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President's Editorial—The Journey to Justice*

By its very name, our justice system sets a high and perhaps impossible standard to achieve—justice. Not merely justice in a single case for a single individual, but justice for all. Every time we say the Pledge of Allegiance, we reaffirm our commitment to that very principle.

But in practice justice is a very subjective term. In almost every civil or criminal case, the opposing parties have different concepts of a just resolution of the dispute or allegation. Even the Justices of the Supreme Court often disagree on what justice requires in a particular case. This divergence of opinions results from the fact that the justice system is administered by human beings with all their frailties of character and performance. Clearly, the justice system is not administered with the precision of a scientific test, and therefore, we cannot expect justice to be determined to any degree of scientific certainty. Nevertheless, science can materially aid our journey to justice by facilitating correct factual determinations in the search for truth.

In any legitimate justice system, factual truth must play a paramount and integral role in the determination of justice. The very survival of the rule of law depends not only on a justice system that administers the law fairly, but a system that is just by being well-grounded in factual truth. Likewise, one measure of a civilized society is how closely the justice that is meted out to its citizens conforms to the truth in its factual underpinnings. Without the precepts of justice, truth will not emerge, and without truth, justice cannot prevail.

It is this balance between truth and justice that must be kept in equipoise. Forensic scientists play an instrumental role in maintaining this balance—they are in fact the counterpoise that keeps it in compatible equilibrium. From developing, validating and implementing new methodologies and technologies to inculpation, exculpation, and exoneration of those accused of wrongdoing, forensic scientists have the ability to bring crucial facts to light, thereby giving justice a chance to endure.

But justice has not endured for all. Since 1992, forensic scientists, in conjunction with the Innocence Project, have used DNA analysis to exonerate 124 individuals who were actually innocent, exposing the hideous truth that others committed the crimes for which they were convicted (1). Unfortunately, not all cases in which convicted inmates maintain their innocence involve biological evidence, and even in some of those cases that do, the evidence is no longer available for DNA analysis. For those inmates, there may never be any hope of exoneration. Therefore, while the forensic science community endeavors to correct past miscarriages of justice where it can, it must also work toward preventing future

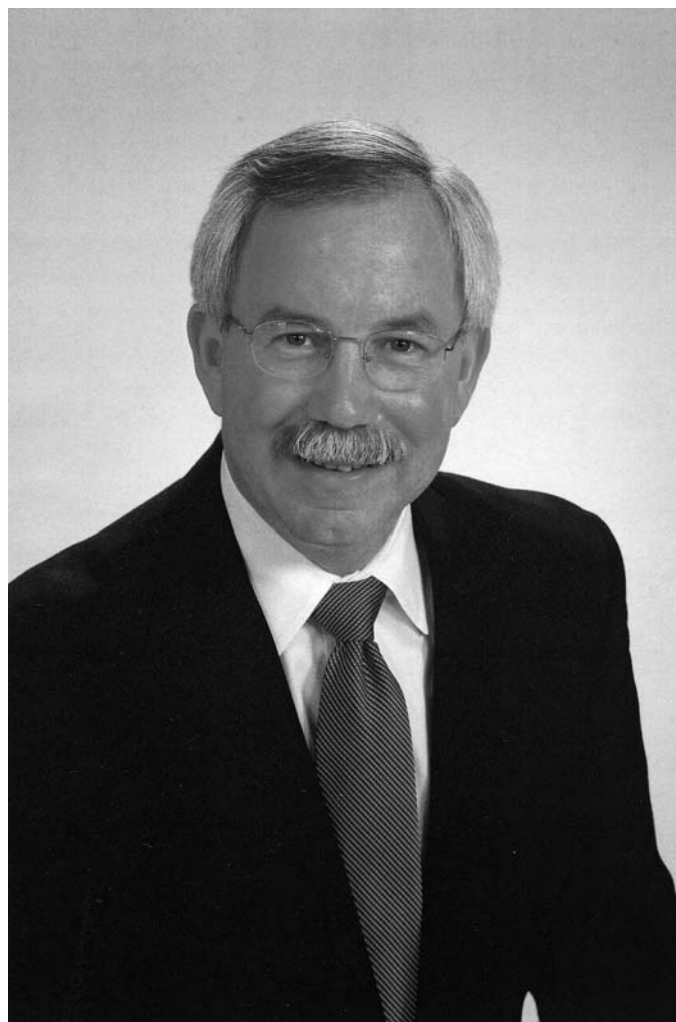


FIG. 1—Kenneth E. Melson, President, 2003–04, American Academy of Forensic Sciences

wrongful convictions, so that we are never again in the position of questioning the outcome of so many cases.

The contribution of forensic scientists to the search for truth begins with good science. Then, valid test results from the application of that good science must be delivered in a timely manner to the various justice system components. Unfortunately, backlogs are common place. Evidence awaiting scientific examination is warehoused in crime laboratories, medical examiner's offices and police evidence rooms around the country, creating the possibility of misguided investigations and delayed arrests. Victims continue to suffer without closure and perpetrators remain free to strike

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* The views expressed herein are solely those of the author and do not necessarily reflect those of the United States Department of Justice.

again. Timely delivery of services serves the dual purpose of protecting the innocent and apprehending the perpetrators.

DNA databases have proven to be one of the most significant law enforcement tools ever developed. Comparisons of evidentiary samples to DNA databases in cases where there are no suspects can provide numerous "cold hits," where individuals not previously considered suspects are identified as possible perpetrators of the crime or conclusively as the actual perpetrators. The experience with Virginia's DNA database establishes its value beyond any doubt. As of March 2003, there have been 1109 cold hits in Virginia since the inception of the program ten years ago (2). The spectacular value of this database is shown by the fact that 445 of these cold hits came in 2002, proof that as the size of the database increases and more evidentiary samples are compared, tremendous results can be achieved. But in many jurisdictions, neither evidentiary samples nor offender samples are being processed at a satisfactory rate because of budget or personnel shortages, depriving those jurisdictions, and the nation at large, of an important technique in ensuring public safety.

The National Institute of Justice (NIJ) estimates that the current backlog of rape and homicide cases alone approximates 350,000, and that between 200,000 and 300,000 collected, untested convicted offender samples remain in storage (3). On March 11, 2003, the Attorney General of the United States announced President Bush's initiative for the 2004 fiscal year budget to advance justice through DNA technology. If passed and funded, that legislation would significantly assist crime laboratories in meeting the challenges of an ever increasing demand for DNA analysis, could eliminate the DNA backlog, and, according to the Attorney General, allow us to "realize the full potential of DNA technology to solve crime and protect the innocent (4)."

Funding alone, however, will not achieve the full potential of DNA databases. The states and federal government must pass legislation which enlarges the category of crimes requiring offender sampling. It can no longer be assumed that only individuals who are arrested or convicted of violent crimes are appropriate candidates for the databases. In Virginia, 82% of the of the database matches would have been missed if the database were limited to only violent offenders. Similarly, in Florida, 45% of the state's DNA database matches were for offenders whose DNA was collected as a result of burglary convictions (4). From experiences like these, it should be clear that DNA databanking statutes should be broadened to include all felons. I would go even further, however, and suggest that DNA samples be recovered from those arrested for felonies in addition to those convicted of felonies. In my opinion, taking a DNA sample is no more intrusive either to one's body or to his or her privacy than taking fingerprints or photographs. Yet, the DNA sample is a far greater public safety tool, and we should be using this investigative technique to its fullest extent.

However, DNA analysis is not the only forensic technique that helps solve crimes. In fact, only about 5% of the cases which come into the crime laboratories involve DNA (5). There are budget shortfalls, equipment deficiencies, and personnel shortages that inhibit examiners in all the forensic disciplines from adequately producing timely and sometimes quality results for the criminal justice system. State and federal funding for crime laboratories and medical examiner's offices in all the forensic science disciplines are essential to reducing backlogs in the analysis of probative evidence and in improving the quality of the laboratory's deliverables in areas other than DNA.

Increased funding, however, is not alone a panacea for good science in the laboratory. The proper performance of reliable tech-

niques to produce valid results demands much more. Quality assurance programs have to be in place, enforced and monitored. Every crime laboratory and medical examiner's office should be accredited by a reputable accreditation program. Accreditation allows outside review of a laboratory's quality assurance program. Rigorous inspections ensure that these programs are in place and effective. Proper testing protocols, laboratory procedures, competency and proficiency testing, and administrative oversight protect the public from sloppy or negligent scientific examinations that could lead to the innocent suffering and the guilty escaping.

The American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) is a crime laboratory accreditation organization that has accredited more than 239 crime laboratories world wide (6). Many laboratories have significantly improved the quality of their operations and work product as a result of the accreditation process. Many of the failings of crime laboratories and examiners that we hear and read about may not have occurred, or may have been discovered much earlier, had the laboratories been accredited and actively participating in the ASCLD/LAB program. Accreditation of forensic laboratories, including medical examiner's offices and toxicology laboratories, should become a universal requirement everywhere, mandated by law if necessary (7). Again, funding is an important issue. Some laboratories do not seek accreditation because they do not have sufficient funds to make the improvements required for accreditation or to pay for the accreditation process. A cost-benefit analysis of accreditation cries out for the needed funding.

In addition to holding laboratories to the standards required for accreditation, individual forensic scientists should be measured by appropriate certification standards. Well educated, trained, and competent examiners are an important key to good science. Examiners should obtain certifications in their areas of specialization from reputable certifying bodies. The American Academy of Forensic Sciences sponsored the creation of the Forensic Specialties Accreditation Board (FSAB). This Board has promulgated generally accepted standards for forensic specialties certification bodies that will ensure the integrity and high standards of certification processes. Within a few years, I hope that we will see the FSAB stamp of accreditation on all reputable organizations providing certifications for forensic specialties.

Accreditation and certification programs enhance the reliability of scientific analyses and the validity of the results, thereby enhancing the search for truth in the criminal justice system. At the same time, however, we cannot let this truth be defeated by misfeasance, fraud, or deception. Unfortunately, we are all aware of individuals within the forensic science community, though few in number, who have altered or fabricated their examination results to falsely incriminate those suspected or accused of crimes. Those stories are well publicized and are devastating not only to the individuals falsely accused or convicted, to their families and to crime victims, but also to the public's confidence in the forensic science community. Everyone working in crime laboratories must be vigilant against fraud in their laboratory. Laboratory managers must use their quality assurance programs to help screen for these falsehoods. Again, accreditation helps protect the public by establishing within laboratories ongoing quality assurance programs and reviews that help prevent the possibility of testing shortcuts, fraud, and fabrication.

Even while we strive to improve our laboratories and increase examiner competence and integrity, the forensic science community must continue to conduct research. We cannot become complacent simply because many strides have been made. As our

understanding of science increases, and our technological capabilities grow, forensic scientists must continue to search for new methodologies and for new scientific associations between crimes and perpetrators.

In addition, more research is needed in the techniques and science already in use. With the importance of forensic science to truth and justice, the science employed and relied upon by judges and juries must be valid. It does not matter how well forensic scientists abide by testing protocols or how reliable the techniques are, if the underlying science does not actually reveal what the expert says it does. Method validation studies and new research must be ongoing even in the areas of traditional forensic science disciplines. Justice demands good science and we have an obligation to provide it. We can no longer expect the courts or public to accept the truth of our science merely because we say it is good. In order to maintain the integrity of both the science and the justice system, we must prove that it is so. Moreover, we cannot overlook the fact that scientific evidence was presented at many of the trials where innocent people were convicted and later exonerated by DNA (8). The evidence in many of the trials showed associations between the defendants and the victims or crime scenes. While modern day science is exonerating the innocent, it is also showing us that some inferences drawn from scientific associations in the past were wrong. The use of DNA to exonerate wrongly convicted persons has certainly taught us lessons about forensic science in general and underscores the importance of continuing research.

Finally, qualified independent researchers and research facilities should be solicited and encouraged to participate in both method development and method validation studies. This is, of course, another area where government funding is necessary. The involvement of independent researchers increases the credibility of the results and shifts the focus of critics away from the alleged bias of the researcher to the significance and validity of the research. As research succeeds in unlocking more secrets of science, the contributions of forensic scientists to the criminal justice process will be further enhanced and their role in the justice system will become even more important.

For now, the role of forensic scientists has two prongs, each of which helps fulfill the commitment we make in the Pledge of Allegiance—justice for all. Foremost, they are guardians of our safety and liberty. Forensic scientists help preempt false accusa-

tions and wrongful convictions by discovering through science probative facts that guide law enforcement and the judicial system to timely and correct arrests and adjudications. Forensic scientists are also avengers for the innocent, using advanced scientific methods to exonerate the wrongly convicted when traditional techniques of our adversarial judicial system fail to expose the truth. This dual role carries with it important responsibilities, requiring integrity, competence, and dedication on the part of each forensic scientist. I am confident that both these responsibilities and individual characteristics are now and will remain part of the profession's legacy. As our judicial system continues to strive for justice, its journey to reach that goal is made easier through the use of forensic science.

References

1. The Innocence Project at Benjamin N. Cardozo School of Law is a non-profit legal clinic founded in 1992 by Barry C. Scheck and Peter J. Neufeld. The Project only handles cases where post-conviction DNA testing of evidence can yield conclusive proof of innocence. The number of exonerations are as of March 13, 2003. For further information, see the Project's web site at www.innocenceproject.com.
2. Virginia Division of Forensic Science, March 11, 2003. See their web site at www.dfs.state.va.us.
3. The United States Department of Justice Fact Sheet: The President's Initiative to Advance Justice Through DNA Technology, March 11, 2003, pp. 1–2. Also see, www.usdoj.gov.
4. Prepared Remarks of Attorney General John Ashcroft: DNA Initiative, March 11, 2003, delivered at the press conference announcing the President's Initiative to Advance Justice Through DNA Technology.
5. Consortium of Forensic Science Organizations, March 2003.
6. ASCLD/LAB, March 13, 2003.
7. New York and Oklahoma are the only states that require forensic laboratory accreditation. Oklahoma requires that by July 1, 2005, all forensic laboratories be accredited by ASCLD/LAB. 74 Okl.St. Ann. § 150.37. The National Association of Medical Examiners (NAME) accredits medical examiners systems and the American Board of Forensic Toxicology (ABFT) administers the Forensic Toxicology Accreditation Program.
8. National Institute of Justice, *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial*. "A majority of the cases involved non-DNA-tested forensic evidence that was introduced at trial. Although not pinpointing the defendants, that evidence substantially narrowed the field of possibilities to include them." Id. p.15. "In many of the study cases, according to documentation examined and those interviewed, scientific experts had convinced juries that non-DNA analyses of blood or hair were reliable enough to clearly implicate the defendants." Id. p. 25.