Joseph P. Bono, President, American Academy of Forensic Sciences
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The theme for the 2011 AAFS meeting will be: Relevant, Reliable and Valid Forensic Science: Eleven Sections-One Academy. How does an incoming AAFS President choose a theme for the coming year? I made this decision in September 2009 during a graduate class I was teaching at the university. A student informed me that her father had read an article in a "mechanics" magazine. The magazine included some questionable statements about forensic science. Her father asked why she would want to pursue a career (in the words of the magazine) in a "shaky" science, "weak" science, or "misleading" science. At the time, I realized there was much misinformation out there which presented misleading stories about forensic science. I mistakenly believed these stories were having little impact on the general public. With this comment from the parent of a student, I realized I was wrong. Having worked for the government for 30 plus years, I also realized that most forensic scientists are not free to respond to criticisms in the media for political reasons. (Usually, nothing can be said without proper vetting through the public relations officer. Does anyone care to render on option on how long that might take in a bureaucracy?)

There were continuing media reports during 2009 and for a few years prior on what some have termed "faulty forensic science." While driving home that evening, I became determined that during my year of service to the membership I would make advocacy and promotion of forensic science in our Academy the focus for 2010/2011. At the same time, I promised myself that I would be the first to say "STOP" when actual faulty forensic science was brought to my attention. I've done so in the past and I wasn't about to change my approach to challenging those who claim "I'm right because I've been doing this for 30 years." Being from Missouri, I've always said "Show Me the data or images and explain what it means."

As the year progressed, I read more and more purported "authoritative texts" and "learned treatises" from those whom, in my opinion, were neither "authorities" nor "learned" in the forensic sciences. I believed that it was difficult to obtain totally objective and credible evaluations related to the forensic sciences from those who had never entered a forensic science laboratory, never evaluated a forensic science exhibit, or never given or been exposed to forensic science testimony in a specific forensic science discipline. These self proclaimed experts were the same people disseminating their opinions "cloaked in the mantle of fact." I became even more convinced that the time had arrived for a professional and calculated response through not only words, but also actions on behalf of the Academy.

As leaders in the forensic science profession, we recognize issues that must be addressed and strengthened. The words in the title of "The Report" were "Strengthening Forensic Science." Granted, mistakes had been made and perhaps were continuing by forensic service providers. Those situations must be identified and addressed. But the vast majority of legitimate forensic scientists are doing everything possible to ensure the best forensic science work product 100% of the time.

A re-evaluation of some forensic science testimony from the past disclosed that so-called forensic scientists had not properly examined the physical evidence they were responsible for analyzing. In other cases from the 1970s and 1980s, physical evidence had been properly evaluated and conclusions were rendered with strong caveats. Most of these cases included, but were not limited to hair/fiber/soil/glass examinations, and blood-typing using A,B,O absorption inhibition techniques. There were no attempts to deceive, and results were reported based on protocols in existence at the time. Even more interesting was the fact that the forensic science testimony in many of these cases was much less significant in the outcome of the case than eye witness testimony, or ineffective counsel. And yet even with these reports in hand, charges of "faulty forensic science" remained the purported counterpoise on which the conviction was allegedly attributed. To continue pointing to examples from 15-25 years ago and attributing these alleged norms as the state of forensic science in 2010 is disingenuous at best. Forensic science is one of many factors which contribute to the outcome of a trial. Forensic science does not convict or acquit; that is the responsibility for judges and juries.

One of our responsibilities as leaders in the forensic science profession is to question any scientist responsible for formulating conclusions with facts, not innuendoes; with expertise, not exaggeration; and with reality, not rhetoric. There is a difference between the science being faulty and the analyst being incompetent or embellishing the truth. When the latter happens, there are mechanisms in place to remove those who are incompetent or unethical. Criminal charges involving perjury are also an option. However, painting with the broad brush of "INVALID" (without specificity as to what constitutes "invalid") methods which do indeed have an empirical basis for generating valid data defies logic.

I will be the first to require that the friction ridge pattern association science should be strengthened with quantifiable standards. I also believe that the use of smudged or overlapping patterns requires careful scrutiny and a critical evaluation of the images. Here is a scenario for those who use this broad brush approach of claiming that two forensic science disciplines employ invalid/unvalidated methods: To quote Lewis Carroll's Alice, "Let's pretend" that a close friend is found murdered; and at the crime scene are found two full friction ridge patterns (fingerprints) which are later associated with a person of interest (POI). The POI's home is searched, and a .38 caliber revolver is found, test fired in the laboratory, and with current methodology, determined to be associated with the same weapon used to fire the projectile taken from the body of the friend. Will those claims of "invalid/unvalidated" methods still be extolled as fact by those who today challenge friction ridge pattern associations and firearms examinations when that close friend is involved?

To be clear, in an adversarial system, I would be the first to challenge the conclusions of the forensic scientist by evaluating the collection methods, examination methods, and data or images; however, that challenge is different from arguing that the testimony should not be admitted because the methods are unvalidated. In the use of "pattern evidence," there may not be standardized quantitative thresholds for a conclusion, and

perhaps, there should be. For example, how much of the friction ridge pattern is required for an association of a fingerprint. One fact is clear: there are no known examples in AFIS of replicative patterns of full “rolled prints.” This statement is based on the empirical data, not on philosophy. How much distinguishable detail is required to establish an association between a fingerprint from a crime scene and a known fingerprint from a suspect? This is what I mean by establishing a threshold. This is an example where research must be conducted to strengthen the forensic science. To claim that the methodology in friction ridge pattern association remains unvalidated and therefore should not be admitted in trial, is open for discussion.

All forensic science disciplines must be strengthened. There are some issues which must be addressed regarding the quality and quantity of data required for conclusion to be proffered in court as expert witness testimony. Again, what is the threshold which must be met to ensure a scientifically valid conclusion? There are also valid questions related to the wording of the conclusion.

Except in the rarest cases where shouts of “invalid” or “not validated” fill the media, the eleven sections in our Academy do practice forensic science which is relevant, reliable and valid. Future editions of the Academy News will include descriptions from the chairs of the eleven sections synopsizing examples of how the science in their respective sections and disciplines does address the theme for 2010/2011.