

## Supplement to Chapter 6

*Replace the notes at pages 76–77 with the following:*

### NOTES

1. *The source of the general acceptance standard.* The rule that “the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs” is known as the *Frye* test, or the general acceptance standard. Where does this special requirement for scientific evidence come from? The trial court apparently did not apply this standard, see James E. Starrs, *A Still-Life Watercolor: Frye v. United States*, 27 *J. Forensic Sci.* 684, 691–92 (1982), and nothing in the appellate court’s remarks about expert testimony generally suggests that the information imparted by an expert must have attained general acceptance before it can be placed before a jury. Is the requirement justified by the fact that courts are unable to judge the validity of scientific evidence even with the aid of a qualified expert? See, e.g., *United States v. Addison*, 498 F.2d 741, 743–44 (D.C. Cir. 1974). That when new techniques or theories first are introduced in court, they are likely to be understood by only one or two experts, so that the opponent of the evidence will have little chance to combat the novel evidence? *Id.* That jurors tend to be so awed by scientific evidence that such evidence should not be put before them until it has withstood the test of time before its acceptance in the scientific community generally? See D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* § 5.3.2 (2004).

2. *The acceptance and importance of the general acceptance standard.* On the surface, *Frye* appears to have been remarkably influential. When applied faithfully, it is a more demanding standard than mere relevance (Fed. R. Evid. 401–403), or helpfulness (Fed. R. Evid. 702 (“assist the trier of fact”)). Its victims include polygraphy, graphology, hypnotic and drug induced testimony, voice stress analysis, voice spectrograms, ion microprobe mass spectroscopy, infrared sensing of aircraft, retesting of breath samples for alcohol content, psychological profiles of battered women, post traumatic stress disorder as an indicator of rape, astronomical calculations, and certain types of electrophoresis of dried blood stains. See 1 McCormick on Evidence § 203 (Ken Broun ed., 6th ed., 2006).

Yet, many jurisdictions have disavowed *Frye* in recent decades. The most noted case is *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 506 U.S. 738 (1993), which is reprinted in chapter 7. Various circuit court opinions, such as *United States v. Downing*, 753 F.2d 1224 (3d Cir. 1985), canvass the major arguments for and against *Frye* more fully. Even in those jurisdictions that still purport to follow *Frye*, courts repeatedly ignore it or depart from it in hard cases. Most of the scholarly commentary calls for outright rejection of the *Frye* test. See 1 McCormick on Evidence, *supra*, at § 203.

In any event, courts applying a broader inquiry to scientific evidence — in which the degree of acceptance among scientists is but one of several factors affecting the balance of probative value and prejudicial effect — tend to reach the same results with respect to most forms of scientific evidence as do the courts that formally adhere to *Frye*. See McCormick, *supra*, §§ 204–208; D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* § 6.4.2(a), at 228–29 (2004).

3. *The focus of the general acceptance standard.* What was “the thing” in *Frye* that needed “to have gained general acceptance”? The link between conscious insincerity and changes in blood pressure? The ability of an expert to measure and interpret these changes? Both? More broadly, what must be generally accepted? Scientific theories or principles? The reasoning used by the expert? The expert’s methods in the abstract? Their application to the case at bar? See generally D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* ch. 7 (2004).

4. *The relevant scientific community.* By whom must “the thing” be accepted? All scientists? All forensic scientists? All scientists who have studied “the thing”? See D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* § 5.3.3 (2004).

5. *Proof of general acceptance.* How does one prove general acceptance? By expert testimony about what scientists think? By a review of the scientific literature? By opinions of other courts? The cases in this section, as well as some in succeeding portions of this and other chapters, agonize over such questions. See also D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* § 5.3.3 (2004).

6. *Appellate review.* What is the appropriate standard of review of a *Frye* ruling on appeal? Abuse of discretion? De novo review? Something else? See *Gen. Elec. Co. v. Joiner*, 522 US 136 (1997); D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* § 5.3.4 (2004).

***Replace note 3 on page 85 with the following:***

3. *Theories or procedures used exclusively in forensic applications.* *State v. Superior Court* concerns a test developed specifically for use in law enforcement. Should widespread usage by law enforcement officials or police laboratory technicians demonstrate general acceptance in the requisite community? Was the Arizona court correct in treating “highway safety officials” as part of the scientific community? Arguably, the HGN test for inebriation is a special situation in this regard. Why?

With other types of “forensics-only” evidence, the courts sometimes have been more skeptical of the claims of law enforcement technicians or scientists heavily involved in the development and promotion of the methods. So-called “voiceprint” evidence, which prompted many courts to abandon or stretch the general acceptance standard beyond recognition, supplies a disturbing example of initial overenthusiasm ultimately revealed by exposure of the technique to criticism from a broader scientific community. See 1 McCormick on Evidence § 207 (Kenneth Broun ed., 6th ed. 2006); Andre A. Moenssens et al., *Scientific Evidence in Civil and Criminal Cases* 630–51 (4th ed. 1995). Critics of “multisystem” electrophoresis of dried blood stains suggested that this method of identifying blood serum enzymes also had been oversold to gullible courts. See *People v. Young*, 391 N.W.2d 270 (Mich. 1986) (demanding “general scientific acceptance among impartial and disinterested experts”). After decades of testimony claiming the ability to trace fragments of bullets to single production runs or even specific boxes with measurements of the

elemental composition of bullet lead, the FBI abandoned the technique. See D.H. Kaye, The Current State of Bullet Lead Evidence, 47 *Jurimetrics J.* \_\_\_ (2006).

*Add at the end of the chapter:*

**Logerquist v. McVey**  
1 P.3d 113 (Ariz. 2000)

FELDMAN, Justice.

Applying the rule of *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), the trial judge entered an order precluding "expert testimony of Plaintiff's alleged repressed memory." We granted review to clarify Rule 702, Arizona Rules of Evidence, which governs the admission of opinion testimony. . . .

FACTS AND PROCEDURAL HISTORY

Kim Logerquist (Plaintiff) alleges that her pediatrician (Defendant) sexually abused her on several occasions between 1971 and 1973, when she was eight to ten years old. Plaintiff further alleges that she had amnesia about those events until 1991, when her memory was triggered by watching a television commercial featuring a pediatrician. She sought "to introduce evidence, through expert testimony, that severe childhood trauma, including sexual abuse, can cause a repression of memory, and that in later years this memory can be recalled with accuracy."

Over objection, the trial judge granted Defendant's motion that a *Frye* hearing be held to assess the admissibility of expert testimony regarding repressed memory. Two experts testified at this hearing. Plaintiff called Dr. Bessell van der Kolk, a clinical psychiatrist who specializes in dissociative amnesia. He testified regarding the large number of patients who alleged such phenomenon and about his diagnoses of dissociative amnesia or post-traumatic stress disorder in such patients. He would testify, among other things, that his experience and observations over many years, together with the extensive literature on the subject, have led him to conclude the phenomenon exists in some patients. Defendant's expert, Dr. Richard Kihlstrom, a research psychologist, testified there were serious flaws in the many studies supporting repressed memory and cited other studies finding trauma usually enhances memory rather than causes amnesia. Doctor Kihlstrom did not, however, have any personal experience treating or dealing with people claiming to suffer from repressed memory; nor had he participated in any studies on trauma's effect on memory.

After a lengthy hearing, the trial judge determined the "theories advanced by Plaintiff's experts are not generally accepted in the relevant scientific community of trauma memory researchers." The judge therefore "ORDERED excluding expert testimony of Plaintiff's alleged repressed memory, and Plaintiff's theory that such evidence can be recalled with accuracy."

Because this interlocutory order was not appealable, Plaintiff sought review by special action in the court of appeals. The court of appeals declined jurisdiction, and Plaintiff sought review by this court. We granted review . . . , allowed supplemental briefing, and heard oral argument. The first

question accepted for review was whether *Frye* . . . applied. We conclude *Frye* was inapplicable . . . . We now vacate the order excluding expert testimony.

## DISCUSSION

. . . Defendant argued that Plaintiff's case is based on scientific theories that are not readily accepted by the medical and scientific communities. Further, he contended the memories alleged were not real or accurate but had been distorted, implanted, or suggested by improper techniques used by the physician and psychologist treating Plaintiff for emotional problems. Because the "medical community is unwilling to make a statement that there is scientific foundation for the accuracy of Ms. Logerquist's claims, it would be inappropriate to allow her to proceed forward to trial."

. . . Plaintiff's position . . . was set forth in her response to Defendant's Memorandum to Assist the Court in Evaluating the Admissibility of Expert Evidence:

This Response shows that Dr. van der Kolk's personal experiences and observations in treating hundreds of survivors of childhood sexual abuse (CSA) that have total or partial amnesia of the CSA are not subject to the *Frye* rule. The Response will further show that Dr. van der Kolk should be allowed to testify . . . that when some CSA victims do have delayed memories, that their memories are as reasonably accurate as normal memories, if not better.

Doctor van der Kolk's February 8, 1998 letter to counsel gives an even better picture of what Defendant sought to preclude:

I hereby accept you[r] invitation to testify.... I intend to testify that amnesia for traumatic experiences, including for sexual abuse, has been documented in numerous scientific reports for over a century, and that this notion is, in fact, so well accepted in the relevant scientific community that it has not only been incorporated in the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association within the very criterion set for Post Traumatic Stress Disorder, but also under a separate rubric of Dissociative Amnesia. It has been further amplified in the official statement of the American Psychiatric Association on Memories of Childhood Sexual Abuse. I am the Director of the Trauma Center in Brookline, MA, which specializes in the treatment and research of individuals who suffer from the psychological effects of trauma. I have conducted numerous studies on the nature of the human response to trauma, including specifically on memory processes in responses.

The letter then listed some of the articles and books Doctor van der Kolk planned to rely on in his testimony. . . . Included were cites to seven items written by Doctor van der Kolk himself. Almost all were articles published in prestigious, peer-reviewed journals . . . . Doctor van der Kolk's qualifications were also of record. They clearly establish his extensive education, training, and

experience in psychology and psychiatry and specifically in the study and treatment of dissociative amnesia.

It is apparent we are not dealing with an alchemist attempting to change lead into gold or an astrologer predicting events from the movements of the stars but one of the leading researchers and authorities in behavioral science. It would be strange that a witness so well qualified and experienced would not be permitted to testify on an issue beyond the experience of the average juror. . . .

[The trial court's] order[, however,] not only precluded Doctor van der Kolk's testimony but effectively precluded that of Plaintiff's treating physicians. Even assuming Plaintiff would be allowed to testify about her memory, this left her in the pragmatically impossible situation of having no evidence to support her testimony but nevertheless having to persuade the jury that she had suffered dissociative amnesia and that her recall could have been accurate. On the other hand, Defendant would presumably be able to call his expert to testify that Plaintiff's recollection was incredible or, at best, inaccurate. The preclusion order, in other words, as effectively took the case from the jury as if the judge had granted summary judgment or directed a verdict. We turn, therefore, to consider the legal propriety of the Order.

### C. Was *Frye* properly applied

By its own words, *Frye* applies to the use of novel scientific theories or processes to produce results. At the outset, we note that neither Plaintiff nor her lawyers argue that any scientific principle or process can be used to produce memories that are always or often accurate. As a matter of scientific principle, one may now say that  $E$  always equals  $MC^2$ , but Plaintiff does not claim that some scientific process, theory, or formula may be applied to test whether her memories of having been molested are true and accurate or whether the memories were imagined, suggested, implanted, or even, to put it tactfully, invented. One may or may not believe Plaintiff. The effect of the Order is to practically ensure Plaintiff's testimony will not be believed because she will not be allowed to present expert evidence to describe or support the possible existence or diagnosis of repressed memory or dissociative amnesia.

We believe, however, that the truth of Plaintiff's testimony that she actually and accurately recalled or remembered the events, as distinguished from inventing them or having had them suggested or implanted, is for a jury to decide. While Defendant contends the alleged loss of memory and consequent delay in reporting make Plaintiff's testimony unworthy of belief, in this, as in other cases, Rule 702 allows Plaintiff to call expert witnesses to explain her behavior following the events alleged and to help the jury determine whether Plaintiff's memories are real and accurate or imagined. We have so held on just such issues in the criminal law.

In *State v. Lindsey*, [720 P.2d 73, 74 (1986),] for example, we dealt with the question of expert testimony regarding "behavior patterns of victims of 'in-home incestuous-type [child] molesting.'" The court of appeals noted that the evidence was offered to explain why child victims of incest may not reveal the events until long after the occurrence and why they may recant. *State v. Lindsey*, 149 Ariz. 493, 495-96, 720 P.2d 94, 96-97 (App.1985). The trial judge overruled defendant's *Frye* objection to the opinion evidence. . . .

In *State v. Roscoe*, [700 P.2d 1312, 1319-20 (Ariz. 1984),] we again dealt with behavioral evidence, though of a much different sort. We held a dog handler's opinion on the alleged ability of

his tracking dog to identify scent long after it was laid down was admissible and *Frye* inapplicable. We explained:

The evidence here was not bottomed on any scientific theory. In fact, it appears that no one knows exactly how or why some dogs are able to track or scent, or the degree to which they are able to do so. No attempt was made to impress the jury with the infallibility of some general scientific technique or theory. Rather, this evidence was offered on the basis that it is common knowledge that some dogs, when properly trained and handled, can discriminate between human odors. . . . It was not the theories of Newton, Einstein or Freud which gave the evidence weight; if so, the *Frye* test should have been applied. It was, rather, Preston's knowledge, experience and integrity which would give the evidence weight and it was Preston who was available for cross-examination. 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.

. . . In *State v. Hummert*, [933 P.2d 1187, 1192-93 (Ariz. 1997),] we held that expert opinion on probability percentages based on computations derived from DNA statistics was inadmissible under *Frye* because the statistical bases and resultant formulae applied to reach the conclusion were not yet generally accepted. The expert's opinion — the final result — was based on a process or formula established by others and not generally acknowledged by scientists and statisticians in that field. But we also held that the expert could relate his experience in the field to the facts and that an opinion based on his observations and experience would be admissible. This was . . . because the opinions offered on random match frequency, while not generally accepted, passed the Ariz. R. Evid. 702 test of witness observation and experience. We explained:

The experts' testimony in the present case involved two types of evidence — scientific evidence on the procedures for determining a match between evidentiary DNA and opinion evidence concerning the experts' experience with random matches. The trial judge properly applied the *Frye* analysis and determined that evidence of a match is admissible. However, on the basis of the scientific evidence then available, the judge did not allow the experts to testify about the mathematical or statistical probability resulting from the match. Instead, the experts were allowed to offer evidence of their personal opinion. This testimony is governed not by the application of *Frye* but by Arizona Rules of Evidence 702 and 703. "*Frye*-ing" scientific evidence is necessary when application of a scientific technique is "likely to have an enormous effect in resolving completely a matter in controversy." However, when the expert gives testimony that "only helps a trier to interpret the evidence ... it will be received on a lesser showing of scientific certainty." . . . Having made the DNA examination according to recognized scientific principles and finding a match at three loci, the experts claimed that because of the unique nature of each person's DNA, they had never before seen a three-loci match from unrelated individuals. On the basis of their own experience, they believed such a random match would be very

uncommon. The trial judge did not err in admitting this evidence of the experts' own work and experience and the opinions reached on that basis. See Ariz. R. Evid. 702 and 703.

. . . To put it simply, *Frye* is inapplicable when a qualified witness offers relevant testimony or conclusions based on experience and observation about human behavior for the purpose of explaining that behavior. . . .

This does not mean . . . that we believe the practice of medicine, including psychiatry, is not based on science. Rather, it means that expert evidence based on a qualified witness' own experience, observation, and study is treated differently from opinion evidence based on novel scientific principles advanced by others. As in the past, *Frye* continues to apply only to the latter. The Order applied *Frye* to prohibit observation- and experience-based expert testimony about recovered memory, no matter for what purpose offered. Insofar as it relied on *Frye*, the order was therefore overbroad and legally erroneous and must be vacated. . . .

## SUMMARY AND CONCLUSION

. . . Plaintiff does not claim her memories are proved true as a matter of scientific fact. *Frye* is applicable when an expert witness reaches a conclusion by deduction from the application of novel scientific principles, formulae, or procedures developed by others. It is inapplicable when a witness reaches a conclusion by inductive reasoning based on his or her own experience, observation, or research. In the latter case, the validity of the premise is tested by interrogation of the witness; in the former case, it is tested by inquiring into general acceptance.

. . . Thus, we retain the *Frye* rule but continue to apply it as described in *Hummert*. . . . The trial judge's Minute Entry Order is vacated. The case may proceed in conformance with this opinion.

## NOTES

1. *The jury verdict.* On remand, *Logerquist* went to a jury in December 2001. After two weeks of testimony, including that of Dr. van der Kolk and other experts, the jury returned a verdict for the defendant in about 45 minutes.

2. *The court's holding.* Does *Logerquist* hold that general acceptance is not required in all cases involving expert explanations of human or animal behavior? In all cases in which an expert reaches a generalization based on personal observations?

The court of appeals in *Frye* approved of the exclusion of testimony from the psychologist who administered the blood pressure test for deception even though he invented the technique and had personal experience with it. Under *Logerquist*, is this result correct? If so, what distinguishes the cases?

3. *The boundary problem.* *Logerquist* exemplifies one strategy for avoiding strict scrutiny of scientific theories in the courtroom — restricting the boundary, or scope, of the type of testimony that must pass judicial muster. The boundary problem is inherent in any standard that demands

stricter scrutiny of scientific evidence than other expert testimony. What principles should determine how the boundary is demarcated? See D.H. Kaye et al., *The New Wigmore: A Treatise on Evidence: Expert Evidence* ch. 7 (2004).

Is the supreme court's effort to transport Dr. van der Kolk's testimony outside the realm of *Frye* convincing? One dissenting Justice scathingly commented that "observation-based experience and inductive reasoning lie at the heart of the scientific method. That expert evidence about human behavior has no basis in science will be astounding news to the medical community." He added that

Repressed memory does not lie within the range of common knowledge. Experts in psychology and psychiatry cannot reach agreement about its validity. . . . And, if experts cannot agree about the validity of repressed memory, how do we pass this question to the jury without first reviewing its reliability under some heightened form of evidentiary scrutiny? That is what *Frye* is all about.

Another dissenting Justice also questioned "whether the distinction the majority makes between 'scientific' evidence . . . and 'non-scientific' evidence . . . rests on a firm basis." She complained that

According to the majority, evidence is "scientific" if an expert witness reaches his or her conclusion through the use of deductive reasoning, and not scientific if the expert relies upon inductive reasoning. I do not believe that distinction will prove useful and suspect it will produce inexplicable evidentiary rulings. For example, research scientists tell us that certain components of human behavior seem to be related to, and may be caused by, genetic characteristics. In an action similar to that before us, if one expert, relying upon his observations, reaches a conclusion about a party's "human behavior" by reasoning inductively, his testimony would be admissible so long as his credentials are acceptable. But if another expert witness, with an equally impressive curriculum vitae, concludes that the plaintiff's human behavior could be explained by reasoning deductively from known principles of genetics, that expert's testimony would be subject to the *Frye* analysis. The admissibility of testimony from two expert witnesses about the same subject — a litigant's human behavior — would be tested against two different standards. . . . I see no benefit to trial courts or litigants from following a path that leads to such a result.