

1981

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Recommended Citation

Ben H. Sirmons Jr., *Criminal Law - Expert Testimony on Bite Marks*, 4 CAMPBELL L. REV. 179 (1981).

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CRIMINAL LAW—EXPERT TESTIMONY ON BITE MARKS—*State v. Temple*, 302 N.C. 1, 273 S.E.2d 273 (1981).

INTRODUCTION

The admission of expert testimony identifying an assailant by his bite marks on the victim is an issue on which few courts have ruled.¹ The issue first was addressed by the North Carolina courts in *State v. Temple*.² The North Carolina Supreme Court ruled expert testimony on bite marks was “admissible as an instrumentality which aids justice in the ascertainment of the truth.”³ The Court refused to accept the defendant’s contention that the experts’ testimony should have been excluded because it was based on the results of a test not scientifically proven for reliability. A unanimous Court found the expert testimony was based on established scientific techniques of dentistry and photography applied to solve the novel problem of identifying bite marks on a murder victim.

These scientific techniques belong to the field of forensic odontology. Forensic odontology seeks to relate and apply dental facts to legal problems.⁴ In a bite mark identification problem, the suspect’s dentition, the kind, number and arrangement of teeth,⁵ is compared with bite marks found on the victim to determine if the suspect’s teeth made the marks.

THE CASE

The nude body of Annette Ruth Jones, age sixteen, was discovered near a downtown building in Elizabeth City. Several lacer-

1. *State v. Jones*, 273 S.C. 723, 259 S.E.2d 120 (1979); *Niehaus v. State*, 265 Ind. 655, 359 N.E.2d. 513 (1977); *People v. Slone*, 76 Cal. App. 3d 611, 143 Cal. Rptr. 61 (1978); *People v. Milone*, 43 Ill. App. 3d 385, 356 N.E.2d 1350 (1976); *People v. Marx*, 54 Cal. App. 3d 100, 126 Cal. Rptr. 350 (1975); *Patterson v. State*, 509 S.W.2d 857 (Tex. Crim. App. 1974); *People v. Johnson*, 8 Ill. App. 3d 457, 289 N.E.2d 722 (1972).

2. 302 N.C. 1, 273 S.E.2d 273 (1981).

3. *Id.* at 13, 273 S.E.2d at 281.

4. *STEDMAN’S MEDICAL DICTIONARY*, 373 forensic dentistry, 974 odontology, (4th Lawyer’s ed. 1976). Forensic dentistry is synonymous with forensic odontology.

5. 51 So. CAL. L. REV. 309 (1977), quoting L. LUNTZ, *et al.*, *HANDBOOK FOR DENTAL IDENTIFICATION* 186 (1973).

ations and bite marks were found on the body. Dr. Jerry Pickrel, a pathologist, and Dr. Page Hudson, the Chief Medical Examiner of the State, testified the victim was killed by a blow to the head with a heavy blunt object. A bloodstained concrete block was found near the body. The defendant was observed by police in the area at about the time of death and was detained the next day in connection with the crime. Impressions of his teeth were made and expert forensic dental testimony by two prosecution witnesses at trial showed the defendant's teeth caused the bite marks on the victim.⁶

The defendant contended the trial court erred in admitting the expert testimony. The defendant claimed that the testimony of Dr. William P. Webster, a forensic odontologist, was admitted in error because the reliability of his investigation was not proven scientifically.⁷ The defendant argued that Dr. Hudson's testimony also was inadmissible, because he was not an expert in forensic odontology yet he expressed only his opinion.⁸

The defendant was found guilty of first degree murder and the jury recommended a sentence of life imprisonment. An appeal was taken from the Pasquotank County Superior Court directly to the North Carolina Supreme Court pursuant to North Carolina General Statutes Section 7A-27(a).⁹

On appeal, the Court acknowledged that the general rule in North Carolina regarding the admissibility of new methods and types of scientific evidence is: "[W]e should favor the adoption of such scientific methods of crime detection where the demonstrated accuracy and reliability has [*sic*] become established and recognized."¹⁰ The Court held the experts' testimony was admissible because they applied scientifically established techniques of dentistry

6. Dr. Hudson, as the medical examiner on the case, consulted with Dr. William P. Webster, a forensic odontologist, for the purpose of identifying the bite marks on the victim. Both matched impressions and photographs of the defendant's dentition with the bite marks on the victim. Based on his findings, Dr. Webster testified that in his expert opinion the bite marks were made by the defendant. Dr. Hudson testified that after observing Dr. Webster's work, he also was of the opinion that the defendant's teeth caused the bite marks. 302 N.C. 1 at 10, 273 S.E. 2d at 279.

7. *Id.*

8. *Id.*

9. N.C. GEN. STAT. § 7A-27(a) (1974) provides a right of appeal directly to the state supreme court, from any judgment of a superior court which includes a sentence of death or imprisonment for life.

10. 302 N.C. at 12, 273 S.E.2d at 280, *citing* State v. Powell, 264 N.C. 73, 74, 140 S.E.2d 705, 706 (1965).

and photography and their conclusions were verifiable by the trial court.¹¹ Dr. Hudson's testimony on the bite marks was held admissible because he, as the Chief Medical Examiner of the State, had arrived at his opinion after consultation with an expert on the subject.¹² The Court found that, in any event, Dr. Hudson's testimony was not prejudicial because the extensive testimony of Dr. Webster proved the defendant's teeth caused the bite marks and that any objection to bite mark analysis testimony went to the credibility of the evidence and not its admissibility.¹³

BACKGROUND

Because the admissibility of expert testimony to identify a defendant's bite marks on the victim was a question of first impression in North Carolina, the Court looked to the decisions of other jurisdictions.¹⁴ There have been few cases where the exact question has been answered by other states.¹⁵ The North Carolina Court followed those decisions, particularly *People v. Marx*¹⁶ and *Patterson v. State*,¹⁷ in ruling that the testimony was admissible.¹⁸

The leading case on the admissibility of bite mark analysis is *People v. Marx*.¹⁹ There the defendant was convicted of the first degree murder of a seventy-five year old boarding house operator. The body was exhumed forty-nine days after the funeral to deter-

11. *Id.*

12. *Id.* at 13, 273 S.E.2d at 280.

13. *Id.* at 13, 273 S.E.2d at 281.

14. *Id.* at 11, 273 S.E.2d at 279.

15. *State v. Jones*, 273 S.C. 723, 259 S.E.2d. 120 (1979); *Niehaus v. State*, 265 Ind. 655, 359 N.E.2d 513 (1977); *People v. Slone*, 76 Cal. App. 3d 611, 143 Cal. Rptr. 61 (1978); *People v. Milone*, 43 Ill. App. 3d 385, 356 N.E.2d 1350 (1976); *People v. Marx*, 54 Cal. App. 3d 100, 126 Cal. Rptr. 350 (1975); *Patterson v. State*, 509 S.W.2d 857 (Tex. Crim. App. 1974); *People v. Johnson*, 8 Ill. App. 3d 457, 289 N.E.2d 722 (1972).

16. 54 Cal. App. 3d 100, 126 Cal. Rptr. 350 (1975).

17. 509 S.W.2d 857 (Tex. Crim. App. 1974).

18. *State v. Jones*, 273 S.C. 723, 259 S.E.2d. 120 (1979); *Niehaus v. State*, 265 Ind. 655, 359 N.E.2d 513 (1977); *People v. Slone*, 76 Cal. App. 3d 611, 143 Cal. Rptr. 61 (1978); *People v. Milone*, 43 Ill. App. 3d 385, 356 N.E.2d 1350 (1976); *People v. Marx*, 54 Cal. App. 3d 100, 126 Cal. Rptr. 350 (1975); *Patterson v. State*, 509 S.W.2d 857 (Tex. Crim. App. 1974); *People v. Johnson*, 8 Ill. App. 3d 457, 289 N.E.2d 722 (1972).

19. 54 Cal. App. 3d 100, 126 Cal. Rptr. 350 (1975). There has been an A.L.R. annotation based on *Marx* [*Annot.*, 77 A.L.R.3d 1122 (1975)] and the *Temple* Court referred to *Marx* as the leading case on bite mark analysis, 302 N.C. at 11, 273 S.E.2d at 279.

mine whether the defendant's teeth left a bite mark on the victim's nose. Three dentists identified the defendant's teeth as the source of the marks on the victim.²⁰ The California Court of Appeals held the testimony of the experts admissible, despite the general rule that "a scientific principle must be sufficiently established to have gained general acceptance in the particular field to which it belongs."²¹ The Court concluded that the experts applied scientifically and professionally established techniques to show that the defendant made the bite marks on the victim and their conclusions were verifiable by the court.²²

In *Patterson v. State*,²³ the Texas Court of Criminal Appeals held that evidence is admissible to identify a defendant by his teeth marks on the victim. A mold of the defendant's teeth was compared to wounds on the victim's left breast. Following a previous decision,²⁴ the Court affirmed the admissibility of the evidence and concluded that any objection goes to the credibility of the evidence, not its admissibility.²⁵

The *Temple* Court articulated the general rule in North Carolina concerning the admissibility of new methods and types of scientific evidence by stating:

This court is of the opinion, that we should favor the adoption of scientific methods of crime detection, where the demonstrated accuracy and reliability has [sic] become established and recognized. Justice is truth in action, and any instrumentality which aids justice in the ascertainment of truth, should be embraced without delay.²⁶

This rule was pronounced by the Court in *State v. Powell*,²⁷ quoting an Oklahoma decision, *Toms v. State*.²⁸ Both cases involved

20. 54 Cal. App. 3d at 100, 126 Cal. Rptr. at 355.

21. *Id.*, citing *Frye v. U.S.*, 293 F. 1013, 1014 (D.C. Cir. 1923).

22. 54 Cal. App. 3d 100, 126 Cal. Rept. 350 (1975).

23. 509 S.W.2d 857 (Tex. Crim. App. 1974).

24. *Doyle v. State*, 159 Tex. Crim. 310, 263 S.W.2d 779 (1954). The defendant was requested to bite into cheese to compare his teeth marks with those of similar marks left in cheese at the scene of a burglary. The *Patterson* Court relied on the admission of bite mark testimony by the *Doyle* Court in holding expert testimony on bite mark analysis admissible to identify the defendant in a murder prosecution.

25. 509 S.W.2d at 863.

26. 302 N.C. at 12, 273 S.E.2d at 280.

27. 264 N.C. 73, 74, 140 S.E.2d 705, 706 (1965).

28. 95 Okla. Crim. 60, 69, 239 P.2d 812, 821 (1952).

drunken driving prosecutions where chemical tests to determine the quantity of alcohol in the defendants' blood were challenged as not scientifically proven for reliability. Each court rejected the challenge, holding the tests were sufficiently accurate to merit admission into evidence.²⁹ In a more recent case, *State v. Crowder*,³⁰ the North Carolina Supreme Court admitted expert evidence on a gunshot residue wiping test.³¹ The Court found the test was sufficiently reliable and that independent research generally accepted that type of test, and not the older dermal nitrate test.³² The *Crowder* Court noted that the older test has been rejected by many states because it could not distinguish between nitrate residues deposited on the hand from firing a handgun or because of contact with common substances such as explosives, fertilizers or burning tobacco products.³³ In *State v. Gray*,³⁴ the Court admitted scientific tests identifying blood groupings from bodily fluids other than blood.³⁵ The tests were found to have sufficient demonstrable reliability and validity to be admissible.³⁶

In contrast to the scientific methods that are admissible, lie detector results are an illustrative example of a scientific technique that is not admissible evidence. Professor Henry Brandis, Jr.³⁷ explains that lie detector tests have not yet been accorded the requisite reliability to gain widespread judicial approval and North Carolina has held that the results of such tests are not admissible for or against a defendant.³⁸ Professor Brandis comments that these cases are authority that, generally, scientifically accepted reliability

29. 264 N.C. 73, 74, 140 S.E.2d 705, 706 (1965). 95 Okla. Crim. 60, 69, 239 F.2d 812, 821 (1952).

30. 285 N.C. 42, 53, 203 S.E.2d 38, 46 (1974), *death sentence vacated*, 428 U.S. 903.

31. The test was introduced to prove the defendant, the husband of the victim, fired the murder weapon.

32. 285 N.C. 42, 53, 203 S.E.2d 38, 46 (1974), *death sentence vacated*, 428 U.S. 903.

33. *Id.*

34. 292 N.C. 270, 284, 233 S.E.2d 905, 914 (1977).

35. Scientific tests were used to classify the defendant within the blood grouping identified in the semen found in a rape victim's vagina.

36. 292 N.C. 270, 284, 233 S.E.2d 905, 914 (1977).

37. Professor Brandis is a Graham Kenan Professor of Law Emeritus at the University of North Carolina at Chapel Hill and has revised Dale F. Stansbury's treatise on North Carolina Evidence.

38. 1 STANSBURY'S NORTH CAROLINA EVIDENCE § 86 at 272, Supp. § 86 at 149, 1979 (Brandis rev. ed. 1973).

will justify admissibility.³⁹

Few jurisdictions have addressed the issue of the admissibility of bite mark analysis evidence, but all of these have permitted the testimony.⁴⁰ Two articles document the value and reliability of bite marks analysis in the identification of an assailant.⁴¹ Every appellate court to rule on the admissibility of bite mark analysis has expressed a policy in favor of adopting new scientific methods of crime detection, as long as they are demonstrably accurate.⁴² The *Temple* Court recognized the reliability and value of bite mark analysis. This procedure will be an invaluable aid to the North Carolina criminal justice system in cases involving bite mark analysis to identify a defendant.

ANALYSIS

Mr. Justice Copeland, writing for the Court, expressed the State's established policy of adopting without delay new scientific methods of crime detection, if they aid justice in the ascertainment of the truth.⁴³ He reasoned that under this policy and the general rule of admissibility of new scientific methods in North Carolina, the bite mark analysis evidence presented in *Temple* was admissible because the experts used scientifically established techniques of dentistry and photography to solve the novel problem of identifying a defendant by his bite marks on the victim.⁴⁴ No minimum size of bite mark or minimum number of points of identification were required for the expert testimony to be admitted, although the Court noted that Dr. Webster found eight points of identification between the defendant's dentition and a bite mark on the victim's left upper chest.⁴⁵ The testimony was admitted as the opin-

39. *Id.* at Supp. § 86, at 148.

40. *Annot.*, 77 A.L.R. 3d 1122 (1977).

41. Butler, *The Value of Bite Mark Evidence*, 1 INTL. J. OF FORENSIC DENTISTRY 23 (1973).

42. *State v. Jones*, 273 S.C. 723, 259 S.E.2d 120 (1979); *Niehaus v. State*, 265 Ind. 655, 359 N.E.2d 513 (1977); *People v. Slone*, 76 Cal. App. 3d 611, 143 Cal. Rptr. 61 (1978); *People v. Milone*, 43 Ill. App. 3d 385, 356 N.E.2d 1350 (1976); *People v. Marx*, 54 Cal. App. 3d 100, 126 Cal. Rptr. 350 (1975); *Patterson v. State*, 509 S.W.2d 857 (Tex. Crim. App. 1974); *People v. Johnson*, 8 Ill. App. 3d 457, 289 N.E.2d 722 (1972).

43. 302 N.C. at 12, 273 S.E.2d at 280, *citing State v. Powell*, 264 N.C. 73, 74, 140 S.E.2d 705, 706 (1965).

44. *Id.*

45. *Id.* at 10, 273 S.E.2d at 279.

ion of an expert arrived at after scientific investigation.⁴⁶ Dr. Webster's testimony was proper because models and photographs of the defendant's teeth and the victim's wounds were presented at trial to explain the procedure, and the experts' analysis was verifiable to the trial court's satisfaction.⁴⁷

The Court rejected the defendant's contention that Dr. Hudson's testimony concerning the bite mark identification was inadmissible because he was not an expert in forensic odontology.⁴⁸ The Court reasoned that the Medical Examiner called in an expert and the two worked together to solve the problem. Dr. Hudson's testimony was proper as "the opinion of the Chief Medical Examiner for the State, arrived at after consulting with an expert. . . ."⁴⁹ The Court went on to say that whether proper or not, Dr. Hudson's testimony was not prejudicial to the defendant because Dr. Webster's extensive testimony, as a qualified expert, proved that the defendant's teeth made the bite marks.⁵⁰ It was not the order in which the experts testified, but rather the amount of conclusive testimony by Dr. Webster which made Dr. Hudson's opinion on the bite marks nonprejudicial.

The Court held that the testimony was based on established scientific methods and was admissible as an instrumentality which aids justice in ascertaining the truth.⁵¹ Any objections to the testimony went to its credibility and not its admissibility.⁵²

That the expert scientific analysis was demonstrably accurate and reliable was a reasonable conclusion for the Court on the evidence presented. The prosecution submitted photographs of the wounds and impressions of the defendant's teeth, among other exhibits, that allowed the trial court to verify the scientific procedure. The method of identification consisted of a comparison of the marks on the victim with the dentition of the defendant. For an expert, this was simply a matter of comparing items of physical evidence.⁵³

The *Temple* Court stated that new scientific techniques of crime detection are admissible "where the demonstrated accuracy

46. *Id.* at 12, 273 S.E.2d at 280.

47. *Id.*

48. *Id.*

49. *Id.* at 13, 273 S.E.2d at 280.

50. *Id.*

51. *Id.*

52. *Id.*

53. *Id.* at 12, 273 S.E.2d at 280.

and reliability has become established and recognized.”⁵⁴ The reliability and accuracy of Dr. Webster’s tests were verified by the trial court.⁵⁵ The general rule the *Temple* Court stated requires that new scientific techniques not only be reliable and accurate, but also established and recognized. The Court referred to the bite mark analysis as “based upon established scientific methods”,⁵⁶ but did not explain further how or by whom the techniques became established and recognized. The methods used by Dr. Webster may be well established and recognized, but the statement that the testimony was “based on established scientific methods”⁵⁷ is not dispositive of the second part of the admissibility test.⁵⁸ No substantiation for the theory that Dr. Webster’s techniques were “established scientific methods”⁵⁹ was ever offered. It is inconsistent for the Court to state a two-part test for admissibility and then address only the first part of that test.

Based on his analysis of recent cases, Professor Brandis asserts that “scientifically accepted reliability” is the single criterion for admissibility of new scientific techniques of crime detection.⁶⁰ The emphasis in North Carolina’s test is on reliability, and not establishment and recognition. It is at least questionable whether Dr. Webster’s methods meet the establishment and recognition part of the test, but the techniques are not inadmissible under the Brandis analysis because reliability is the basic criterion. This may explain why the *Temple* Court did not give more attention to the second part of the general rule. Absent a familiarity with the Brandis analysis and the holdings of recent cases on admissibility of new scientific methods, Dr. Webster’s methods fail to meet the general rule of admissibility, as articulated by the *Temple* Court.

The admission of Dr. Hudson’s testimony as an expert on bite mark analysis is inconsistent with the holding in *Temple* as well. The Court referred to both Dr. Webster and Dr. Hudson as experts. Reference to expert activities was always in the plural, indicating the Court accepted Dr. Hudson as an expert on bite mark

54. *Id.*

55. *Id.*

56. *Id.* at 13, 273 S.E.2d at 281.

57. *Id.*

58. For the court to declare that both parts of the admissibility test were met does not prove they were. An explanation should be included to show the declaration was accurate.

59. 302 N.C. at 13, 273 S.E.2d at 281.

60. *Supra* note 39.

analysis. The Court acknowledged that Dr. Hudson was not an expert in forensic odontology, yet it allowed his opinion on the subject.⁶¹ The inconsistent wording in the opinion referring to both Dr. Webster and Dr. Hudson as experts was never explained in any way.

Dr. Hudson's testimony was deemed proper as the "opinion of the Chief Medical Examiner of the State, arrived at after consulting with an expert whose aid he had requested."⁶² What qualification the Chief Medical Examiner had to give expert testimony on forensic odontology, if that is what the Court meant, was unexplained in the case opinion. More likely the court upheld admissibility because it felt the jury was sufficiently instructed to view Dr. Hudson's testimony as the opinion of the Chief Medical Examiner and not as the opinion of an expert in forensic odontology. If that was the Court's rationale for upholding the admissibility of Dr. Hudson's testimony, it should have been explained in detail to avoid any possible misinterpretation.

The Court went on to concede Dr. Hudson's testimony may have been improper,⁶³ but concluded it was not prejudicial because of the extensive testimony of the expert, Dr. Webster.⁶⁴ Following the *Temple* Court's reasoning, had pathologist Dr. Jerry Pickrel observed Dr. Webster's work, his opinion on whether the defendant's dentition caused the bite marks also would have been admissible. Such testimony disguised as "expert" could not help but add greater credibility to the prosecution's contentions, solely by the sheer quantum of the evidence, if not by its stature in the jury's mind as authoritative on the topic. This is particularly prejudicial where, as in *Temple*, the defendant presented no evidence at trial.⁶⁵

Without a complete explanation and proof of the method's ad-

61. The Court's statement that "Dr. Hudson's testimony was proper as the opinion of the Chief Medical Examiner of the State, arrived at after consulting with an expert . . ." indicates Dr. Hudson was not viewed as an expert of the same caliber as Dr. Webster. By implication the Court concedes that Dr. Hudson was not an expert on forensic odontology. *Supra* note 12.

62. 302 N.C. at 13, 273 S.E.2d at 280.

63. The wording of the opinion, "In any event, considering the extensive bite mark identification testimony given by Dr. Webster . . .," indicates the Court realized the impropriety of the Medical Examiner's testimony on the subject. *Supra* note 12.

64. 302 N.C. at 13, 273 S.E.2d at 281.

65. *Id.* at 4, 273 S.E.2d at 275.

missibility, the Court has left the door open for future abuse or misinterpretation of North Carolina's test of admissibility of new methods and types of scientific evidence. In upholding the admissibility of Dr. Hudson's testimony on bite mark identification, the *Temple* Court may have implied that a non-expert opinion on expert matters is acceptable as long as an expert has given full testimony on the subject.⁶⁶ This is a paradoxical proposition, for such non-expert testimony could not help but give added weight to the evidence against a defendant. This inadequate treatment of the admissibility test will require a more complete explanation at a future date.

CONCLUSION

In *State v. Temple*, the North Carolina Supreme Court announced that testimony on bite mark identification analysis by an expert in forensic odontology is admissible in North Carolina courts, as long as the trial court can verify the scientific methods used were accurate and reliable. The *Temple* Court refused to hold inadmissible testimony concerning bite mark identification by the Chief Medical Examiner of the State even though he was not an expert in forensic odontology. The Court stated that properly admitted or not, the Chief Medical Examiner's opinion was not prejudicial because of the extensive bite mark identification testimony given by the expert, Dr. Webster. In conclusion the Court declared that any objection to the bite mark analysis testimony must address the credibility and not the admissibility of the evidence.

The inconsistency between the *Temple* Court's stated test and the criterion the Court used to determine the admissibility of the testimony cannot help but cause confusion over the exact requirements for admissibility. The scientific evidence admitted in *Temple* does not meet the Court's stated test of admissibility. It does meet the Brandis analysis requirement of reliability and is, consistent with prior case authority, admissible to identify a defendant. The Court brushed over the entire problem by declaring, without explanation, that any objection to the testimony goes to credibility and not admissibility.

Questionable as well is the theory that non-expert testimony aids in attaining the truth. The Court's concession that the non-

66. The non-expert testimony was admitted regarding an issue to which only an expert should have been competent to testify. The admission of the testimony implies that it was proper.

expert opinion may not have been proper is a further ground for questioning the validity of the part of the decision dealing with the admissibility of the bite mark analysis evidence. It is also possible that under similar conditions, unqualified opinion testimony could give unwarranted weight to expert testimony simply by the added quantity of evidence on the subject.

Due to these inconsistencies, the test of admissibility of new scientific methods of crime detection may be abused or misconstrued in future cases. The North Carolina Supreme Court may find it necessary to further explain the precise reasoning for holding expert, as well as non-expert, testimony on bite mark identification admissible in North Carolina Courts.

Ben H. Sirmons, Jr.