

COMMONWEALTH OF PENNSYLVANIA

: IN THE COURT OF COMMON PLEAS : INDIANA COUNTY, PENNSYLVANIA

vs

: NO. 1170 CRIM 2007

KEVIN J. FOLEY,

Defendant.

OPINION AND ORDER OF COURT

MARTIN, P.J.

The Defendant has challenged the admissibility of the DNA evidence as expressed in the expert reports of Dr. Robin Cotton and Dr. Mark Perlin. The objection is based upon Frye v. United States, 54 App. D.C. 46, 293 F. 1013 (1923). Pennsylvania has adopted the "Frye Rule". Commonwealth v. Topa, 471 Pa. 223, 369 A.2d 1277 (1977). Pursuant to the Frye rule to be admissible at trial "novel scientific evidence" must have gained general acceptance in the relevant scientific community. The Frye test is set forth in Rule No. 702, Pa.R.E. 42 Pa.C.S.A. which provides that novel scientific evidence is admissible if the methodology that underlines the evidence has general acceptance in the relevant scientific community. To make this determination trial courts conduct "Frye Hearings".

The Commonwealth in response to the Defendant's Motion in Limine maintains that the methodology utilized by Dr. Cotton and Dr. Perlin do not constitute novel scientific evidence and therefore no hearing is required. In the alternative, the Commonwealth maintains that under the Frye rule the evidence is admissible. The DNA sample involved here is a mixed sample obtained from the victim's fingernail. The analysis of the DNA was done by the

laboratory at the Federal Bureau of Investigation. Both Dr. Cotton and Dr. Perlin utilized the FBI data in arriving at their results and opinions.

The FBI, Dr. Cotton and Dr. Perlin all used the "product rule" in the calculations of probability. It is clear that in Pennsylvania the product rule is not considered novel science and therefore Frye and Rule 702 are not applicable. Commonwealth v. Blasioli, 552 Pa. 149, 713 A.2d 1117 (1998).

Dr. Cotton used the data generated by the FBI for analysis. She also used the same computer software utilized by the FBI, however, she had an updated version. She utilized an RFU threshold of 50 as opposed to the FBI threshold of 200. She also went a step further in her analysis by subtracting out the major contributor in the mixed sample. Nothing done by Dr. Cotton is outside the appropriate utilization of the product rule. The Defendant may question the results, however, Frye does not operate to bar disputed conclusions so long as the methodology is accepted. Commonwealth v. Dengler, 586 Pa. 54, 890 A.2d 372 (2005); Grady v. Frito Lay, Inc., 576 Pa. 546, 839 A.2d 1038 (2003); Commonwealth v. Puksar, 951 A.2d 267 (Pa. 2008).

The Court finds that the Motion in Limine is denied as to Dr. Cotton. As stated, she utilized the product rule which is not considered novel science by the Commonwealth. In addition, her methodology has been accepted by a number of states including the Commonwealth of Pennsylvania. Therefore, even if her methodology were analyzed pursuant to Frye the Court finds it has gained the required general acceptance of the relevant scientific community.

When looking at Dr. Perlin's testimony, report and supporting documents the questions becomes at what point does the use of the product rule become novel science. In other words, at what point does it then become necessary to apply the Frye rule to the use of a court

recognized methodology? As science advances are better techniques and results not to be expected subject to the scrutiny of the scientific community? It is not for the Court to judge the science rather it is for the scientific community to express acceptance. Mathematics is already a part of the DNA process as is computer application. The question is then if Dr. Perlin's computer methodology is generally accepted.

In support of this acceptance the Commonwealth has presented the opinion of Dr. Cotton that mathematics and computer science are now a part of the scientific community. The Court does realize that Dr. Cotton is a witness in this matter and has collaborated in the past with Dr. Perlin. The Commonwealth also presented forty-five (45) articles discussing different portions of the DNA mixture interpretation methodology utilized by Dr. Perlin involving computer interpretation of STR data, statistical modality and computation, likelihood ratio and computer systems for quantitative DNA mixture deconvolution. These articles authored by members of the relevant scientific community discuss with approval the different methodologies involved in Dr. Perlin's analysis.

In addition, the Commonwealth references the 2006 article, DNA Commission of the International Society of Forensics Genetics; Recommendations on the Interpretation of Mixtures (Commonwealth's Exhibit No. 14) which among other things compared the probability of exclusion method which is utilized by the FBI and the likelihood ratio method utilized by Dr. Cotton and Dr. Perlin. The article recognizes that the probability of exclusion method discards information which the likelihood ratio considers. The recommendation of the Commission was that the likelihood ratio is the preferred approach to mixture interpretation. Considering that both Dr. Cotton and Dr. Perlin utilized the product rule but also consider additional information

as stated in the International Society of Forensics Genetics article to make a more efficient use of the information, it appears that the argument of the Defendant is with the conclusion not the methodology. The weight to be given to the conclusion is subject to a consideration of the reliability of the information upon which it is based, in other words the foundation of the conclusion. Clearly the scientists can not just guess on assumed data which has no support. That is not the case here. It is recognized that there is more information available which more conservative approaches do not consider. Therefore, it seems logical that the scientific community would work towards including that unused data to arrive at a more accurate finding. Therefore the Defendant's Motion goes more to weight than admissibility.

The Court finds that although Dr. Perlin utilized the product rule that does not give his methodology a pass if the utilization of the product rule is novel. The Court would then be required to consider the methodology pursuant to Frye and Rule 702. In Commonwealth v. Crews, 536 Pa. 508, 640 A.2d 395 (1994), the court held that both the theory and the technique must be generally accepted. Crews was decided prior to the acceptance of the product rule. Dr. Perlin has developed a methodology which utilizes computer or automated DNA data review technology. The theory is the product rule, the technique is the use of the product rule which in regards to Dr. Perlin is the computer interpretation of data pursuant to the product rule.

Articles from Dr. James M. Curran, Forensic Statistician (Commonwealth's Exhibit No. 17), cites an article by Dr. Perlin in a discussion of the evaluation of DNA mixture cases. Dr. Curran's conclusions are similar to the work done by Dr. Perlin. The Croation

Medical Journal article authored by Dr. Christina S. Tomsey<sup>1</sup> et al (Commonwealth's Exhibit No. 15) discussed with approval the methodology utilized by both Dr. Cotton (subtraction of the known doner) and Dr. Perlin (peak height ratios to determine unknown profiles).

A list of DNA computer interpretations systems and the users thereof was admitted as Commonwealth's Exhibit No. 18. The list includes the agencies which utilized Dr. Perlin's TrueAllele technology. Among the users are the Allegheny County Crime Lab, the University of Pittsburgh and the Forensic Science Service of the United Kingdom (FSS). The FSS is an executive agency of the home office of the United Kingdom. FSS has the largest DNA data base in the world. FSS validated the TrueAllele process and utilizes the process for automated forensic DNA data review.<sup>2</sup>

Based upon a review of the evidence the Court finds that Dr. Perlin's methodology is admissible pursuant to the Frye rule and Rule 702.

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<sup>1</sup> Dr. Tomsey is a former employee of the Pennsylvania State Police Laboratory in Greensburg. The Court considered any interest Dr. Tomsey may have based upon her prior relationship with the State Police. The article pre-dates the crime in this case.

<sup>2</sup> Article, Forensic Science Service Expands License for Cybergenetics Automated DNA Data Review Technology; Pioneering TrueAllele Software Helps Builds World's Largest DNA Database, Business Service Industry, Business Wire, July 26, 2004.

[http://findarticles.com/p/articles/mi\\_m0EIN/is\\_2004\\_July\\_26/ai\\_n6122602?tag=content:col1](http://findarticles.com/p/articles/mi_m0EIN/is_2004_July_26/ai_n6122602?tag=content:col1)

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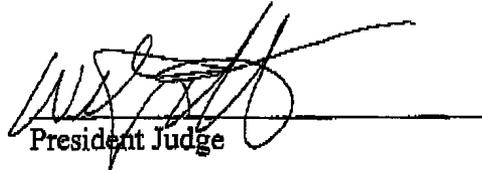
Defendant.

ORDER OF COURT

MARTIN, P.J.

AND NOW, this 2<sup>nd</sup> day of March 2009, this matter having come before the Court on the Defendant's Motion in Limine seeking to exclude the testimony of Dr. Robin Cotton and Dr. Mark Perlin and the Court having held a hearing thereon, it is hereby ORDERED and DIRECTED that the Motion in Limine is Denied.

BY THE COURT,

  
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President Judge