

Advanced computer methods including on-line real time data analysis, pattern recognition, data handling—acquisition, compression and transmission systems; techniques developed for the transmission and denoising of transmitted television images as a means of speeding the transmission and utilization of evidentiary data and many possible in-laboratory applications such as advanced scanning and digitizing as a means of extracting data from handwriting and hand printing.

Advanced technology in electron probe microanalysis for the analysis of extremely small areas, which instrumentation should be within reach of larger crime laboratories.

The starlight scope image intensification system for assistance in observing illegal activity taking place under cover of darkness. These devices reportedly were in use in Viet Nam more than two years ago and may constitute a type of the hardware on the shelf which Dr. Blumstein referred to.

Advanced medical research and technology in blood analysis for parameters of genetic and environmental origin.

Work being done in the development of methods of interpretation and management of information as a basis for decision making under stress as a means of reducing the subjectivity of the process of evaluating evidentiary findings as well as a possible tool in riot management.

For the benefits of work in the above areas to be effectively introduced into the main stream of the Forensic Sciences, several things are necessary.

These are:

- (1) Extension of development work oriented to the special needs of the Forensic Sciences,
- (2) Better rapport between the Forensic Sciences and ongoing research in related fields, and
- (3) Greatly increased public awareness of the needs and their importance.

To extend the development work and increase the inter-discipline dialogue, especially the first, obviously funds are needed.

A Congressional group, such as described, could if properly staffed, produce dramatic results with a budget of \$150 thousand for the first year of operation, including within that total \$50 thousand general administrative costs and \$100 thousand in unfettered funds for developmental research. The second year budget would more nearly approximate the normal operating budget; which would approximate \$500 thousand annually, of which about \$100 thousand would cover general administrative costs and \$400 thousand would be available in unfettered funds for developmental research.

Funding for the design and production of hardware based on new knowledge from this source would logically fall within the purview of the LEAA.

3. As we understand the functions of the FBI's laboratory, it is primarily a service laboratory devoted to the analysis of evidence and to whatever research and development is needed for its services. To what extent would it be desirable for this laboratory to seek a leadership position in the forensic and police sciences?

3. The FBI Laboratory already holds a position of leadership among the Nation's crime laboratories and from this vantage point has contributed and is contributing substantial benefits to Law Enforcement. As to whether the FBI Laboratory does or should undertake to assume responsibility for the work of other crime laboratories involves a complex of considerations, such as those bearing on delegated mission, those pertaining to recent legislation, the extent of Federal objectives, etc. Any contemplated change should be carefully examined in this light.

4. What work is being performed by Georgetown's Forensic Sciences Laboratory and what is planned for the future?

(a) How does this differ from the work being performed at the FBI Laboratory?

4. The Forensic Sciences Laboratory of Georgetown University's Institute of Criminal Law and Procedure is engaged, within the limits of its own resources, in applying and investigating the application of the analytical techniques used in medical research and in basic research in the physical sciences to the extraction of parameters from handwritten ballpen ink lines which parameters are or may be useful in determining possible sources of the ink and in developing information relative to its possible maximum age. The Laboratory is building a bank of the data it is acquiring.

The technology which has been developed in the Laboratory has been made available to the Nation's forensic science laboratories, the dye industry, the ballpen ink industry and others. The Laboratory has provided assistance in this