

5. Libraries of analytical data are badly needed. These data banks would greatly assist in the analysis, evaluation of analytical results and their interpretation as to specificity of source of evidentiary material.

6. There is no tradition of support for crime laboratory facilities in many communities. This lack of a tradition of support for the crime laboratory and its disciplines—the Forensic Sciences—likewise extends into the private sector.

PROPOSED ATTACK ON THE PROBLEM

Unlike other disciplines and other important areas of public affairs, the forensic sciences have not enjoyed the presence of a “critical mass” which could actively engage itself in a sustained program to overcome inadequacies and meet needs. Unlike the other major professions, the forensic sciences are dependent upon an extremely tenuous relationship with the academic community.

What also has been lacking is a special service mechanism which could accommodate all those initiatives which must be applied to solve the problem. In the absence of such an agency, the forensic sciences have not been able to gather their resources and bring them to bear to provide solutions.

The Forensic Sciences Laboratory of Georgetown University has devoted a year to study of the problem, of various options for solution, and of the design of recommended programs to produce immediate and sustained improvements through the most efficient utilization of resources.

To take the positive steps necessary to solution, it is proposed herein to launch a center for the forensic sciences as an integral part of the University complex. The proposed center would provide a university base for the forensic sciences and also serve as a model for similar activities at other universities throughout the nation.

Programs to which the new center would address itself are as follows:

Continuing Education.—Post secondary course areas would be offered with special emphasis on the needs of presently practicing laboratory experts as follows:

- a. Forensic Toxicology
- b. Forensic Serology
- c. Forensic Pathology
- d. Forensic Crystallography
- e. Hair and Fiber Analysis
- f. Forensic Ballistics
- g. Several specialized areas of Document Analysis, such as ink analysis by spectrophotofluorometry, advanced study in handwriting identification, the graphic arts, typography.
- h. Several specialized areas of Instrument Analysis, such as: Neutron Activation Analysis, Ion Sputtering Source Mass Spectroscopy, X-ray Fluorescence Spectroscopy, Emission Spectroscopy, Infrared-visible-ultraviolet Spectrophotometry, Gas Chromatography, Thin Layer Chromatography, Electron Spin Resonance and others.
- i. Experimental design techniques and statistical evaluation methods and their application to laboratory procedures.

Certification for Expert Witnesses.—Certification standards for expert witnesses in 10 delineated areas of practice will be developed.

Studies to Apply New Knowledge.—Investigation by the Georgetown University Forensic Sciences Laboratory into priority needs and the consensus of the profession pinpoint the following areas as critically in need of the benefits of advances which are known in related basic science fields. Fortunately, these problem areas are particularly amenable to solution by application of the unique resources of personnel and facilities found to exist in the University complex and the community, and these resources can be applied to the studies at once:

Hair Identification by Organic Composition.—Three categories of organic composition of human hair will be studied: (a) Characteristic fat or “lipid” composition; (b) Pigmentation pattern or “melanin” composition; (c) Drug content of melanin pigments.

Dried Blood Identification by Adaptation of Wet Blood Characteristics.—Despite extensive advances in wet blood research, forensic specialists in blood-stain identification are as yet unable to extend beyond the basic ABO grouping to take advantage of these advances. Immediate studies by individuals especially equipped to do so at the University and elsewhere can be undertaken in the following areas: