

**THE ‘DAMNED’ IN A FLASHOVER STATE: ARSON AND THE
USE OF SCIENTIFIC METHODS AND EXPERT TESTIMONY
IN WEST VIRGINIA**

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I. INTRODUCTION

The fire moved quickly through the house as Cameron Todd Willingham screamed for his children from the front porch.¹ Inside the blaze were his three children.² Firefighters arrived, uncoiled hoses, and aimed water at the raging fire.³ However, all three Willingham children died that night from smoke inhalation.⁴

News of the December 23, 1991, tragedy spread throughout Corsicana, Texas.⁵ Meanwhile, investigators sought to determine what caused the fire.⁶ The investigators “toured the perimeter of the house, taking notes and photographs, like archeologists mapping out a ruin.”⁷ In the kitchen, they found smoke and heat damage—signs the fire had not originated there—so they proceeded to other parts of the shambled home.*

As the investigators continued through the home, they noticed charring along the base of the walls and burn patterns shaped like puddles on the floor.⁸ The investigator knew a “combustible liquid doused on the floor will cause a fire to concentrate in these kinds of pockets, which is why investigators refer to them as ‘pour patterns’ or ‘puddle configurations.’”⁹ The investigators further examined glass from one of the broken windows.¹⁰ The glass was “crazed,” which has long been described as an indicator the fire burned “fast and hot,” meaning an accelerant was used in the fire.¹¹ The investigators ultimately identified three locations of origin and concluded the fire was intentionally set.¹² The investigators had a clear vision of what happened.¹³

On the night of January 8, 1992, Willingham was arrested and charged for the murders of his three children.¹⁴ In August 1992, Willingham’s trial commenced and

¹ David Grann, *Trial by Fire: Did Texas Execute an Innocent Man?*, THE NEW YORKER (Sept. 7, 2009), <https://www.newyorker.com/magazine/2009/09/07/trial-by-fire> [hereinafter *Trial by Fire*].

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

* *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.* Multiple points of origin was generally thought to indicate that a fire was intentionally started, or at least speaks to the lower probability that the fire was accidental. *Id.*

¹³ *Id.*

¹⁴ *Id.*

included the expert testimony of an arson investigator.¹⁵ At the conclusion of the trial, the jury deliberated for barely an hour before returning with a unanimous guilty verdict.¹⁶ As the fire investigator had put it, “[t]he fire does not lie.”¹⁷

Despite a jury’s findings, flawed fire techniques taint investigations, leading to the misinterpretation of evidence as indicative of arson. Some courts grapple with the issue of applicable standards in fire investigations and seek to “weed out” questionable science and techniques.¹⁸ However, others continue to ignore the relevant standards and scientific method by admitting the flawed testimony of fire investigators in arson cases.¹⁹

For instance, West Virginia courts have failed to recognize the National Fire Protection Association’s (“NFPA”) guideline 921—a standard requiring the application of the scientific method to fire investigation and debunking many flawed techniques—and employ the *Daubert* factors to determine whether expert testimony in arson cases is admissible.²⁰ The Supreme Court of Appeals of West Virginia’s argument—that it will not follow NFPA 921 until the legislature enacts a law recognizing the guidelines—is nothing more than smoke and mirrors.²¹ Although NFPA 921 guidelines are classified as “marginal changes,” the guidelines are making actual leaps to overcome the hurdles in innocence claims involving arson.²² To correct these pitfalls, the Supreme Court of Appeals of West Virginia—not the legislature—should adopt NFPA 921 as the standard of care, even in the absence of the legislature’s failure to “codify science.” Doing so will provide a foundation for the progress and reliability of fire science in West Virginia.

Part II of this article examines the evolution of the legal standards pertaining to the admission of scientific expert testimony from the adoption of the *Frye* general acceptance test, to the enactment of the Federal Rules of Evidence, and the federal abrogation of *Frye* through *Daubert*. Part II also considers how the Rules of Evidence concerning scientific expert testimony changed on the state level in West Virginia and the interplay of such expert testimony with arson investigations. Part III of this article argues the Supreme Court of Appeals of West Virginia has turned a blind eye to the evolving standards of expert testimony by concluding that NFPA 921 is a mere guideline unrecognized by the legislature and a standard that only provides marginal changes and not new evidence for innocence claims. Finally, Part IV concludes by reiterating the pitfalls of fire science in the courtroom and the call for reform.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ See generally John J. Lentini, *The Standard of Care in Fire Investigation*, SCI. FIRE ANALYSIS (2007), <http://www.firescientist.com/Documents/The%20Standard%20of%20CareCAFI%202007.pdf>.

¹⁹ See *infra* Section II.C.

²⁰ *Id.*

²¹ *Id.*

²² See *infra* Section III.C.

II. BACKGROUND

Part II of this article explores the relevant rules concerning expert testimony as they changed over time and discusses the implementation of those rules in West Virginia. Section II.A establishes a timeline detailing the changes of expert scientific testimony on both a federal and state specific level. Section II.B explores the field of fire science and relevant methods, techniques, and tools used in fire investigation. Finally, Section II.C introduces the case in West Virginia in which the relevant fire science is overlooked.

A. Admitting Expert Evidence

This Section explores the evolving standards and rules—on both the federal and state level—concerning scientific expert testimony. More specifically, this Section examines the changes under the rules of evidence as they apply to scientific expert testimony.

1. The Evolving Standard: Frye, the Federal Rules of Evidence, and Daubert

Scientific expert testimony has a long history in common law courts.²³ The common law has long recognized the “importance of scientific advice in cases where the disputed facts were such that the courts lacked sufficient knowledge to draw from them an informed decision.”²⁴ In 1922, James Frye was accused of murder.²⁵ Frye pleaded not guilty and, in his defense, offered William Marston, one of the inventors of the lie detector, as an expert witness.²⁶ Marston intended to testify about the results allegedly proving Frye’s truthfulness.²⁷ The trial court refused to allow the testimony because polygraphs were inadmissible until “there is an infallible instrument for ascertaining whether a person is speaking the truth or not.”²⁸

The Court of Appeals of the District of Columbia affirmed the trial court’s exclusion of the polygraph.²⁹ The appellate court put forward what is now recognized as the “general acceptance test.”³⁰ By the 1970s, *Frye*’s general acceptance test “had become

²³ Tal Golan, *Revisiting the History of Scientific Expert Testimony*, 73 BROOK. L. REV. 879, 881 (2008).

²⁴ *Id.*

²⁵ *Frye v. United States*, 293 F. 1013, 1013 (D.C. Cir. 1923).

²⁶ *Id.*

²⁷ Golan, *supra* note 23, at 927; *see also Frye*, 293 F. at 1013–14. The polygraph test used in Frye’s case is “described as the systolic blood pressure deception test. It is asserted that blood pressure is influenced by change in the emotions of the witness, and that the systolic blood pressure rises are brought about by nervous impulses sent to the sympathetic branch of the autonomic nervous system.” *Id.* at 1013. The polygraph here, which essentially relied on a blood pressure cuff, has drastically changed today in its modern use.

²⁸ Golan, *supra* note 23, at 927 (internal quotations omitted).

²⁹ *Frye*, 293 F. at 1014.

³⁰ *Id.* at 1014.

'not only the majority view, [but] the almost universal view' in the majority of criminal courts that considered the admissibility of new scientific evidence."³¹

Nevertheless, in 1975, the Federal Rules of Evidence were codified and included rules on expert testimony.³² The new rules made no mention of *Frye*'s general acceptance test, nor did the rules articulate any special test for ensuring the reliability of scientific evidence.³³ Instead, Rule 702 casted "the widest net possible," providing "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of opinion or otherwise."³⁴

Before the current codification of the Federal Rules of Evidence, the case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*³⁵ brought another refinement.³⁶ In *Daubert*, the plaintiffs were born with serious birth defects and blamed Merrell Dow's Bendectin—a popular anti-nausea drug mothers took during pregnancies.³⁷ The plaintiffs offered experts who concluded that the drug caused birth defects.³⁸ The plaintiffs argued the Federal Rules of Evidence superseded *Frye* and, under those rules, the jury—not the judge—determines the persuasiveness of the scientific evidence introduced.³⁹ The Supreme Court agreed that the Federal Rules of Evidence superseded *Frye*.⁴⁰ However, the Court also ruled that judges are the gatekeepers of such testimony and laid out several factors to be considered in determining whether to admit scientific expert testimony.⁴¹ The factors include "testability," whether the science is subject to "peer review," the known potential "rate of error," the existence and maintenance of "controlling standards," and the

Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.

Id.

³¹ Golan, *supra* note 23, at 931 (citation omitted).

³² *Federal Rules of Evidence, Rule 702*, A SIMPLIFIED GUIDE TO FORENSIC ADMISSIBILITY AND EXPERT WITNESSES, <http://www.forensicsciencesimplified.org/legal/702.html> (last visited Nov. 16, 2018) [hereinafter A Simplified Guide to Rule 702].

³³ Golan, *supra* note 23, at 932.

³⁴ *Id.*; see also FED. R. EVID. 702 (1975).

³⁵ 509 U.S. 579 (1993).

³⁶ Golan, *supra* note 23, at 933–34.

³⁷ *Daubert*, 509 U.S. at 582.

³⁸ *Id.* at 583.

³⁹ *Id.* at 587, 596–97.

⁴⁰ *Id.* at 587.

⁴¹ *Id.* at 592–94.

question of whether the science is “generally accepted” within the relevant scientific community.⁴²

One question left open by *Daubert* was whether this standard applied to expert testimony not scientific in nature. In *Kumho Tire Co. v. Carmichael*,⁴³ the Court extended the rule in *Daubert* to apply to all experts.⁴⁴ While most states adopted either the Federal Rules of Evidence or *Frye*, states retained the ability to adopt their own rules of evidence.⁴⁵ As such, not all states adopted the *Daubert* standards or its extension to all experts as prescribed in *Kumho*.⁴⁶

The current version of Rule 702, however, provides lower standards than *Daubert* and allows for an expert qualified by knowledge, skill, experience, training, or education to testify in the form of an opinion or otherwise if

(a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principle and methods to the facts of the case.⁴⁷

In addition to Rule 702, Federal Rule 703 addresses the concerns of expert opinion testimony by permitting it “[i]f experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject”⁴⁸

2. *Daubert* in West Virginia: *Wilt v. Buracker*

In 1994, the Supreme Court of Appeals of West Virginia took issue with whether *Daubert* should be followed in analyzing the admissibility of expert testimony under West

⁴² *Id.*

⁴³ 526 U.S. 137 (1999).

⁴⁴ *Id.* at 150. For a more comprehensive understanding of this issue, see the so-called “*Daubert* Trilogy:” *Kumho Tire Co.*, 526 U.S. 137 (1999); *Gen. Elec. Co. v. Joiner*, 522 U.S. 136 (1997); *Daubert*, 509 U.S. 579 (1993).

⁴⁵ A Simplified Guide to Rule 702, *supra* note 32.

⁴⁶ *Id.*

⁴⁷ FED. R. EVID. 702.

⁴⁸ FED. R. EVID. 703.

Virginia Rules of Evidence 702.⁴⁹ In *Wilt v. Buracker*,⁵⁰ Wilt and his wife sought civil compensation for injuries sustained from a car accident.⁵¹ The defendant was killed in the collision, and the Wilts brought the action against his estate.⁵²

The plaintiffs sought to introduce several experts at trial. One expert was an economist whose testimony included the calculation of damages for loss of enjoyment of life.⁵³ Before embarking on the issue concerning the admissibility of the economist's testimony, the court concluded the *Daubert* analysis applies to West Virginia Rule of Evidence 702.⁵⁴ Subsequently, the court decided the expert's testimony was inadmissible because it lacked relevance to a calculation of damages for the loss of enjoyment of life.⁵⁵

Nevertheless, West Virginia adopted *Daubert* through *Wilt*. However, the *Wilt* decision begs the question—much like *Daubert*—does the application of the rule established in *Wilt* also extend to non-scientific experts?

3. Kumho in West Virginia: *Watson v. Inco Alloys International, Inc.*

Two years after *Kumho*, the Supreme Court of Appeals of West Virginia addressed the *Wilt's* unanswered question. In *Watson v. INCO Alloys International, Inc.*,⁵⁶ the decedent, Mr. Watson, was operating a stand-up lift for his employer.⁵⁷ While loading materials onto a tractor trailer, the lift backed off the side of the tractor trailer, fell approximately five feet, landed on the floor, and crushed Mr. Watson, who died as a result.⁵⁸

⁴⁹ W. VA. R. EVID. 702.

(a) If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise. (b) In addition to the requirements in subsection (a), expert testimony based on a novel scientific theory, principle, methodology, or procedure is admissible only if: (1) the testimony is based on sufficient facts or data; (2) the testimony is the product of reliable principles and methods; and (3) the expert has reliably applied the principles and methods to the facts of the case.

Id.

⁵⁰ 443 S.E.2d 196 (W. Va. 1993).

⁵¹ *Id.* at 199.

⁵² *Id.*

⁵³ *Id.* at 200.

⁵⁴ *Id.* at 203 (concluding that “*Daubert's* analysis of Federal Rule 702 should be followed in analyzing the admissibility of expert testimony under Rule 702 of the West Virginia Rules of Evidence”).

⁵⁵ *Id.* at 203–04; *see also* *Gentry v. Mangum*, 466 S.E.2d 171 (W. Va. 1995) (explaining further the application of the court's gatekeeper function as established in *Wilt*).

⁵⁶ 545 S.E.2d 294 (W. Va. 2001).

⁵⁷ *Id.* at 297.

⁵⁸ *Id.*

The plaintiff, decedent's wife, brought an action alleging that the lift was defective, was not equipped with side doors, and failed to provide appropriate warnings.⁵⁹ The plaintiff proffered the expert testimony of a licensed engineer.⁶⁰ The lower court excluded the expert's testimony on the basis that the proposed testimony concerning the "causation and enhancement" of Mr. Watson's injuries was outside his expertise.⁶¹ The lower court reasoned that "the issues of design defects . . . and lack of adequate warnings" were scientific in nature; thus, the expert "must fulfill the standards set forth in [*Wilt/Daubert*]," and the expert here did not.⁶²

On appeal, the Supreme Court of Appeals of West Virginia framed the issue as "whether Mrs. Watson's expert witness . . . should be permitted to testify regarding alleged design defects . . . [including] the lack of adequate warnings."⁶³ After noting that "[u]nless an engineer's opinion is derived from the methods and procedures of science, his or her testimony is generally considered technical in nature, and not scientific,"⁶⁴ the Supreme Court of Appeals of West Virginia concluded the lower court erred in excluding the expert's testimony.⁶⁵ Thus, West Virginia declined to extend *Wilt/Daubert* in its application to non-scientific experts.

B. Arson Investigation and the Scientific Method

This Section explores changing standards of care, flawed techniques, and the use of the scientific method in fire investigation. More specifically, this Section provides a basis for understanding NFPA 921 and its evolution as applied to fire investigations and specific flawed techniques used by fire investigators.

1. Establishing NFPA 921

In 1992, the NFPA released its first edition of NFPA 921, *Guide for Fire and Explosion Investigation*.⁶⁶ NFPA 921 assists fire investigators throughout the United States in the investigation of fire incidents and "aid[s] in drawing conclusions and rendering

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.* at 238.

⁶⁴ *Id.* at Syl. Pt. 3.

⁶⁵ *Id.* at 299.

⁶⁶ NAT'L FIRE PROT. ASS'N, NFPA 921: GUIDE FOR FIRE AND EXPLOSION INVESTIGATION (2017) [hereinafter NFPA 921], <http://www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/List-of-Codes-and-Standards>.

opinions” concerning the origins and cause.⁶⁷ NFPA 921 also provides “recommendations” for the methodical investigation and analysis of fire incidents.⁶⁸ To further aid investigators, NFPA 921 included “specific procedures” concerning the collection and analysis of evidence.⁶⁹

When NFPA 921 was first introduced, many fire investigators countered its scientific methods with a “culture that believed fire investigation was more art than science.”⁷⁰ For instance, in *Michigan Millers Mutual Insurance Co. v. Janelle R. Benfield*,⁷¹ the International Association of Arson Investigators (“IAAI”) filed an *amicus curiae* brief, claiming the standard in *Daubert* should not be applied to fire investigation expert testimony “because fire investigation is ‘less scientific.’”⁷²

The IAAI endorsed NFPA 921 in 2013.⁷³ In so doing, the IAAI stated NFPA 921 “‘is widely recognized as an authoritative guide for the fire investigation profession’ NFPA 921 is ‘an important reference manual and sets forth guidance and methodology regarding the determination of origin and cause of fires.’”⁷⁴ Still, the IAAI has stopped short of identifying NFPA 921 as a “standard of care” and instead is an “offering guidance.”⁷⁵

2. Pre-NFPA 921 Techniques and the Scientific Method

For years after its introduction, NFPA 921 remained a controversial document and was challenged by individuals who believed NFPA 921 “took away their tools.”⁷⁶ NFPA 921 dealt with misconceptions in the fire investigation community.⁷⁷ Nearly all of the misconceptions were related to post-fire artifacts, including “crazed glass, melted bed

⁶⁷ Parisa Deghani-Taft & Paul Bieber, *Folklore and Forensics: The Challenges of Arson Investigation and Innocence Claims*, 119 W. Va. L. Rev. 549, 553–54 (2016) [hereinafter *Folklore and Forensics*].

⁶⁸ *Id.* at 554.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ 140 F.3d 915 (11th Cir. 1998).

⁷² *Forensics and Folklore*, *supra* note 67, at 555.

⁷³ *Id.* at 556.

⁷⁴ *Id.* (citation omitted).

⁷⁵ *Id.* In his article, Paul Bieber highlights the problem of continuing to refer to NFPA as simply a guide that can be followed or ignored at the discretion of the fire investigator, because it begs the question of “what standards actually exist within the field of fire investigation to control or limit the methodologies, processes, or techniques used in forming expert conclusions regarding origin or cause of a fire?” *Id.* at 556–57.

⁷⁶ Lentini, *supra* note 18.

⁷⁷ *Id.*

springs, and spalled concrete, as evidence of arson.”⁷⁸ These misconceptions made it difficult to identify the origin of the fire.⁷⁹

Most notably, NFPA 921 was not “the debunking of the mythology of arson investigation; it was the statement that fire investigation should be conducted according to the scientific method.”⁸⁰ The scientific method was resisted for a number of years by investigation professionals who argued that fire investigation was “less scientific” than other kinds of forensic investigations.⁸¹ Still, NFPA’s call for conducting fire investigations according to the scientific method is recognized in several cases throughout the United States.⁸²

On a forensic fire scene, the most important determination is the fire’s area of origin.⁸³ Once the origin of the fire is identified, fire investigators can then examine a scene to determine the cause of the fire.⁸⁴ In determining origin, fire investigators examine and interpret “shape, depth, texture, location, and overall appearance of the effects and patterns made by the heat of the fire on walls, ceilings, floors, or furniture.”⁸⁵ NFPA 921 explains fire behavior and “lists various common fire patterns and effects created in normal room fires, including ‘V-patterns,’ depth of char, lines of demarcation, soot and smoke deposits.”⁸⁶

However, a factor complicating the determination of origin is the effect of flashover.⁸⁷ Flashover is a “transient phase in an enclosed room fire where the temperature rises so high throughout the room that combustible items begin to burn, even at floor level and in areas away from the fire’s origin.”⁸⁸ As a fire approaches flashover, a smoke layer forms along the ceiling and radiates heat downward towards the floor.⁸⁹ At this point, any combustibles in the room will ignite almost simultaneously.⁹⁰

Flashover quickly transitions to “full room involvement.”⁹¹ At this stage, ventilation-generated fire patterns create conflicting burn damage and fire patterns

⁷⁸ *Id.*

⁷⁹ *See generally Folklore and Forensics, supra* note 67, at 558.

⁸⁰ Lentini, *supra* note 19.

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Folklore and Forensics, supra* note 67, at 558.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.* at 559.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

throughout the room, distorting the true area of origin.⁹² Thus, even experienced investigators can easily misidentify the origin where indicating patterns may or may not persist through flashover and full room involvement.⁹³

Another technique used in identifying origin is arc mapping.⁹⁴ NFPA 921 describes arc mapping as a “technique in which the investigator uses the identification of arc locations . . . to aid in determining the area of fire origin.”⁹⁵ Arc mapping interprets the “spatial relationship” of artifacts on energized electrical conductors damaged by heat during the course of a fire.⁹⁶

Unfortunately, there is no published research measuring the accuracy or error rate of any of these principles, let alone an investigator’s ability to synthesize these factors in determining where a fire started.⁹⁷ NFPA 921 does not describe arc mapping as a standalone methodology to determine origin, but instead opines that arc mapping “can be used in combination with other data to more clearly define the area of origin.”⁹⁸

In the most recent version of NFPA 921, the process of “negative corpus” is described as “[i]dentifying the ignition source for a fire by believing to have eliminated all ignition sources found, known, or suspected to have been present in the area of origin, and for which no supporting evidence exists.”⁹⁹ The current version of NFPA 921 also states that this “process is not consistent with the [S]cientific [M]ethod, is inappropriate, and should not be used because it generates untestable hypotheses, and may result in incorrect determinations of the ignition source”¹⁰⁰ However, the 1992 version of NFPA 921 omits this entirely.¹⁰¹

Finally, the means by which investigators utilize witness statements and how those statements influence investigators’ final conclusions remains controversial in the fire investigation community.¹⁰² NFPA 921 recognizes the use of witness information as a legitimate source of data analyzable in fire investigations but provides conflicting guidance on how a witness statement should be used by a fire investigator in forming an expert conclusion on the origin.¹⁰³

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.* at 560.

⁹⁵ NFPA 921, *supra* note 66, at 211.

⁹⁶ *Folklore and Forensics*, *supra* note 67, at 560.

⁹⁷ *Id.*

⁹⁸ *Id.* (citations omitted).

⁹⁹ NFPA 921, *supra* note 66, at 221 (2017).

¹⁰⁰ *Id.*

¹⁰¹ NFPA 921, *supra* note 66 (1992).

¹⁰² *Folklore and Forensics*, *supra* note 67, at 560.

¹⁰³ *Id.* at 560–61.

NFPA 921 cautions: “[w]itness statements regarding the location of the origin create a need for the fire investigator to conduct as thorough an investigation as possible to collect data that can support or refute the witness statements.”¹⁰⁴ NFPA 921 further explains “[w]itness statements are not supported by the investigator’s interpretation of the physical evidence, [and] the investigator should evaluate each separately.”¹⁰⁵ The question of how NFPA 921 “squares the imperfect and often unverifiable nature of a witness statement with its general reliance on empirical data remains unclear.”¹⁰⁶

C. West Virginia’s (In)Application of NFPA 921 in *Anstey v. Ballard*

This Section illustrates the issues of failing to apply NFPA 921 as the standard of care in West Virginia by providing examples at both the trial and appellate level. Furthermore, this Section sets the background for further exploration of the need to adopt NFPA 921 as the standard of care in West Virginia.

1. *Anstey* on Trial

On February 8, 1994, a fire erupted in Harvey Hill, West Virginia, in the home of Samuel Anstey and his grandmother, Marie Donollo.¹⁰⁷ Mr. Anstey was awakened by debris and the sound of his screaming grandmother. When Anstey opened his door, he felt intense heat and was confronted by a hallway filled with smoke.¹⁰⁸ Unable to reach his grandmother, Anstey escaped through a window to find help.¹⁰⁹ Anstey drove to three different neighbors; the closest neighbor called 911.¹¹⁰

When asked why he did not stop at the closest neighbor’s home first, Anstey responded the “truck had a full tank of gas,” and “he was concerned the fire might cause the truck to explode given its proximity to the trailer.”¹¹¹ The Oak Hill Volunteer Fire Department arrived on scene 12 minutes after receiving the 911 call.¹¹² Anstey informed first responders his grandmother was still inside.¹¹³ Upon entering, firefighters discovered Anstey’s grandmother unconscious and removed her from the building.¹¹⁴ Ms. Donollo was transported to the hospital and treated for her injuries, but she died on February 12,

¹⁰⁴ NFPA 921, *supra* note 66, at 207; *see also Folklore and Forensics*, *supra* note 67, at 561.

¹⁰⁵ NFPA 921, *supra* note 66, at 207; *see also Folklore and Forensics*, *supra* note 67, at 561.

¹⁰⁶ *Folklore and Forensics*, *supra* note 67 at 561.

¹⁰⁷ *Anstey v. Ballard*, 787 S.E.2d 864, 868 (W. Va. 2016).

¹⁰⁸ *Id.* at 868–69.

¹⁰⁹ *Id.* at 869.

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

1994.¹¹⁵ On May 11, 1994, the grand jury returned an indictment charging the petitioner with first-degree murder¹¹⁶ and first-degree arson.¹¹⁷ The State proceeded to trial solely on the murder charge under the theory of felony-murder.¹¹⁸

At trial, the State called several experts, including Roger York, the Assistant State Fire Marshal; Steven Cruikshank, the Director of Emergency Services and Fire Coordinator for Fayette County; and Harold Franck, an expert in electrical and forensic engineering and fire determination.¹¹⁹ Each expert offered testimony regarding the fire's cause and origin based on their respective examinations of the trailer and its contents.¹²⁰

The State also put on testimony by Lieutenant Robert Begley of the Volunteer Fire Department's Investigation Unit.¹²¹ Begley worked at a funeral home and was also a volunteer firefighter.¹²² He completed a two-week, 80-hour training from the National Fire Academy on fire investigation techniques in addition to other arson determination classes.¹²³ During his investigations on February 8, 1994, he observed the "fire damage was in the living room and kitchen areas of the trailer and, principally, in the kitchen 'from the counter top up.'"¹²⁴ Furthering his suspicion, Begley did not observe any heat or smoke damage in Anstey's room because there was a towel and weather-stripping surrounding the door.¹²⁵

However, Begley observed "a lot of fire damage directly underneath the toaster" located on the kitchen counter with two sheets of aluminum foil placed on top.¹²⁶ Begley conceded to moving the toaster before photographing it and also tampering with the pull-down mechanism during his investigation.¹²⁷ He moved the plunger to see if it was down and then put it back to its "original position."¹²⁸

¹¹⁵ *Id.* "According to the State medical examiner, the cause of death was 'smoke and soot inhalation resulting in a brain-dead condition.'" *Id.*

¹¹⁶ W. VA. CODE ANN. § 61-2-1 (West 2018).

¹¹⁷ *Id.* at § 61-3-1; *see also Anstey*, 787 S.E.2d at 866.

¹¹⁸ *Anstey*, 787 S.E.2d at 866; *see also Felony Murder*, BLACK'S LAW DICTIONARY (10th ed. 2014) ("Murder that occurs during the commission of a dangerous felony (often limited to rape, kidnapping, robbery, burglary, and arson).")

¹¹⁹ *Anstey*, 787 S.E.2d at 870.

¹²⁰ *Id.*

¹²¹ *Id.* at 869–70.

¹²² Transcript of Trial at 1135, *State v. Samuel R. Anstey*, Indictment No. 94-F-31 (Sept. 8, 1995).

¹²³ *Id.*

¹²⁴ *Anstey*, 787 S.E.2d at 869–70.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ Transcript of Trial at 1106, *State v. Samuel R. Anstey*, Indictment No. 94-F-31 (Sept. 8, 1995).

Begley further testified checking the breaker box and noticed breakers three, four, and five tripped.¹²⁹ Begley checked to confirm the breakers were tripped by moving them to the off position.¹³⁰ He also determined the smoke detectors in the trailer were hardwired to the breaker and, as a result, were not set off during the fire.¹³¹ Despite being trained not to disrupt the scene, Begley turned the tripped breakers back to the on position and then back to the off position.¹³² Begley then waited for Assistant State Fire Marshal Roger York to arrive.¹³³

York¹³⁴ investigated the scene and testified the origin of the fire was the toaster. York called Cruikshank to the scene to observe some “suspicious” or “questionable” things.¹³⁵ He questioned the fire department’s activities before his arrival and discovered two points of origin, indicating that the fire was intentionally caused.¹³⁶ At this point, the State’s experts also alleged Anstey had disarmed the smoke detectors by flipping its electrical breaker.¹³⁷

During the State’s closing, the prosecutor highlighted details relating to the large estate Anstey was to inherit upon his grandmother’s death and his alleged abusive behavior.¹³⁸ On September 8, 1995, the jury found the petitioner guilty of first-degree murder and recommended life without parole.¹³⁹

2. Anstey on Appeal

On May 12, 2014, Anstey filed a petition for a writ of *habeas corpus* requesting a new trial or, in the alternative, an omnibus *habeas corpus* hearing.¹⁴⁰ Anstey asserted that the “advancement of fire science and arson investigation since his 1995 conviction

¹²⁹ *Id.*

¹³⁰ *Id.* at 1098.

¹³¹ *Id.*

¹³² *Id.* at 1099.

¹³³ *Id.* at 1107.

¹³⁴ York was an Assistant State Fire Marshal and had worked in that office since 1989. *Id.* at 1211. He enforced the state fire laws and investigated the cause and origin of fires. *Id.* He had been in the fire department 20 years and listed a long resume of cause and origin related classes, seminars, certifications. *Id.* at 1212. He testified in arson cases for the state on four or five separate occasions. *Id.* at 1214. He also obtained his bachelor’s degree from Glenville State College and was involved in excess of 500 arson investigations. *Id.* York was admitted as an expert at trial. *Id.* at 1215.

¹³⁵ *Id.* at 1242.

¹³⁶ *Id.* The state’s expert testified that the fire had been intentionally set with two points of origin: a rigged toaster in the kitchen and a covered heating vent in Ms. Donollo’s bedroom. *Id.*

¹³⁷ *Id.* at 1448–51.

¹³⁸ *Anstey v. Ballard*, 787 S.E.2d 864, 867–69 (W. Va. 2016).

¹³⁹ *Id.* at 873.

¹⁴⁰ *Id.*

constituted newly discovered evidence and demonstrates that his trial was fundamentally unfair in violation of his right to due process of law.”¹⁴¹ Anstey also asserted, “prior to 2000, the scientific method which forms the basis of NFPA 921 was not widely accepted and was disregarded by the State’s witnesses in investigating the trailer fire.”¹⁴²

The Supreme Court of Appeals of West Virginia disagreed with Anstey’s assertions for three reasons. First, the court took issue with Anstey’s failure to cite any controlling authority.¹⁴³ In other words, Anstey failed to establish that NFPA 921 was generally accepted as authoritative in West Virginia.¹⁴⁴ The court went on to state that

[it] cannot find, nor do the parties cite, any statute or regulation where the State Fire Commission has expressly adopted NFPA 921 as . . . [a] standard to be followed in fire investigations in this state. In fact, the statute pertaining to the State Fire Marshal’s fire investigations does not mention NFPA 921.¹⁴⁵

Because of this lack of authority, the court held Anstey “was not denied his right to a fair trial and due process of law through the admission of the testimony of the State’s experts.”¹⁴⁶ The court further stated, “[e]ven today, the admissibility of the State’s expert testimony would be assessed under Rule 702¹⁴⁷ of the West Virginia Rules of Evidence as evidence based on technical or specialized knowledge—and not under *Daubert/Wilt*,”¹⁴⁸ and, thus, his due process was not violated.¹⁴⁹

Second, the court pointed out that Anstey did not cite any authority requiring “the State’s cause and origin investigation ha[s] to follow the method outlined in . . . NFPA

¹⁴¹ *Id.* at 873–74.

¹⁴² *Id.* at 874.

¹⁴³ *Id.* at 875.

¹⁴⁴ *Id.* at 876.

¹⁴⁵ *Id.* (citing W. VA. CODE ANN. § 29-3-12(f) (West 2018)).

¹⁴⁶ *Id.* at 881.

¹⁴⁷ W. VA. R. EVID. 702.

(a) If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise.

(b) In addition to the requirements in subsection (a), expert testimony based on a novel scientific theory, principle, methodology, or procedure is admissible only if:

- (1) the testimony is based on sufficient facts or data;
- (2) the testimony is the product of reliable principles and methods; and
- (3) the expert has reliably applied the principles and methods to the facts of the case.

Id.

¹⁴⁸ *Anstey*, 787 S.E.2d at 881.

¹⁴⁹ *Id.*

921.”¹⁵⁰ The court further reasoned that “even after the U.S. Department of Justice described NFPA 921 as having ‘become a benchmark for the training and expertise of everyone who purports to be an expert in the origin and cause determination of fires,’ NFPA 921 continues to be described in terms of constituting ‘guidelines.’”¹⁵¹ According to the Court, “NFPA 921 itself provides that its procedures are not compulsory, expressly stating in § 1.3 that ‘[d]eviations from these procedures, however, are not necessarily wrong or inferior but need to be justified.’”¹⁵²

Finally, with regard to Anstey’s claim that NFPA 921 constituted newly discovered evidence in the context of advancements in fire science, the court quickly stated “it becomes abundantly clear that periodic amendments to NFPA 921 do not constitute newly-discovered evidence that would warrant a new trial in the case at bar.”¹⁵³ Thus, the court held there was no reversible error in the circuit court’s order denying *habeas corpus* relief.¹⁵⁴

III. ANALYSIS

There are three significant issues that surface from the *Anstey* case. First, West Virginia has turned a blind eye to the applicable standard in *Daubert* by permitting a volunteer fire investigator with questionable credentials to testify about the nature of the fire and his findings. Additionally, the Supreme Court of Appeals of West Virginia added salt to the wound by explicitly refusing to recognize the application of *Daubert/Wilt* to expert fire investigation. Second, the court’s rationale suggesting the legislature or an administrative agency must codify NFPA 921 is nothing more than smoke and mirrors. Lastly, the court created an almost impossible hurdle for innocence claims by concluding that NFPA 921 consists of periodic amendments not constituting newly discovered evidence for purposes of *habeas corpus* relief.

Section III.A explores how West Virginia courts have turned a blind eye in applying *Daubert/Wilt* to experts testifying about fire investigation at trial. Section III.B argues the legislature’s failure to codify NFPA 921 does not justify the court’s refusal to recognize NFPA 921 as the appropriate standard of care. Lastly, Section III.C illustrates the hurdle created in *Anstey* and applied to innocence claims where the underlying conviction is arson.

¹⁵⁰ *Id.* at 876.

¹⁵¹ *Id.*

¹⁵² *Id.* at 876–77.

¹⁵³ *Id.* at 877.

¹⁵⁴ *Id.* at 882.

A. West Virginia's Blind Eye

At Anstey's trial in 1995, Begley was permitted to testify about his investigation and findings.¹⁵⁵ Begley testified about the intensity of the fire in the kitchen and his opinion about the origin of the fire.¹⁵⁶ Begley's credentials consisted of a two week, 80-hour course on fire investigation.¹⁵⁷ Although Begley was not qualified as an expert and his credentials were questionable, he gave testimony only an expert is permitted to give under Rule 702 and *Daubert*.

More alarmingly, Begley tampered with the scene in direct violation of his minimal training.¹⁵⁸ This tampering included switching the breaker positions to off when they originally appeared in the tripped position.¹⁵⁹ Begley's conduct tainted the scene and led a legitimate fire investigator to believe the breakers linked to the smoke detectors were intentionally turned off because the breaker can only be placed in the off position if done so intentionally.¹⁶⁰ He also tampered with the plunger on the toaster and left it in the down position despite his testimony saying he was unsure if it was all the way down.¹⁶¹ Based on the placement and condition of the toaster, the legitimate fire investigator concluded the toaster was the point of origin.¹⁶² Thus, the inexperience and conduct of Begley tainted the scene and rendered the findings of any legitimate fire investigators questionable.

Even though a *Daubert* challenge should have raised concerns regarding Begley's testimony, the *Anstey* court noted that "[e]ven today, the admissibility of the State's expert testimony would be assessed under Rule 702 of the West Virginia Rules of Evidence as evidence based on technical or specialized knowledge—and not under *Daubert/Wilt*."¹⁶³ In making such a conclusion, the court intentionally rejected *Daubert* in arson cases and validated what happened in Anstey's trial.

As a result of this holding, fire investigators—who would generally be unqualified as experts under *Daubert*—can still testify in arson cases so long as they meet the minimum standard of "specialized knowledge."¹⁶⁴ It would seem the court has "back peddled" by falling in line with the earlier idea that fire science is more of an "art" than science.¹⁶⁵ The

¹⁵⁵ See *supra* Section II.C.1.

¹⁵⁶ See *supra* Section II.C.1.

¹⁵⁷ See *supra* Section II.C.1.

¹⁵⁸ See *supra* Section II.C.1.

¹⁵⁹ See *supra* Section II.C.1.

¹⁶⁰ See *supra* Section II.C.1.

¹⁶¹ See *supra* Section II.C.1.

¹⁶² See *supra* Section II.C.1.

¹⁶³ *Anstey v. Ballard*, 787 S.E.2d 864, 881 (W. Va. 2016).

¹⁶⁴ W. VA. R. EVID. 702.

¹⁶⁵ *Folklore and Forensics*, *supra* note 67, at 554. When NFPA 921 was first introduced, many fire investigators sought to counter its scientific methods with a "culture that believed fire investigation was more art than science." *Id.* at 554.

Supreme Court of Appeals of West Virginia has turned a blind eye by validating Begley's conduct and testimony. This "blind eye" recognizes a lower standard than *Daubert* for fire investigation testimony in arson cases and is seemingly less concerned about the reliability of such testimony. This is an issue the courts must resolve because only by holding fire investigators to the standard in *Daubert*, can the progress and reliability of fire science be achieved in our criminal justice system.

B. The Legislative Smoke and Mirror

As part of its rationale in concluding that Anstey was not denied due process, the court stated, "we cannot find, nor do the parties cite, any statute or regulation where the State Fire Commission has expressly adopted NFPA 921 as either a compulsory or mandatory standard to be followed in fire investigations in this state."¹⁶⁶ The court further noted that "the statute pertaining to the State Fire Marshal's fire investigations does not mention NFPA 921."¹⁶⁷

The court seems to suggest that codification adopting NFPA 921 is necessary before being considered an accepted standard for fire investigators. However, this argument begs the broader question: Should science be codified by the legislature before being recognized as generally accepted? Specifically, should we leave it to the legislature to determine the general acceptability of DNA?

While legislatures certainly regulate DNA and other sciences through the enactment of laws,¹⁶⁸ the regulation of science remains vastly different from the question of general acceptance and recognition of science. The court relies on this "smoke and mirror" reasoning in its conclusion, but NFPA 921 debunks the pseudo-science that fire investigators originally operated under and, instead, provides the scientific method as a means of proper fire investigation.¹⁶⁹

The court should make the determination as to whether science is generally accepted within the relevant scientific community for purposes of admissibility.¹⁷⁰ In utilizing this rationale, the court seems to exercise its gatekeeping function as provided by *Daubert/Wilt* while also simultaneously weakening its role by delegating some authority to the legislature. It is not for the legislature to make a finding though as to what science is "generally accepted" within the "relevant scientific community."¹⁷¹ It is the court that must

¹⁶⁶ *Anstey*, 787 S.E.2d at 876.

¹⁶⁷ *Id.*

¹⁶⁸ *See, e.g.*, 18 U.S.C. § 3600 (2018) (DNA testing); 42 U.S.C. § 289g (2018) (fetal research); W. VA. CODE ANN. § 29-3-12(f) (West 2018) (power and duties of State Fire Marshal in Investigations); FLA. STAT. ANN. § 921.241 (West 2018) (fingerprints).

¹⁶⁹ *See generally* NFPA 921, *supra* note 66.

¹⁷⁰ *See Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993); *Wilt v. Buracker*, 443 S.E.2d 196, 199 (W. Va. 1993) (adopting *Daubert* in West Virginia).

¹⁷¹ *See generally Daubert*, 509 U.S. at 592–94; *Wilt*, 433 S.E.2d at 203.

act as a gatekeeper in determining what scientific testimony should be admissible.¹⁷² Thus, the court's rationale suggesting the need for the codification of NFPA 921 is an insubstantial justification for refusing NFPA 921 as the appropriate standard of care.

C. The Hurdle in Arson Related Innocence Claims

Finally, the court's last reason in denying Anstey's claim relies on the marginal changes to NFPA 921.¹⁷³ In *Anstey*, the court states "periodic amendments to NFPA 921 do not constitute newly-discovered evidence that would warrant a new trial"¹⁷⁴ Here, the court is unwilling to recognize the significant changes of NFPA 921 since 1992 and, instead, identifies changes as periodic amendments that do not share a nexus with Anstey's case.

While there may be some truth to the assertion that the individual amendments to NFPA 921 do not share a nexus with Anstey's case,¹⁷⁵ it is still a mischaracterization to label the changes to NFPA 921 as periodic amendments that "do not constitute newly-discovered evidence that would warrant a new trial."¹⁷⁶ The major issue with identifying the amendments of NFPA 921 as periodic in nature is that it creates a significant hurdle for individuals with innocence claims.

For instance, consider the initial version of NFPA 921 in 1992.¹⁷⁷ The document does not caution investigators about the reliance on crazed glass as an indicator of arson.¹⁷⁸ However, the current version of NFPA 921 advises that "[t]he investigator is urged to be careful not to make conclusions from glass-breaking morphology alone. Both crazing and long, smooth, undulating cracks have been found in adjacent panes."¹⁷⁹

Consider now a situation where a fire breaks out, and a fire investigator in 1992 relies on crazed glass as the sole indicator of arson, uses the criticized technique of negative corpus in finding the fire was intentional, and a defendant is convicted on the fire investigator's testimony concerning the crazed glass after eliminating all other ignition sources. Even though such techniques were widely used before and during the earlier

¹⁷² See generally *Daubert*, 509 U.S. at 592–94; *Wilt*, 433 S.E.2d at 203.

¹⁷³ *Anstey v. Ballard*, 787 S.E.2d 864, 877 (W. Va. 2016).

¹⁷⁴ *Id.*

¹⁷⁵ Rather than considering the need for a relationship between the individual amendments made over the years in NFPA 921, it is important to note that the nexus between NFPA 921 and Anstey's case is better understood as being the overall attitude and acceptance of NFPA 921 as the standard of care when compared to today's modern acceptance of NFPA 921 and its resistance in 1994.

¹⁷⁶ *Anstey*, 787 S.E.2d at 877.

¹⁷⁷ NFPA 921, *supra* note 66 (1992).

¹⁷⁸ *Id.* (2017).

¹⁷⁹ *Id.* at 58.

versions of NFPA 921, under today's standards, this would certainly be problematic in proving that the fire was indeed arson.¹⁸⁰

Imagine now the defendant in the above hypothetical seeks to challenge his conviction after *Anstey* was decided. While it might seem obvious the amendment to NFPA 921 is significant, the court has since laid the foundation for prosecutors to argue NFPA 921 is not a viable means of challenging a conviction in innocence claims. That is, NFPA 921 was available in 1992 when the hypothetical defendant was convicted, and the Supreme Court of Appeals of West Virginia has since recognized amendments like the one alleged by the hypothetical defendant are "periodic" and do not warrant a new trial.

Thus, by labeling amendments to NFPA 921 as "periodic" in nature that do not constitute newly discovered evidence, innocence claims involving arson face a greater challenge in establishing sufficient grounds for a new trial. The court could have easily denied *Anstey*'s claims due to lacking a nexus with the science in NFPA 921. However, by characterizing scientific changes as "periodic" in nature, the court stepped further by placing a hurdle on the viability of NFPA 921 in innocence claims.¹⁸¹

IV. CONCLUSION

On the day he was set to die, Cameron Todd Willingham's parents and close relatives gathered in the visiting room.¹⁸² His mother began to cry upon hearing the governor refused to grant a stay of his execution.¹⁸³ Willingham responded to his mother's tears by telling her "[d]on't be sad, Momma In fifty-five minutes, I'm a free man. I'm going home to see my kids."¹⁸⁴ Just before receiving the lethal injection, Willingham was given the opportunity to speak his last words:

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. From God's dust I came and to dust I will return, so the Earth shall become my throne.¹⁸⁵

It was almost two years after his execution when the Innocence Project commissioned a group of top fire investigators to conduct an independent review of the arson evidence in Willingham's case.¹⁸⁶ The group concluded "each and every one" of the arson indicators used in his conviction was "scientifically proven to be invalid."¹⁸⁷ In

¹⁸⁰ *See id.*

¹⁸¹ *Anstey*, 787 S.E.2d at 877.

¹⁸² *Trial by Fire*, *supra* note 1.

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

response to this conclusion, the State of Texas established its own government commission to investigate the allegations of error and misconduct by the trial experts.¹⁸⁸ The government's team likewise "concluded that investigators in the Willingham case had no scientific basis for claiming that the fire was arson, ignored evidence that contradicted their theory, . . . relied on discredited folklore, and failed to eliminate potential accidental or alternative causes of the fire."¹⁸⁹ However, the damage was done—Cameron Todd Willingham was executed at 6:20 p.m. on February 17, 2004.¹⁹⁰

The tragedy illustrated in Willingham's story is a reality brought on by the ignorance of proper fire science and techniques. Flawed fire investigations misconstrue investigative findings, and subsequently lead to the misinterpretation of evidence as indicative of the crime of arson. Some courts grappled with the issue of applicable standards in fire investigation and sought to "weed out" questionable science and techniques.¹⁹¹ However, West Virginia did the opposite in its decision.¹⁹²

West Virginia Courts turned a blind eye to the applicable standard by failing to recognize NFPA 921 and employ the *Daubert* factors to determine whether expert testimony in arson cases is admissible.¹⁹³ The argument made by the Supreme Court of Appeals of West Virginia hinging its expectation in the legislature to enact a law recognizing NFPA 921 is nothing more than smoke and mirrors.¹⁹⁴ Moreover, the hurdle in innocence claims—involving arson and NFPA 921 as newly discovered evidence—is so insurmountable that it classifies progress as "marginal changes" despite actual leaps.¹⁹⁵ In order to correct these pitfalls, West Virginia courts—not the legislature—should act as the "gatekeepers" and take corrective measure in arson cases by recognizing NFPA 921 as the standard of care, even in the absence of the legislature's failure to "codify science." Only then can a foundation be laid for the progress and reliability of fire science in West Virginia. Until such change, many people, similar to Cameron Todd Willingham and Samuel Anstey, run a much too real risk in the face of pure accident—becoming the damned in a flashover state.

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ *See* Lentini, *supra* note 18.

¹⁹² *Anstey v. Ballard*, 787 S.E.2d 864 (W. Va. 2016).

¹⁹³ *See supra* Section II.C.

¹⁹⁴ *See supra* Section II.C.

¹⁹⁵ *See supra* Section III.C.