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BETTER LATE THAN NEVER (PART I)

A "hair-raising" forensic debacle forces DOJ's hand

By Julius (Jay) Wachtel. Since coming on scene in 2007 we've regularly warned about unproved forensic techniques, whose thoughtless use has led to numerous wrongful convictions and at least one execution. Most recently, in "State of the Art...Not!" we criticized the National Institute of Justice for doing little to counter the toxic effects of junk science.

To be sure, we're not the only (and certainly not the first) to complain. Seven years ago, after a detailed review of the sorry state of forensics, a truly influential body, the National Academy of Sciences, called for the creation of a standalone agency, independent of the Department of Justice, that would promulgate and enforce best practices in forensic science.

That didn't happen. As we reported earlier, NAS issued a follow-up critique in 2010. NIJ responded with a glossy self-congratulatory piece (we're doing great!) one year later. Reform would have probably foundered but for a providential 2012 exposé by the *Washington Post*, which revealed that quasi-scientific conclusions by FBI hair and fiber analysts had brought thousands of criminal prosecutions into question.

It took three years, but in 2015 the FBI came clean with an unusually detailed press release entitled "FBI Testimony on Microscopic Hair Analysis Contained Errors in at Least 90 Percent of Cases in Ongoing Review." For some "hair-raising" facts we return to the pages of the *Washington Post*:

> The Justice Department and FBI have formally acknowledged that nearly every examiner in an elite FBI forensic unit gave flawed testimony in almost all trials in which they offered evidence against criminal defendants over more than a two-decade period before 2000....The cases include those of 32 defendants sentenced to death. Of those, 14 have been executed or died in prison, the groups said under an agreement with the government to release results after the review of the first 200 convictions.

One of these "errors," the wrongful conviction of Kirk Odom, was made possible by testimony from an FBI lab examiner that a single hair found on a rape victim resembled Odom's hair (it turns out, mainly as to color,) and that such coincidences were exceedingly rare. Actually, Odom was in a way "lucky," as there *was* DNA, and it

ultimately fingered someone else. Alas, by the time that was discovered he had already served 21 years.

When a renowned agency says "Houston, we've had a problem" denial is no longer an option. NIJ had to do something, and we'll get to that in a moment. First, though, it's important to emphasize that concerns went far beyond hair analysis by a handful of incompetent Feds (ed. note: your author, a retired Fed, was of the other kind.) Using prior posts and the website of the National Registry of Exonerations let's take a quick, highly abridged trip down the junk science memory lane:

> May 2005: Virginia's crime lab comes under scrutiny after botched DNA tests nearly lead to the execution of a man who served 16 years after being wrongfully convicted of rape and murder.
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> June 2007: Deemed deficient "across the board," Houston's crime lab is blamed for at least three wrongful convictions, including two caused by faulty serology (the exonerees served 17 and 4 ½ years respectively).
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> September 2008: An audit of the Detroit crime lab's ballistics work revealed that examiners erroneously declared a match, or overlooked a match, in nineteen out of a sample of 200 cases. Detroit PD shut down the entire crime lab and turned over all forensic analysis to the State. That same year, a Federal report rejected the notion that marks on bullets and cartridge casings can be conclusively linked to a single gun.
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> November 2008 - January 2009: Six defendants were exonerated by DNA after spending nearly two decades in prison for rape and murder. Their convictions relied in part on reports by serologists that blood found at the scene "could have" come from one of the accused, and that semen came from someone with a blood type "similar" to that of another defendant.
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> October 2010: A Texas man was exonerated after spending sixteen years on death row. How could this happen? A state's witness testified that a knife similar to one that the defendant once owned fit the victim's wounds "like a glove."
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> April 2012: California Governor Jerry Brown commuted the sentence of a grandmother who allegedly shook her grandson to death, an act she vociferously denied. Pathologists had testified that the child's brain evidenced "shaken baby syndrome," a diagnosis that has since come under fire. In time, medical experts and an appeals court agreed that grandma was innocent. Unfortunately, by then she had already served ten years.

September 2013: Concluding that "the wrong person was prosecuted," a judge exonerated a man who served 23 years for murder. His conviction was partly due to testimony by a dog handler who insisted that her dog only followed scents in the direction someone traveled. (Dog scent evidence has been heavily criticized. Click here and here.)

June 2014: A defendant who had served three years of a life sentence for murder was acquitted at his second retrial after his lawyers challenged a claim by prosecution experts that handwriting consisting of "55, 65, 9, 10," "4 time stop," and "left right left right" sufficed to positively identify its author.

December 2015: A state fire marshal's testimony that a fire that killed six persons had two points of origin and was set using accelerants helped convict three men. One died in prison. His codefendants served thirty-one years before they were exonerated by testimony that "pour patterns" cited by the prosecution were actually produced by a natural effect called "flashover." (For another case involving "accelerants" and "pour patterns" click here. Unfortunately, that defendant was executed.)

Clearly, errors bedevil most forensic disciplines, not just hair analysis. In 2013 (one year after the *Post* blew the whistle,) to "promote scientific validity, reduce fragmentation, and improve federal coordination of forensic science," DOJ and the Commerce Department's National Institute of Standards and Technology formed the National Commission on Forensic Science.

NCFS's lofty goal is addressed through seven subcommittees: Accreditation and Proficiency Testing, Interim Solutions, Scientific Inquiry and Research, Medicolegal Death Investigation, Reporting and Testimony, Human Factors, and Training on Science and Law. Last year they started producing "views documents" and "recommendations" that provide limited forms of non-binding advice in each topical area. For example, on May 1, 2015 the NCFS interim solutions subcommittee issued "Views Document on Defining Forensic Science and Related Terms as Adopted by the Commission." On March 22, 2016 its scientific inquiry panel cranked out "Recommendation to Fund Post-Doctoral Projects to Facilitate Translation of Research into Forensic Science Practice." On August 11, 2015 members of the medicolegal team released "Views Document on Increasing the Supply of Forensic Pathologists as Adopted by the Commission." And so on.

Good enough. But what did the subcommittees think about hair comparison? Is it a good procedure or bad? We scoured the website but found no guidance on whether hairs can be accurately compared, and if so, what conclusions might be drawn. Ditto for

analyzing marks on bullets and cartridge casings, dog scent evidence, handwriting and arson. NIST may be a useful exercise in building the discipline of forensics, but it seems to have little if any value as a guide for its actual practice.

Mystery solved! It turns out that regulating the trenches of forensics is something that DOJ wishes to reserve for itself. Several days ago the agency released draft rules that specify how ATF, DEA and FBI forensic experts should report their findings, in writing and when testifying in court. These proposals cover toxicology, serology, latent prints, glass, footwear and tire impressions, textiles and fibers, and general chemistry (e.g., drugs and chemicals.) We'll have more to say about this in Part II.

Stay tuned!