

EVIDENCE—VOICE SPECTROGRAPHY—RELIABILITY OF VOICE-PRINTS NOT ESTABLISHED, THEREFORE INADMISSIBLE—*Windmere, Inc. v. International Insurance Co.*, 105 N.J. 373, 522 A.2d 405 (1987).

*Every useful new development must have its first day in court.*¹

Historically, proponents of novel scientific technology have found courts reluctant to admit new developments into evidence.² Voice spectrography, a process more commonly known as voiceprint analysis,³ is one example of courts' hesitancy to admit scientific evidence.⁴ Surfacing as a possible identification

¹ *United States v. Stifel*, 433 F.2d 431, 438 (6th Cir. 1970). In *Stifel*, the court admitted into evidence expert testimony regarding neutron activation analysis to help identify the source of bomb package debris. *Id.* at 435. This testimony was instrumental in convicting the defendant. *See id.*

² *See generally* Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, A Half Century Later*, 80 COLUM. L. REV. 1197 (1980) (discussing problems associated with the admissibility of novel scientific evidence). *See also* Note, *Voiceprints in the Courtroom—Scientific and Evidentiary Problems*, 21 ARIZ. L. REV. 1163, 1180 (1979). The reluctance to admit novel developments stems from the evidentiary standards employed by the courts. *Id.* at 1188. Three different admissibility tests are presently utilized for scientific evidence: (1) The *Frye* test, articulated in *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923), which requires "general acceptance in the scientific community"; (2) the *Williams* test, applied in *People v. Williams*, 164 Cal. App. 2d 858, 862, 331 P.2d 251, 254 (1958), which modifies *Frye* to require acceptance by those scientists familiar with the techniques used; and (3) the Federal Rules of Evidence test, which admits evidence from a qualified witness unless there are reasons for its exclusion. *Id.* at 1176-1179. *See infra* notes 31-38 & 119-123 and accompanying text (discussing the *Frye* and Federal Rules of Evidence standards). The Second Circuit in *United States v. Williams*, 583 F.2d 1194 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979), advocated a fourth standard, the reliability test, which admits scientific evidence shown to be sufficiently accurate. *See infra* notes 105-06 and accompanying text.

³ Voiceprint analysis has been defined as "a method of sound identification which utilizes the spectrograph machine. This machine decomposes the sound of the human voice into components which are graphically recorded, thus producing the spectrogram or voiceprint. Voiceprints are then compared by persons trained in the use of the method for possible identification purposes." *State v. Andretta*, 61 N.J. 544, 546, 296 A.2d 644, 645 (1972).

⁴ *See United States v. Franks*, 511 F.2d 25, 33 (6th Cir.), *cert. denied*, 422 U.S. 1042 (1975). For courts ruling against admissibility, see *United States v. Addison*, 498 F.2d 741 (D.C. Cir. 1974); *State v. Gortarez*, 141 Ariz. 254, 686 P.2d 1224 (1984); *People v. Kelly*, 17 Cal. 3d 24, 549 P.2d 1240, 130 Cal. Rptr. 144 (1976); *Cornett v. State*, 450 N.E.2d 498 (Ind. 1983); *State v. Free*, 493 So.2d 781 (La. Ct. App. 1986); *Reed v. State*, 283 Md. 374, 391 A.2d 364 (1978); *People v. Tobey*, 401 Mich. 141, 257 N.W.2d 537 (1977); *Commonwealth v. Topa*, 471 Pa. 223, 369 A.2d 1277 (1977). For courts which have found voiceprints to be admissible, see *United States v. Williams*, 583 F.2d 1194 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979); *United States v. Jenkins*, 525 F.2d 819 (6th Cir. 1975); *United States v. Baller*, 519

tool in the early 1960's,⁵ voiceprint technology first appeared in the courtroom later in that decade.⁶ New Jersey Supreme Court decisions in the 1960's and 1970's concerning voiceprint evidence left unresolved the issue of the admissibility of such evidence.⁷ Recently, however, in *Windmere, Inc. v. International Insurance Co.*,⁸ the court had occasion to address the issue of voiceprint admissibility.⁹ The *Windmere* court held that the reliability of voiceprints, in terms of general acceptance within the scientific community, was not established at trial, and therefore the spectrogram analysis was inadmissible.¹⁰

On March 12, 1982, the West Milford Police Department received an anonymous phone call reporting a fire at the Crosswinds Restaurant.¹¹ The police department recorded the

F.2d 463 (4th Cir.), *cert denied*, 423 U.S. 1019 (1975); *United States v. Sample*, 378 F. Supp. 44 (E.D. Pa. 1974); *Alea v. State*, 265 So.2d 96 (Fla. Dist. Ct. App. 1972); *State v. Williams*, 388 A.2d 500 (Me. 1978); *Commonwealth v. Lykus*, 367 Mass. 191, 327 N.E.2d 671 (1975); *State ex rel. Trimble v. Hedman*, 291 Minn. 442, 192 N.W.2d 432 (1971); *People v. Bein*, 114 Misc. 2d 1021, 453 N.Y.S.2d 343 (Sup. Ct. 1982); *State v. Williams*, 4 Ohio St. 3d 53, 446 N.E.2d 444 (1983); *State v. Wheeler*, 496 A.2d 1382 (R.I. 1985).

⁵ See Note, *supra* note 2, at 1168. Voiceprint identification is based on the theory that no two human voices are exactly alike. *Id.* at 1164. Proponents claim that "[i]ntelligible speech is the product of a complex physiological and mechanical operation," which cannot be disguised. *Id.* They assert "that individuals differ in the size and shape of the oral and nasal cavities and in the structure of the larynx, and in the particular but stable habit patterns in which they use in this vocal apparatus." *Id.* at 1164-65. By comparing the voices of both known and unknown speakers uttering ten commonly used English words—"the, to, and, me, on, is, you, I, it, and a"—a voiceprint analyst can determine whether the two voices are the same. *Id.* at 1166; Kersta, *Speaker Recognition and Identification By Voiceprints*, 40 CONN. B.J. 586, 586 (1966).

⁶ Trial courts in New York and California admitted voiceprint evidence in the two earliest known cases. See Cohen, *The Watts Voiceprint Case: A TV Boast That Trapped an Arsonist*, L.A. Times, Mar. 26, 1967 (West Magazine), at 12; *Use "Voiceprints" As Evidence In Watts Arson Trial*, 89 N.J.L.J. 776 (1966); *Voiceprint Allowed as Evidence; Ruling Called First of Its Kind*, N.Y. Times, Apr. 12, 1966, at A-1, col. 2.

⁷ *State v. Andretta*, 61 N.J. 544, 551, 296 A.2d 644, 648 (1972). See *State v. Cary*, 49 N.J. 343, 352, 230 A.2d 384, 388-89 (1967), *on remand*, 99 N.J. Super. 323, 239 A.2d 680 (Law Div. 1968), *reh'g granted*, 53 N.J. 256, 250 A.2d 15 (1969), *aff'd*, 56 N.J. 16, 264 A.2d 209 (1970). See also *infra* notes 39-50 and accompanying text (discussing the unresolved issue of admissibility of voiceprint evidence in *State v. Cary*).

⁸ 105 N.J. 373, 522 A.2d 405 (1987).

⁹ *Id.*

¹⁰ *Id.* at 386, 522 A.2d at 412. The court stated that "[w]hile in this case the voiceprint evidence should not have been admitted, its future use as a reasonably reliable scientific method may not be precluded forever if more thorough proofs as to reliability are introduced in other litigation." *Id.*

¹¹ *Id.* at 387, 522 A.2d at 412. In addition to reporting the fire, the caller reported that the building contained a bomb. *Id.*

telephone call.¹² During investigation of the fire's origin, the police discovered a five-gallon plastic container which contained gasoline residue.¹³ In addition, the police questioned several people at the fire, including Howard Bodell, the Crosswinds Restaurant's maintenance man¹⁴ who was at the scene of the fire moments after the blaze began.¹⁵ Confronted with the gasoline container, Mr. Bodell admitted that three days prior to the fire he had purchased gasoline for the restaurant's use.¹⁶ Mr. Bodell's purchase had been charged to the account of Thomas Ciambro- ne, Jr., the owner and sole shareholder of Windmere, Inc. (Windmere).¹⁷ Mr. Ciambro- ne's corporation owned the land upon which the Crosswinds was located.¹⁸ Acting upon this information, the West Milford Police Department ordered Mr. Bodell to submit a voice exemplar in an attempt to ascertain whether he was the anonymous caller.¹⁹ The Passaic County Prosecutor's Office delivered both the voice exemplar and telephone recording to Voice Identification, Inc. (VII) for comparison.²⁰ The president of VII, Ernst F.V. Alexanderson, identified Mr. Bodell as the anonymous caller.²¹

¹² *Windmere, Inc. v. International Ins. Co.*, 208 N.J. Super. 697, 700, 506 A.2d 834, 835 (App. Div. 1986), *aff'd*, 105 N.J. 373, 522 A.2d 405 (1987).

¹³ *Id.* at 701, 506 A.2d at 836. In addition to the container, police found a jacket with a set of keys, including a key to the rear door of the restaurant. *Id.*

¹⁴ *Id.* Mr. Bodell was an employee of T & J Trucking which was owned by Thomas Ciambro- ne, Jr., president and sole stockholder of Windmere, Inc. which owned the property upon which the Crosswinds Restaurant stood. *Id.* at 700-01. Bodell did maintenance work at the restaurant when employment was scarce at T & J Trucking. *Id.* at 701.

¹⁵ *Windmere*, 105 N.J. at 389, 522 A.2d at 413.

¹⁶ *Windmere*, 208 N.J. Super. at 701, 506 A.2d at 836. Bodell originally stated that he purchased one gallon of gasoline to soften the asphalt at the restaurant in order to fix a gas pipe. *Id.* At trial, he was asked to explain a credit card slip for two gallons of gasoline. *Id.* at 701-02, 506 A.2d at 836. Bodell then recollected that he had purchased two gallons, but had only used part of one gallon at the restaurant and had taken the remainder home. *Id.* at 702, 506 A.2d at 836.

¹⁷ *Windmere*, 105 N.J. at 388-89, 522 A.2d at 412-13. Ciambro- ne lived in Florida, but his brother operated the restaurant through the Crosswinds Restaurant Corporation. *Windmere*, 208 N.J. Super. at 700, 506 A.2d at 835.

¹⁸ *Windmere*, 208 N.J. Super. at 700, 506 A.2d at 835. Ciambro- ne had loaned his corporation \$89,960 in order to keep the restaurant in operation. *Windmere*, 105 N.J. at 388, 522 A.2d at 413. Although at trial, Windmere introduced evidence that the Crosswinds was financially successful, the defendant, International Insurance Company, countered with records indicating the restaurant had suffered losses totalling almost \$194,000 from 1976 to 1982. *Id.* There was also evidence that Windmere had been trying to sell the property. *Id.*

¹⁹ *Windmere*, 208 N.J. Super. at 702, 506 A.2d at 836.

²⁰ *Id.*

²¹ *Id.* In a report, Mr. Alexanderson wrote: "We have completed our analysis

In the interim, Windmere filed a claim with its insurer, International Insurance Co. (International), estimating losses of \$460,000 resulting from the fire.²² International refused to pay the claim, maintaining that Windmere was either directly or indirectly responsible for the fire.²³ Windmere filed suit against International to recover the proceeds of its claim.²⁴

At trial, the court held an evidentiary hearing to determine the admissibility of VII's spectrogram of Mr. Bodell's voice, which was proffered by International.²⁵ The trial judge ruled that spectrograms were reliable, and thus admissible when offered with both expert testimony and aural evidence of the exemplar and recorded tape for the jury's comparison.²⁶ Upon consideration of the evidence, including the testimony concerning the voiceprints, the jury returned a verdict in favor of International.²⁷ On appeal, the appellate division affirmed the jury verdict holding that the trial court did not err in admitting the spectrographic evidence.²⁸ The Supreme Court of New Jersey

and have been able to identify ten matching words between the unknown caller and Mr. Howard Bedell [*sic*]. Our aural examination concurs with the spectrographic portion, and we feel sure beyond a reasonable doubt that Mr. Howard Bedell [*sic*] made the bomb threat call." *Id.* Subsequent to Mr. Alexanderson's report, someone other than Bodell admitted making the phone call which placed the accuracy of the voice expert's findings in doubt. *Windmere*, 105 N.J. at 389, 522 A.2d at 413.

²² *Windmere*, 105 N.J. at 388, 522 A.2d at 413. Windmere had a \$600,000 insurance policy for fire loss on the building. *Windmere*, 208 N.J. Super. at 700, 506 A.2d at 835.

²³ *Windmere*, 208 N.J. Super. at 700, 506 A.2d at 835. Mr. Ciambone was notified of the fire within an hour of the anonymous call to the police department by his uncle, who lived near the restaurant. *Id.* Mr. Ciambone called the president of the bank holding the mortgage on the restaurant property and his insurance agent soon thereafter. *Id.* at 701, 506 A.2d at 835-36. At trial, International asserted that Mr. Ciambone made these calls merely to establish his presence in Florida and his ignorance of the fire. *Id.* at 701 n.1, 506 A.2d at 836 n.1.

²⁴ *Id.* at 700, 506 A.2d at 835.

²⁵ *Id.* at 703, 506 A.2d at 837. Mr. Alexanderson and Detective Lieutenant Lonnie Smrkovski, commanding officer of the Voice Identification Unit of the Michigan Department of State Police, testified regarding the reliability of spectrograms. *Id.* Windmere offered testimony by Professor Louis J. Gerstman of the City University of New York, Professor of Psychology, Speech and Hearing Sciences, against the admissibility of spectrographic evidence. *Id.*

²⁶ *Id.* The trial judge based his ruling on *United States v. Baller*, 519 F.2d 463 (4th Cir.), *cert. denied*, 423 U.S. 1019 (1975). *Windmere*, 208 N.J. Super. at 713 n.11, 506 A.2d at 843 n.11.

²⁷ See *Windmere*, 208 N.J. Super. at 700, 506 A.2d at 835.

²⁸ *Id.* at 713, 506 A.2d at 843. Judge O'Brien noted that although he found no error in admitting the voiceprint evidence in this civil action, the court would render no opinion regarding whether the evidence would be admissible in a criminal case. *Id.* at 713 n.12, 506 A.2d at 843 n.12 (citing *State v. Cary*, 99 N.J. Super. 323, 239 A.2d 680 (Law Div. 1968)).

granted certification.²⁹ The supreme court affirmed the jury verdict, but held that the reliability of spectrogram analysis in terms of general acceptance within the scientific community had not been established, and therefore spectrogram analysis was inadmissible.³⁰

Historically, most courts have applied an admissibility test for novel scientific techniques that has been severely limiting.³¹ This test, propounded in *Frye v. United States*,³² mandates that to be admissible a scientific technique "must be sufficiently established to have gained general acceptance in the particular field in which it belongs."³³ The United States Court of Appeals for the District of Columbia developed this test in considering the admissibility of the systolic blood pressure deception test—a forerunner of the modern polygraph.³⁴ The court recognized that novel scientific developments evolve through experimental and demonstrable stages.³⁵ The court added that in order for a particular technique to enter the demonstrable, and therefore admissible stage, general acceptance of the technique by the relevant scientific community would be required.³⁶ The general acceptance requirement "assures that those most qualified to assess the general validity of a scientific method will have the determinative voice."³⁷ This requirement has been difficult for many scientific innovations to satisfy, among them voice spectrography.³⁸

The admissibility of voiceprint evidence under the *Frye* standard was first considered by New Jersey courts in *State v. Cary*.³⁹

²⁹ *Windmere, Inc. v. International Ins. Co.*, 104 N.J. 422, 517 A.2d 418 (1986).

³⁰ *Windmere*, 105 N.J. at 385-86, 522 A.2d at 411-12.

³¹ See, e.g., *United States v. Addison*, 498 F.2d 741, 743 (D.C. Cir. 1974); *Reed v. State*, 283 Md. 374, 384, 391 A.2d 364, 369 (1978).

³² 293 F. 1013 (D.C. Cir. 1923).

³³ *Id.* at 1014. The *Frye* court's two-page opinion did not contain any authority or rationale for the test. Giannelli, *supra* note 2, at 1205. The *Frye* court merely stated that, "[n]umerous cases are cited in support of this rule." *Frye*, 293 F. at 1014.

³⁴ *Id.* at 1013-14; Giannelli, *supra* note 2, at 1204 n.41.

³⁵ *Frye*, 293 F. at 1014. Writing for the court, Justice Van Orsdel stated: "[J]ust when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized" *Id.*

³⁶ *Id.*

³⁷ *United States v. Addison*, 498 F.2d 741, 743-44 (D.C. Cir. 1974).

³⁸ See Giannelli, *supra* note 2 at 1208-28 (discussing problems resulting from a strict application of the *Frye* test).

³⁹ 49 N.J. 343, 230 A.2d 384 (1967), *on remand* 99 N.J. Super. 323, 239 A.2d 680 (Law Div. 1968), *reh'g granted*, 53 N.J. 256, 250 A.2d 15 (1969), *aff'd*, 56 N.J. 16, 264 A.2d 209 (1970). *Cary* was the first written opinion on voiceprint admissibility is-

In *Cary*, the police department recorded a telephone call containing information regarding a murder.⁴⁰ Upon a motion to the superior court, the Union County Prosecutor's Office sought an order compelling the defendant, Paul Cary, to submit a voice exemplar for comparison with the police recording.⁴¹ The State alleged that a voice identification expert could determine whether Cary's voice and that of the anonymous caller were the same.⁴² The trial judge granted the State's motion ordering Cary to submit to a voice recording and Cary appealed.⁴³

The supreme court conditionally upheld the order,⁴⁴ remanding the matter to determine whether voiceprint technology was "sufficiently accurate" to produce admissible results.⁴⁵ Upon a finding that the evidence was sufficiently accurate, the defendant would be compelled to submit a voice exemplar.⁴⁶ On remand, the Law Division of the Superior Court held that the voiceprint technique lacked the requisite scientific acceptance.⁴⁷ The lower court stressed that the only evidence indicating scientific acceptance was the expert testimony of Lawrence Kersta, the

sued by any state or federal court. 49 N.J. at 352, 230 A.2d at 388. The Air Force Board of Review had considered the issue a year earlier and held voiceprints admissible. *United States v. Wright*, 37 C.M.R. 835, 843 (A.F.B.R. 1966), *aff'd*, 37 C.M.R. 447 (1967). The voiceprint concept first appeared in New Jersey in *State v. McKenna*, 94 N.J. Super. 71, 226 A.2d 757 (Essex County Ct. 1967), when the court ordered a criminal defendant to submit to a voiceprint without ruling on its admissibility. *Cary*, 49 N.J. at 352, 230 A.2d at 388.

⁴⁰ *Cary*, 49 N.J. at 346, 230 A.2d at 385.

⁴¹ *Id.*

⁴² *Id.* Lawrence G. Kersta was retained by the state. *Id.* at 351, 230 A.2d at 388. Kersta was a pioneer in the voiceprint field. Note, *supra* note 2, at 1168.

⁴³ *Cary*, 49 N.J. at 345-46, 230 A.2d at 385. The order required Cary "to speak in a normal, audible, conversational tone, to answer questions relative to his place of birth and present military status, and to say on three occasions during the recording: 'Ah, I would like to, duh, the—I would like to talk to Sergeant on desk.'" *Id.* at 346, 230 A.2d at 385. On appeal, Cary contended that compelling him to speak violated his due process right and his privilege against self-incrimination. *Id.* at 347, 230 A.2d at 386.

⁴⁴ *See id.* at 352-53, 230 A.2d at 388-89. The court stated that upon a preliminary finding of admissibility, Mr. Cary could be ordered to submit to a voice test. *Id.*

⁴⁵ *Id.* at 352, 230 A.2d at 388-89. The court ruled that the order was conditional on the lower court's preliminary finding of admissibility in order to safeguard Cary's fourth amendment right to privacy. *Id.*

⁴⁶ *See id.* at 352-53, 230 A.2d at 388-89.

⁴⁷ *State v. Cary*, 99 N.J. Super. 323, 334, 239 A.2d 680, 685 (Law Div. 1968), *aff'd*, 56 N.J. 16, 264 A.2d 209 (1970). "The sole evidence in this case . . . is the opinion of the one who is apparently the innovator of the technique and who claims it is virtually infallible in producing voice identification." *Id.* at 334.

man who had developed the technique.⁴⁸ Thus, the court ruled that the evidence of voice identification was inadmissible because "it [wa]s just too early to tell" whether voiceprints had gained general scientific acceptance.⁴⁹ On appeal, the supreme court affirmed the lower court's ruling without ruling on the issue.⁵⁰

Five years later, in *State v. Andretta*,⁵¹ the supreme court was again confronted with the issue of whether voiceprint identification was generally accepted, and thus sufficient to compel a defendant to submit to a voiceprint test.⁵² *Andretta* involved an extortion prosecution in which incriminating statements were recorded during a telephone conversation between the defendants and the victim.⁵³ The trial court denied the state's motion to compel the defendants to submit to a spectrogram test,⁵⁴ and the state appealed.⁵⁵

The supreme court, in an opinion authored by Justice Proctor, held that scientific developments and judicial acceptance of voiceprints since *Cary* no longer made it unreasonable to order defendants to submit to voiceprint tests.⁵⁶ Although it acknowledged the growing support for spectrograms, the court made no determination regarding its admissibility.⁵⁷ The court declared, however, that "the [s]tate should at least be given the opportunity to conduct the test and then to sustain its burden of establishing that an identification of the defendants' voice (if any) arrived at is sufficiently reliable to be admissible at trial."⁵⁸

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *State v. Cary*, 56 N.J. 16, 264 A.2d 209 (1970). The state was given more than a year to produce additional evidence. *Id.* at 18, 264 A.2d at 209-10. The court, noting that the state was unable "to furnish any new and significant evidence," affirmed the lower court's ruling. *Id.*

⁵¹ 61 N.J. 544, 296 A.2d 644 (1972).

⁵² *Id.* at 545, 296 A.2d at 644-45.

⁵³ *Id.* at 545-46, 296 A.2d at 645.

⁵⁴ *Id.* at 546, 296 A.2d at 645. The trial court held that the state had not established the scientific community's general acceptance of voiceprints. *Id.* Moreover, the court ruled that the five year lapse between the recording of the phone conversation and the motion "precluded use of the method in any case." *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.* at 551, 296 A.2d at 648. Justice Proctor noted that the support for the technique rested on considerably more than the opinion of one man, which was the *Cary* court's primary concern. *Id.* See *supra* notes 47-49 and accompanying text.

⁵⁷ *Andretta*, 61 N.J. at 551, 296 A.2d at 648. In dicta, however, the court suggested a new standard for admissibility. *Id.* Justice Proctor stated that "any identification arrived at through the use of this method [must be] sufficiently reliable to be admissible." *Id.*

⁵⁸ *Id.* at 552, 296 A.2d at 648. By ordering the defendants to speak for the test, the court reasoned that if an expert determined that the defendant's voice matched

The issue of voiceprint admissibility first appeared in a civil action in New Jersey in *D'Arc v. D'Arc*.⁵⁹ In *D'Arc*, the plaintiff sought to prove through voiceprints that her husband had attempted to have her murdered and thus was not entitled to alimony.⁶⁰ During the matrimonial proceedings, an evidentiary hearing was held to determine the admissibility of the results of the voiceprint test.⁶¹

In rendering an interlocutory order, the *D'Arc* court began its analysis by noting that most jurisdictions had relied on the *Frye* standard to determine whether evidence procured by means of a novel scientific technique was admissible.⁶² The court observed, however, that several states, including New Jersey, had apparently adopted a less rigorous test which required only a showing of sufficient reliability before a technique was deemed admissible.⁶³ Moreover, the court added that "[i]t would appear that in New Jersey a new scientific technique would be admissible if it [met] either" test.⁶⁴

In its two-pronged decision, the court first held that not only

the unknown voice, the admissibility of the results of the test could then be argued at a pre-trial hearing. *Id.* at 551-52, 296 A.2d at 648. If the test failed to positively identify the defendants, the evidentiary issue would be moot because the state would not offer the results. *Id.* at 552, 296 A.2d at 648. *Cf.* *State v. Perez*, 150 N.J. Super. 166, 375 A.2d 277 (App. Div.), *cert. denied*, 75 N.J. 542, 384 A.2d 521 (1977). In *Perez*, the defendant attempted to comment about the state's failure to offer voiceprint results into evidence. *Perez*, 150 N.J. Super. at 170, 375 A.2d at 279. The trial judge denied the request and affirmed the appellate division holding that no scientific foundation had been placed on the record and the matter "was not a proper subject of comment." *Id.*

⁵⁹ 157 N.J. Super. 553, 385 A.2d 278 (Ch. Div. 1978) (order denying admission of voiceprints into evidence), *aff'd on the other grounds*, 175 N.J. Super. 598, 421 A.2d 602 (App. Div. 1980), *cert. denied*, 85 N.J. 487, 427 A.2d 579 (1980), *cert. denied*, 451 U.S. 971 (1981).

⁶⁰ *D'Arc v. D'Arc*, 164 N.J. Super. 226, 233-34, 395 A.2d 1270, 1274 (Ch. Div. 1978), *aff'd in part, rev'd in part*, 175 N.J. Super. 598, 421 A.2d 602 (App. Div. 1980), *cert. denied*, 85 N.J. 487, 427 A.2d 579 (1980), *cert. denied*, 451 U.S. 971 (1981). The telephone recordings contained conversations during which one party, allegedly Mr. D'Arc, offered \$50,000 to murder Mrs. D'Arc. *Id.* at 233, 395 A.2d at 1274.

⁶¹ *See D'Arc*, 157 N.J. Super. at 555, 385 A.2d at 279 (Ch. Div. 1978).

⁶² *Id.* at 559, 385 A.2d at 281.

⁶³ *Id.* This test directs a trial judge "[t]o determine whether any identification arrived at through the use of this method is sufficiently reliable to be admissible in light of the proofs which will be adduced as to what the test shows." *Id.* (quoting *State v. Andretta*, 61 N.J. 544, 551-52, 296 A.2d 644, 648 (1972)). Although in *D'Arc* Judge Imbriani stated that *Frye* and *Andretta* were different tests, not all courts agree. *Cf.* *United States v. Franks*, 511 F.2d 25, 33 n.12 (6th Cir. 1975), *cert. denied*, 422 U.S. 1042 (1975) (asserting that "general acceptance [is] nearly synonymous with reliability").

⁶⁴ *D'Arc*, 157 N.J. Super. at 559, 385 A.2d at 281.

was there a lack of evidence demonstrating general acceptance within the scientific community, but that the testimony appeared to contradict the existence of any acceptance.⁶⁵ The court noted that the proofs indicated a high degree of misidentification, and an overwhelming lack of support for the technique's validity.⁶⁶ Furthermore, in reviewing Doctor Tosi's expert testimony on the reliability of voiceprints, Judge Imbriani noted that general acceptance of the technique was not established merely by the fact that "other scientists have not proven him wrong."⁶⁷ Secondly, the court held that the admissibility standard propounded in *Andretta* was also not met.⁶⁸ Although Doctor Tosi's study regarding the trustworthiness of voiceprint identification provided the court with "more than the bare opinion of one man," the judge cautioned "something more than the bare results of one major study" was required.⁶⁹ Moreover, the court reasoned that other tests regarding voiceprint reliability were necessary in light of the significant criticism of Tosi's study.⁷⁰

Increased debate and judicial acceptance of voice spectography prompted the Supreme Court of New Jersey to hear *Windmere, Inc. v. International Insurance Co.*⁷¹ The court, in a unanimous opinion written by Justice O'Hern, initially noted that questions regarding the admissibility of scientific evidence had confronted the court in recent years.⁷² Although each case dealt

⁶⁵ *Id.* at 562, 385 A.2d at 283. During the hearing, one expert testified that a poll of approximately forty-one, well-respected scientists in the field revealed that nearly all of them did not support the validity of the technique. *Id.* at 560, 385 A.2d at 282.

⁶⁶ *See id.*

⁶⁷ *Id.* at 561, 385 A.2d at 282.

⁶⁸ *Id.* at 562, 385 A.2d at 283.

⁶⁹ *Id.* at 562-63, 385 A.2d at 283.

⁷⁰ *Id.* at 563, 385 A.2d at 283. The court noted that the Tosi's findings were compromised by several procedural defects. *Id.* Primarily, the court noted the lack of tests and studies confirming Tosi's work. *Id.* at 562, 385 A.2d at 283. The court was also concerned that "only one-third of the Tosi tests were made in what could be termed a forensic setting." *Id.* at 564, 385 A.2d at 284. The qualifications of the voiceprint examiners were also questioned by the court. *Id.* These shortcomings provided a level of doubt that the court could not overlook. *Id.* at 565, 385 A.2d at 284.

⁷¹ *See Windmere*, 105 N.J. at 375-76, 522 A.2d at 405.

⁷² *Id.* at 377-78, 522 A.2d at 407 (citing *State v. Matulewicz*, 101 N.J. 27, 499 A.2d 1363 (1985) (admissibility of laboratory report of controlled dangerous substances); *State v. Kelly*, 97 N.J. 178, 478 A.2d 364 (1984) (reliability of battered woman's syndrome); *Romano v. Kimmelman*, 96 N.J. 66, 474 A.2d 1 (1984) (admissibility of breathalyzer test); *State v. Cavallo*, 88 N.J. 508, 443 A.2d 1020 (1982) (rape tendency diagnosis unreliable); *State v. Hurd*, 86 N.J. 525, 432 A.2d 86 (1981) (admissibility of hypnotically refreshed testimony)). Although it acknowl-

with a different scientific technique, the majority observed that a common strand in each of the court's prior decisions was a basic adherence to the *Cary* rationale.⁷³ The *Cary* standard, which closely resembles the *Frye* test, requires scientific test results to have a "sufficient scientific basis to produce uniform and reasonably reliable results and . . . contribute materially to the ascertainment of the truth" in order to be admitted into evidence.⁷⁴ The court emphasized that once judicial approval was established, judicial notice would be taken of the technique's reliability in the future.⁷⁵ Justice O'Hern explained that proving the required reliability could be accomplished either by knowledgeable expert testimony, authoritative scientific literature, or judicial acceptance of the technique.⁷⁶

With regard to expert testimony, the court recognized that finding unanimity of expert opinion on scientific evidence was virtually impossible.⁷⁷ Justice O'Hern noted the difficulties in establishing the parameters of "the community and the degree of acceptance within that scientific community."⁷⁸ Of particular concern to the court was that the science of voiceprint analysis emanates from a sole source, the Michigan State University Speech and Hearing Research Laboratory.⁷⁹ Therefore, after recognizing the experts' limited experience and their potential prejudice, the court reasoned that more than one experimental source would be required before voiceprints could attain a level of reliability for admissibility purposes.⁸⁰ As a result, the court

edged that all five cases involved the use of scientific evidence in a criminal action, the court stated that the principles would be applicable in a civil context as well. *Id.* at 378, 522 A.2d at 407.

⁷³ *See id.* at 377-78, 522 A.2d at 407-08.

⁷⁴ *Id.* at 378, 522 A.2d at 407-08 (quoting *State v. Cary*, 49 N.J. 343, 352, 230 A.2d 384, 389 (1967)). *See also* *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923) and *supra* notes 31-38 and accompanying text.

⁷⁵ *Windmere*, 105 N.J. at 379, 522 A.2d at 408. The reliability of a scientific procedure does not vary from case-to-case. *See Reed v. State*, 283 Md. 374, 381, 391 A.2d 364, 367 (1978). Therefore, once the procedure is accepted by a court, judicial notice of the technique will be taken to save time. *See id.*

⁷⁶ *Windmere*, 105 N.J. at 379, 522 A.2d at 408 (citing *State v. Cavallo*, 88 N.J. 508, 521, 443 A.2d 1020, 1026 (1982)).

⁷⁷ *See id.* at 379, 522 A.2d at 408.

⁷⁸ *Id.*

⁷⁹ *Id.* at 380, 522 A.2d at 408. *See People v. Kelly*, 17 Cal. 3d 24, 38, 549 P.2d 1240, 1249, 130 Cal. Rptr. 144, 153 (1976). The California Supreme Court, expressing a similar view, noted that the expert "may be too closely identified with the endorsement of voiceprint analysis to assess fairly and impartially the nature and extent of any opposing scientific views." *Id.*

⁸⁰ *See Windmere*, 105 N.J. at 381, 522 A.2d at 409. The court noted that the evidence did not reach the level of reliability required by *Romano v. Kimmelman*. *Id.*

concluded that the testimony of two prominent advocates of the voiceprint technique did not meet the "general acceptance" standard.⁸¹

Addressing the second mode of establishing reliability, the court determined that authoritative scientific literature also failed to demonstrate acceptance of the technique.⁸² Justice O'Hern noted that although the voiceprint subject had sparked considerable controversy, even the technique's opponents conceded that it had some value.⁸³ Further, the majority observed that several jurisdictions had noted the lack of acceptance of voiceprints in scientific literature.⁸⁴ Thus, the court concluded that the difference of opinion among the relevant journals evidenced a want of universal acceptance of the voiceprint device.⁸⁵

Finally, the court asserted that there was no general acceptance by the judiciary of spectrogram analysis.⁸⁶ Justice O'Hern observed the extensive disparity of decisions concerning the device.⁸⁷ Although universal harmony among the jurisdictions might never be realized, the justice posited that more dispositive

at 381-82, 522 A.2d at 409 (citing *Romano v. Kimmelman*, 96 N.J. 66, 474 A.2d 1 (1984)).

⁸¹ *Id.* at 382, 522 A.2d at 410. The court also noted that Lieutenant Smrkovski testified that the voiceprint device "lacked scientific consensus" and that the "scientific community was a 'divided camp.'" *Id.*

⁸² *Id.* at 383, 522 A.2d at 410.

⁸³ *Id.* Professor Louis Gerstman, who testified for Windmere that spectrographic comparisons are unreliable, agreed that voiceprints can be used to exclude a person as the unknown speaker. *Windmere*, 208 N.J. Super. 713, 506 A.2d at 843.

⁸⁴ *Windmere*, 105 N.J. at 383, 522 A.2d at 410 (citing *Reed v. State*, 283 Md. 374, 391 A.2d 364 (1978); *Commonwealth v. Lykus*, 367 Mass. 191, 206, 327 N.E.2d 671, 679 (1975) (Kaplan, J., dissenting)).

⁸⁵ *Id.* at 384, 522 A.2d at 411.

⁸⁶ *Id.*

⁸⁷ *Id.* at 384, 522 A.2d at 411. For cases which denied the scientific reliability of voiceprints as evidence, Justice O'Hern cited: *State v. Gortarez*, 141 Ariz. 254, 686 P.2d 1224 (1984); *People v. Kelly*, 17 Cal.3d 24, 549 P.2d 1240, 130 Cal. Rptr. 144 (1976); *Reed v. State*, 283 Md. 374, 391 A.2d 364 (1978); *People v. Tobey*, 401 Mich. 141, 257 N.W.2d 537 (1977); *Commonwealth v. Topa*, 471 Pa. 223, 369 A.2d 1277 (1977). *Id.* For cases which sustained the scientific reliability of voiceprints as evidence, Justice O'Hern cited: *United States v. Williams*, 583 F.2d 1194 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979); *United States v. Jenkins*, 525 F.2d 819 (6th Cir. 1975); *United States v. Baller*, 519 F.2d 463 (4th Cir. 1975), *cert. denied*, 423 U.S. 1019 (1975); *Alea v. State*, 265 So.2d 96 (Fla. Dist. Ct. App. 1972); *State v. Williams*, 388 A.2d 500 (Me. 1978); *Commonwealth v. Lykus*, 367 Mass. 191, 327 N.E.2d 671 (1975); *State ex rel. Trimble v. Hedman*, 291 Minn. 442, 192 N.W.2d 432 (1971); *People v. Bein*, 114 Misc. 2d 1021, 453 N.Y.S.2d 343 (Sup. Ct. 1982); *State v. Williams*, 4 Ohio St. 3d 53, 446 N.E.2d 444 (1983); *State v. Wheeler*, 496 A.2d 1382 (R.I. 1985). *Id.*

evidence of scientific reliability would be needed.⁸⁸

Further, the court stated that in its previous decisions involving scientific evidence, a finding of reliability was predicated primarily upon objective factors.⁸⁹ The majority asserted that subjective factors would be of minimal importance.⁹⁰ Thus, once reliability had been established, no further inquiry regarding the technique's reliability would be conducted.⁹¹ The court emphasized that this obviated the need for subsequent case-by-case determinations of a scientific technique's admissibility.⁹²

Finally, the court compared the applicable evidentiary standard of determining the admissibility of scientific evidence with the *Frye* test.⁹³ Justice O'Hern declared that the standard employed by the court was not a rejection of the *Frye* test.⁹⁴ Rather, the majority stressed that the *Frye* standard of general acceptance "is a critical factor in finding that there is 'sufficient scientific basis to produce uniform and reasonably reliable results.'"⁹⁵ While noting that several courts, including the Third Circuit,⁹⁶ had rejected the *Frye* test, the court stated that New Jersey would not.⁹⁷ The court asserted that, should more reliable evidence be introduced in future litigation, the admissibility standard might be met.⁹⁸ For the present, however, the court held that voiceprints are not reliable scientific evidence and are thus inadmissible.⁹⁹

The decision in *Windmere* typifies the caution exercised by the Supreme Court of New Jersey in admitting novel scientific

⁸⁸ *Windmere*, 105 N.J. at 385, 522 A.2d at 411.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *See id.* Although condoning the case-by-case review of the admissibility of hypnotic evidence, the court "prefer[red] not to take that approach here." *Id.* at 385 & n.6, 522 A.2d at 411 & n.6.

⁹³ *Id.* at 386-87, 522 A.2d at 412.

⁹⁴ *Id.* at 386, 522 A.2d at 412.

⁹⁵ *Id.* (citing *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923); *Romano v. Kimmelman*, 96 N.J. 66, 474 A.2d 1 (1984); *State v. Hurd*, 86 N.J. 525, 432 A.2d 86 (1981); *State v. Cary*, 49 N.J. 343, 230 A.2d 384 (1967)).

⁹⁶ *Id.* (citing *United States v. Downing*, 753 F.2d 1224, 1237 (3d Cir. 1985)).

⁹⁷ *Id.* Justice O'Hern reasoned that: "[O]ur test has been applied too often, and with satisfactory results, to depart from it now." *Id.*

⁹⁸ *Id.*

⁹⁹ *See id.* The court held that the admission of voiceprints by the lower court, however, was harmless error based on the cumulative effect of the other evidence. *See id.* at 389-90, 522 A.2d at 413-14. Post-trial developments in the case aided the court in its determination that the voiceprints were unreliable. *Id.* at 387, 522 A.2d at 412. *See supra* note 21.

evidence.¹⁰⁰ This caution resulted from the court's incorporation of the *Frye* general acceptance test into the *Cary* reliability standard.¹⁰¹ By incorporating the *Frye* test into its analysis in *Windmere*, the court has heightened the standard of admissibility required by a proponent of scientific evidence. Although the *Windmere* court recognized that a proponent has three separate ways to prove reliability, the court posited that the defendant did not prove the reliability of the scientific technique he sought to introduce.¹⁰² As to each test, however, the majority rejected the reliability of voiceprint analysis because the scientific evidence failed to rise to the level of general acceptance.¹⁰³

Only two jurisdictions applying the *Frye* test have admitted voiceprint evidence.¹⁰⁴ It naturally follows that meeting the general acceptance standard is difficult. This fact has led courts to formulate new admissibility standards, among them the "reliability test."¹⁰⁵ Basically, the reliability test requires that a proponent of scientific evidence establish that the technique is sufficiently accurate to be meaningful in the forensic process.¹⁰⁶ The *Cary* standard requires a similar showing.¹⁰⁷ The *Cary* court, however, did not mandate "general acceptance in the scientific

¹⁰⁰ See, e.g., *State v. Cavallo*, 88 N.J. 508, 443 A.2d 1020 (1982) (court refused to admit a physician's testimony regarding a defendant's tendency to rape); *State v. Hurd*, 86 N.J. 525, 432 A.2d 86 (1981) (court refused to admit hypnotically-induced testimony).

¹⁰¹ See *Windmere*, 105 N.J. at 386, 522 A.2d at 412.

¹⁰² See *id.* at 379, 383-84, 522 A.2d at 408, 410-11. See *supra* notes 76-88 and accompanying text.

¹⁰³ See *Windmere*, 105 N.J. at 379, 383-84, 522 A.2d at 408, 410-11.

¹⁰⁴ See *Hodo v. Superior Court*, 30 Cal. App. 3d 778, 106 Cal. Rptr. 547 (1973); *Commonwealth v. Lykus*, 367 Mass. 191, 327 N.E.2d 671 (1975). *But cf.* *People v. Kelly*, 17 Cal. 3d 24, 549 P.2d 1240, 130 Cal. Rptr. 144 (1976) (holding voiceprints inadmissible applying *Frye* test).

¹⁰⁵ *United States v. Williams*, 583 F.2d 1194, 1198 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979). In *Williams*, the Second Circuit established standards of admissibility for scientific evidence based upon reliability and tendency to mislead the jury. *Id.* See also Note, *supra* note 2, at 1176-80 (discussing evidentiary standards).

¹⁰⁶ See *Williams*, 583 F.2d at 1198. The court emphasized that the spectrographic evidence need not be found infallible, but rather, "[t]he sole question is whether spectrographic analysis has reached a level of reliability sufficient to warrant its use in the courtroom." *Id.* at 1198. In determining the reliability of scientific evidence, the Second Circuit examined: (a) potential rate of error, (b) existence and maintenance of standards, (c) application of scientific technique, (d) analogy to similar scientific techniques admitted into evidence, and (e) presence of "fail-safe" characteristics. *Id.* at 1198-99. The court added, however, that, "[t]he jury remains at liberty to reject [scientific evidence] for any of a number of reasons, including a view that the . . . technique itself is either unreliable or misleading." *Id.* at 1200.

¹⁰⁷ *Cary*, 49 N.J. at 352, 230 A.2d at 389. Compare *Williams*, 583 F.2d at 1198 ("reliability sufficient to warrant its use in the courtroom"), with *Cary*, 49 N.J. at

community" as a "critical factor" in establishing reliability.¹⁰⁸ The *Windmere* court's incorporation of *Frye* to the *Cary* reliability test has heightened the admissibility standard to a degree that is nearly unattainable. This was apparent in the court's three-part analysis.¹⁰⁹

First, the court noted that the testimony of experts failed to establish the general acceptance of voiceprints within the scientific community.¹¹⁰ The qualifications of the proffered experts appeared to satisfy the court's standard, however, the fact that voiceprint technology was apparently a "sole source industry" troubled the court.¹¹¹ This concern is legitimate, but unwarranted. Questions pertaining to the limited breadth of experts should be directed to the weight, not the admissibility of the testimony.¹¹² A jury, apprised of the extent of an expert's experience, should be able to render a fair verdict considering the totality of the evidence.¹¹³

Secondly, the court correctly determined that there was no measure of universal acceptance of voiceprints in scientific literature.¹¹⁴ This is apparent, as our legal and scientific publications are replete with articles advocating or opposing the application of various scientific techniques. The continued appearance of voiceprints in scientific and legal journals should have persuaded the court that spectrographic analysis is not a transient science. Again, the controversy regarding the accuracy of voiceprints as a means of identification should be applicable in determining the weight of the evidence, not its admissibility.¹¹⁵

Finally, the court found no general acceptance of voiceprints in judicial decisions.¹¹⁶ It is not uncommon, however, to find a split among jurisdictions on a legal issue. The court was appar-

352, 230 A.2d at 389 ("sufficiently accurate to produce results admissible as evidence").

¹⁰⁸ See *Cary*, 49 N.J. at 352, 230 A.2d at 389.

¹⁰⁹ See *Windmere*, 105 N.J. at 379-85, 522 A.2d at 408-11.

¹¹⁰ *Id.* at 379, 522 A.2d at 408. See *supra* notes 77-81 and accompanying text.

¹¹¹ *Windmere*, at 380-81, 522 A.2d at 408-09. See *supra* notes 79-80 and accompanying text.

¹¹² *Reed v. State*, 283 Md. 374, 386-87, 391 A.2d 364, 370-71 (1978) (citing *McCORMICK'S HANDBOOK OF THE LAW OF EVIDENCE* § 203, at 491 (2d ed. 1972)).

¹¹³ See *id.*

¹¹⁴ *Windmere*, 105 N.J. at 383, 522 A.2d at 410. See *supra* notes 82-85 and accompanying text.

¹¹⁵ *United States v. Williams*, 583 F.2d 1194, 1199 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979).

¹¹⁶ *Windmere*, 105 N.J. at 384, 522 A.2d at 411. See *supra* notes 86-88 and accompanying text.

ently unmoved by the fact that three circuit courts have ruled in favor of voiceprint admissibility.¹¹⁷ Rather than join a growing number of courts accepting the technique, the court exercised caution and refused to admit voiceprint evidence.¹¹⁸

The application of a more liberal test, such as the Federal Rules admissibility standard, may have produced a different result. Rule 402 of the Federal Rules of Evidence requires all relevant evidence to be admissible unless there are reasons for its exclusion.¹¹⁹ Relevant evidence may only be excluded if "its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence."¹²⁰ In an identification context, voiceprint evidence is undoubtedly relevant. Rule 702 permits qualified expert testimony to aid the jury in understanding scientific test results.¹²¹ Under this admissibility standard, if voiceprint evidence is relevant and if the expert is qualified, the evidence is admissible.¹²² The evidence could be excluded, however, if its probative value is substantially outweighed by other factors.¹²³

Another advantage of the Federal Rules standard is that the final determination rests with the jury.¹²⁴ If the proofs are not persuasive, the jury is free to reject the test as unreliable.¹²⁵ The lower court in *Windmere* applied this reasoning and allowed the

¹¹⁷ See *United States v. Williams*, 583 F.2d 1194 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979); *United States v. Jenkins*, 525 F.2d 819 (6th Cir. 1975); *United States v. Baller*, 519 F.2d 463 (4th Cir.), *cert. denied*, 423 U.S. 1019 (1975). The Third Circuit has not ruled on voiceprint admissibility. See *United States v. Baynes*, 687 F.2d 659, 671 (3d Cir. 1982).

¹¹⁸ See *Windmere*, 105 N.J. at 386, 522 A.2d at 412.

¹¹⁹ Rule 402 of the Federal Rules of Evidence provides: "All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, by these rules, or by other rules prescribed by the Supreme Court pursuant to statutory authority. Evidence which is not relevant is not admissible." FED. R. EVID. 402.

¹²⁰ FED. R. EVID. 403.

¹²¹ Rule 702 of the Federal Rules of Evidence provides: "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." FED. R. EVID. 702.

¹²² Note, *Admissibility of Scientific Evidence: Voice Spectrography*, 17 AKRON L. REV. 701, 705 (1984).

¹²³ See *supra* note 120 and accompanying text.

¹²⁴ *United States v. Williams*, 583 F.2d 1194, 1200 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979).

¹²⁵ *Id.*

jury to consider both the results of the voiceprint tests and the actual tapes.¹²⁶ This should dispel any notion that scientific evidence admitted without general acceptance creates a "false air of scientism."¹²⁷ Finally, although the Federal Rules standard forces courts to make case-by-case admissibility determinations, this creates no additional hardship on the courts. Even though the *Windmere* court preferred a standard that did not require judges to make case-by-case admissibility decisions,¹²⁸ a judge must continue to consider the admissibility issue in each and every new scientific development case until the technique meets the *Cary* test.

The Supreme Court of New Jersey appears hesitant to allow the admissibility of any novel scientific technique without a showing of reliability in terms of general acceptance in the scientific community akin to that enunciated in *Frye*. This caution could be circumvented by eliminating *Frye* as a "critical factor." This, in turn, would lessen the showing required for the *Cary* reliability standard. The court should also explore the possibility, as other states have done, of following the Federal Rules admissibility approach.¹²⁹ Until the court decides to take such measures, the admissibility of many scientific developments will be chilled.

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¹²⁶ *Windmere*, 208 N.J. Super. at 714, 506 A.2d at 843. In his charge to the jury, the trial judge declared:

Now, just because a man has testified as an expert does not mean that you must accept his opinion as correct. You should weigh and consider his testimony just as you would that of any other witness and make your own determination as to whether his testimony and his opinion is true and correct.

Id. at 712 n.10, 506 A.2d at 842 n.10.

¹²⁷ See *Windmere*, 105 N.J. at 383, 522 A.2d at 410.

¹²⁸ *Id.* at 385, 522 A.2d at 411.

¹²⁹ See, e.g., *United States v. Williams*, 583 F.2d 1194 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979); *United States v. Baller*, 519 F.2d 463 (4th Cir.), *cert. denied*, 423 U.S. 1019 (1975); *State v. Williams*, 388 A.2d 500 (Me. 1978); *Reed v. State*, 283 Md. 374, 400, 391 A.2d 364, 377 (1978) (Smith, J., dissenting).