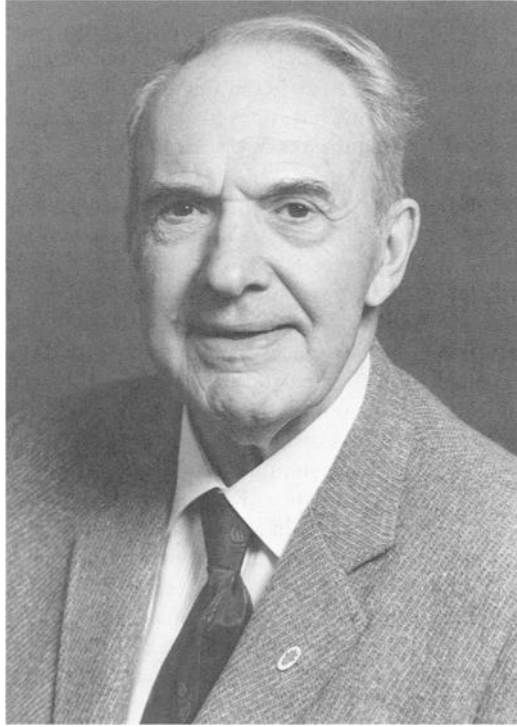


GUEST EDITORIAL



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Science and the Law

Science generates knowledge. Law synthesizes this knowledge into the culture of society. By the processes of litigation and legislation, law constantly accepts, rejects, or transmutes scientific knowledge to establish justice. The sciences which leave the laboratory and enter the courtroom or legislative hall to aid in the achievement of justice are called the forensic sciences. For nearly four decades the American Academy of Forensic Sciences has been the principal association spearheading the better utilization of science in the processes of legislating and litigating. The culture of North America, where the Academy has concentrated its efforts, has been nurtured well by the Academy's efforts. Science has changed law both substantively and procedurally, and law has also influenced science to promote its growth and effectiveness. This mutuality invites our attention.

The effect of the forensic sciences on law can be measured first in the growth of the forensic sciences literature. Before 1950, the *Index to Legal Periodicals* listed references on the forensic sciences and law only sporadically. Because of little concern and even less interest in the legal world for the forensic sciences, legal articles involving forensic sciences were few and far between. With the *Journal of Forensic Sciences* as a flagship periodical, the literature of law and the forensic sciences has grown dramatically. Litigators and legislators have made use of this growing literature. A higher level of justice has been achieved. The culture of North America has absorbed science into the law to the benefit of the citizenry.

In addition, with the knowledge produced by science, a major increase in the opportunity to use the scientific expert witness for litigation and legislation has effected profound changes. The lay witness has given way to the scientific witness. The five human senses of lay witnesses can be temporized by the more discerning microscopes of expert witnesses. Truthful scientific facts and valuable scientific opinions have improved legal decision-making.

Also, the advance of scientific knowledge in the areas of health care, dangerous products, and the pollution of air, water, and land have opened unbelievable legal activity. This knowledge could well lead to remarkable advances in the use of the forensic sciences for civil justice.

While science has been impacting the legal processes, how has law been influencing the sciences? When the U.S. Supreme Court ruled, in the *Miranda* case, that confessions given without a proper warning at arrest were inadmissible, the need for scientific evidence to overcome the lack of an admissible confession forced law enforcement to upgrade its competency to make scientific investigations. Better educated personnel and upgraded scientific facilities were required. The forensic sciences have flourished as a result of this constitutional decision. Also when in 1967 the report of the President's Commission on Crime and Violence was received, the federal government became concerned with local and state law enforcement. The Law Enforcement Assistance Act, the Omnibus Crime Act, and other federal legislation authorized federal expenditures and instituted federal policies to upgrade local and state criminal justice administration. Funding to improve scientific efforts in this field greatly nurtured the forensic sciences in a most positive way.

Then when the federal judiciary held that all persons, charged with a crime carrying as punishment any incarceration, were entitled to legal representation even at the state's expense, the Anglo-American adversary system in criminal procedures became more in balance. Today, many public defenders and legal defense counsel are worthy adversaries of district attorneys and prosecutors in the forensic science aspect of the criminal trial. As the result of this legal development, the expert scientific witness is honed by examination and cross-examination to a higher level of competency.

Finally, in civil justice the law's expansion of medical malpractice principles in health care has encouraged a greater need for forensic scientists who provide authentic facts and scientific opinions in civil lawsuits. The same conditions prevail in the product liability area as well as the pollution issues which confront North American society.

As the Academy of Forensic Sciences enters its fifth decade of professional activities certain opportunities are suggested by the observations set forth above. A recognition of the intertwining of science and technology in the processes of justice is imperative. Investigation, research, and publication concerning this rapidly growing "double helix" in litigation and legislation should better equip law to synthesize science and technology into the North American culture. The expansion of the Forensic Sciences Foundation as a provider for and supporter of research projects will fulfill the dream upon which the Foundation was established. To achieve this role, financial support is imperative. With a tax exempt status from the U.S. Internal Revenue Service all is in place to receive funds. The immediate task is to find the funds, locate the donors, and tell the story of the opportunities to use science in the pursuit of justice. Both Canada and the United States have benefited greatly from the professionalization of the forensic sciences through the efforts of the American Academy of Forensic Sciences. The past has been filled with lustre, but the future beckons with even greater opportunities for human well-being if the true story of the forensic sciences is told to the people of Canada and the United States.

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