Arkansas Law Review

Volume 75 | Number 2 Article 10

June 2022

A Dog's Bark to Act as a Nark

Bailey R. Geller
University of Arkansas, Fayetteville

A DOG'S BARK TO ACT AS A NARK

Bailey R. Geller*

I. INTRODUCTION

What does one do when life hands them lemons? That's right—make lemonade. Now, that is not to say that making lemonade is always easy. Some may find the lemonade too bitter, others too sweet, and nevertheless some might simply dislike the taste of lemonade regardless of the process. Nevertheless, the mere possibility of critique—the potential for objections—does not mean that lemons should be wasted. Rather, it is an admonition. The transformation of a sour fruit into a delectable refreshment is not easy nor can it be done by just anyone; it requires consistency, experience, and a precise recipe. But when one closely adheres to that recipe, something astonishing commences—a seemingly unappetizing lemon becomes something more. It becomes something great.

The law is full of lemons, of sorts. Namely, dogs. Dogs are often considered an unsavory element of criminal procedure; tools of the criminal justice system purposed toward unjust ends.[1] But what should our legal system do with creatures possessing an inhuman, near-unearthly nose, capable of surpassing a human's

* J.D. Candidate, University of Arkansas School of Law, 2023. Editor-in-Chief of the *Arkansas Law Review*, 2022-2023. The author sincerely thanks Professor Alex Nunn for his advice, support, and confidence throughout the writing process and her law school career. The author would also like to express gratitude to her family and friends for their constant encouragement. Additionally, the author gives a special thank you to her dog, Odie, for inspiring this Comment. Lastly, the author especially thanks the *Arkansas Law Review* for their commitment to diligent editing.

1. *See* William M. FitzGerald, *The Constitutionality of the Canine Sniff Search: From* Katz *to Dogs*, 68 MARQ. L. REV. 57, 64-82 (1984) (discussing the long line of case law involving the use of dogs in criminal procedure that has caused much controversy).

sense of smell by a factor of 100,000 times?[2] That's right—use their noses (veritable legal lemons) for good.

Put simply, dog scent lineups use a canine to match a scent from a crime scene to the scent of a suspect in a lineup.[3] Dog scent lineups serve as an effective resource aimed at improving identifications at trial, and they can yield immensely probative and essential evidence.[4]

For example, consider a vignette about Maggie, a trained bloodhound, which demonstrates the vast potential of a canine's sense of smell.[5] Investigators following a crime scene sought to link a crumpled manila envelope with a purported suspect.[6] The envelope was initially found on the suspect's bed—preliminarily connecting the evidence and the suspect—but, given the importance of the identification, investigators sought to reinforce that link.[7] That is when Maggie was called in. With no prior encounter between Maggie and the suspect, investigators presented the envelope to Maggie at the entrance of a jail where the suspect was being housed.[8] Immediately thereafter, Maggie tracked the envelope's scent through the entirety of the jail, taking the exact route walked by the suspect to the control room, until she arrived at the very room where the suspect was being held and alerted to him.[9] During the legal proceedings that followed, the Supreme Court of California upheld the admissibility of Maggie's scent identification, directly acknowledging its immense probative value.[10]

---

2. *8 Dog Nose Facts You Probably Didn't Know*, PETMD (May 28, 2020), [https://perma.cc/JVL4-ZZ5H].

3. *See infra* Section II.B.

4. *See* Sophie Marchal et al., *Rigorous Training of Dogs Leads to High Accuracy in Human Scent Matching-To-Sample Performance*, PLOS ONE, Feb. 10, 2016, at 1, 10 (demonstrating that dog scent identifications helped the French Division of the Technical and Scientific Police in judicial cases solve more than a quarter of criminal cases alone).

5. People v. Jackson, 376 P.3d 528, 551 (Cal. 2016).

6. *Id.*

7. *Id.*

8. *Id.*

9. *Id.*

10. *Jackson*, 376 P.3d at 572. Experts testified regarding the training of the bloodhound, a reasonable time for scents to linger, and the ability of bloodhounds to distinguish between different human scents, even on paper, thus laying a proper foundation for the admission of the evidence. *Id.* at 561-65.

Despite their potential significance, however, dog scent identifications have been categorized by many courts and commentators as "junk science."[11] They are perceived to be, as foreshadowed, a sour lemon for courts to avoid.

Often, the criticisms of dog scent identifications turn on concerns about expert testimony. Scent identifications are typically relayed to trial factfinders through expert witnesses, and the admissibility of identifications therefore depends on the evidentiary strictures surrounding expert testimony.[12] However, the admissibility standards of expert testimony are somewhat vague.[13] And, increasingly, judges rely on federal and state evidentiary codes to simply exclude scent identifications entirely as an insufficiently reliable form of expert testimony.[14]

But that exclusion is a miscalculation. Rather than excluding scent lineups entirely, courts should permit factfinders to weigh their importance.

Such a permissive approach, though a drastic change from current practice, would be far from anomalous. Consider, for instance, how eyewitness identifications by humans are routinely used in court despite comparable reliability concerns.[15] Eyewitness identifications carry an abundance of prospective shortcomings, albeit flaws in human nature itself, including undue influence from the observer's cognitive biases.[16] In fact, nearly

---

11. John J. Ensminger & Tadeusz Jezierski, *Scent Lineups in Criminal Investigations and Prosecutions*, *in* POLICE AND MILITARY DOGS: CRIMINAL DETECTION, FORENSIC EVIDENCE, AND JUDICIAL ADMISSIBILITY 101, 101 (John J. Ensminger ed., 2012) ("Scent lineups are a significant forensic and evidentiary tool, though they are sometimes dismissed as 'junk science.'").

12. *See infra* Section II.D.

13. *See In re* Paoli R.R. Yard PCB Litig., 35 F.3d 717, 750 (3rd Cir. 1994).

14. JoAnna Lou, *Scent Lineups: Properly Harnessing the Power of the Canine Nose*, THE BARK, [https://perma.cc/69YS-7MA7] (June 2021) (Alaska, Florida, New York, and Texas are some of the few states to currently use scent lineups; however, they are still deemed problematic even in these states).

15. Stephen Raburn, *Mistaken Eyewitness Identification Leads to Wrongful Convictions*, INTERROGATING JUST. (May 12, 2021), [https://perma.cc/JZT8-P3HG]; *see also Eyewitness Identification Reform*, INNOCENCE PROJECT, [https://perma.cc/D4DE-4DHD] (last visited Apr. 1, 2022) (a highly influential organization that argues against "junk science," and despite criticizing the method due to the influences, it sets out some approaches to make eyewitness identifications more reliable in order to keep them in court).

16. *Police Lineups and Other Identification Situations*, FINDLAW, [https://perma.cc/5VHS-MAEU] (Feb. 14, 2019).

70% of wrongful convictions later overturned by DNA evidence are due to inaccurate eyewitness identifications.[17] Nonetheless, eyewitness identifications are not deemed categorically inadmissible despite these pervasive reliability concerns. Rather, they remain a cornerstone of modern trials, with reliability concerns affecting the evidence's *weight* rather than its *admissibility.*[18]

Our legal system's treatment of eyewitness testimony paves the path ahead for dog scent lineups. Dog scent lineups are used solely for identification purposes, neither to determine guilt nor innocence.[19] Both forms of identification produce a similar outcome—suspect elimination—and yet, in many regards, scent identifications are *more* reliable than eyewitness testimony. Canines do not suffer the same cognitive biases that humans do. Furthermore, the perceptive ability of a dog's nose often far exceeds that of a human's eyes.

This Comment therefore advocates for systemic reconsideration of dog scent lineups at trial. It will not claim that all dog scent lineups are flawless, particularly given the slipshod manner in which many are performed. But dog scent identifications are increasingly more valuable than our legal system currently acknowledges when they are properly conducted. They should be admissible.

Directly after this Introduction, Part II of this Comment offers background information on the various uses of canines in the criminal justice system as well as an empirical survey of how scent lineups are currently utilized by law enforcement across numerous countries. Thereafter, Part III details best practices of

17. Raburn, *supra* note 15.

18. *Weight of Evidence*, JRANK, [https://perma.cc/ZE7R-EECJ] (last visited Apr. 1, 2022) (demonstrating the ability of the jury to weigh the evidence).

19. Winfrey v. State, 393 S.W.3d 763, 768 (Tex. Crim. App. 2013). Further, analogous to a fingerprint expert not being qualified to conclude if a defendant was guilty but could testify that the fingerprint on the murder weapon was the defendant's, here testimony regarding dog scent evidence is not, and cannot, be used to show legal conclusions such as guilt. *See* Berry v. City of Detroit, 25 F.3d 1342, 1353 (6th Cir. 1994). Rather, scent lineup testimony demonstrates a relationship between the suspect and the crime scene itself, but a legal conclusion made by the expert is not appropriate. *Id.*

scent lineups before advocating in favor of their admissibility at trial. A brief Conclusion provides the Comment's parting note.

II. BACKGROUND

Scent lineups can hardly be categorized as "novel" considering the various uses of canines in all fields. First, the history and evolution of canine use in the legal field must be analyzed. The various uses of scent identification are inevitably tied with the Federal Rules of Evidence and application thereof.

A. Barkground on Canine Uses

Since Roman times, dogs have been utilized for security and hunting.[20] Soon after, the English first began using bloodhounds starting in 1888.[21] The use of dogs in law enforcement became prevalent in America by the 1970s.[22]

Today, dogs take on many roles humans are incapable of competing with, such as tracking criminals, sniffing out contraband, or locating missing children.[23] Dogs are actively employed during national crises and rescue missions.[24] The job is not done by their (albeit cute) looks; rather, the nose controls. A canine's nose is superhuman like, capable of smelling in three-dimensional and the passage of time, and even so, the nose continues to evolve.[25]

---

20. *History of Dogs*, DOGS FOR L. ENF'T, [https://perma.cc/C8EG-EKUQ] (last visited Oct. 24, 2021).

21. *History of Police Canines Around the World*, DOGS FOR L. ENF'T, [https://perma.cc/44SS-HSXY] (last visited Apr. 13, 2022).

22. *Id.*

23. Ed Grabianowski, *How Police Dogs Work*, HOW STUFF WORKS, [https://perma.cc/J2K9-Y84X] (last visited Oct. 24, 2021).

24. *See, e.g.*, Mara Bovsun, *The Legacy of 9/11 Dogs*, AM. KENNEL CLUB (Aug. 30, 2021), [https://perma.cc/3BEA-22HV] (describing the use of canines during the Oklahoma City bombing and the terrorist attacks of 9/11).

25. PETMD, *supra* note 2.

Not all dogs are alike.[26] Bloodhounds and German Shepherds are the "gunners" in terms of canine smelling, with bloodhounds usually coming in first.[27] After all, they are "a nose with a dog" and often serve as more vital assistance to law enforcement than the complex technology available today.[28] Consider the ease with which a human can distinguish strong scents—say pickles and popcorn—and then consider how much easier it is for a dog to do the same. A dog can distinguish scents better than a human due to "a large, ultrasensitive set of scent membranes that allows the dog to *distinguish* smells[.]"[29] The first-place winner's nose is comprised of approximately 230 million olfactory cells, forty times the amount in humans.[30]

Scent lineups were at last introduced into evidence in the United States in 1982,[31] but regrettably carried little weight, as demonstrated by the quick disposal of their existence in many states.[32] Contrarily, European countries have regularly employed scent lineups as far back as the beginning of the twentieth century.[33]

Analogous to the many uses of a lemon, dogs—our legal lemons—are often subjected to uses outside law enforcement. Human companions and guide dogs serve unique roles.[34] Canines are able to smell heat signatures with their noses, as well as detect cancer and COVID-19.[35]

---

26. *Id.*

27. For example, a pug is not known to have a good sense of smell as its scrunched nose blocks passageways. *Id.*

28. *The Bloodhound's Amazing Sense of Smell*, PBS (June 9, 2008), [https://perma.cc/5M3V-ZJTZ].

29. *Id.* (emphasis added).

30. *Id.*

31. John J. Ensminger, *Development of Police and Military Dog Functions*, *in* POLICE AND MILITARY DOGS: CRIMINAL DETECTION, FORENSIC EVIDENCE, AND JUDICIAL ADMISSIBILITY, *supra* note 11, at 3, 5 [hereinafter Ensminger, *Development of Police and Military Dog Functions*].

32. *See supra* note 14 and accompanying text.

33. Ensminger & Jezierski, *supra* note 11, at 101.

34. Grabianowski, *supra* note 23.

35. *Dogs Can Detect Heat with 'Infrared Sensor' in Their Nose, Research Finds*, REUTERS (Mar. 3, 2020, 7:22 AM), [https://perma.cc/Y9XX-H3K6]; Mia Rozenbaum, *The Science of Sniffs: Disease Smelling Dogs*, UNDERSTANDING ANIMAL RSCH. (June 19, 2020), [https://perma.cc/K4KE-K39Q].

B. Sniff What?

Despite the unwarranted, wide range of techniques involving scent lineups, the general idea behind a scent lineup is to allow a canine to smell the scent from a crime scene and then walk by containers that have scent swabs from a group of individuals, one being the suspect's.[36] If the canine matches the two scents, it should alert with a trained signal.[37] This signal is often a bark, but not always.[38] Alerts, though subject to variation, are largely a "specific and simple behavior pattern by which the dog indicates to the handler that a target odor is present."[39] Thus, if the dog alerts, it implies that the two scents derived from the same person.[40] Despite optimism, alerts are not always clear, and in return they should not be classified as such.[41]

C. Technique to Speak: Worldwide

To properly evaluate scent lineups, they must be compared across the nations that use them. An empirical study was conducted across eleven different countries demonstrating these discrepancies.[42] The key differences are noteworthy.

First up: the collection and handling of the scents.[43] All of the countries have a standard material that may hold the scents of suspects and decoys, except the United States.[44] Worldwide, including the United States, there is nearly no required specific time period on how long after the collection of the scent it could be used or how long the scent of the suspect may be used; instead

---

36. Lou, *supra* note 14.
37. *Id.*
38. *Id.*
39. Ensminger, *Development of Police and Military Dog Functions*, *supra* note 31, at 7.
40. *See* Barbara Ferry et al., *Scent Lineups Compared Across Eleven Countries: Looking for the Future of a Controversial Forensic Technique*, 302 FORENSIC SCI. INT'L, July 2019, at 1, 1.
41. Ensminger, *Development of Police and Military Dog Functions*, *supra* note 31, at 8.
42. Ferry et al., *supra* note 40, at 2.
43. *Id.* at 3 tbl.1.
44. *Id.*

they have "norms".[45] Despite this, most countries, not including the United States, at least have a rule on the frequency of cleaning the stations between trials.[46]

The characteristics of the decoy vary as well.[47] Some countries require the scent to be taken from suspects with similar characteristics, usually gender; the United States has no requirement, but race, ethnicity, and gender are sometimes considered.[48] Even with nearly all countries requiring a novel decoy, the United States allows re-used decoys during judicial trials.[49] Not surprisingly, many other countries, the United States not included, require a minimum number of control trials.[50]

Even the setup of the lineups among countries differs.[51] Every country except one established a procedure or requirement for the number of scent stations—the United States being the one exception with variable numbers in case law.[52] Likewise, the United States has no minimum number of trials required before scent lineups are admissible as evidence and has even allowed a single run with an alert to be enough, notwithstanding many countries strictly imposing a minimum number of trials.[53]

Ignorant to researchers' advice urging a high degree of blindness, meaning obliviousness to the actual location of the scent, dog scent lineups often are performed without blindness.[54] Common practice in the United States is to have the handler, but not the technician, blind; however, there is a lack of consistency among the states and across countries.[55]

Surprisingly, the United States is the only country to use bloodhounds; however, there is no training or age requirement for

45. *Id.*
46. *Id.*
47. Ferry et al., *supra* note 40, at 4 tbl.2.
48. *Id.*
49. *Id.*
50. *Id.* at 5 tbl.3.
51. *Id.* at 6 tbl.4.
52. Ferry et al., *supra* note 40, at 6 tbl.4.
53. *Id.*
54. *Id.* at 12.
55. *Id.* at 8 tbl.6, 12.

the dog.[56] Likewise, the United States has no specific requirements for the qualifications of the handler and often allows self-training, despite other countries requiring specific training, certifications, and testing.[57]

Eight of these countries, including the United States, reported that scent lineups are still allowed as evidence for courts, one reported scent lineups are only used early in the investigation, and two do not use them at all anymore.[58]

D. Let the Pros Use the Nose

In the United States, expert testimony must pass through Federal Rule of Evidence 702 before being admissible in court through an expert witness.[59] This rule is triggered by all "scientific, technical, or other specialized knowledge" introduced—like dog scent lineups.[60] To satisfy Rule 702, the testimony must: (1) be provided by a witness qualified as an expert; (2) help the trier of fact; (3) be based on sufficient facts or data; (4) be the product of reliable principles and methods; and (5) constitute a reliable application of those principles and methods. The Rule provides in pertinent part:

> 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, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.[61]

---

56. The ages range from two up to eleven years old in the United States, and training is usually about one year, with some countries also requiring a certain number of successful trials and time requirements as well. *Id.* at 9 tbl.8.

57. Ferry et al., *supra* note 40, at 10 tbl.9.

58. Although in the United States many states have not precluded the use of scent lineups, they are seldomly used. *Id.* at 11 tbl.10.

59. FED. R. EVID. 702.

60. FED. R. EVID. 702(a).

61. LARRY E. COBEN, CRASHWORTHINESS LITIGATION § 24:7 (2d ed. 2021).

In the simplest terminology, Rule 702 restricts the admissibility of expert testimony in three ways: qualification, reliability, and fit.[62]

The heart of this Comment boils down to the last two factors—is this testimony reliable based on the principles and methods used? There is no codified approach on examining reliability,[63] but it began with the *Frye* test, requiring a "general acceptance" by the scientific community,[64] and soon thereafter shifted to the well-known principles established by *Daubert v. Merrell Dow Pharmaceuticals, Inc*.[65] Under *Daubert*, the reliability of the method is often examined by a non-exhaustive list: (1) falsifiability; (2) peer-review; (3) known error rates; (4) objective standards; and (5) general acceptance.[66] All *Daubert* factors need not be met for the testimony to be considered reliable expert testimony.[67] With courts functioning as "gatekeeper[s]," there is wide judicial discretion in the admissibility of expert testimony.[68]

Subsequently, *Kumho Tire Co. v. Carmichael* expanded *Daubert*'s gatekeeping function from scientific evidence to also non-scientific evidence—but there is no clear line separating the two.[69] Consequently, some or all of the *Daubert* factors *may* be applied to non-scientific evidence as relevant, or any other set of "reasonable reliability criteria" may be used instead.[70]

E. A Ruff Balancing Approach

Notwithstanding passing the scrutiny of Federal Rule of Evidence 702, there is yet another hurdle: the balancing test of

---

62. *Id.*

63. The rules used will depend on which approach the jurisdiction has adopted. *See generally* Anjelica Cappellino, *Federal Rules of Evidence and Experts: The Ultimate Guide*, EXPERT INST., [https://perma.cc/WT35-8YU4] (Aug. 25, 2021).

64. Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923).

65. *See generally* 509 U.S. 579 (1993); *see also* COBEN, *supra* note 61; Cappellino, *supra* note 63.

66. COBEN, *supra* note 61.

67. Cappellino, *supra* note 63.

68. *Id.*; *see also Daubert*, 509 U.S. at 597.

69. 526 U.S. 137, 148 (1999).

70. *Id.* at 158.

Federal Rule of Evidence 403, which controls admissibility of evidence generally.[71] Relevant evidence will be excluded if the probative value—tendency to make a fact more or less likely true—is substantially outweighed by unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence, with the presumption that one of the (many) exceptions does not apply.[72]

Probativeness is at the fate of the gatekeepers' discretion based on a non-exhaustive list: "(1) [t]he importance of the evidence to the resolution of the case; (2) the remoteness of the evidence; (3) the necessity of the evidence; and, (4) how logically related the evidence is to the legal disputes in the case."[73] Further, the gatekeepers must then balance that with the dangers faced by admitting the evidence.[74] Put simply, Federal Rule of Evidence 403 fails if the benefit of the evidence is substantially outweighed by the interference with the jury's ability to reach an impartial verdict.[75]

III. ANALYSIS

When it comes to scent lineups, admissibility will likely turn on the final two elements of Federal Rule of Evidence 702, collectively reliable principles, methods, and application therein, which fall under *Daubert* and form the basis for this Comment.[76]

---

71. For further clarity, the witness must (respectively) pass the prongs of Federal Rule of Evidence 702: the topic must be "beyond the ken of jurors," have an adequate factual basis, be the product of reliable principals and methods, as well as survive a balancing test. GEORGE FISHER, EVIDENCE 748 (Robert C. Clark et al. eds., 3d ed. 2013); *see also* FED. R. EVID. 403.

72. FED. R. EVID. 403; *see also When Can You Exclude Relevant Evidence?*, BIXON LAW (July 12, 2019), [https://perma.cc/U3GV-C4BJ].

73. BIXON LAW, *supra* note 72.

74. *See* FED. R. EVID. 403.

75. BIXON LAW, *supra* note 72.

76. It will not be a challenge to show that there is a qualified expert by training and careful selection; it can easily be shown how this will help the trier of fact when the defendant has not been placed at the crime scene, and data from dog tracking in all regards has historically been relied upon. Thus, the main issue turns on the final two elements. *See* State v. Smith, 335 S.W.3d 706, 715-16 (Tex. Ct. App. 2011).

Given the demands for general acceptance under *Frye*, dog scent lineups are likely to fare better under *Daubert*.[77]

Despite the lack of a bright line rule distinguishing evidence based upon training and experience rather than a scientific method,[78] scent lineups likely fall into the training and experience field.[79] However, the distinction is not ultimately crucial as the end goal is the same—reliability.[80] Thus, tests often apply to both forms of evidence, albeit with some fitting better than others, including the *Nenno* test later discussed.[81]

This Comment advocates the stance the Federal Bureau of Investigation ("FBI") holds regarding the partial weight of the admissibility—scent evidence should be used as corroborating evidence only.[82] Scent evidence is not "so foreign" that it precludes jurors from forming independent analyses on how strong the evidence is; it is easily comprehensible that even the most "well-trained dog" can make mistakes, and in return scent evidence is not, and should not, be weighed as a strict science.[83]

---

77. To be admissible under *Frye*, the method must be generally accepted in the scientific community. Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923). This "general acceptance" standard is only one of the relevant factors under *Daubert*. *Id.* Frye has been replaced by the federal courts, as well as many state courts, with the *Daubert* standard, as it gives judges greater authority to determine reliability of expert testimony. *Admissibility of Expert Testimony in All 50 States*, MATTHIESEN, WICKERT, & LEHRER, S.C., [https://perma.cc/5TSD-WUT3] (Jan. 13, 2022); *see also* John Ensminger et al., *Scent Identification in Criminal Investigations and Prosecutions*, SSRN ELEC. J., August 2010, at 1, 68, [https://perma.cc/S4HC-S39P] (agreeing that dog scent identifications likely do not pass the *Frye* test alone but noting that states that apply the *Frye* standard often do not even evaluate dog scent identification under it and often only require foundational requirements for tracking).

78. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 138 (1999).

79. Winston v. State, 78 S.W.3d 522, 526 (Tex. Ct. App. 2002).

80. *Kumho Tire*, 526 U.S. at 148.

81. *See generally* Nenno v. State, 970 S.W.2d 549, 561 (Tex. Crim. App. 1998).

82. Rex A. Stockham et al., *Specialized Use of Human Scent in Criminal Investigations*, FORENSIC SCI. COMMC'NS (July 2004), [https://perma.cc/V3AG-UR6R]; *see also* 1 B.E. WITKIN, WITKIN CALIFORNIA EVIDENCE § 78(2) (5th ed. 2021) (discussing the importance of canine evidence being corroborative); Winfrey v. State, 393 S.W.3d 763, 770 (Tex. Crim. App. 2013) (holding that dog scent evidence raises a suspicion of appellant's guilt but is insufficient to convict alone).

83. People v. Jackson, 376 P.3d 528, 566 (Cal. 2016); *see also* United States v. McNiece, 558 F. Supp. 612, 615 (E.D.N.Y. 1983) (holding there is a "lesser potential prejudicial impact" of dog identification evidence than "seemingly flawless" evidence and courts "need not apply as strict a standard" in regard to dog scent identifications); State v. Roscoe, 700 P.2d 1312, 1320 (Ariz. 1984) ("It was not the theories of Newton, Einstein or

A. Whiff of *Daubert*

As a gatekeeper, a trial judge must have significant leeway to determine whether or not evidence is admissible and thus must only consider the appropriate *Daubert* factors.[84] Despite *Kumho Tire* permitting a trial judge to consider the *Daubert* factors, it recognized that the factors were intended to be very flexible and not a "definitive checklist or test."[85] Despite the flexibility, there is value in briefly considering dog scent lineups under a pure *Daubert* standard.

1. Falsifiability

Falsifiability under *Daubert* falls back on whether the methodology used by the expert can be (or has been) tested.[86] This factor can be difficult to assess under non-scientific evidence.[87] Regardless, dog scent lineups are likely "falsifiable." Consider a quick comparison. An effortless example of a non-falsifiable method would be the following: a higher power designed all anatomical structures to be a certain way.[88] As suggested, unless there is a magical test to demonstrate the abilities of this so called higher power, simply evaluating anatomical structures cannot count as evidence against this theory.[89] Comparatively, dog scent lineups and handler methods

---

Freud which gave the evidence weight . . . . It was, rather, [the expert's] knowledge, experience and integrity which would give the evidence weight . . . . His credentials, his experience, his motives and his integrity were effectively probed and tested. Determination of these issues does not depend on science; it is the exclusive province of the jury.").

84. *Kumho Tire*, 526 U.S. at 152.

85. *Id.* at 150.

86. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 593 (1993).

87. *See id.* ("[T]he criterion of the *scientific status* of a theory is its falsifiability, or refutability, or testability") (emphasis added) (quoting KARL R. POPPER, CONJECTURES AND REFUTATIONS: THE GROWTH OF SCIENTIFIC KNOWLEDGE 37 (5th ed. 1989)); *see also* Kristina L. Needham, *Questioning the Admissibility of Nonscientific Testimony After* Daubert*: The Need for Increased Judicial Gatekeeping to Ensure the Reliability of All Expert Testimony*, 25 FORDHAM URB. L.J. 541, 564 (1998) ("The first *Daubert* factor [falsifiability] is perhaps the most inapplicable to nonscientific testimony.").

88. D.H. Kaye, *On "Falsification" and "Falsifiability": The First* Daubert *Factor and the Philosophy of Science*, 45 JURIMETRICS J. 473, 476 (2005).

89. *Id.*

are regularly tested in mock and control trials where accuracy can be tested with control scents and suspects, and false positives can be evaluated.[90]

2. Peer Review

Peer review or publication by other experts in the field of expertise serves as another important consideration.[91] Often, well-grounded but innovative theories will not yet be published; therefore, lack of publication is not dispositive, and the weight tends to fall on being subjected to the community.[92] Although methodologies among scent lineup experts vary, the theories supporting it are consistent with the understanding that, with the right training and procedures, it is reliable.[93] Several publications exist regarding the theory behind dog scent lineups, as well as how to conduct them.[94]

3. Known Error Rates

The potential or known error rates of a technique or methodology are vital.[95] Error rates ensure consistency in the methodology, but "if a consistent methodology is not applied each

90. *See e.g.*, *infra* notes 99-100 and accompanying text.

91. *Daubert*, 509 U.S. at 593.

92. *Id.* ("Some propositions, moreover, are too particular, too new, or of too limited interest to be published.").

93. Scholars and spectators are mostly all in agreement that dog scent lineups are not perfect and in order to be admissible, work needs to be done. One spectator explaining her view on dog scent lineups stated, "I hate to see a potentially valuable tool be dismissed because it wasn't used properly. I think that with the right protocol and standard procedures, scent lineups could find their place in law enforcement." Lou, *supra* note 14; *see also* Marchal et al., *supra* note 4, at 1 ("Human scent identification is based on a matching-to-sample task in which trained dogs are required to compare a scent sample collected from an object found at a crime scene to that of a suspect. Based on dogs' greater olfactory ability to detect and process odours, this method has been used in forensic investigations to identify the odour of a suspect at a crime scene.").

94. *See, e.g.*, *Law Enforcement Canine Use-of-Force Research*, L.A.A.W. INT'L, [https://perma.cc/P9Z5-LCWT] (last visited Feb. 5, 2022) (containing a list of publications for "Dog Scent Lineups" under "Treatises Research"); *Books by William D. Tolhurst*, HOME OF THE BIG T, [https://perma.cc/USN7-SJBM] (last visited Feb. 5, 2022) (demonstrating a list of publications by author William Tolhurst regarding scent identifications). *See generally* Ensminger & Jezierski, *supra* note 11, at 101.

95. *Daubert*, 509 U.S. at 594.

time the theory is proffered, there can be no evaluation of rate of error."[96] Here, it can be difficult to assess the rate of error, as dog scent lineups are not consistently conducted in the same way.[97]

However, if they were,[98] the error rates could easily be identified.[99] With consistent methods and appropriate training, a study showed 100% specificity and 85% sensitivity from the dogs.[100] Sensitivity refers to how often the dog detected the target scent when it was present.[101] If the dog failed to find the scent when one was present, the sensitivity score decreased.[102] Likewise, specificity refers to how often the dog correctly matched the scent to the target.[103] If the dog had any false alerts, the specificity score decreased.[104] Translated to this study, with these conditions, there were zero false matches, and the dogs only failed to detect 15% of the matches when there was a scent present.[105] Therefore, any "error" committed by the canine would be for the defendant, not against.[106] Each dog shall have specific error rates.

4. Objective Standards

Knowledge within Rule 702 indicates more than just a subjective belief or unsupported speculation.[107] However, it would be unreasonable to require the subject of the testimony be

96. Needham, *supra* note 87, at 565-66 (noting that this is one factor even a court that does carefully evaluate under *Daubert* cannot apply to nonscientific expert testimony).

97. *See supra* Section II.C.

98. *See infra* Section III.B.1.

99. The FBI publicly shared its experience regarding a study involving dog scent lineups, finding the results to be convincing: "[F]ive experienced bloodhound/handler teams had a success rate of 96 percent with no false identifications." Stockham et al., *supra* note 82.

100. Danielle Robertson, *How Accurate are Search Dogs? – Part 2: Scent Discrimination Dogs*, LOST PET RSCH. & RECOVERY, [https://perma.cc/S44V-D64T] (last visited Feb. 5, 2022).

101. *Id.*

102. *Id.*

103. *Id.*

104. *Id.*

105. Robertson, *supra* note 100.

106. *Id.*; *see also* FED. R. EVID. 403.

107. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 589-90 (1993).

"known" to a certainty, as rarely certainties truly exist.[108] Despite skepticism among scholars about a lack of subjectivity in signals,[109] the methods prove certainty when properly conducted. As foreshadowed,[110] the canines should have a trained signal to use, require a degree of blindness, and have a second officer to interpret the results, which mitigates the potential for the *Clever Hans effect*[111] and eliminates subjectivity.

The equation thus is straightforward with minimal subjectivity: relentlessly teach the canine a signal to do upon detection—if the dog does that signal, it is the sign of detection.[112] In particular, with multiple officers and technicians, there is low subjectivity when hearing or seeing a trained signal.[113] Furthermore, requiring a minimum number of trials coupled with a maximum allowance of false alerts and implementation of other safeguards not only strengthens the reliability but also alleviates the potential for subjectivity and claims of "guessing."[114] However, a lack of support thereof by the handler to the courts can prove to be fatal for the admissibility of lineups.[115]

5. General Acceptance

Finally, the generally accepted standard from *Frye* is still relevant in determining reliability under *Daubert* but is not

---

108. *Id.* at 590.

109. Andrew E. Taslitz, *Does the Cold Nose Know? The Unscientific Myth of the Dog Scent Lineup*, 42 HASTINGS L.J. 15, 83-84 (1990).

110. *See infra* Sections III.B.1.c, III.B.1.d.

111. Ensminger & Jezierski, *supra* note 11, at 104 (demonstrating that an issue of subjectivity arises when the handler cues the dog either consciously or in the alternative unconsciously, also known as the *Clever Hans effect*).

112. *See supra* Section II.B.

113. *See* Ferry et al., *supra* note 40, at 16 ("Alerts should be visible to more than just the handler, so the handler should be able to describe a unique alert for a dog to an observer.").

114. Experimental studies demonstrate that the identification accuracy rate far "surpasses results produced merely by chance." *Id.* This is further to the point "that scent lineup identification of perpetrators can at least produce corroborative evidence so that neither courts nor police should totally reject use of the procedure." *Id.*

115. State v. Smith, 335 S.W.3d 706, 712 (Tex. Ct. App. 2011) (excluding dog scent evidence because, although the expert claimed his dogs were reliable, he "failed to produce or cite any evidence supporting his claims").

required.[116] This element turns on acceptance by a relevant scientific community.[117] A known technique with only minimal support within the community may be viewed skeptically.[118] Although scent lineups often have low awareness or utilization rates, the use of canines in the legal community is not novel.[119] In regard to admissibility and a canine's abilities and procedures, there is little distinction between a scent lineup and a situation where a dog is required to track an individual's scent over an area traversed by multiple persons.[120] Relevant communities generally accept canines in court settings.[121] Because of this miniscule distinction, it can be argued that dog scent lineups should equally be considered accepted. However, it is not entirely accurate to say the relevant community would completely agree.

As established, dog scent lineups will pass many of the *Daubert* factors—some better than others.[122] *Daubert* is a flexible test, and every factor need not be perfect.[123] However, as a matter of first impression—where courts are not encumbered by precedent—*Daubert* is not the best test.[124]

B. A Pawfect Alternative

Perhaps dog scent lineups do not fit *perfectly* under *Daubert*, but *Kumho Tire* makes clear that some or none of the *Daubert*

116. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 594 (1993). *See generally* United States v. Gates, 680 F.2d 1117, 1119 (6th Cir. 1982) (admitting dog scent identification evidence without considering the *Frye* rule).

117. *Daubert*, 509 U.S. at 594.

118. *Id.*

119. *See supra* text accompanying notes 31-33.

120. Winston v. State, 78 S.W.3d 522, 527 (Tex. Ct. App. 2002).

121. *Id.* ("Thirty-seven states and the District of Columbia admit scent-tracking evidence to prove the identity of the accused, provided a proper foundation is laid.").

122. *See supra* Section III.A. See also *State v. Smith*, 335 S.W.3d 706, 709-10 (Tex. Ct. App. 2011), for an example of a typically very qualified expert witness whose testimony was excluded in the specific case when it lacked support of complying with the appropriate reliability factors. It should be emphasized that this Comment is based on assumptions of consistency and the utmost effort during dog scent lineups, but individual admissibility will depend on the specific expert, case, facts, and circumstances, just as every other methodology does.

123. *See supra* text accompanying notes 84-85.

124. *See* Ensminger et al., *supra* note 77, at 67 (explaining that many courts carve out an exception to *Daubert* for dog scent lineups specifically).

factors may be used as well as any other reliable test.[125] Many states have opted to use their own standards or a combination standard—there is no clear-cut consensus.[126] But before evaluation under a standard, lineups must be conducted properly.

1. Employ a Good Boy

For scent lineups to satisfy the *Nenno* test, or any other test for that matter, they should be set up as in other countries that have successfully utilized them historically or currently, as assessed above in Part II.[127] "Scent lineups . . . are a common part of police practice in the Netherlands, Poland, Germany, Russia, and other Eastern European countries."[128] A primary reason other countries are reluctant to implement dog scent lineups is "a lack of international standards for the way in which dogs are trained, certified and used."[129]

a. The Collection

First, the United States must adopt a standard material for holding scents as other countries require.[130] "All human scents [should be] collected by a qualified technician, wearing a special sterile paper suit and powder-free nitrile examination gloves."[131] While lacking "norms" at every step is a procedural failure, the United States should at least consider implementing a normative process for preserving the usability of scents from crime scenes and suspects.[132] Lithuania's bright line rules, on the other hand,

125. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141-42 (1999).

126. Several states have their own completely different standards of admissibility. *See* Anjelica Cappellino, Daubert *vs.* Frye*: Navigating the Standards of Admissibility for Expert Testimony*, EXPERT INST. (Sept. 7, 2021), [https://perma.cc/H74H-6T7M] ("Overall, the evidentiary standard governing the admissibility of expert testimony is, in many respects, a continuum opposed to a bright-line rule.").

127. *See supra* Section II.C.

128. Ensminger & Jezierski, *supra* note 11, at 101.

129. Marchal et al., *supra* note 4, at 2.

130. *See supra* text accompanying note 44.

131. Marchal et al., *supra* note 4, at 3.

132. *See supra* text accompanying note 45.

are admirable.[133] Per Lithuania's procedures in 2019, trace scents from the crime scene could be used no sooner than twenty-four hours after the collection,[134] and body scents from the crime scene could be stored for a maximum of one year.[135] Further, body scents could be used twenty-four hours after the collection, but not before.[136] Trace scents could be kept in the (proper) storage for five years, and body scents could only be stored for one year.[137] As the name implies, body scents ("BS") are taken directly from the body of the suspect whereas trace scents ("TS") are taken from the object or clothes.[138]

Research indicates that trace scents can be kept for ten years with higher success rates for the same type of scent used from the crime scene and individuals; this tracks with research that recommends using TS/TS.[139] A lack of false alerts in studies demonstrates human body odor uniqueness, and sensitivity scores explain canines' abilities to extract individual body information with the best scores deriving from either BS/BS or TS/TS.[140] However, consistency is the key here.

b. The Procedure

Common sense prevails, but international consistencies speak for themselves. The United States should also follow suit with other countries that have implemented rules prescribing a proper cleaning procedure for the lineup stations between trials or dogs.[141] Lithuania, again, has a very cautious approach of cleaning stations between each trial and replacing the jars containing the scents.[142] Considering the United States does not have *any* procedure in place and often skips cleaning between

133. *See* Ferry et al., *supra* note 40, at 3 tbl.1 (comparing the United States' scent collection standards with Lithuania's standards).

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. Marchal et al., *supra* note 4, at 3.

139. *Id.*

140. *Id.* at 10.

141. *See supra* text accompanying note 46.

142. *See* Ferry et al., *supra* note 40, at 3 tbl.1.

trials, it should take the most cautious route to ensure the accuracy of the trials.[143] Likewise, the cautiousness of Lithuania's procedures, which also require decoy scents to be "as similar as possible to the target" with a primary focus on the targets' sex and age, is commendable and should be retained by the United States.[144] The United States must follow international trends and require that decoy scents be novel to the canine in judicial trials before they can justifiably be used.[145]

With no requirement for disqualifying searches or negative checks, the United States should adopt stricter, international judicial requirements: (1) prior to each official test, the canine must complete two control trials correctly; and (2) one negative check should be inserted every three trials.[146]

The United States' clearly lackadaisical consideration of the admissibility of dog scent lineups cannot be tolerated. It is unfathomable why every country requires a fixed number of stations within each scent lineup except the United States, where case law demonstrates a variation between two and seven stations.[147] It is a concept we are taught as children: the more stations, the more work the canine must do, thus the more accurate result. The United States must adopt a standard high enough to be more than chance, with seven stations being the sweet spot.[148] Further, dog scent lineup evidence should not even be *considered* in a United States courtroom after only one trial despite the current lack of a minimum judicial control-trial requirement.[149] Plainly, the United States must set a minimum number of trials before admitting the evidence, as well as require confirmation by *multiple* canines. Consistency, accuracy, and precautions must serve as safeguards.

---

143. *See id.*

144. *Id.* at 4 tbl.2 (comparing Lithuania with the United States); *see also* Joe Schwarcz, *Do Men's and Women's Armpits Smell Differently?*, MCGILL (Mar. 20, 2017), [https://perma.cc/GLV3-TATT] (demonstrating that scents from males and females differ).

145. *See supra* text accompanying notes 47-50.

146. Ferry et al., *supra* note 40, at 5 tbl.3.

147. *Id.* at 6 tbl.4.

148. *See id.* at 6 tbl.4, 10.

149. *Id.* at 5 tbl.3.

c. The Training

Praise for the canines is a step in the right direction,[150] but the lack of a training requirement for the dogs quickly forces that step back.[151] Studies have shown that extensive training is essential for accurate results.[152] With a lack of consensus among other countries, the United States should imitate other successful experiments and training procedures.[153]

In a famous study, canine training was divided into "initial training" and "continuous training . . . ."[154] The entirety of the program was approximately twenty months long with several steps within each division.[155] The continuous training lasted the entirety of the dog's life,[156] including a daily training routine that involved a series of lineup trials and praise when the dog was correct.[157] Judicial case admissibility was exclusive to the dogs in this study that completed over two hundred trials with no false alarms—a perfect approach for the United States to adopt.[158] To maximize reliability, there should be a minimum standard within United States courts that when dogs fail test lineups or fail to correctly match the suspect's scent in at least two successive lineups, their scent lineup evidence is disqualified.[159]

Even after correctly training the dogs, the accuracy of a single dog alone should not be solely relied on.[160] In order to be admissible in a judicial case, scent matching should be confirmed by several dogs, ranging from a minimum of two dogs to the goal

150. Cesar Millan, *How and When to Give Healthy Dog Treats*, CESAR'S WAY (June 18, 2015), [https://perma.cc/74VY-LJ4M] (a famous dog handler demonstrating that the appropriate usage for treats as praise is "a critical component in dog training and rewarding [proper] behavior.").

151. *See* Ferry et al., *supra* note 40, at 9 tbl.8.

152. *See* Marchal et al., *supra* note 4, at 2; *see also* Robertson, *supra* note 100.

153. *See* Marchal et al., *supra* note 4, at 2.

154. *Id.* at 2-4.

155. *Id.* at 4.

156. *Id.* at 3-4

157. *Id.* at 4.

158. Marchal et al., *supra* note 4, at 6.

159. *See* Robertson, *supra* note 100.

160. *See id.*

of seven dogs.[161] Each dog should do several lineups providing evidence from at least fourteen lineups for a single case.[162]

The handlers themselves must also have extensive training requirements such as certifications, specific training, and discouragement of self-training; however, this is likely not the component that will be turned on for scent lineups.[163] Similarly, the dog must be of a breed capable of correctly performing a scent lineup, such as a German Shepard or bloodhound.[164] However, it is more important to look to the specific dog rather than just the breed.[165] Favorable characteristics include "a predisposition to working with a handler, be[ing] eager to please, and hav[ing] a strong play drive."[166]

d. The Alerting

To ensure a lack of bias in the experiment, the United States must adopt a similar approach to Poland, which requires alerts "to be clear to anyone[.]"[167] A video-recording should be required, as there is not currently any such requirement.[168] And of course, the handler, or whomever is conducting the experiment, should be blind, meaning the conductor of the experiment should be unaware of the suspect's scent placement.[169] Further, the extra step of "double blindness," requiring the individual who does know the placement of the scents to be secluded from both the handler and the canine or anyone else in the room where the

161. *See id.*

162. *Id.*

163. *See supra* notes 76, 161-62 and accompanying text; *see also infra* note 164.

164. *See supra* text accompanying note 27. Although a great house pet, retrievers have not lived up to the same standard of acute smelling abilities that bloodhounds and German Shepherds have. *See* People v. Mitchell, 2 Cal. Rptr. 3d 49, 63-64 (Cal. Ct. App. 2003).

165. John J. Ensminger, *History and Judicial Acceptance of Tracking and Trailing Evidence*, *in* POLICE AND MILITARY DOGS: CRIMINAL DETECTION, FORENSIC EVIDENCE, AND JUDICIAL ADMISSIBILITY, *supra* note 11, at 32 [hereinafter Ensminger, *History and Judicial Acceptance of Tracking and Trailing Evidence*].

166. *See* PBS, *supra* note 28.

167. Ferry et al., *supra* note 40, at 7 tbl.5.

168. *Id.*

169. *Id.* at 8 tbl.6.

experiment is being conducted, is just another necessary precaution to increase the reliability and accuracy of the trials.[170]

2. Time Fur the Nenno *Test*

Based off those standards that should be set, dog scent evidence should be admissible, as the *Nenno* test sets out that "the appropriate questions for assessing reliability are (1) whether the field of expertise is a legitimate one; (2) whether the subject matter of the expert's testimony is within the scope of the field; and (3) whether the expert's testimony properly relies upon or utilizes the principles involved in the field."[171] The *Nenno* test was established by the Texas Court of Criminal Appeals, a state leader for scent lineups,[172] for "soft sciences[,]" but it is evaluated here as it implements *Daubert* principles brilliantly, tailored for scent lineups.[173]

a. Whether the Field of Expertise is Legitimate

The FBI does not undercut the value of dog scent lineups as demonstrated by advising the use of "scent-discriminating dogs in criminal investigations . . . to establish[] a scent relationship between people and crime scene evidence."[174] Not only does the FBI advise the use of scent lineups, but it also follows that advice with its own use of scent lineups.[175] Evidently, a "dog['s] ability to distinguish scents is valued and respected" in the real world.[176]

---

170. *Id.* at 8 tbl.6, 12 (Hungary and Poland conduct the double blindness by having the expert observe through the use of a one-way mirror compared to how Russia allows them to view through a video monitor).

171. Winston v. State, 78 S.W.3d 522, 526 (Tex. Ct. App. 2002) (citing Nenno v. State, 970 S.W.2d 549, 561 (Tex. Crim. App. 1998)).

172. *Id.* at 525-26; *see also supra* text accompanying note 14.

173. José A. Berlanga, *Harmonizing Civil and Criminal Rule 702 Analysis: Do Criminal Litigants Utilize a Less Rigorous Standard?*, 37 T. MARSHALL L. REV. 55, 55-56, 56 n.6, 80 (2011).

174. Stockham et al., *supra* note 82.

175. *See, e.g.*, *Winston*, 78 S.W.3d at 526-27 ("In one notable case involving a serial killer, the FBI noted in a letter to Deputy Pikett's department that his work with the bloodhounds and scent lineups 'saved many investigation man hours that would have been spent searching for the wrong person.'").

176. *Id.* at 527.

"[D]ogs' superior senses have long been used to aid mankind in a variety of contexts outside the courtroom, including 'to track by scent escaped criminals or lost persons and articles.'"[177] States across the country continuously use scent-tracking evidence for identification purposes.[178] With the lack of value in differentiating reliability between scent lineups and other scent tracking techniques, scent lineups should be considered a legitimate field of expertise as well.[179]

b. Subject Matter Within Scope of the Field

Seldom will the scope be at issue—it will be dependent on the specific expert testifying as well as the scope of expertise, which appears to be a low bar.[180] Comparable to the well-known nexus requirement in Federal Rule of Evidence 702 generally, this is a non-strict standard that simply requires a logical relationship between the testimony and the expert's field; it need not be a perfect connection.[181] Consider a traditional law school example: an expert in corrupt business practices was not qualified to testify specifically on Korean business practices due to a lack of a nexus with the broader subject of Korean-specific business.[182] Dog scent experts do not follow this same ill-fated path. With experience in scent lineups and testimony regarding scent lineups, this prong will be easily surpassed. It can further be appropriate for an expert to testify as to scent-matching techniques generally, without experience in scent lineups specifically, as long as the testimony is narrowed to such.

177. *Id.* at 526 (quoting People v. Price, 431 N.E.2d 267, 269 (N.Y. 1981)).

178. *Id.* at 527.

179. *Id.*

180. *See*, *e.g.*, Coastal Tankships, U.S.A., Inc. v. Anderson, 87 S.W.3d 591, 604 (Tex. Ct. App. 2002) (demonstrating how easily the court could "impliedly" find the expert's testimony was within the scope when he was a doctor specializing in diagnosing and treating acute lung injuries and his testimony concerned the victim's lung disease and was thus within the scope of his field of expertise).

181. Jinro Am. Inc. v. Secure Invs., Inc., 266 F.3d 993, 1009 (9th Cir. 2001).

182. *See id.*

c. Properly Relies Upon or Utilizes the Principles Involved in the Field

The outcome of the *Nenno* test is most dependent on the final prong—requiring a determination by the court that "the proffered expert testimony properly relies upon or utilizes the principles involved in the field of expertise."[183] Three factors are evaluated to determine this reliability: "(1) the qualifications of the particular trainer; (2) the qualifications of the particular dog; and (3) the objectivity of the particular lineup."[184]

i. Qualifications of the Trainer

The qualifications of the trainer are not the main concern at issue and will not be discussed in depth as they are expert dependent, but the trainer should be qualified specifically in scent lineup procedures. Ideally, the trainer should have testified previously, but this is not dispositive.[185] Assuming that the particular expert has performed scent lineups in the past, the qualifications should likely be met. The trainer's expertise and experience must match up to the step in the lineup that is being discussed in trial. For example, an expert who has properly performed several lineups in the past may not be qualified to testify about the genetic makeup of a canine's scent membranes but could testify about how the scent lineup was conducted.[186] Experts' qualifications merely have to surpass a low bar, as demonstrated by the first prong of Federal Rule of Evidence 702, requiring no actual degree.[187] The same logic applies to scent

183. *Winston*, 78 S.W.3d at 527.

184. *Id.*

185. *See generally* FED. R. EVID. 702 (no former testimony as an expert is required—rather some combination of "knowledge, skill, experience, training, [and] education" collectively is what matters).

186. For example, if an expert is used to testify regarding the unique odor of every human, then that expert should have some type of scientific background or evidence to back that up, versus an expert testifying about the procedure that took place, then that expert should have experience with the actual performance of the lineups. *See* Ensminger et al., *supra* note 77, at 67.

187. *See generally* FED. R. EVID. 702 (which has no degree requirement and provides that expertise can be shown in other ways such as experience). The term "expert" does not

lineups, but despite the leniency, it is recommended here that a certification accompany the expert.[188]

ii. Qualifications of the Dog

The qualifications of a dog include factors such as whether:

> (1) the dog is of a breed characterized by acuteness of scent and power of discrimination; (2) the dog has been trained to discriminate between human beings by their scent; (3) by experience the [dog] has been found to be reliable; (4) the dog was given a scent known to be that of the alleged participant in the crime; and (5) the dog was given the scent within the period of its efficiency.[189]

By utilizing the preconditions established above, all factors of qualification are exceeded.[190] Bloodhounds and German Shepherds are undoubtedly qualified breeds, and canine training will be extensive. By focusing specifically on scent lineups and discrimination, no canine will be considered for judicial cases without the required experience, thresholds, and rates of performance as a prerequisite; when professionals gather and place the scent, the efficiency period will be followed.[191]

There is no dispute that the current chaos revolving around inconsistent standards of scent lineups is justified—but this is the heart of this Comment. Once a clear, consistent, and reliable method is utilized, scent lineups will pass standards they would

---

have the plain meaning that many people think of, but a good example to demonstrate the lack of requirement for formal education is Marisa Tomei in the movie *My Cousin Vinny*. Arthur McGibbons, *Marisa Tomei From My Cousin Vinny Great Example of How an Expert Witness Works*, ILL. CASE L. (Feb. 1, 2014), [https://perma.cc/DB68-86FF].

188. *See* NAT'L POLICE CANINE ASS'N, STANDARDS FOR TRAINING & CERTIFICATIONS MANUAL 3, 21 (2014), [https://perma.cc/Y4UK-6LEJ] (example of a certification); *see also* Ensminger, *History and Judicial Acceptance of Tracking and Trailing Evidence*, *supra* note 165, at 29 (commenting on proposals by the Scientific Working Group on Dog and Orthogonal Detector Guidelines ("SWGDOG"), which recommend that handler training is to involve human scent theory, relevant canine case law, and legal preparation, including court testimony). *See generally* KENNETH FURTON ET AL., THE SCIENTIFIC WORKING GROUP ON DOG AND ORTHOGONAL DETECTOR GUIDELINES 1, 87-89 (2010), [https://perma.cc/3SK9-EB22] (SWGDOG guidelines including handler specifications).

189. Winston v. State, 78 S.W.3d 522, 527-28 (Tex. Ct. App. 2002).

190. *See supra* Section III.B.1.

191. *See supra* Section III.B.1.c.

not have before, as demonstrated. Transparency must be established; the expert must provide support for any claimed qualifications, including certification of the dog as well as (well-tracked and mandatory) error rates for each specific dog.[192]

It should be noted that skepticism of dog scent evidence often arises from a lack of full disclosure from handlers, as well as from prosecutors, despite disclosure being required.[193] Without consistent track records and full disclosure of error and accuracy rates, this Comment too would not support dog scent lineups—these safeguards are necessary and must be mandatory in order to accurately portray the reliability of dog scent lineups.[194]

iii. Objectivity of the Lineup

Support is key.[195] The plain meaning of objectivity is "[d]oing one's best to get rid of biases, and other subjective evaluations, by solely depending on objectifiable data."[196] Therefore, claims of perfection and trustworthiness will fail largely when deprived of support. Reliance on manuals often proves to be sufficient—yet there is still an overarching lack of international standards and timely updates.[197] The use of manuals

192. *Winston*, 78 S.W.3d at 527-28.

193. *See e.g.*, Loaiza v. Pollard, No. LACV 16-5703-JWH (LAL), 2021 U.S. Dist. LEXIS 159510, at *30-31, *40 (C.D. Cal. May 13, 2021) (unpublished opinion demonstrating the potential harm to the defendant was the fact that the dog made many past false identifications which were not disclosed, and the court likely would have excluded the scent evidence due to lack of reliability as well as the potential to impeach the government's witness); *see also* Brady v. Maryland, 373 U.S. 83, 87 (1963) (requiring disclosure by the prosecution of all evidence that might exonerate the defendant). *See generally* Bryan Altman, *Can't We Just Talk About This First?: Making the Case for the Use of Discovery Depositions in Arkansas Criminal Cases*, 75 ARK. L. REV. 7, 8 (2022) (discussing the consistent theme for the defense to be left "in the dark" by prosecution on a local level).

194. *See Loazia*, 2021 U.S. Dist. LEXIS 159510, at *30.

195. *See supra* note 115 and accompanying text.

196. *What is Objectivity*, L. DICTIONARY, [https://perma.cc/HD72-VE86] (last visited Apr. 10, 2022).

197. *See Winston*, 78 S.W.3d at 528-29 (holding that testimony by Deputy Pickett stating his procedure was "consistent with the National Police Bloodhound Association's manual on how to conduct a scent lineup" was sufficient to satisfy the objective standards); *see also* Berlanga, *supra* note 173, at 69 (demonstrating that the main requirement to satisfy the objective standard was being consistent with the manual).

must be coupled with the standard protocols recommended above: double blindness, trained signals, multiple confirmations, and additional safeguards, namely videos and witnesses of the lineup.[198] These safeguards will help negate any indication of scent contamination or biases by proactively eliminating subjectivity.[199] The typical misconception that trained canines merely guess, and their handlers subjectively interpret those guesses to be signals when they are not, is discredited when these safeguards are in place.[200] Moreover, the *Nenno* test will be passed with the established protocol.

C. Compliance is Not Junk Science

Several passed prongs later, admissibility is finally established, but Federal Rule of Evidence 403 still lurks in the shadows. It must be shown that the danger of unfair prejudice does not substantially outweigh the probative value to fully be admissible.[201]

After surviving the scrutiny of the expert testimony analysis itself, scent lineups plainly outstrip any risk of unfair prejudice. A jury will not be partial due to scent lineups. It does not take specialized skills or knowledge to comprehend that dogs are not perfect—juries understand this—and they are capable of giving proper weight to such evidence.[202] Further, dog scent

198. *See* discussion *supra* Section III.B.1.

199. *See Winston*, 78 S.W.3d at 528-29 (illustrating a lineup with proper safeguards); *see also supra* Section III.A.4. For an example of what not to do, consider when a dog scent handler's testimony was not allowed in court although he testified many times before; when, in his current testimony, he "testified that there was a possible cross-contamination of the scents in the lineup in question;" he "did not run a 'blind' scent lineup"; he did "not keep complete records on the scent lineups that his dogs have participated in;" his training records regarding the dog's training were incomplete and the failure to maintain complete records made it hard to determine accuracy; there was no peer-review of any records; he "failed to follow up on the dispositions of" other cases his dogs participated in; he "failed to perform validation testing on his dogs during scent lineups;" he testified no one reviews his work; his dogs were not certified; no literature was offered in support of the procedure used; no other evidence was put on regarding any error rates; and there was no evidence that the scent lineup could have been "duplicated by others following the same methods." *See* State v. Smith, 335 S.W.3d 706, 708-10 (Tex. Ct. App. 2011).

200. *See supra* text accompanying note 113.

201. *See supra* Section II.E.

202. United States v. McNiece, 558 F. Supp. 612, 615 (E.D.N.Y. 1983).

identifications do not plainly decide guilt or innocence; they simply show that a suspect's scent was at a particular place.[203] Statistically, potential "errors" by the canine are more likely to harm the government's case rather than the defendant's because they are more likely to involve missing a scent than wrongfully accusing the defendant.[204] Lastly, despite the advancements scent lineups will prove to show, they are still limited to serve as corroborating evidence.[205]

Also, jury instructions, such as the following, play an important role in mitigating any risk of unfair prejudice when they limit the lineup's permissible purposes:

> Evidence of dog tracking has been received for the purpose of showing, if it does, that the defendant is [the] perpetrator of the crime of _____. This evidence *is not by itself sufficient* to permit an inference that the defendant is guilty of the crime of _____. Before guilt may be inferred, *there must be other evidence* that supports the accuracy of the identification of the defendant as the perpetrator of the crime of _____. The corroborating evidence need not be evidence which independently links the defendant to the crime. It is sufficient if it supports the accuracy of the dog tracking. In determining the weight to give to dog-tracking evidence, *you should consider* the training, proficiency, experience, and proven ability, if any, of the dog, its trainer, and its handler, together with all the circumstances surrounding the tracking in question.[206]

---

203. *See* G. A. A. Schoon, *Scent Identification Line-ups Using Trained Dogs in the Netherlands*, 47 PROBS. FORENSIC SCI. 175, 175 (2001), [https://perma.cc/UJX5-K4AH].

204. *See supra* text accompanying notes 105-06.

205. *See supra* note 82 and accompanying text.

206. People v. Jackson, 376 P.3d 528, 578 (Cal. 2016) (emphasis added). The defendant in Jackson appealed the jury instructions and suggested the following from the *Craig* court:

> [D]og-trailing [sic] evidence must be viewed with the utmost of caution and is of slight probative value. Such evidence must be considered, if found reliable, not separately, but in conjunction with all other testimony in this [sic] case, and in the absence of some other direct evidence of guilt, dog trailing evidence would not warrant conviction.

Id. (quoting People v. Craig, 150 Cal. Rptr. 676, 683 (Cal. Ct. App. 1978)). The court did not entertain this instruction, but for the purposes of this Comment it would be sufficient as well. *Id.*

The entirety of this Comment demonstrates the exceedingly high probative value of scent evidence—establishing a suspect's presence at the crime scene.[207] In this way, scent identifications directly tend to prove, or disprove, whether a crime was committed by a particular person.[208] In summation: dog-scent identifications contribute directly to the resolution of the case by helping to establish identity;[209] they serve a unique purpose when the suspect cannot already be easily or confidently placed at the crime scene. While a fairly short analysis, Federal Rule of Evidence 403 is important, and is passed.[210]

IV. CONCLUSION

Once a sour lemon for courts to avoid, dog scent lineups prove to be capable of transforming into a superb resource. When followed, a precise recipe, representative of international tastes,

---

207. *See supra* note 4 and accompanying text.

208. It is vital that the expert be able to put on information regarding the uniqueness of each person's body odor beyond experience from just one trainer and one dog. *See* People v. Mitchell, 2 Cal. Rptr. 3d. 49, 64, 66 (Cal. Ct. App. 2003). This goes towards the relevancy of the scent lineups: if it cannot be shown the scents are unique and the canine is able to recognize differences between the scents, then scent lineups would just be a guessing game. *See id.* The court in *Mitchell* found the dog scent evidence to be inadmissible because relevancy could not be established when it was concerned with the absence of evidence showing that every person's scent is unique. *Id.* at 794-95. This type of evidence does exist. *See* Marchal et al., *supra* note 4, at 1-2 ("Gas chromatography-mass spectrometry studies showed that each human scent consists of a combination of volatile components produced from the skin and differing in ratio from person to person, along with some compounds that are unique to certain individuals. This combination, which has been shown to be constant and reproducible over time, contributes to the individuality and uniqueness of human scent. This finding likewise includes identical twins' individual scents.").

209. If it is not a question whether the suspect's scent was at the crime scene, then dog scent lineups will not do much good. *See* 1 DAVID B. SMITH, PROSECUTION AND DEFENSE OF FORFEITURE CASES ¶ 4.03 (2022) (discussing how the drug sniffing dog at best showed the money had been exposed to narcotics and that this information was not very probative because up to 80% of the money in circulation may carry narcotics residue). To further illustrate, in a situation where the suspect is a family member and living in the crime scene home, dog scent lineups would not have much probative value, as it is already known and understood that the suspect's scent would likely already be at the crime scene.

210. *See generally* FED. R. EVID. 403 (allowing the judge to exclude relevant evidence if its probative value is substantially outweighed by a danger of unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence).

can advance the legal field—whether change was asked for or not.[211]

In an already flawed justice system, no harm commences by dog scent lineups unpretentiously placing a scent at a crime scene and allowing the lawyers, judges, and factfinders to determine the rest.[212] This Comment serves both to encourage the transformation of dog scent lineups by demanding standards and safeguards and to appreciate their value. Of course, there are challenges with such a notable transformation. Namely, resources.[213] But once transformed, something shocking will transpire—a seemingly unreliable method of identification will become something more. It becomes something great.

211. *See, e.g.*, PBS, *supra* note 28 ("One of the greatest sleuths in canine history was a Kentucky bloodhound called Nick Carter. His dogged persistence led to the capture and conviction of more than 600 criminals throughout his illustrious career.").

212. *See* State v. Frederiksen, No. 15-0844, 2016 WL 4051655, at *6 (Iowa Ct. App. July 27, 2016) (acknowledging that the defense pointed out weaknesses of the identification and that the jury was free to assign appropriate weight however they saw fit).

213. It is recognized that the FBI and other large agencies may be one of the few agencies with the resources available to currently conduct dog scent lineups properly, as many local agencies lack funding, canines, handlers, and are already overworked. *See* Ensminger & Jezierski, *supra* note 11, at 101.