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Shooting Holes in Bullet Analysis

N.J. criminologist's crusade helps lead FBI to give up forensic method

By Mary P. Gallagher

On Sept. 1, when the Federal Bureau of Investigation announced it was abandoning comparative bullet-lead analysis as a forensic tool after 30 years, it cited a National Academy of Sciences report that cast doubt on the test's evidentiary value.

But the silver bullet may have been fired years earlier, in a Middlesex County courtroom, sparked by Teaneck resident Jacqueline Behn's efforts to clear her brother Michael of murder.

Neither Behn nor Jack Venturi, her brother's defense counsel at trial, had heard of CBLA until prosecutors turned over an expert's report on March 27, 1997, 11 days before trial.

The expert, Charles Peters, was one of a number of FBI forensic scientists who would conduct a bullet-lead analysis and testify if the case went to trial. The FBI estimates it did the tests in about 2,500 cases since the early 1980s.

In contrast to ballistics testing, which matches a bullet with a gun based on the

striations inside the gun barrel, CBLA compares trace elements — such as arsenic, copper, mercury or tin — in the bullets at the crime scene with the amounts in bullets in the suspect's possession. It tends to be used where no weapon has been recovered or bullet fragments are too small or deformed for ballistics purposes.

At Behn's trial, prosecutors had no eyewitnesses to the shooting of South River coin dealer Robert Rose, so they relied on circumstantial and forensic evidence, including CBLA and ballistics analysis. The defense had its own experts to counter the prosecution's — except for Peters, whose testimony was devastating.

Peters told the jury that bullets found in Behn's home were analytically indistinguishable from fragments in Rose's body and either came from the same box or from boxes manufactured on the same day.

Judge Barnett Hoffman had refused to adjourn the trial to allow the defense more time to track down an expert to counter Peters' report. So Venturi, of Venturi & Saunders in New Brunswick, had asked Jacqueline Behn, who was helping with the case, to find out whatever she could.

Behn, a criminology teacher at Bergen Community College, ferreted out information through the Internet, library visits, Freedom of Information Act requests, telephone calls and legwork.

It took time, and in the interim, Michael Behn was convicted. Hoffman, in sentencing him to life in prison with 30 years' parole ineligibility, noted the significance of the CBLA evidence.

But Behn's sister persevered and two years later, Venturi put her in touch with Frederic Whitehurst, a former FBI crime lab employee turned whistleblower whose criticism of sloppy lab practices was vindicated in a 1997 report by the Inspector General of the Department of Justice and led to reforms at the lab.

Whitehurst had left the FBI to found the National Whistleblower Center's Forensic Justice Project. He sent Behn to William Tobin, who had retired as the FBI's chief metallurgist.

Tobin never conducted CBLA tests at the FBI, but he says he had doubts about the practice because, among other things, it seemed to be based on such false presumptions as the uniqueness of each batch and uniformity within each batch.

Moreover, the FBI scientists doing the testing, like Peters, were chemists rather than metallurgists, and there was no outside peer review, says Tobin. In addition, the FBI lab was the only one doing CBLA analysis and it refused to make its data available, thwarting outside scrutiny, adds Tobin.

He says he was stunned when he started looking at transcripts and learned that FBI witnesses were testifying at trials that CBLA could match a bullet to a box.

Tobin became a consultant on the Behn case and assembled a team to take a hard look at CBLA. It consisted of Erik Randich, a metallurgist from Lawrence Livermore National Laboratory in California, and two other scientists, metallurgist Wade McLendon and chemist Wayne Duerfeldt, who worked for secondary refiners, the companies that melt down car batteries to obtain the lead for casting bullets.

They concluded, in a report published in 2002, that the most that CBLA could determine was that two or more analytically indistinguishable bullets could have come from the same source.

It wasn't the FBI's measurements that were wrong but its interpretation, says Randich. "The significance of matching is that you cannot rule the suspect out" but that falls far short of the claim that bullets came from the same box or were made the same day, he says.

Faced with the Randich-Tobin findings, the FBI asked the National Academy of Science to do a study, and the resulting report, released in 2004, bolstered them. Though it found the analytical method sound, the NAS study committee suggested different statistical tests and recommended changes in witness testimony to avoid overstating the significance of a match and misleading juries and judges.

Case Western Law School Professor Paul Giannelli, one of two lawyers on the study committee, says CBLA evidence "might have some probative value … if experts limited their testimony far more than they had in the past." He notes that a single melt can yield 12,000 to 30 million bullets and in a small town, every bullet could be from one melt.

Behn Granted New Trial

Meanwhile, Hoboken lawyer Paul Casteleiro had filed a petition for post-conviction relief in *Behn*, armed with a report from Randich. Judge Deborah Venezia denied the petition, finding that Venturi could have located an expert to counter Peters' testimony.

But on March 7, 2005, an appeals court reversed, vacating Behn's conviction and remanding for a new trial. Appellate Division Judge Harvey Weissbard, joined by Ariel Rodriguez and Helen Hoens, held Peters' testimony was based on "erroneous scientific foundations" and met the standard for granting a new trial based on newly discovered evidence.

The Supreme Court denied the state's request for an appeal and a new trial is scheduled for March before Judge Jane Cantor.

Casteleiro says prosecutors informed him this past summer that they will not use CBLA evidence this time around. Neil Casey III, the assistant Middlesex County prosecutor who will be handling the retrial, could not be reached to be asked the basis for the decision.

Michael Behn was moved to the Middlesex County Jail, where he awaits retrial, unable to meet the $400,000 bail.

Once the National Academy report came out, the FBI suspended CBLA testing and reviewed the findings for 14 months before announcing that it would cease the testing permanently, based on the costs of the testing versus its "relative probative value." But the FBI still firmly supports CBLA's scientific foundation, according to a press release. And FBI Lab Director Dwight Adams says the agency will continue to provide witnesses for tests it completed before the practice ended.

The FBI also sent a letter about its decision to roughly 300 law enforcement agencies to which it provided CBLA results since 1996. Adams declines to identify them but says five are in New Jersey and it is up to the law enforcement agencies to determine whether to go back to court on any conviction obtained with the evidence.

"In the end it didn't matter that we were using the best available technology. What mattered was our inability to determine the significance of the comparisons," says Adams.

Others are not so sanguine about past CBLA convictions.

A FOIA suit, filed last year by Whitehurst's group to force the FBI to identify the other cases, is pending in the District of Columbia, *Forensic Justice Project v. FBI*, 04-CV-1415. David Colapinto, the project's lawyer, says the group wants to review the cases and help seek reversal if anyone was wrongly convicted or pleaded guilty based on CBLA testing.

Behn's research turned up a list of 43 convictions in courts from Alaska to New Zealand.

At least one person convicted with CBLA evidence has been executed, Texas inmate James Earhart in August 1999. Rob Warden, director of the Center for Wrongful Executions at Northwestern University, is not aware of anyone else convicted or sent to death row based on CBLA evidence.

In New Jersey, Judel Noel was convicted of murder in 1995 after Peters testified that the bullets had the same composition and that bullets with the same composition generally come from the same box. In addition, the prosecutor told the jury each batch of bullets was as unique as a snowflake or a fingerprint.

The Supreme Court ruled in *State v. Noel*, 157 N.J. 141 (1999), that it was not prejudicial error to allow the testimony, reversing an appeals court ruling.

Venturi says the Court's denial of certification in *Behn* means *Noel* is "dead and buried," says Venturi.

But Jacqueline Behn says, "It's not going to be over until [Michael] walks free and he's exonerated and this nightmare is over."