ Stacy added that, more than once, she had caught Amber ‘putting things too close to it.’” *Id.* at 51.

<sup>39</sup> REPORT OF THE TEXAS FORENSIC SCIENCE COMM’N, WILLINGHAM/WILLIS INVESTIGATION 21 (April 15, 2011) (hereinafter TFSC REPORT) (“Although the [Cor-sicana Fire Department] informed the Commission that a thorough examination was conducted, the documentation provided to the District Attorney no longer exists.”).

<sup>40</sup> Willingham Transcript *supra* note 16, vol. XI, at 258.

<sup>41</sup> *Id.* at 260.

expertise.<sup>42</sup> Indeed, it is axiomatic that witnesses, lay and expert, are not permitted to testify about credibility.<sup>43</sup> Moreover, research suggests that police and other investigators are not all that good at judging credibility: “Unfortunately, psychological research has generally failed to support the claim that individuals [such as CIA, FBI, and police investigators] can attain high levels of performance in making judgments of truth and deception. Over the years, numerous studies have demonstrated that these individuals perform at no better than chance level in detecting deception.”<sup>44</sup>

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<sup>42</sup> In addition to a lack of expertise, some courts cite the jury’s historic role as a reason for rejecting opinions on credibility. In rejecting polygraph evidence, for example, Justice Thomas wrote of the importance of “[p]reserving the court members’ core function of making credibility determinations in criminal trials. A fundamental premise of our criminal trial system is that ‘the *jury* is the lie detector.’” *United States v. Scheffer*, 523 U.S. 303, 312-13 (1998) (quoting *United States v. Barnard*, 490 F.2d 907, 912 (9th Cir. 1973)). Justice Thomas further stated: “Determining the weight and credibility of witness testimony, therefore, has long been held to be the ‘part of every case [that] belongs to the jury, who are presumed to be fitted for it by their natural intelligence and their practical knowledge of men and the ways of men.’” *Id.* at 113 (quoting *Aetna Life Ins. Co. v. Ward*, 140 U.S. 76, 88 (1891)) (alteration in original).

<sup>43</sup> See *Westcott v. Crinklaw*, 68 F.3d 1073, 1077 (8th Cir. 1995) (“expert testimony going to the issue of credibility is not admissible”); *United States v. Shay*, 57 F.3d 126, 131 (1st Cir. 1995) (“[A]n expert’s opinion that another witness is lying or telling the truth is ordinarily inadmissible . . . because the opinion exceeds the scope of the expert’s specialized knowledge and therefore merely informs the jury that it should reach a particular conclusion.”).

<sup>44</sup> Christian A. Meissner & Saul M. Kassin, “*He’s guilty!*”: *Investigator Bias in Judgments of Truth and Deception*, 26 *LAW & HUM. BEHAV.* 469, 470 (2002); see also Saul M. Kassin, *Human Judges of Truth, Deception, and Credibility: Confident But Erroneous*, 23 *CARDOZO L. REV.* 809, 811 (2002):

Surprisingly, however, professionals who regularly make these kinds of [truth-determination] judgments for a living, like the rest of us, are highly prone to error. In one study, researchers Paul Ekman and Maureen O’Sullivan were curious to know whether groups of so-called experts—such as police investigators; CIA, FBI, and military polygraph examiners; trial judges; psychiatrists; and U.S. Secret Service Agents—are truly better than the average person. Using stimulus materials from past studies—consisting of true and false stories—they found that college students had a 52.8 percent accuracy rate, which is pretty typical. Police detectives were

Remarkably, Vasquez also testified that Willingham's "intent was to kill the little girls."<sup>45</sup> Here, again, the testimony was far beyond his expertise. A qualified arson investigator may be able to determine whether a fire was intentionally set but not *why* it was set—i.e., whether it was set for insurance money, vengeance, etc. Other parts of Vasquez's testimony were also beyond the scope of a fire investigator's expertise. For example, he claimed that Willingham's injuries, including singed eyelids and hair, were self-inflicted.<sup>46</sup>

#### B. JAILHOUSE INFORMANT

Johnny Webb, a jailhouse informant, was another prosecution witness.<sup>47</sup> For obvious reasons, jailhouse snitches are notoriously unreliable. As Judge Trott, a former prosecutor, has observed, "[t]he most dangerous informer of all is the jailhouse snitch who claims another prisoner has confessed to him."<sup>48</sup> According to the Inno-

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only slightly higher, at 55.8 percent; CIA, FBI, and military polygraph examiners were at 55.7 percent, trial judges were at 56.7 percent, and psychiatrists were at 57.6 percent. U.S. Secret Service Agent[s] won the prize, exhibiting a 64 percent accuracy rate, the highest of all groups.

<sup>45</sup> Willingham Transcript, *supra* note 16, vol. XII, at 54.

<sup>46</sup> Willingham Transcript, *supra* note 16, vol. XI, at 262 ("In my opinion, they are self-inflicted."). Vasquez also testified that Willingham did not suffer smoke inhalation. *Id.* at 265. He had no firsthand knowledge of Willingham's condition immediately after the fire. He started his investigation on December 27, four days after the fire. *Id.* at 229.

<sup>47</sup> See *Willingham v. State*, 897 S.W.2d 351, 358 (Tex. Crim. App. 1995) ("Johnny Webb, a State's witness, testified that appellant confessed to him that he committed the offense; that appellant explained in detail how he poured lighter fluid throughout the house, purposely burned one of the children, set the house on fire, fled, and refused to go back into the house to rescue the children.").

<sup>48</sup> Stephen S. Trott, *Words of Warning for Prosecutors Using Criminals as Witnesses*, 47 HASTINGS L.J. 1381, 1394 (1996); see also ROBERT M. BLOOM, RATTING: THE USE AND ABUSE OF INFORMANTS IN THE AMERICAN JUSTICE SYSTEM 65 (2002) ("[Leslie Vernon

cence Project, such testimony appeared in eighteen percent of the cases in which convicts were subsequently exonerated by DNA profiling.<sup>49</sup>

Like many informants, Webb was a drug addict (crack cocaine) who had a criminal record (aggravated robbery, car theft, selling marijuana, theft, and forgery).<sup>50</sup> He also suffered from post-traumatic stress disorder as a result of a prison rape. Indeed, during cross-examination Webb claimed that he could not remember the crime for which he pled guilty (aggravated robbery): "I could have done it, but I do not remember doing it."<sup>51</sup> Webb, who was serving a fifteen-year sentence, testified that no promises had been made to him, which in itself is suspect. Implied inducements to informants are well known in criminal practice.<sup>52</sup> Five years later the prosecu-

White] admitted to consistently fabricating confessions of fellow inmates and offering perjured testimony to courts."); JOHN GRISHAM, *THE INNOCENT MAN: MURDER AND INJUSTICE IN A SMALL TOWN 196-98* (2006) (discussing the snitch testimony of Terri Holland in the Ron Williamson case; Williamson was later exonerated by DNA); NORTHWESTERN UNIV. SCH. OF LAW, CENTER ON WRONGFUL CONVICTIONS, *THE SNITCH SYSTEM* 3 (2004), <http://www.innocenceproject.org/docs/SnitchSystemBooklet.pdf> (noting that snitch cases account for 45.9% of the 111 death row exonerations since the death penalty was restored in the 1970s; most were jailhouse informants); Vesna Jaksic, *Calif. May Crack Down on Use of Jailhouse Informants*, NAT'L L.J., Dec. 20, 2006, [http://www.law.com/jsp/nlj/PubArticleNLJ.jsp?id=900005469907&Calif\\_may\\_crack\\_down\\_on\\_use\\_of\\_jailhouse\\_informants](http://www.law.com/jsp/nlj/PubArticleNLJ.jsp?id=900005469907&Calif_may_crack_down_on_use_of_jailhouse_informants) (reporting that the California Commission on the Fair Administration of Justice issued guidelines on the use of jailhouse informants; and that of the 117 death penalty appeals pending in the California State Public Defender office, seventeen involved testimony by in-custody informants and six involved testimony by informants in constructive custody).

<sup>49</sup> *Facts on Post-Conviction DNA Exonerations*, THE INNOCENCE PROJECT, [http://www.innocenceproject.org/Content/Facts\\_on\\_PostConviction\\_DNA\\_Exonerations.php](http://www.innocenceproject.org/Content/Facts_on_PostConviction_DNA_Exonerations.php), (last visited Feb. 6, 2012).

<sup>50</sup> Willingham Transcript, *supra* note 16, vol. XI, at 13-14, 26-27 (testimony of Johnny Webb).

<sup>51</sup> *Id.* at 23.

<sup>52</sup> As one court wrote: "We are not unaware of the reality that the Government has ways of indicating to witness's counsel the likely benefits from cooperation without

tor asked the Texas Board of Pardons and Paroles to grant Webb parole.<sup>53</sup>

Moreover, Webb's assertions were inherently problematic. He was not Willingham's cellmate. Instead, Webb claimed Willingham told him, a virtual stranger, of his misdeeds through a hole in a steel door in Willingham's cell. Yet, Willingham went to his grave proclaiming his innocence. Webb also asserted that Willingham said he started the fire to hide his wife's abuse of their children;<sup>54</sup> there was no evidence that Willingham or his wife, Stacy, ever abused their children. Later, Webb recanted his testimony and then retracted the recantation. A journalist would later recount an interview with Webb: "After I pressed him, [Webb] said, 'It's very possible I mis-

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making bald promises . . ." *United States v. Ramirez*, 608 F.2d 1261, 1266 n.9 (9th Cir. 1979) (citing *United States v. Butler*, 567 F.2d 885, 888 (9th Cir. 1978)); see also R. Michael Cassidy, "Soft Words of Hope:" *Giglio, Accomplice Witnesses, and the Problem of Implied Inducements*, 98 NW. U. L. REV. 1129, 1132 (2004) ("The Court's decision in *Giglio* has created an incentive for prosecutors to make representations to an accomplice witness that are vague and open-ended, so that they will not be considered a firm 'promise' mandating disclosure. . . . Such indefinite agreements have the added advantage of allowing prosecutors to argue to the jury that no specific promise has been made to the witness; this is viewed as tactically more advantageous to the government because it prevents the factfinder from second-guessing the appropriateness of concessions ultimately conferred."). Another authority put it this way:

To enhance the credibility of his testimony, an informant often testified that there have been no promises of benefits made to them in return for their testimony. Even though nothing may be explicitly stated, both the prosecutor and the informant knew that there will be some compensation for the testimony. "The practice (of promising rewards) was done by a wink and a nod and it was never necessary to have any kind of formal understanding."

Bloom, *supra* note 48, at 66 (citing Los Angeles County Grand Jury, Investigation of the Involvement of Jail House Informants in the Criminal Justice System in Los Angeles County 39 (1990); Ted Rohrlich, *Perjurer Sentenced to 3 Years; Crime: Informant Blew the Whistle on Use of Jailhouse Liar-for-Hire, but No Law Officers Were Charged for Conspiring with Him*, L.A. TIMES, May 20, 1992, at B1 (quoting Douglas Dalton, special counsel to the Los Angeles County Grand Jury)).

<sup>53</sup> Grann, *supra* note 1, at 52.

<sup>54</sup> Willingham Transcript, *supra* note 16, vol. XI, at 18 (testimony of Johnny Webb).



understood what [Willingham] said." . . . He paused, then said, 'The statute of limitations has run out on perjury, hasn't it?'"<sup>55</sup>

### C. Demeanor Evidence

The other type of evidence involved Willingham's behavior—that is, testimony that he made insufficient efforts to save his children and did not show sufficient grief at the hospital or the next day.<sup>56</sup> The prosecution emphasized this in his final argument.<sup>57</sup> Not surprisingly, the evidence regarding the fire scene is somewhat conflicting. Several neighbors, who testified for the prosecution, acknowledged that Willingham "was hollering. He was screaming the babies was in there."<sup>58</sup> A paramedic testified that Willingham

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<sup>55</sup> Grann, *supra* note 1, at 52.

<sup>56</sup> See *Willingham v. State*, 897 S.W.2d 351, 354-55 (Tex. Crim. App. 1995):

Neighbors of appellant testified that as the house began smoldering, appellant was "crouched down" in the front yard, and despite the neighbors' pleas, refused to go into the house in any attempt to rescue the children. . . . The testimony at trial demonstrates that appellant neither showed remorse for his actions nor grieved the loss of his three children. Appellant's neighbors testified that when the fire "blew out" the windows, appellant "hollered about his car" and ran to move it away from the fire to avoid its being damaged. A fire fighter also testified that appellant was upset [the next day] that his dart board was burned. One of appellant's neighbors testified that the morning following the house fire, Christmas Eve, appellant and his wife were at the burned house going through the debris while playing music and laughing.

In prison, Willingham said he moved the car because he was afraid it would catch on fire and explode. Grann, *supra* note 1, at 50. See also Mills & Possley, *supra* note 4 (one juror "said she would have found Willingham guilty even without the arson finding solely because he did not try to save his children.").

<sup>57</sup> Willingham transcript, *supra* note 16, vol. XIII, at 43-44.

<sup>58</sup> Willingham Transcript, *supra* note 16, vol. XI, at 72 (testimony of Dianne Barbe, neighbor of Willingham). See also *id.* at 88 (testimony of Brandy Barbe, neighbor of Willingham) ("He was screaming that there was fire, that his babies were burning and for someone to help him, to call 911."); *id.* at 103 (testimony of Buffy Barbe,

was “really excited” and “hysterical.”<sup>59</sup> A police officer stated that Willingham was “upset” and “[w]e had to end up restraining him a little bit.”<sup>60</sup> There was also testimony that Willingham had attempted to reenter the house by breaking several windows.<sup>61</sup>

The reactions of persons to traumatic events are far too varied to place much weight on their demeanor, and this includes survivors of fires.<sup>62</sup> Further, this evidence changed over time, becoming more damaging after the investigators became convinced that Willingham was an arsonist.<sup>63</sup> Once witnesses learn of investigators’ suspicions, it is not unusual for their testimony to harden and be-

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neighbor of Willingham) (“He was hollering, ‘My babies are inside burning up. Help me.’”).

<sup>59</sup> *Id.* at 128, 132 (testimony of Ronald Franks).

<sup>60</sup> *Id.* at 149 (testimony of Jason Grant).

<sup>61</sup> *Id.* at 104 (testimony of Buffy Barbe, neighbor of Willingham).

<sup>62</sup> The fire “experts who reviewed the case didn’t put any stock in the claims that Willingham’s behavior was damning. They say experience shows that there is no way to predict how people will react in a fire or to the grief of losing loved ones.” Mills & Possley, *supra* note 4. The literature on rape trauma syndrome also illustrates this point. There is no typical way that a rape victim will react. Some victims are hysterical; others are calm. See GIANNELLI & IMWINKELRIED, *supra* note 13, § 9.03 (discussing rape trauma syndrome).

<sup>63</sup> “The witnesses’ testimony also grew more damning after authorities had concluded, in the beginning of January, 1992, that Willingham was likely guilty of murder. In Diane Barbee’s initial statement to authorities, she had portrayed Willingham as ‘hysterical,’ and described the front of the house exploding. But on January 4th, after arson investigators began suspecting Willingham of murder, Barbee suggested that he could have gone back inside to rescue his children, for at the outset she had seen only ‘smoke coming from out of the front of the house’ – smoke that was not ‘real thick.’” *Id.* at 49-50.

come more definitive.<sup>64</sup> Moreover, similar “demeanor” evidence has proved unreliable in other arson cases.<sup>65</sup>

#### D. MOTIVE EVIDENCE

“[T]here was no clear motive. The children had life insurance policies, but they amounted to only fifteen thousand dollars, and Stacy’s grandfather, who had paid for them, was listed as the primary beneficiary.”<sup>66</sup> Moreover, neither Willingham nor his wife knew of the insurance until after the fire.<sup>67</sup>

The only prosecution evidence concerning motive is found in the jailhouse informant’s testimony. Recall that Johnny Webb testified that Willingham had told him the fire was started to hide Willingham’s wife’s abuse of their children: “one of the babies were injured or dead or something like that.”<sup>68</sup> There was no evidence in the record that either Willingham or his wife had ever abused their children, and the medical evidence concerning the autopsies did not support such a claim.<sup>69</sup> (At the time, this motive may have made

<sup>64</sup> This type of contextual bias is not limited to witnesses; everyone is subject to it, even professionals. See Itiel E. Dror et al., *Contextual Information Renders Experts Vulnerable to Making Erroneous Identifications*, 156 *FORENSIC SCI. INT’L* 74 (2006); D. Michael Risinger et al., *The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 *CALIF. L. REV.* 1, 38-39 (2002).

<sup>65</sup> In the Willis case, discussed below, the “[w]itnesses maintained that Willis had acted suspiciously; he moved his car out of the yard, and didn’t show ‘any emotion,’ as one volunteer firefighter put it.” Grann, *supra* note 1, at 56. Similarly, in the famous Lime Street fire, witnesses “told authorities that Lewis seemed too calm during the fire and had never tried to get help.” *Id.* at 59. In both cases, the defendants were exonerated.

<sup>66</sup> *Id.* at 47.

<sup>67</sup> Willingham Transcript, *supra* note 16, vol. XIV, at 21 (testimony of Stacy Willingham).

<sup>68</sup> Willingham Transcript, *supra* note 16, vol. XI, at 18 (testimony of Johnny Webb).

<sup>69</sup> After the trial, the prosecution would suggest another motive: “[A]s the local district attorney, Pat Batchelor, put it, ‘The children were interfering with his beer

sense to the prosecutor because Willingham's wife Stacy supported him at trial.<sup>70</sup>) The prosecutor did not refer to this evidence in his closing statement. Instead, he demonized Willingham with the demeanor evidence.

#### E. DEFENSE CASE

Willingham did not take the stand. Apparently, he wanted to testify, but his lawyers thought he would not make a good witness.<sup>71</sup> Willingham's baby sitter, a defense witness, testified that Willingham would not hurt his children. Another defense witness, an incarcerated felon, was proffered in an attempt to impeach Webb, but his testimony was ruled hearsay.

#### F. GUILT PHASE

In sum, the demeanor evidence was not very probative,<sup>72</sup> and the snitch testimony was not reliable. The key to the conviction (and arrest) was the expert testimony. No arson, no crime, no arrest.<sup>73</sup>

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drinking and dart throwing.'" Grann, *supra* note 1, at 47. This appears to be no more than speculation.

<sup>70</sup> The prosecution called her as a hostile witness in the penalty stage. She testified that Todd "never hurt those kids." Willingham Transcript, *supra* note 16, vol. XIV, at 5. Then, the prosecutor asked: "Well, are you the one who hurt the kids?" *Id.* There is no evidence in the record that anyone had ever hurt the children. The prosecutor also cross-examined her regarding life insurance. *Id.* at 20-21.

<sup>71</sup> "Dunn [defense counsel] told me that Willingham had wanted to testify, but Martin and Dunn thought that he would make a bad witness." Grann, *supra* note 1, at 48.

<sup>72</sup> At most, it made Willingham appear callous and perhaps a coward, if one believes that a father should have entered the burning house. Willingham told investigators that the smoke was too thick and that he was singed by flames. *See also* Grann, *supra* note 1, at 63 (Later Willingham "confessed to his parents that there was one

### III. PARDON & CLEMENCY PROCEEDINGS

Willingham lost his appeal to the Texas Court of Criminal Appeals in 1995.<sup>74</sup> When other attempts at judicial redress also failed,<sup>75</sup> his execution date was set for February 17, 2004. At this point, his only hope was clemency, a process that is initiated in the Board of Pardons and Paroles before an application goes to the governor. By this time Willingham's appellate attorney had contacted Dr. Gerald Hurst, a nationally recognized arson expert with a chemistry degree from Cambridge University. Working pro bono, Hurst reviewed the evidence (e.g., the fire marshal report, trial testimony, photographs, and a 52-minute video of the scene) and prepared a report, concluding that the arson testimony was invalid:

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thing about the day of the fire he had lied about. He said that he had never actually crawled in the children's room. 'I just didn't want people to think I was a coward,' he said. [Dr.] Hurst told me, 'People who have never been in a fire don't understand why those who survive often can't rescue the victims. They have no concept of what a fire is like.'").

<sup>73</sup> The penalty phase included its own version of junk science. In this phase, the prosecution offered the testimony of Dr. James Grigson, who was known as "Dr. Death." RON ROSENBAUM, *TRAVELS WITH DR. DEATH AND OTHER UNUSUAL INVESTIGATIONS* 206 (1991). Grigson testified that Willingham was a violent sociopath without ever interviewing him. One scholar labeled Grigson's testimony in death penalty cases as "at the brink of quackery." George E. Dix, *The Death Penalty, "Dangerousness," Psychiatric Testimony, and Professional Ethics*, 5 AM. J. CRIM. L. 151, 172 (1977). As a prominent conservative author noted: One could favor the death penalty and "yet still recoil at the thought that a junk science fringe of psychiatry . . . could decide who will be sent to the gallows." PETER W. HUBER, *GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM* 220 (1991).

<sup>74</sup> *Willingham*, 897 S.W.2d at 354. The United States Supreme Court denied certiorari from the direct appeal. *Willingham v. Texas*, *cert. denied*, 516 U.S. 946 (1995) (direct appeal).

<sup>75</sup> The Texas Court of Criminal Appeals denied post-conviction relief in 1997. *Ex parte Willingham*, No. 35, 162 (Tex. Crim. App. 1997). Federal habeas challenges were also unsuccessful. *Willingham v. Cockrell*, No. 02-10133, 2003 WL 1107011 (5th Cir. Feb. 17, 2001), *cert. denied*, *Willingham v. Dretke*, 524 U.S. 917 (1998).

The fire investigation report of the Texas State Fire Marshal's Office in this case is a remarkable document. On first reading, a contemporary fire origin and cause analyst might well wonder how anyone could make so many critical errors in interpreting the evidence. However, when the report is looked at in the context of its time and in light of a few key advances that have been made in the fire investigation field in the last dozen years, it becomes obvious that the report more or less simply reflects the shortcomings in the state of the art prior to the beginning of serious efforts to introduce standards and to test old theories that had previously been accepted on faith.<sup>76</sup>

The five page report, which methodically examined the major deficiencies of the Willingham fire investigation, was submitted four days before the execution to the pardon board and to Governor Rick Perry. Notwithstanding this report, which raised substantial questions about the origin of the fire, the state of Texas executed Willingham by lethal injection as scheduled.<sup>77</sup> Whether either the board or the Governor ever read the report is unclear.<sup>78</sup>

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<sup>76</sup> Report of Dr. Gerald Hurst, *Ex parte* Cameron Todd Willingham, Trial Court No. 24, 4670, (Tex. Dist. Ct. Feb. 13, 2004), available at <http://www.pbs.org/wgbh/pages/frontline/death-by-fire/documents/hursts-2004-report.html>.

<sup>77</sup> Willingham's lawyer also petitioned the Court of Criminal Appeals, which ruled that the Hurst report was not newly discovered evidence.

<sup>78</sup> Grann, *supra* note 1, at 62 ("The Innocence Project obtained, through the Freedom of Information Act, all the records from the governor's office and the board pertaining to Hurst's report. 'The documents show that they received the report, but neither office has any record of anyone acknowledging it, taking note of its significance, responding to it, or calling any attention to it within the government,' Barry Scheck said."). See also Dave Mann, *Fire and Innocence*, TEX. OBSERVER, (Dec. 3, 2009), [www.texasobserver.org/fire-and-innocence/](http://www.texasobserver.org/fire-and-innocence/) ("Because the governor's office has refused

#### IV. TEXAS FORENSIC SCIENCE COMMISSION

After Willingham's execution, two seemingly unrelated statutes were enacted that ensured that the case would not die. In November 2004, Congress passed the Justice for All Act.<sup>79</sup> Because of numerous crime laboratory scandals,<sup>80</sup> this legislation included a requirement that each state receiving federal funds designate an entity to investigate forensic misconduct and incompetence.

One of the major scandals involved the Houston crime laboratory.<sup>81</sup> According to a state senator, "the validity of almost any case that has relied upon evidence produced by the lab is questionable."<sup>82</sup> As described by a later investigation, "the DNA Section was

to release relevant documents, it's unclear what, if anything, the governor's staff did with Hurst's report or whether Perry ever saw it.").

<sup>79</sup> "[A] certification that a government entity exists and an appropriate process is in place to conduct independent external investigations into allegations of serious negligence or misconduct substantially affecting the integrity of the forensic results committed by employees or contractors of any forensic laboratory system, medical examiner's office, coroner's office, law enforcement storage facility, or medical facility in the State that will receive a portion of the grant amount." 42 U.S.C. § 3797k(4) (2004).

<sup>80</sup> See Giannelli, *supra* note 11.

<sup>81</sup> See IRMA RIOS ET. AL., QUALITY ASSURANCE AUDIT OF HOUSTON POLICE DEPT' CRIME LABORATORY-DNA/SEROLOGY SECTION (2002) (revealing a dysfunctional organization with serious contamination issues and an untrained staff using shoddy science) (on file with the New York University Journal of Law and Liberty). See also Nick Madigan, *Houston's Troubled DNA Crime Lab Faces Growing Scrutiny*, N.Y. TIMES, Feb. 9, 2003, at A20 (reporting that operations were suspended after an audit found numerous problems, including poor calibration and maintenance of equipment, improper record keeping, and a lack of safeguards against contamination; "Among other problems, a leak in the roof was found to be a potential contaminant of samples on tables below."); Giannelli, *supra* note 11, at 187-91 (discussing the Houston crime lab scandal).

<sup>82</sup> Rodney Ellis, Editorial, *Want Tough on Crime? Start by Fixing HPD Lab.*, HOUSTON CHRON., Sept. 5, 2004. Similarly, the chair of the legislative committee investigating the lab stated: "It's a comedy of errors, except it's not funny." Adam

in shambles – plagued by a leaky roof, operating for years without a line supervisor, overseen by a technical leader who had no personal experience performing DNA analysis and who was lacking the qualifications required under the FBI standards, staffed by underpaid and undertrained analysts, and generating mistake-ridden and poorly documented casework.”<sup>83</sup> As a consequence, the state legislature created the Texas Forensic Science Commission (TFSC) in 2005.<sup>84</sup> Among other duties, the Commission was tasked with investigating claims of professional negligence or misconduct as required by the federal act.

#### A. INNOCENCE PROJECT COMPLAINT

By this time, the *Chicago Tribune*, after reviewing the Hurst report, began examining the Willingham case.<sup>85</sup> The *Tribune* retained three independent experts to review the arson evidence, all of whom concluded that the evidence was seriously flawed.<sup>86</sup> Next, the Innocence Project requested five experts to reexamine the case pro bono. These experts submitted a scathing forty-three page report, finding that “each and every one of the indicators relied upon

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Liptak, *Houston DNA Review Clears Convicted Rapist, and Ripples in Texas Could be Vast*, N.Y. TIMES, March 11, 2003 (quoting state Representative Kevin Bailey).

<sup>83</sup> Third Report of the Independent Investigator for the Houston Police Dep’t Crime Laboratory and Property Room 5 (June 30, 2005).

<sup>84</sup> TEX. CRIM. PROC. CODE art. 38.01(4)(a)(3) (2005) (among other duties, the Commission should “investigate, in a timely manner, any allegation of professional negligence or misconduct that would substantially affect the integrity of the results of a forensic analysis conducted by an accredited laboratory, facility, or entity.”).

<sup>85</sup> See Mills & Possley, *supra* note 4.

<sup>86</sup> Two of the experts are authors of standard texts in the field. See JOHN DEHANN & DAVID J. ICOVE, *KIRK’S FIRE INVESTIGATIONS* (7th ed. 2011); LENTINI, *supra* note 17. The third expert, Kendall Ryland, was the Louisiana fire chief. Phillip Martin, *Juror in Willingham Execution Case: “Maybe This Man Was Innocent”*, BURNT ORANGE REPORT, Oct. 7, 2009.



have since been scientifically proven to be invalid.”<sup>87</sup> The report even raised questions about Fire Marshal Vasquez’s general knowledge of the field. For example, Vasquez testified that of the 1200 to 1500 fires he had investigated, most were arson.<sup>88</sup> Yet, the Texas Fire Marshal Office reported that between 1980 and 2005, only fifty percent of investigated fires were arson.<sup>89</sup> Vasquez also testified that fifty percent of his fires involved injuries and deaths.<sup>90</sup> In contrast, between 1995 and 2005, the annual percentage of fires that resulted in death was 0.23% and the percentage of those resulting in injuries was 1.22%.<sup>91</sup>

In May 2006, the Innocence Project petitioned the Commission to review the arson testimony in the Willingham and Ernest Ray Willis cases.<sup>92</sup> The expert evidence in both cases was comparable, but Willis was lucky. His death penalty conviction was overturned on procedural grounds,<sup>93</sup> and the prosecutor subsequently refused to reindict him after Dr. Hurst wrote the same type of critical report in Willis’s case that he had written in Willingham’s.<sup>94</sup> Willis, who

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<sup>87</sup> CARPENTER ET AL., *supra* note 30, at 3. One of these experts, John Lentini, was also one of the experts consulted by the Chicago Tribune. Maurice Possley, *Report: Inmate Wrongly Executed; Arson Experts Say Evidence in Texas Case Scientifically Invalid*, CHI. TRIB., May, 3, 2006, at C1.

<sup>88</sup> Willingham Transcript, *supra* note 16, vol. XI, at 228 (“With the exception of a few, most all of them.”).

<sup>89</sup> CARPENTER ET AL., *supra* note 30, at 5-6.

<sup>90</sup> Willingham Transcript, *supra* note 16, vol. XI, at 228 (“Unfortunately, fires injure a lot of people, kill a lot of people. It’s about 50 percent.”).

<sup>91</sup> CARPENTER ET AL., *supra* note 30, at 5-6.

<sup>92</sup> See Mary Alice Robbins, *New-York Based Innocence Project Attacks Texas Arson Convictions*, 22 TEX. LAWYER, May 8, 2006.

<sup>93</sup> See *Willis v. Cockrell*, No. P-01-CA-20, 2004 WL 1812698, at \*1 (W.D. Tex. Aug. 09, 2004) (finding, among other deficiencies, ineffective assistance of counsel).

<sup>94</sup> “Ori T. White, then the district attorney in Fort Stockton, filed a certificate of actual innocence for Willis in the Court of Criminal Appeals.” Robbins, *supra* note 92.

had spent seventeen years on death row, was subsequently exonerated on grounds of actual innocence.<sup>95</sup>

The TFSC was not authorized to determine guilt or innocence. Instead, the Innocence Project argued that the State Fire Marshal's Office should have reinvestigated the Willingham and other old arson cases, in which its experts had testified, after NFFPA 921 was published in 1992—a full twelve years before Willingham's execution.<sup>96</sup>

#### B. THE BEYLER REPORT

The Commission's work was hampered from the beginning. Initially, the legislature did not provide funding, and then the Governor and Lieutenant Governor delayed the appointment of Commission members.<sup>97</sup> When funding was finally appropriated, the Commission spent a year formulating its procedures under the guidance of the Texas Attorney General's Office. In late 2008, more than two years after the Innocence Project complaint was received, the Commission retained an independent consultant, Dr. Craig Beyler, another nationally recognized expert, to review the arson evidence.<sup>98</sup>

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<sup>95</sup> TFSC REPORT, *supra* note 39, at 13.

<sup>96</sup> See Letter from Innocence Project, to Texas Forensic Science Comm'n (Aug. 20, 2010) (on file with the New York University Journal of Law and Liberty).

<sup>97</sup> See Mary Alice Robbins, *Lack of Money, Members Stalled Launch of Crime Lab Commission*, 22 TEX. LAWYER, Oct. 23, 2006 ("'It's obvious that somebody's dragging their feet on this,' says state Sen. Juan Hinojosa, Senate sponsor of H.B. 1068."). Under the statute, the Governor appoints four members—two forensic science experts, a prosecutor, and a defense attorney. The Lieutenant Governor appoints three members—one each from University of Texas and Texas A&M University, specializing in clinical laboratory medicine, and one from Texas Southern University, specializing in pharmaceutical laboratory research. See TEX. CRIM. PROC. CODE art. 38.01(3)(a) (2005).

<sup>98</sup> The Commission voted to investigate the Willingham case at its August 15, 2008 meeting.

Beyler's fifty-one page report dissected the expert testimony, concluding:

The investigations of the Willis and Willingham fires did not comport with either the modern standard of care expressed by NFPA 921, or the standard of care expressed by fire investigation texts and papers in the period 1980-1992. The investigators had poor understandings of fire science and failed to acknowledge or apply the contemporaneous understanding of the limitations of fire indicators. Their methodologies did not comport with the scientific method or the process of elimination. A finding of arson could not be sustained based upon the standard of care expressed by NFPA, or the standard of care expressed by fire investigation texts and papers in the period 1980-1992.<sup>99</sup>

### C. GOVERNOR'S INTERVENTION

Once Beyler's report became public, a political firestorm erupted and Governor Perry, who was in the midst of a reelection battle, replaced Commission members two days before a scheduled hearing to consider Dr. Beyler's report.<sup>100</sup> The newly appointed chair,

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<sup>99</sup> Craig L. Beyler, *Analysis of the Fire Investigation Methods and Procedures Used in the Criminal Arson Cases Against Ernest Ray Willis and Cameron Todd Willingham*, Aug. 17, 2009, at 51. Still another expert agreed. See Letter from Mark Goodson, Goodson Engineering, to Texas Forensic Science Comm'n (Sept. 23, 2009), at 1 ("I first off want to commend Dr. Beyler for an excellent report. His findings, in my view, are accurate. Moreover, the report agrees with the previous reports by both Lentini, Carpenter et al. and Dr. Hurst.").

<sup>100</sup> See Christy Hoppe, *Perry Defends Removing 3: He Says He's Following Protocol, but Critics Believe He's Derailing Arson Inquiry*, DALL. MORNING NEWS, Oct. 2, 2009, at 3A; Robbins, *Fired Up*, *supra* note 7 ("[Former Commissioner] Levy says he believes things went south for the commission after [former Chair] Bassett released Beyler's report to the public in August as he was required by law to do."). The meeting was

John Bradley, a prosecutor, cancelled the meeting.<sup>101</sup> The timing of the Governor's action raised the specter of a cover-up.<sup>102</sup> Bradley then raised procedural objections, arguing for closed-door meetings, training, development of written policies, and definitions of the terms "negligence" and "misconduct."<sup>103</sup> Bradley next prepared a report exculpating the Willingham fire investigators of any negligence. The other Commission members, most of whom were scientists, balked,<sup>104</sup> thwarting Bradley's "attempt to turn the science commission into a legalistic briar patch."<sup>105</sup> Governor Perry re-

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scheduled for October 2, 2009. Grann's article had been published several weeks earlier. See Grann, *supra* note 1.

<sup>101</sup> Hoppe, *Perry Defends Removing 3*, *supra* note 100 (noting that Bradley was "known as one of the toughest law-and order prosecutors in the state").

<sup>102</sup> See Emily, *supra* note 4 ("Perry's replacements were seen by some as a political maneuver intended to change the outcome of the commission's decision."); Christy Hoppe, *Perry Ousts Officials Before Arson Hearing: He's Assailed as New Chair Delays Session on Flawed Case that Led to Execution*, DALL. MORNING NEWS, Oct. 1, 2009, at 1A; David Mann, *Fire and Innocence*, TEX. OBSERVER, Dec. 2, 2009 ("Then in late September, Perry booted three members off of the Texas Forensic Science Commission, which was investigating the Willingham and Willis cases, just three days before a crucial hearing on scientists' findings. Perry's new appointees promptly canceled the hearing and have yet to reschedule it. Even conservative commentators cried cover-up, suggesting that Perry, in a tough battle for re-election, was trying to subvert an investigation that might prove he oversaw the execution of an innocent man.").

<sup>103</sup> See Robert T. Garrett, *Forensics Panel Faulted: Former Chairman Says Overhaul May Delay Arson Review for Years*, DALL. MORNING NEWS, Nov. 12, 2009 (Bradley faulted former chairman Sam Bassett, saying he "utterly failed to adopt even a definition of negligence or misconduct."); *CSI: Texas: Governor Shakes Up Commission, Covers Tracks*, HOUS. CHRONICLE, Nov. 17, 2009 (Bradley "canceled the meeting [with fire expert Craig Beyler] and raised a number of issues about the commission's lack of rules and procedures.").

<sup>104</sup> See Emily, *supra* note 4 ("The Texas Forensic Science Commission rebelled Friday against its head commissioner, refusing to accept his draft report clearing arson investigators of misconduct or negligence in a 1991 fatal fire where flawed science was used to determine the blaze was intentionally set.").

<sup>105</sup> See Rick Casey, *The Revolt of the Scientists: No Legalistic Briar Patch Allowed*, HOUS. CHRONICLE, Jan. 31, 2010, at B1. See also Rick Casey, *A Win for Bradley, and Another Loss: Panel Worried About Funding*, HOUS. CHRONICLE, Feb. 3, at B1 ("[T]he seven scientists on the nine-member commission rebelled at a set of policies and

sponded by saying that “‘the evidence shows Willingham to be guilty,’ and [dismissing] the work of Beyler and other arson experts. The Governor declined to specify . . . what evidence he believes backs up the case.”<sup>106</sup> Before the Commission could reconvene, Governor Perry was reelected. By this time, the Fire Marshal’s Office and the city of Corsicana were challenging the TFSC’s jurisdiction to review old cases.<sup>107</sup>

At its January 7, 2011 meeting, the Commission finally heard from Dr. Beyler, who once again reiterated his position that the Willingham investigation was seriously flawed and the cause of the fire should have been designated as “undetermined.”<sup>108</sup> In his view, the investigators failed to eliminate natural or accidental causes, in violation of professional standards.<sup>109</sup> Another arson expert, Dr. John DeHaan, author of a standard text in the field,<sup>110</sup> agreed with Beyler. According to DeHaan, “‘everything that was documented

procedures presented by Bradley that would have given him formidable powers as chairman, including naming members and chairs of three standing committees and of ad-hoc committees that will direct the investigations of alleged failures at police labs and other agencies.”).

<sup>106</sup> Christy Hoppe & Gromer Jeffers Jr., *Arson Expert: Furor over Texas Forensics Masks Dangerous Trend*, DALL. MORNING NEWS, Oct. 15, 2009. See also Steve Mills, *Texas Execution: Statements by Gov. Rick Perry Others Don’t Align with Facts*, CHI. TRIB., Oct. 19, 2009, at C12.

<sup>107</sup> Letter from Terry Jacobson, City Attorney, to Leigh Tomlin, Comm’n Coordinator, Tex. Forensic Sci. Comm’n (Aug. 20, 2010) (“[T]he commission lacks the authority to even review this matter.”) [hereinafter SFMO Letter].

<sup>108</sup> Rick Casey, *Willingham: Scientists vs. Lawyers*, HOUS. CHRONICLE, Jan. 10, 2010.

<sup>109</sup> Erin Mulvaney, *National Experts Criticize States’s Study of Fatal 1991 House Fire*, DALL. MORNING NEWS, Jan. 8, 2011. See also Aziza Musa, *Arson Experts Testify in Willingham Investigation*, TEX. TRIB., Jan. 7, 2011 (“Beyler accused the original investigators of ignoring eyewitnesses, whose testimony contradicted the arson determination.”); Allan Turner, *Arson Probe that Led to Corsicana Man’s Execution Assailed*, HOUS. CHRONICLE, Jan. 8, 2011 (“Beyler also faulted Vasquez for failing to investigate the possibility that the fire had been set by one of the children or by an intruder. Rather than systematically explore possible causes such as an electrical short, Coricana authorities ‘shoveled out the room and put it out the window,’ Beyler charged.”).

<sup>110</sup> See *supra* note 86.

post-fire was consistent with accidental rather than intentional fire. There was no basis for concluding that this was arson.' DeHaan said he was dismayed that the state fire marshal's office stood by the conclusion of the investigators."<sup>111</sup> In contrast, Ed Salazar, a lawyer with the State Fire Marshal Office, defended the fire investigation. One report put it this way: "Salazar became impassioned with his criticism of the opposing expert, but he was short on analysis. 'It was embarrassing,' said one scientist on the commission afterward."<sup>112</sup> Buddy Wood, a senior investigator with the Houston Fire Department, testified that the investigators were not negligent. However, he also stated that he could not determine the cause of the fire because he had not gone to the scene.<sup>113</sup>

On January 28, 2011 the Commission requested a legal opinion regarding its jurisdiction from the state Attorney General's Office.<sup>114</sup>

#### D. TFSC REPORT

While awaiting the Attorney General's response, the Commission issued a limited report – one that did not directly deal with the Willingham and Willis cases.<sup>115</sup> Nevertheless, the report's recom-

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<sup>111</sup> Mulvaney, *supra* note 109.

<sup>112</sup> Casey, *supra* note 108.

<sup>113</sup> By this time, Willingham's family along with the Innocence Project sought a judicial inquiry into Willingham's conviction. Petition to Convene a Court of Inquiry and For Declaration to Remedy Injury to Mr. Willingham's Reputation under the Texas Constitution, 299th Dist. Court, Travis County, Tex., Sept. 24, 2010. *See also* TEX. CRIM. PROC. CODE art. 52.01 (1995) (courts of inquiry). The prosecutors responded by asking the judge to recuse himself and then filed a writ of mandamus on the recusal issue. Relator's Petition for Writ of Mandamus and Emergency Motion for Immediate Stay, 3d Jud. Dist. Court of Appeals, Oct. 14, 2010.

<sup>114</sup> Letter from John Bradley, Tex. Forensic Sci. Comm'n, to Greg Abbott, Attorney Gen., Tex. (Aug. 28, 2010) (on file).

<sup>115</sup> Controversially, the Attorney General eventually opined that the Commission lacked jurisdiction. *See* Tex. Att'y Gen. Op. No. GA-0866, at \*4 (2011), 2011 WL

mendations and statements indicated that the Willingham arson investigation was seriously flawed. Its first recommendation was “that fire investigators adhere to the standards of NFPA 921.”<sup>116</sup> In addition, the report reviewed a number of the arson indicators that were used in the Willingham and Willis cases. Reviewing Vasquez’s testimony, the report undermined his opinions concerning V-patterns as an indicator of origin, pour patterns, low/deep burning, multiple separate points of origin, spalling, burn intensity, and crazed glass.<sup>117</sup> It also observed that, “testimony, such as Vasquez’s response to a question regarding Willingham’s state of mind, is an example of the type of testimony that experts should avoid as falling outside of their field of expertise.”<sup>118</sup> Surprisingly, the report even encouraged lawyers to “aggressively pursue admissibility hearings in arson cases.”<sup>119</sup>

The State Fire Marshal’s Office was criticized as well. That office had submitted a letter that included the following statement: “In reviewing documents and standards in place then and *now*, we

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4352017 (concluding that the TFSC cannot investigate incidents before September 1, 2005, long after the Willingham incident). The TFSC would eventually accept the Attorney General’s reading of the statute. See TEX. FORENSIC SCI. COMM’N, ADDENDUM TO THE APRIL 15, 2011 REPORT OF THE TEXAS FORENSIC SCIENCE COMMISSION, WILLINGHAM/WILLIS INVESTIGATION, at 3–4 (Oct. 28, 2011), available at <http://content.news8austin.com/auscontent/files/WillinghamWillisReport.pdf>. See also Ryan M. Goldstein, Note, *Improving Forensic Science Through State Oversight*, 90 TEX. L. REV. 225, 245 (2011) (referring to the AG opinion as a “narrow interpretation” of the jurisdictional statute).

<sup>116</sup> TFSC REPORT, *supra* note 39, at 39. Other recommendations included enhanced certification, comprehensive reports, retention of records, and standards in testifying. *Id.* at 39–52.

<sup>117</sup> *Id.* at 21–28.

<sup>118</sup> *Id.* at 36.

<sup>119</sup> *Id.* at 48.

stand by the original investigator's report and conclusions."<sup>120</sup> In response, the report commented: "This appears to be an untenable position in light of advances in fire science. The fires in these cases occurred two decades ago; there are few circumstances in which an investigation could not be improved with the benefit of twenty years of controlled scientific experiment and practical experience."<sup>121</sup>

Significantly, the report also pointed out that forensic disciplines have a "(1) duty to correct; (2) duty to inform; (3) duty to be transparent; and (4) [duty to] implement[] corrective action" when new scientific knowledge develops.<sup>122</sup>

## V. CONCLUSION

There is little dispute that the arson evidence in Willingham's case, based on myths that had permeated fire investigations for years, was invalid. Every independent expert, including the top experts in the country, has concluded that there was no evidence of arson.<sup>123</sup> Without the arson evidence, there never would have been

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<sup>120</sup> Letter from Paul Maldonado, State Fire Marshal, to Leigh Tomlin, Comm'n Coordinator, Tex. Forensic Sci. Comm'n (Aug. 20, 2010) (on file with the New York University Journal of Law and Liberty) (emphasis added).

<sup>121</sup> TFSC REPORT, *supra* note 39, at 16.

<sup>122</sup> *Id.* at 41.

<sup>123</sup> "Even Edward Cheever, one of the state deputy fire marshals who had assisted in the original investigation of the 1991 fire, acknowledged that Hurst's criticism was valid. 'At the time of the Corsicana fire, we were still testifying to things that aren't accurate today,' he said. 'They were true then, but they aren't now. 'Hurst,' he added, 'was pretty much right on. . . . We know now not to make those same assumptions.'" Mills & Possley, *supra* note 4. After the issue became politicized, Cheever "told the [Texas Forensic Science Commission] he had been misquoted by a Chicago Tribune reporter who wrote that he admitted the standards Vasquez used now may be considered outdated." Turner, *supra* note 109. Assistant Chief Fogg, however, has not changed his opinion. See *Frontline: Death by Fire*, *supra* note 5.



an arrest, much less a trial or execution. The other evidence introduced at trial (e.g., jail-informant testimony and demeanor evidence) was suspect.<sup>124</sup> While Willingham was executed, Willis, who was convicted on comparable evidence, was exonerated after spending seventeen years on death row.

Although NFPA 921 was published in 1992 just weeks after Willingham's trial, many of its findings had been reported during the prior decade. After NFPA 921 was published, the State Fire Marshal's Office became aware of its contents<sup>125</sup> but did not take corrective action in old cases during the dozen years Willingham waited on death row. Indeed, the Office still maintains it did everything right.

Moreover, once Dr. Hurst's report was made available to them, the Texas pardon board and Governor Perry had the opportunity to stay the execution to investigate further. They did not. Although the United States Supreme Court has called clemency the "failsafe"

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<sup>124</sup> Texas officials have suggested that Willingham was guilty, even if the arson evidence was flawed. The statements of Willingham's wife, Stacy, are cited as support for this view. At the trial, she testified at the penalty stage that she believed him to be innocent. *See supra* note 70. After the trial, she worked for his exoneration. *See Grann, supra* note 1, at 47, 49 (Stacy "wrote to Ann Richards, then the governor of Texas, saying, 'I know him in ways that no one else does when it comes to our children. Therefore, I believe that there is no way he could have possibly committed this crime.'" She reported to "investigators that even though Willingham hit her he had never abused the children—'Our kids were spoiled rotten,' she said—and she did not believe that Willingham could have killed them."). She later remarried. For over a decade, she did not visit him on death row. At some point she changed her mind. Recently, she said that he had confessed to her in their last meeting immediately before his execution. Yet, "[i]n their final meeting . . . he did not confess, she told the Tribune." Mills & Possley, *supra* note 4.

<sup>125</sup> *See* SFMO Letter, *supra* note 107 ("The guidelines NFPA 921 set out were used by the State Fire Marshal prior to NFPA 921's initial publication"; "The SFMO staff began referencing and received training on NFPA 921 almost immediately after its initial publication in 1992.").

procedure in death penalty cases,<sup>126</sup> the Texas procedure was known as “death by fax” because the pardon board is not required to meet or discuss a case;<sup>127</sup> each member can vote by fax.<sup>128</sup> “Between 1976 and 2004, when Willingham filed his petition, the State of Texas had approved only one application for clemency from a person on death row.”<sup>129</sup> In another case, a Texas appellate judge wrote: “Applicant’s complaints about the inadequacies of our Texas executive clemency procedures are not unheard of. Not only are they not unheard of, but her complaints are pretty much accurate. I would say that clemency law in Texas is a legal fiction at best.”<sup>130</sup>

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<sup>126</sup> *Herrera v. Collins*, 506 U.S. 390, 415 (1993). *See also* *Kansas v. Marsh*, 548 U.S. 163, 193 (2006) (Scalia, J., concurring) (“Reversal of an erroneous conviction on appeal or on habeas, or the pardoning of an innocent condemnee through executive clemency, demonstrates not the failure of the system but its success. Those devices are part and parcel of the multiple assurances that are applied before a death sentence is carried out.”); *Dretke v. Haley*, 541 U.S. 386, 399 (2004) (Kennedy, J., dissenting) (“Among its benign if too-often ignored objects, the clemency power can correct injustices that the ordinary criminal process seems unable or unwilling to consider . . .”).

<sup>127</sup> Grann, *supra* note 1, at 62 (“The vote was unanimous. . . . [T]he board deliberates in secret, and its member are not bound by any specific criteria. The board members did not even have to review Willingham’s materials, and usually don’t debate a case in person; rather, they cast their votes by fax—a process that has become known as ‘death by fax.’”).

<sup>128</sup> TEX. GOV’T CODE ANN. § 508.047(b) (West 2004) (“The members of the board are not required to meet as a body to perform the members’ duties in clemency matters”). In a 2002 case, a criminal defendant alleged that “only one live clemency hearing has been held in the past thirty years.” *Lagrone v. Cockrell*, No. Civ.A.4:99-CV-0521-G, 2002 WL 1968246, at \*23 (N.D. Tex. Aug. 19, 2002).

<sup>129</sup> Grann, *supra* note 1, at 62. Texas’s lackluster reputation for reviewing death-penalty cases includes the conduct of Sharon Keller, presiding judge of the Court of Criminal Appeals, who refused to keep the clerk’s office open past five o’clock to permit a last-minute petition by an inmate executed later that night. *See* Gretel C. Kovach, *Mixed Opinions of a Judge Accused of Misconduct*, N.Y. TIMES, Mar. 7, 2009, at A14.

<sup>130</sup> *Ex parte Tucker*, 973 S.W.2d 950, 951 (Tex. Crim. App. 1998) (Overstreet, J., concurring). *See also* Steve Woods, Comment, *A System Under Siege: Clemency and the Texas Death Penalty After the Execution of Gary Graham*, 32 TEX. TECH L. REV. 1145, 1146

Then, by interfering with the work of the Texas Forensic Science Commission, Governor Perry and his allies undermined a process intended to improve expert testimony in criminal prosecutions. Congress enacted the requirement that each state designate an entity to investigate forensic misconduct and incompetence because few states had such a procedure and the experience in the states varied.<sup>131</sup> Thus, the TFSC's decision to review the Willingham case was historic—one of the first investigations by a forensic commission in the country. Unfortunately, the Fire Marshal's Office's resistance to admitting prior mistakes and the Governor's intervention undermined the Commission's work. There are still inmates in Texas prisons who were convicted on the same flawed arson evidence.<sup>132</sup>

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(2001) (“Critics are enraged at the Texas Board of Pardons and Paroles’s record of only recommending one individual for clemency since 1995. . . . The execution of Gary Graham in Huntsville, Texas, in June of 2000, cast a worldwide spotlight on Texas and its clemency procedure and has cemented the need for the state to examine its methods to determine whether any improvements can, or even should, be made.”).

<sup>131</sup> Until recently, only New York had established a Commission on Forensic Science. It is authorized to (1) develop minimum standards and a program of accreditation for all state laboratories, (2) establish minimum qualifications for laboratory directors and other personnel, and (3) approve forensic laboratories for the performance of specific forensic methodologies. N.Y. EXEC. LAW § 995-b (McKinney 2012). See Giannelli, *supra* note 11, at 170.

<sup>132</sup> See generally Mann, *supra* note 78 (discussing the cases of Curtis Severns, Ed Graf, and Alfredo Guardiola).