

Forensic Science is an oxymoron

By BRYAN R. BURNETT

My first reviewed scientific paper was published in 1972. I now have more than seventy scientific publications in marine biology, marine ecology and geology, phylogeny, micro technique, digital imaging, scanning electron microscopy, medicine, and recently crime scene reconstruction.

I have qualified in civil courts as an expert in asbestos and inorganic particle analysis in lung tissue and in criminal court in gunshot residue and crime scene reconstruction.

My scientific career spans more than 40 years. I have experienced many aspects of science, which I bring to my criminalistics profession. From this background experience, I have come to the conclusion that the term, *forensic science*, is an oxymoron. Science does not exist in either the federal or state superior courts.

Forensic is defined in Webster's New World Dictionary (2004): "1. Of, characteristic of, or suitable for a law court, public debate, or formal argumentation. 2. Specializing or having to do with the application of scientific, esp. medical, knowledge to legal matters, as in the investigation of crime." Over the last decades the meaning of *forensic* has diverged from this definition. The word has been applied to investigations of human artifacts that have no legal association. For example, the old version of the heroine in the movie "Titanic" asked when she first saw the electronic equipment on board the ship floating over the wreck of the Titanic if a "forensic investigation" was occurring. The word has even been applied to archeological digs in Egypt (recently noted in a History Channel presentation) and elsewhere. Illogically, *forensic* has become synonymous with *scientific*.

Any dictionary will give an adequate definition of "*science*," which will often provide a description of the scientific method. But to be a *professional scientist*, i.e., a person who makes a living as a scientist, the definition needs expansion beyond the usual dictionary definition to include the admonition "scientists must publish." To maintain employment at most universities, a scientist must frequently author articles in professional journals in his/her expertise.

It might come as no surprise that many criminalists testify and submit

reports to courts that are biased for whichever side they are working. I am currently working on a capital murder case where biased testimony is readily apparent for most of the prosecution experts. Indeed, one experienced criminalist in that case submitted a report that was truly at odds with his discipline. I have occasionally seen his work over the years; I am astounded this guy continually gets away with his misstatements and shoddy work. My countering testimony has no effect on his continued employment, other than per-haps for the trial at issue.

***By providing a means
for valid peer review
of any expert's testimony
in any court proceeding
will we soon start to see
universal expert honesty
and integrity in court.***

The case of *California v. Delia Contreras* (described in "A shot through the window." *Journal of Forensic Sciences* 2001;46(2):379-385) had two retrials. I wanted to review the testimonies of several experts who testified in her retrials. The court reporter was kind enough to sell me the transcripts of the testimony of a key criminalist in the two trials for \$200! I could not afford the price of the other expert testimony. What is wrong with this picture?

In another case, (*California v. New, El Cajon*) I wanted to review expert testimony for a scientific paper I was writing. After some effort, which required a visit to the downtown San Diego courthouse, I found the name of the court reporter for that trial. When I finally was able to contact her, she refused to provide the transcripts. They were not available because I was neither an attorney nor court representative. What is wrong with this picture?

Testimony by trial or deposition and reports submitted to the court are the work products of scientists in the legal milieu. However, our justice system either does not allow or makes it extremely difficult and expensive for any peer review. Expert reports submitted in a case

are also usually impossible to obtain. Opposing expert testimony is not peer review, but merely an opposing opinion to be mulled over by the Trier of Fact. In science, peer review of submissions to a journal is the gate keeper, without which we wouldn't have science as we know it. A submission rejected by its reviewers does not get published.

Experts in court can and do say anything they damn well please with little fear of review; for it will cost a fortune for anybody like myself to review their testimony. Not only that, there is absolutely no way to discover cases in which an expert has testified unless that expert has listed in his/her CV all the cases where testimony was proffered.

The federal and superior courts need a major structural change mostly involving the court reporter:

1. In both criminal and civil trials the court reporter must post on the Internet the jurisdiction, trial name and number, each person who testifies as an expert. Included should be the court reporter's name and contact information. If the reporter is no longer available, contact information needs to be redirected to an appropriate person to fulfill any transcript request.

2. Transcripts must be made available for a reasonable price or, preferably for free. If the transcripts are not available for download, they must be provided as an attachment to an email or even a CD by U.S. mail. A court reporter cannot refuse to provide transcripts based on the requestor's identity.

3. Courts must provide links to all reports and trial graphics proffered by experts in either civil or criminal cases. This should be done in association with the court-reporter posting of expert testimony.

By providing a means for valid peer review of any expert's testimony in any court proceeding will we soon start to see universal expert honesty and integrity in court. Only in this way can we begin to legitimize the "*science*" in *forensic science*. We can no longer allow experts to hide their testimonies in courtroom secrecy. When an expert realizes that s/he cannot hide overt bias, lazy incompetence, and other shoddy work product will s/he start a focused effort on honest testimony; either that or s/he will need to find another job.