DNA ADMISSIBILITY IN COLORADO: PEOPLE V. SHRECK

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Introduction

Colorado has had very limited appellate litigation in the area of DNA admissibility. In 1993, the Colorado Supreme Court upheld the admissibility of DNA evidence using the RFLP technique holding that no further
Frye[1] hearings were required, however the Court left open the issue of the general acceptance of the unmodified product rule for statistical frequencies. (1) Two years later, the Supreme Court concluded that the unmodified product rule for statistical frequencies was generally accepted in the scientific community. (2) Since these two decisions, both involving RFLP technologies, there have been no further appeals on the admissibility of DNA evidence. There have been numerous *Frye* hearings finding general acceptance of DNA evidence for early forms of PCR testing including DQ alpha, polymarker and D1S80. There have even been a couple of *Frye* hearings where tri-plex STR systems were found admissible. The reason for the lack of appellate litigation on PCR appears to be two fold: first, appealing the admissibility of PCR based DNA testing would not have been fruitful given the number of favorable appellate decisions from other states; and second, collusion amongst the defense bar to prevent an appellate decision resolving the issue and preventing case- by-case trial court litigation.

As a result of the lack of appellate decisions on PCR, Colorado became a particularly vulnerable arena for defense attacks on the admissibility of the thirteen CODIS STR loci using commercially available test kits. The case of *People v. Michael Shreck*[2] proved to be that battleground. After a *Frye* hearing, the trial court ruled STR-DNA evidence inadmissible because the testing was done in a multiplex system examining more than 3 loci simultaneously. The *Shreck* ruling is currently on an Extraordinary Writ in the form of Prohibition[3] to the Colorado Supreme Court. This case presents the first Colorado appellate review of PCR-based DNA analysis but also appears to be the nation's first appellate review of the admissibility of the thirteen CODIS loci.

Case Facts

In April of 1990, a University of Colorado co-ed was riding her bicycle at night, on the Boulder campus. She was chased, pulled off of her bicycle and threatened with a knife. The perpetrator attempted to force her into the trunk of a car but failing that, sexually assaulted her. The victim was able to describe her assailant. Police followed up on several suspects and showed the victim photographic line-ups but she did not identify any of these suspects. Eventually the case was closed unsolved.

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[1] *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923)
[2] *People v. Michael Shreck*, 89 CR 2475, District Court, Boulder County
In Re: People v. Michael Shreck, 00SA105, Colorado Supreme Court
[3] Pursuant to C. A. R. 21

In 1998, police reviewed several cases involving violence against women after an unsolved murder of a young woman in Boulder. Realizing that the rape kit had never been submitted for DNA testing, which was not available at the time, the rape kit was then submitted to Colorado Bureau of Investigations (CBI). The CBI testing eliminated the original "prime" suspect in the case and the results were compared to Colorado's offender database resulting in a "hit" at the polymarker and DQ alpha loci. The CBI then provided law enforcement with identifying information for follow up investigation. The victim was able to identify this same individual as her attacker from a photographic line-up. CBI followed up by retesting a known sample of the defendant's blood against the evidence from the rape kit at the polymarker, DQ alpha, D1S80 and 13 CODIS STR loci, resulting in a match. The statistical probability of an unrelated match other than the defendant was determined to be 1:5,300,000,000,000,000.

Trial Court Proceedings

The defense strategy in the DNA battle was largely patterned after the *Bokin*[4] case. The strategy begins with excessive and persistent discovery demands and is then followed up with a subpoena to the corporate manufacturer to produce primer sequences, all documentation of developmental validation studies and identifying information related to population databases. The second step is to convince the court that it is the individual commercial kit that must be subjected to *Frye* scrutiny. It was in the middle of these "discovery hearings" that I was appointed as Special Prosecutor on the case.[5]

Clearly, manufacturers are unwilling to provide such information and regard them as trade secrets. After numerous hearings that took months to complete, the trial court ordered the manufacturer to turn over its validation studies but not its primer sequences. The manufacturer sought relief both from the Colorado Supreme Court and in the California court where the manufacturer was domiciled. The Colorado Supreme Court rejected the appeal. The California court quashed the subpoena from Colorado. In order to prevent preclusion of the evidence based upon either a confrontation clause claim or discovery violation, the prosecution persuaded the FBI to allow the defendant's expert to review the FBI's validation study.

The court limited the *Frye* hearing to three days. The witnesses at the hearing were: Dr. Budowle (FBI), Dr. Dressel (CBI) and Agent Labato (CBI) for the prosecution; and Mr. Taylor (Technical Associates, Inc.), Dr. Riley (University of Washington) and Dr. Zabel (Northwestern University)for the defense. After the hearing the court issued a written ruling admitting DQ Alpha, polymarker and D1S80 but excluding the STRs because they were done in a multiplex of greater than three loci.

Appellate Procedures

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[4] *People v. Jack Bokin et al*, 169587, Superior Court, San Francisco, California.

[5] The appointment of a Special Prosecutor was a result of correspondence from the defendant to his counsel being inadvertently delivered to and read by the original prosecuting authority.

The prosecution filed a motion to reconsider, which was denied and then filed a Petition for Writ in the Nature of Prohibition pursuant to C.A.R. 21 with the Colorado Supreme Court. The Supreme Court issued a Rule and Order to Show Cause to the Trial Court and ordered the defendant to answer why the relief should not be granted.
Briefing has now been completed. Oral Arguments have been requested but are discretionary and have not been ruled on or scheduled.

Standards and Issues for Appellate Review

In Colorado, the review of an admissibility determination under the *Frye* standard is *de novo*, meaning that the reviewing court is not bound by the trial court's determination or by the record. However, the Supreme Court has, in recent cases, given indications of its intention to re-evaluate the use of the *Frye* standard. (3) Currently, Colorado applies the *Frye* standard only to novel scientific evidence that involves the manipulation of physical evidence (ie. polygraph, serology, DNA, and some medical procedures in civil cases). (4) Colorado imposes a "pure 702 analysis" in that it only examines whether the witness is qualified as an expert by virtue of training, education or experience and whether the information would be helpful to the jury. This minimal standard has been applied to evidence like shoe/ foot print identification, handwriting comparisons, firearms identification, tool mark comparison and tire print comparisons. (5)

Unlike most states, Colorado did not adopt the *Frye* standard until 1981, which is two years after the adoption of the Colorado Rules of Evidence. The adoption of *Frye* occurred in a case examining the admissibility of polygraph evidence, and although the decision cites *Frye*, the actual analysis is more consistent with C.R.E. 403 in that the evidence would confuse and mislead the jury. The next application of the *Frye* standard was in the area of serology by the Court of Appeals. The Supreme Court, in the *Fishback* and *Lindsey* decisions, then applied the *Frye* standard to DNA. In both *Fishback* and *Lindsey*, Justice Mullarkey wrote separate concurring opinions arguing that C.R.E. 702 should be the standard for admissibility; she is the only justice, of the time, who remains on the Court and is now the Chief Justice.

There are two primary assertions of error on appeal. The first is the trial court's application of the *Frye* standard to the individual commercial kit used in testing. The second is the trial court's use of TWGDAM Guidelines as a prerequisite to the admissibility of DNA evidence. (6)

The application of the *Frye* standard to an individual commercial kit is inconsistent with existing Colorado precedent. Colorado's *Frye* standard is a two prong analysis requiring a showing of "1) general acceptance in the relevant scientific community of the *underlying theory or principle*, and 2) general acceptance in the relevant scientific community of *techniques* used to apply that theory or principle." *Lindsey*, 892 at 290. The *Fishback* decision conclusively resolves the first prong, holding that there is general acceptance in the scientific community of the underlying theory of DNA typing. Colorado expressly rejected a third prong to the analysis requiring a showing that the particular test was actually conducted in a generally accepted manner. Concerns regarding the implementation of the actual test are issues of the weight to be afforded the evidence by the jury and not issues of admissibility. The court needed to resolve whether

multiplexing with PCR was generally accepted in the relevant scientific community not whether PE Biosystem's Profiler Plus and COfiler were generally accepted in the scientific community.

There are a couple of problems with the trial court's use of TWGDAM Guidelines as a prerequisite to admissibility. While Colorado has not addressed this issue, Arizona[6] has and concluded that while TWGDAM Guidelines might be helpful to the court in assessing general acceptance, they are not mandatory and should only be considered if there was such substantial deviation in generally accepted practices that the test results are unreliable. The trial court's over reliance on TWGDAM Guidelines was also due, in part, to a serious misunderstanding of the testimony presented. The TWGDAM Guidelines that the trial court appeared most concerned with were §4.1.5.12, requiring publication of validation studies in peer reviewed journals and §4.4.1.1, requiring disclosure of primer sequences. Arguably, neither affects the actual reliability of the tests conducted. The court did not understand that TWGDAM Guidelines had been superseded by the DAB Standards[7]. (7) DAB Standards do not require publication of validation studies or disclosure of primer sequences.

Conclusions

Ruling on appeal is pending; only the Colorado Supreme Court can truly write the conclusion to the admissibility of DNA evidence in Colorado.

References

1) *People v Fishback*, 851 P. 2d 884 (Colo. 1993)
2) *People v. Lindsey*, 892 P. 2d 281 (Colo. 1995)
3) *Brooks v. People*, 795 P.2d 1105 (Colo. 1999)
4) See: *Fishback, supra,* DNA; *Lindsey, supra*, DNA; *People v. Anderson*, 637 P.2d 354 (Colo. 1981), polygraph; *People v. Banks*, 804 P. 2d 203 (Colo. App. 1990), absorption inhibition; *People v. Saathoff,* 837 P. 2d 239 (Colo. App. 1992), multi-system electrophoreses; *Tran v. Hilburn*, 948 P. 2d 52 (Colo. App. 1997) *cert. granted, dismissed,* quantitative Electroencephalogram and Video Fluoroscopy; *Smith v. Belle Bonfils Memorial Blood Center,* 976 P.2d 344 (Colo. App 1998) *cert den.* (1999), freezing and retesting donated blood for HIV; and *People v. Thomas*, 926 P. 2d 52 (Colo. App. 1997), testing human hair for the presence of drugs.
5) See: *People v. Perryman,* 859 P2d 263 (Colo. App. 1993) and *People v. Fears*, 962 P 2d 272, 283 (Colo. 1997), shoe print identification; *People v. Grenich*, 928 P.2d 799 (Colo. App. 1996), tool mark identification*, People v. Williams*, 790 P. 2d 796 (Colo. 1990), firearms identification; *Brooks v. People*, 795 P2d 1105 (Colo. 1999), scent tracking dogs; *Colwell v. Mentzner Investments, Inc.,* 948 P. 2d 52 (Colo. App. 1998), neurologist testifying on stress as a trigger to MS; *Durkee v. Oliver*, 714 P2d 1330 (Colo. App. 1986), podiatric surgeon on malpractice issue; *Campbell v. People*, 814 P.2d 1 (Colo. 1991), eyewitness identification factors; *People v.*

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[6] *Arizona v. Tankersley*, 956 P. 2d 486, 493 (Ariz. 1998)

[7] 42 U.S.C. 14131 (a)(1)(C)(4) states: "Until such time as the advisory board has made has made recommendations…the quality assurance guidelines adopted by the technical working group on DNA analysis methods shall be deemed the Director's standards…." The DAB Standards became effective October 1, 1998.

Yaklish, 833 p2d 758 (Colo. App. 1991), Battered woman syndrome; *Lanari v. People*, 827 P.2d 495 (Colo. 1992) heat of passion; and, *People v. Hampton*, 746 P.2d 947 (Colo. 1987), Rape Trauma Syndrome.
6) TWGDAM (1995) Guidelines for Quality Assurance Program, *Crime Lab. Digest*, 22:21-43.
7)DAB, (1998) Quality Assurance Standards for Forensic DNA Testing Laboratories.