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Problems of Ethics and Behavior in the Forensic Sciences

Ethical conduct in the forensic sciences vitally affects the public interest. Although the primary thrust of this discussion is concerned with criminalistics, many of the fundamental concepts are relevant to all of the forensic sciences.

Inasmuch as criminalistics is a word that means different things to different people, a definition is in order. In its broadest sense, criminalistics refers to the application of science and technology in the examination and evaluation of nonmedical physical evidence to the application and execution of the criminal law. The functions of criminalistics include the subspecialties of forensic toxicology, forensic serology, forensic chemistry, forensic physics, firearms evidence examination, and questioned documents. These subspecialties all have one fundamental principle in common which serves as their central linkage, the science of identification. The subject matter and materials of examination of these subspecialties differ from each other qualitatively, but the principles of examination and evaluation provide a common basis for the functional core of criminalistics, of which they are part.

Forensic science is a descriptor which has come into use for this same type of practice, but it is even more broad in that it includes problems and adjudications in noncriminal law as well. For the purpose of this presentation, forensic science is the descriptor which is used to include criminalistics and its subspecialties.

The dictionary definition of ethics [1] is as follows: "1. The study and philosophy of human conduct with emphasis on the determination of right and wrong. 2. The principles of right conduct, especially with reference to a specific profession, mode of life, etc."

If a code of ethics involves concepts of right and wrong based upon the existence of a profession, the first real question before us then is this: Is there really a specific profession of criminalistics or forensic science? The dictionary does not supply a sufficient answer to this question. However, Vannevar Bush, a great American scientist-philosopher and former president of the American Chemical Society, has framed this definition which seems to fit all professions [2]:

The hallmark of a profession is that its members minister to the people. It is out of the concept of ministry—of the assuming of responsibility for the vital affairs of others because of superior specialized knowledge—that there has grown the idealism of the professional man and the recognition in him by others of a quality of altruism which is its own reward. Upon this recognition by the people is based the continuance of a profession, for it exists *only* as the people, because of confidence in its own integrity and faith in its general beneficence, permit it to maintain its own prerogatives to speak with authority in its own field.

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The practice of forensic science, whether it be as broad as in a publicly operated crime laboratory or as limited as in a privately conducted forensic science operation concerned only with noncriminal regulatory matters, is characterized by this definition of a profession. Such operations certainly do assume the vital affairs of others because of superior specialized knowledge, that is, "ministry"; do provide for the idealism of the professional man; and have caused the recognition in the professional by others of a quality of altruism which is its own reward. As noted in Ref 3,

Vannevar Bush has noted as one of the important characteristics of a profession that the typical client who buys professional services is not in a position to judge their quality for himself. He must rely upon the reputation of the individual professional practitioners and the standards of conduct maintained by the profession as a whole. *Caveat emptor* does not apply.

The purpose of a code of ethics is to control professional behavior so as to safeguard the integrity of concept and pursuit of objectives of the profession and to maintain faith in its general beneficence.

Within the forensic sciences, there is the medical profession and its many specialties. There is also the legal profession with its many specialties. Both of these groups are well-established professions with adopted codes of ethics. The remainder group within the forensic sciences practice constitutes what is known in its broadest sense as criminalistics when applied to crime laboratory work, or as forensic science, which always applies to both criminal and noncriminal investigatory problems. This group has professional responsibilities as specified in the maxims of Vannevar Bush, but it is a group which has no codified, generally accepted concept of principles, purpose, mode of operation, or even educational and experience requirements. Except for narrow areas, such as blood alcohol analysis, licensing, certification, and registration have never been requirements in any state. There are no uniformly established standards of practice and, with minor exceptions, there is no code of ethics established for the conduct of crime laboratory personnel beyond the boundaries of any one state.²

Forensic scientists within this group are called upon daily to conduct examinations and evaluations and to provide programs to support public protection agencies. All of these acts and activities have an impact upon the lives of individual persons who are affected by the outcome of this practice, and they have an enormous impact upon the public interest. This impact is equally as significant and profound as is the impact of the work of a lawyer, medical practitioner, architect, accountant, or any other licensed professional to his clients or to a public agency. Yet the practitioner of criminalistics, or forensic science, is not bound by any generally agreed-upon code of conduct.

The answer to the first question, "Is there a profession of criminalistics or forensic science," is both "yes" and "no," but more "no" than "yes":

- (1) YES, because all of the elements of moral responsibility of a profession are present;
- (2) YES, because good communication with each other prevails through the American Academy of Forensic Sciences and other professional associations;
- (3) NO, because there is no uniform standard of practice or concept of moral conduct in the pursuit of responsibilities;
- (4) NO, because there is no central focus on principles of operation and qualifications;
- (5) NO, because there is no established core curriculum in education, nor is there a current organized discussion on this point, although it was suggested in 1970 [4]; and

²The California Association of Criminalists has had a code of ethics since 1957. The American Society of Questioned Document Examiners has also had a code of ethics for many years.

(6) NO, because there is no cohesive effort being made to bring forensic science practice to the objective of a fully professional level from its embryonic stage.

What is the effect of present deficiencies? In 1950 there were very few forensic science laboratories in North America. Toward the beginning of the 1970 decade, the space age contributed advances in science and technology which have provided a new era in available capability for forensic scientists. Some people have been quick to utilize it, others have not.

The Law Enforcement Assistance Administration (LEAA) at about this same time mounted a tremendous criminal justice funding effort, little of which has benefited the practice of forensic science. However, in a few states in which the local distributors of LEAA funds wanted to give priority of their block grants to forensic science, some drastic expansions have occurred in available crime laboratory services, whether or not optimal or effective. A uniform concept of operational modes, standards of practice, a code of ethics, and position classification prior to this would probably have prevented a great deal of the turbulence brought on by the hasty application of available funds which has resulted in less than optimum effectiveness of the overall funding effort that has been applied. Today, publicly operated crime laboratory systems of various kinds exist in great abundance as compared with the 1950 period, but operational guidelines and quality control have been lacking. Local governments have demonstrated very little interest in going even so far as to develop uniform workload reporting concepts that have a specific purpose or to request assistance for the optimization of crime laboratory operations, even though LEAA funding has been available for this purpose. Analyzing and upgrading crime laboratory operations is a badly neglected area.

On the point of professional independence, the most ideal situation is to have crime laboratories function as independent agencies of government. Whether or not this particular system concept can be achieved as a breakout from current political structure remains to be seen in the years ahead.

In January 1973, under an LEAA-funded project, the National Advisory Commission on Criminal Justice Standards and Goals published its *Report on Police* [5], which consisted of views and recommendations which should be implemented. Standard 12.2 of this document established guidelines for crime laboratories which recognize the problem of possible subservience of a scientific laboratory within police organizational structure. Therefore, the standard urges independence from operational police control, to wit: "The laboratory should not function as a tool of any investigative or patrol unit" and "The laboratory director should be accountable to the agency's chief executive." There are many other guidelines in this standard which, if followed, would do much to upgrade crime laboratory operations in the U.S.A.; yet, there is little if any evidence at the present time that any attention has been paid to the standard in the form of an effort to comply with it.

The statement of need for independence of forensic science operations from police control is reinforced by the findings of a report prepared for the National Science Foundation entitled "The Role of Criminalistics in the World of the Future" [6]:

Criminalistics has become an office in a bureaucratic arrangement in which the materialization of professional purpose must be reviewed against the background of institutional objectives that often subvert, compromise, or reconstitute the various purposes that bureaucratically controlled professionals hold.

In examining the complacency to recommend concepts and the necessity and opportunity to upgrade, it is not difficult to conclude that the practice of forensic science in reference to continued faith in its beneficence and confidence in its integrity by the general public is in serious jeopardy. Despite the high standards of practice and

moral conduct maintained by many crime laboratories, there are also those which operate in a questionable fashion. Because of exposure of the inner operations of some such laboratories through studies [6] and through the process of evidence discovery in both criminal [7] and civil [8] proceedings in recent years, there have been an increasing number of inadequate and bad practices brought to light. Some judicially documented violations of integrity have been demonstrated [7-9] that could have been prevented by adherence to an appropriate code of ethics. This question needs to be asked in every such case: Is one of the causes of such problems a result of "This is what the boss wants" attitude instead of "This is what is needed for the public good"?

Of acute interest to all of us today then is Bush's [2] precept to the effect that a profession will be allowed to maintain its own prerogatives and to speak with authority in its own field only as long as society has continued faith in its general beneficence and confidence in its integrity.

Forensic science as a professional concept could disintegrate if regulation of the construction of its systems and the behavior of its constituents is not controlled by rules. What principles should be addressed in such a code of ethics?

Some insight can be rapidly gained by examining those codes that have been created by other professions such as accountants, architects, clergy, engineers, lawyers, physicians, and public employees. Here are some randomly taken fragments from those sources [3] which may be useful to consider.

1. A confidential relationship is inviolate.
2. A member may not sign work prepared by others.
3. Work must be in compliance with generally accepted standards of practice.
4. Contingency fees are prohibited.
5. A member may not express any opinion in any matter in which there is personal or family interest unless there is full disclosure.
6. Protection of the public interest from all parties must be maintained.
7. A member must disclose all material facts necessary to avoid a misleading report.
8. A member must report any known misstatements of material fact.
9. In reference to evaluations, a member is guilty of a discreditable act if he is materially negligent in the conduct of an examination or in a report, for example, if he didn't use a method of sufficient sensitivity or specificity to solve the problem; if he fails to acquire sufficient information to warrant the expression of an opinion, for example, if insufficient exemplars have been collected in a handwriting comparison to achieve a proper sample of normal handwriting; if he ignores exceptions that are sufficiently material to negate the expression of an opinion, for example, if the Reinsch test for arsenic is positive but microscopic crystals are not typical; if he fails to direct attention to any material departure from generally accepted examination principles, for example, if he used one tenth the volume of blood sample required for quantitative drug analysis and then multiplied by ten; or if he fails to disclose any material omission of generally accepted procedure, for example, if he omitted blanks and control sample in a quantitative analysis.
10. One should avoid laudatory self-assertion.
11. Independence is the foundation of the profession, and the profession's strength and status depend on its stature.
12. Moral character and educational minimums must be required.
13. Reporting of known ethics code violations is mandatory.
14. Those holding public office as servants of the public are not owners of authority but are agents of public purpose.

Aside from these notions, forensic science has some ethical requirements of its own which are peculiar to law-science practice. Some of these are managerial in nature, and

they involve the institution of operational procedures and disciplines within a crime laboratory system which will provide adequate means of compliance with rules of evidence as well as rules of scientific practice while at the same time providing optimum utilization of resources.

Optimization here means not operating a crime laboratory as a catch-all for any physical evidence that an investigator might want to drop into it without regard for its specific usefulness in his case. It means giving priority to those cases which have a potentially productive outcome and which could, if successfully concluded, have an effective impact on the enforcement or adjudication mechanism. In this way a precious resource is conserved for maximum effectiveness. It also means operating in consonance with disclosure procedures and referee tests, such as reexamination of evidence pursuant to stipulation or court order. For example, aside from the scientific basis for notes and records, and given that discovery is an accepted principle in both criminal and civil litigation, is it not reasonable to expect that a system of note-keeping on each and every case should be devised which is available for discovery and will adequately document the basis for any findings and conclusions which are made? It is amusing how one sometimes may observe that a person, after working several months in a laboratory, has a complete and accurate memory, unrefreshed by notes or records, so that he is able to give direct sworn testimony about the details of laboratory identification in a specific case; yet, during cross-examination, he has no memory of any details other than those he testified to so explicitly on direct examination. Present-day crime laboratory personnel have been observed in some cases to make statements that instrumental charts or analyses have not been retained, spectrographic negatives have been discarded, photographic records of shoeprint, tool mark, bullet and cartridge case comparisons were never made to document results, and so forth. Some laboratories do not even make notes or keep a case file. In such cases, a relevant party is effectively denied the opportunity to properly examine the evidence which is presented against him. It is my opinion that conclusions and opinions in forensic science are of little, if any, value without reference to the substance upon which they are based. Observations have been made, also, of situations in which the method used is not capable of detecting the identifications being sought.

Some of these matters involve management ethics, because the managers of these systems allow such bad practices to exist and permit them to continue without correction. This extract from the "Report of the January 1970 Grand Jury" demonstrates the urgent need for ethics in forensic science [9].

In short, the Crime Lab was responsible, in part at least, for a totally inadequate search and for a grossly insufficient analysis. The testimony of the firearms examiner that he could not have refused to sign what he believed was an inadequate and preliminary report on pain of potential discharge is highly alarming. If true, it could undermine public confidence in all scientific analysis performed by this agency.

Another type of unethical conduct has been demonstrated by a situation in which a medical examiner had reported that death resulted from puncture wounds, which were the only wounds reported. The law enforcement investigation proceeded upon this basis. Subsequently, the manager of forensic science crime laboratory of the jurisdiction sent some of the evidence to the FBI laboratory for examination. It was found and later confirmed by another postmortem examination that several bullet holes were present in the shirt. The law enforcement agency had to reorient its investigative position. The enforcement agency chief later admonished the laboratory director for causing this embarrassment and gave him a direct order never again to send any evidence to the FBI laboratory for examination. Although an enforcement agency chief cannot be controlled by a forensic science code of ethics, this kind of an event is but one demonstration of

the need for the institution of forensic science systems that are independent of the executive control of public protection agencies.

If a forensic science code of ethics were nationally recognized and enforced, the stature of the profession would be enhanced to the point that an individual forensic scientist in public employment would have some chance of standing his ground and insisting upon the observance of correct practices. The maxim of Vannevar Bush [2] is again applicable: "It exists only as the people permit it to maintain its own prerogatives and to speak with authority in its own field."

It seems quite clear that a code of ethics for forensic scientists is not only needed but long overdue. In addition to the forensic science need, it may be that the legal and medical sections of the Academy will each find it useful to add a forensic science-oriented addendum to its existing code of ethics.

I have felt obligated to discuss this topic which vitally affects the public interest. I have tried to examine the surface of a profound subject which has multiple ramifications. I hope that it will contribute support toward the establishment of a Code of Ethics for Forensic Scientists.

I do feel certain about one thing: if this Academy does not take action on the matter of ethics, no one else will, for there is no other forum which has the capacity to do so! If we default, then *caveat emptor* will surely prevail.

References

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- [8] *People v. Sirhan*, County of Los Angeles No. A233421, Comprehensive Joint Report of the Firearms Examiners, par. 3, 4 Oct. 1975.
- [9] *Report of the January 1970 Grand Jury*, U.S. District Court, Northern District of Illinois, Eastern Div., p. 121.

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