ASSESSMENT OF THE FORENSIC SCIENCES PROFESSION

A Legal Study Concerning the Forensic Sciences Personnel

Volume III

National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
U. S. Department of Justice

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By

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This project was supported by Grant Number 73-NI-99-0052-G, awarded to The Forensic Sciences Foundation, Inc., Rockville, Maryland, by the National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice, under the Omnibus Crime Control and Safe Streets Act of 1968, as amended. Points of view or opinions stated in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

March 1977

National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
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For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price $3.55

Stock No. 027-000-00504-7

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PREFACE

The forensic sciences are in, of, by and for the law. No science is forensic until the justice system so decrees. With this understanding, the "Legal Study" for the "Assessment of the Forensic Sciences in American Criminal Justice" becomes the foundation stone. To comprehend and assess what is happening in the forensic sciences one must first study the law and the legal system which undergirds the American criminal justice. This publication is truly Part One of the project. It is, in fact, the first of three reports dealing with an assessment of the forensic sciences personnel in criminal justice.

ACKNOWLEDGEMENTS

We gratefully acknowledge the scholarly assistance of the following students in the preparation of this Legal Study.

Researching the Science Literature:

Judith J. Liebman

Kathy Zimmerman

Case Western Reserve University,

School of Library Science.

Researching the Law Literature:

John D. Flynn

Andrew Hoffman

Stephen Knowling

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Editing the Legal Study manuscript:

Jeffrey Kraft

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SUMMARY

I. Purposes:

A. To identify where and how the forensic sciences personnel relate to American criminal law and procedure.

B. To determine how criminal trial judges and lawyers assess the value of the forensic sciences personnel to American criminal law and procedure.

II. How does this legal study concerning the forensic sciences personnel relate to the assessment of the forensic sciences personnel in American criminal justice?

A. It reveals the role played by the forensic sciences personnel in criminal law and procedure.

B. It evaluates the need for the forensic sciences personnel in criminal law and procedure.

C. It demonstrates how criminal law and procedure authorize, restrict, or prohibit forensic sciences personnel in the criminal justice process.

III. Findings

A. The use of the forensic sciences personnel in the criminal justice process has developed over an extended period of time. Within the American legal system is much variation in handling forensic sciences because of the more than

fifty soverign jurisdictions which consider forensic sciences problems.

B. No clear and acceptable definition of the forensic sciences exists in the law literature or in the science literature.

C. What is a forensic science is determined by the law process not by the science process.

D. The differences in the attitudes between judges and lawyers toward the forensic sciences problems revealed through responses to the questionnaire were generally not significant.

E. The lack of an identifiable occupation of the "forensic sciences" in the U.S. Department of Labor analysis of the American employment opportunities may cause difficulty in qualified and interested individuals entering the forensic sciences professions.

F. Trial judges, historically and today, make determinations almost daily of who is a qualified scientific expert or forensic scientist for the purpose of testifying in criminal trials.

G. Legislation affecting the forensic sciences personnel has developed rapidly in the past two decades and has or will soon surpass judicial decisions in importance for legal effect on the forensic sciences personnel.

H. Traditionally, the forensic sciences personnel emerged basically from the medical sciences, but today the expanded utilization of the physical, natural and life sciences as well as the behavioral sciences casts a much larger domain. The concept of medicine and the law has transformed into the concept of the forensic sciences and the law.

I. A great lack of comprehension on how forensic sciences personnel can fully aid criminal justice is apparent because of the lack of education and training for law students, lawyers and judges in the forensic sciences areas.

J. Of those law persons using the forensic sciences over 90% desire greater utilization of forensic sciences personnel because of their superior credibility in legal decision-making.

K. Greater use of forensic sciences personnel is barred basically for two reasons: such personnel are not available, or funds are not available to procure the expert scientific services.

L. Licensing and/or certification of forensic sciences personnel through some public legal procedure or private professional procedure acceptable to the law are greatly desired by judges and lawyers who are the users of forensic

sciences personnel.

M. While the credibility of the behavioral sciences may not be as great as the "hard" sciences such as fingerprint identification, chemical tests, or odontology examinations, the behavioral sciences are increasingly desired to aid in the criminal law decision-making: primarily for disposition of the convicted defendant, secondarily to determine an accused's guilt or innocence.

N. Psychiatry and its personnel have been the leading source of the legal action which involves the forensic sciences.

O. Technological instrumentation is rapidly increasing as an acceptable source of legal evidence for law decision-making in such areas as alcohol determination or deception identification. This development is introducing forensic technologies personnel to legal decision-making as distinguished from forensic sciences personnel.

P. The primary source used by lawyers to locate a scientist is to ask a fellow-lawyer. The procedure suggests either that the forensic capacities of the personnel may be more desired than the scientific qualifications, or that no practical scientific source exists for the location and identification of the required forensic sciences personnel.

Q. Lack of the services of forensic sciences laboratories and facilities, particularly for psychiatric services, is acknowledged. Defense counsel appear to be especially handicapped in obtaining such laboratory services.

R. While the forensic scientist may be legally qualified to give his or her opinion at the criminal trial, the weight of that opinion is solely determined by the decision-maker, judge or juror, and generally rests upon the extent of the scientist's education, training and experience.

S. The significance of the forensic sciences personnel is not limited to prosecution of the guilty person. It also provides: greater assurance to the decision-maker that he or she has arrived at the correct decision, greater protection to assure that the innocent will be freed; greater comfort to the citizens of a community in learning through scientific disclosure of the factual truth concerning disagreeable community episodes.

T. The changing laws which provide opportunity for an accused to discover scientific data in the hands of the police and prosecution, to test such scientific data and to obtain the expert testimony of a

forensic scientist at the trial have strengthened and will continue to strengthen the value of forensic sciences personnel to the ultimate achievement of justice.

U. As new community crime problems are detected by forensic sciences personnel, those personnel can influence legislatures and administrative bodies to make the needed changes in the substantive laws in order to meet new and pressing public problems.

IV. Recommendations

A. An intensive training of judges and lawyers as well as police in the capacities of the forensic sciences personnel to help in the criminal justice process is urgently needed.

B. A method for determining the scientific qualifications of forensic sciences and forensic technologies personnel by licensure and/or certification is essential for today's criminal law procedures.

C. A reputable information source for rapid identification and location of needed forensic sciences and forensic technologies personnel is needed to serve not only the local and state communities but the national community as well.

D. The expansion of strategically located regional and metropolitan forensic sciences laboratories within states will encourage greater use of the forensic sciences personnel in the criminal justice process.

E. Research on the wisdom and efficacy of establishing within a given jurisdiction a comprehensive legislative program with administrative organization is suggested; to stimulate research in the forensic sciences; to encourage education and training of the forensic scientists and the law practitioners, both separately as independent professionals and together as integrated providers of a justice delivery system which demands the best of both science and the law; to evaluate constantly the proficiency of the forensic scientists and to assess the capacities of the legal practitioners in the utilization of these forensic scientists; to license or certify to acceptable qualification standards all forensic sciences and forensic technologies personnel.

THE FORENSIC SCIENCES IN AMERICAN CRIMINAL JUSTICE:

A LEGAL STUDY

CONCERNING FORENSIC SCIENCES PERSONNEL

Chapter I

INTRODUCTION

If one searches the historic literature of science, he will search in vain for forensic sciences. Biological sciences, physical sciences, and behavioral sciences were born and have matured in the scientific processes of the past five centuries. The forensic sciences have emerged from the legal processes, primarily in the 20th century. However, psychiatry, as a forensic science, has certainly been in the legal process since M'Naghten's Case, 8 Eng. Rep. 718 (1843) set the basic law for criminal responsibility. Likewise, pathology, where it has been concerned with the medical cause of death, can be traced back many centuries in the operation of the legal office of coroner. Here, the scientific decisions of the cause and manner of death have been made. In truth, the processes of justice have given birth to the forensic sciences over an extended period of time. A contemporary definition of the forensic sciences could be: any and all of the intellectual disciplines which use the scien-

tific processes to make scientific decisions and are or can be, utilized in the administration of justice to make legal decisions.

Since the forensic sciences are born of the law, a legal study of how, where and why provides for these sciences is mandatory. Legal research has led in two directions: (1) In terms of law research, what do the legal cases, statutes, regulations, treatises and periodicals reveal; (2) How do the legal practitioners, as judges or lawyers, evaluate the forensic sciences personnel in their daily administration of American criminal justice?

Law research included a perusal of legal literature from the 50 states, federal, Virgin Islands, and Puerto Rico jurisdictions.

Practitioner research was made with a questionnaire mailed to 5550 judges and lawyers involved in criminal justice processes. The massive survey universe included persons in all jurisdictions of law serving in the criminal trial area.

No such prior survey has ever been made according to the officials of the National District Attorneys Association and the National Association of Criminal Defense Lawyers. Unprecedented and comprehensive, the results are challenging. (See Appendix A)

Science literature research outside the law literature research was also deemed wise to obtain a broader analysis of what is the scientific assessment of the forensic sciences in contemporary criminal justice. (See Appendix B)

The results of these avenues of search can now be assayed.

Chapter 2

WHAT ARE THE FORENSIC SCIENCES?

The following definitions indicate the unstructured and unbounded possibilities of what the forensic sciences might include.

A. Black's Law Dictionary, Rev. 4th Ed. 1968, p. 777.

> FORENSIC. Belonging to courts of justice.
>
> FORENSIC MEDICINE, or medical jurisprudence, as it is also called, is "that science which teaches the application of every branch of medical knowledge to the purposes of the law; hence its limits are, on the one hand, the requirements of the law, and, on the other, the whole range of medicine. Anatomy, physiology, medicine, surgery, chemistry, physics, and botany lend their aid as necessity arises; and in some cases all these branches of science are required to enable a court of law to arrive at a proper conclusion on a contested question affecting life or property." Tayl. Med. Jur. 1.
>
> FORENSIS.
>
> In Civil law, belonging to or connected with a court; forensic. "Forensis homo," an advocate; a pleader of causes; one who practices in court. Calvin.

B. J.H. Wigmore, A Treatise on the Anglo-American System of Evidence in Trials at Common Law, Vol. 1, Secs. 555-571 (3d ed. 1940, Supp., 1972).

The accepted authority on evidence identifies the expert scientific witness in terms of being relative to the particular scientific topic. No absolute definition of

what is science for court purposes is given. There are no fixed classes of experts because there are no fixed classes of sciences used forensically. Hence, a scientific expert need not be a person professionally occupied upon the matter deemed to be a forensic science. The trial judge is the master of the situation. He determines which science through what expert witness will be accepted by the court. It is the judicial process which determines what is a forensic science. It is not the scientific process which makes this determination.

In Wigmore, matters specifically identified in 1940 and continued today as the basis for an expert scientific witness include: medical and chemical (death, health, sanity, poison, blood), handwriting, paper money, bulletmarks, intoxication.

C. Webster's New International Dictionary, 3rd ed. unabridged, 1970, p. 889.

> fo.ren'sic (fo.ren sik), adj. Also, formerly, fo.ren'si.cal (si.kal). [L. forensis, fr. forum public place. See FORUM.] Belonging to courts of judicature or to public discussion and debate; used in legal procedures, or in public discussions; argumentative; rhetorical; as, forensic eloquence or disputes. - for.ren'si.cal'i.ty (si.kal i.ti), - fo.ren'si.cal.ly, adv.
>
> fo.ren'sic, n. Amer. Schools & Colleges. An argumentative exercise in the form of a speech or thesis.
>
> forensic chemistry. Chemistry applied to legal questions; - called also legal chemistry.

forensic medicine. = MEDICAL JURISPRUDENCE.

forensic psychiatry. The application of psychiatry in courts of law for the determination of criminal responsibility, liability to commitment as for insanity, etc.

D. American Academy of Forensic Sciences.

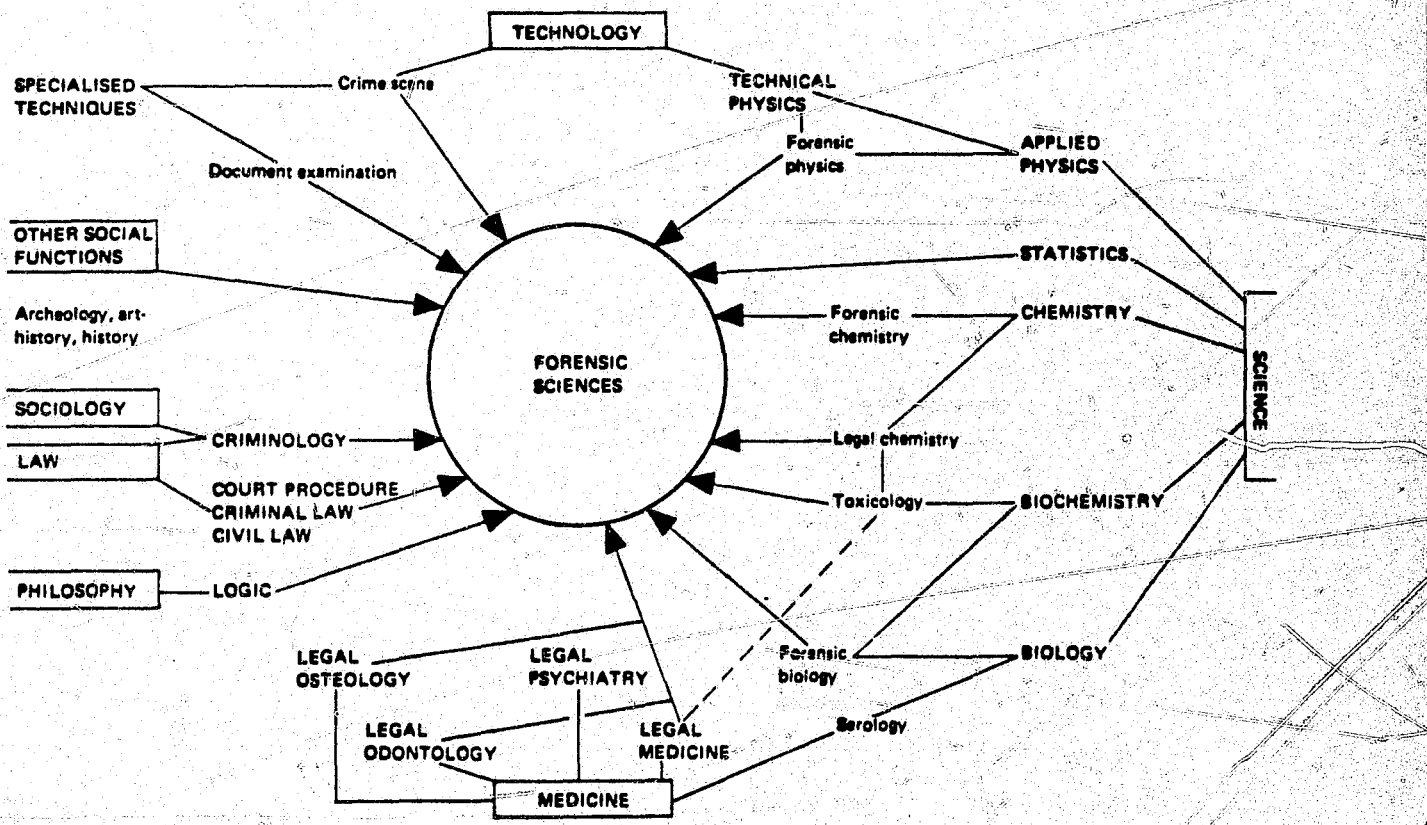
The one professional society which seeks to include within its membership all the qualified practicing professionals who participate as forensic scientists in the justice process identifies 9 areas: criminalistics; questioned documents, pathology and biology, toxicology, psychiatry, jurisprudence, odontology, physical anthropology, and general (scientists not practicing within the other 8 categories but participating as scientists in the justice process.)

E. LEAA Selective User Interest Profile, LEAA Form 1431/2 (Rev. 8-73)

This helpful form is designed to meet the technical information needs of the nation's law enforcement and criminal justice community. Specific topics involved directly with the forensic sciences appear to be few out of the 76 listed. The absence of a specific forensic sciences category is interesting.

10	ALCOHOLISM
11	BAIL AND BOND
12	BEHAVIORAL AND SOCIAL SCIENCES
13	CIVIL RIGHTS
14	CLASSIFICATION OF CRIME
15	CLASSIFICATION OF OFFENDERS
16	COMMUNICATIONS EQUIPMENT
17	COMMUNICATIONS (DATA)
18	COMMUNICATIONS (VISUAL)
19	COMMUNICATIONS (VOICE)
20	COMMUNITY BASED CORRECTIONS (ADULT)
21	COMMUNITY BASED CORRECTIONS (JUVENILE)
22	COMMUNITY INVOLVEMENT
23	COMMUNITY RELATIONS
24	CORRECTIONAL INSTITUTIONS (ADULT)
25	CORRECTIONAL INSTITUTIONS (JUVENILE)
26	COSTS OF CRIME
27	COURT MANAGEMENT AND OPERATIONS
28	COURT STRUCTURE
29	CRIME CAUSES
30	CRIME DETERRENCE AND PREVENTION
31	CRIMINAL INVESTIGATION
32	CRIMINALISTICS
33	CRIMINOLOGY
34	DEFENSE SERVICES
35	DOMESTIC RELATIONS
36	DRUG INFORMATION
37	DRUG TREATMENT
38	EDUCATION
39	EXPLOSIVES AND WEAPONS
40	FINANCIAL MANAGEMENT
41	GAMBLING
42	INDIAN AFFAIRS
43	INFORMATION SYSTEMS
44	INFORMATION SYSTEM SOFTWARE
45	JAILS
46	JUDICIAL PROCESS
47	JUVENILE COURT
48	JUVENILE DELINQUENCY
49	LAWS AND STATUTES
50	ORGANIZED CRIME
51	PARDON
52	PLANNING AND EVALUATION
53	POLICE EQUIPMENT
54	POLICE INTERNAL AFFAIRS
55	POLICE MANAGEMENT
56	POLICE ORGANIZATION
57	POLICE PATROL FUNCTION
58	POLICE RESOURCE ALLOCATION
59	POLICE TRAFFIC FUNCTION
60	PRISON DISORDERS
61	PROBATION AND PAROLE (ADULT)
62	PROBATION AND PAROLE (JUVENILE)
63	PROSECUTION
64	PUBLIC INFORMATION AND EDUCATION
65	REFERENCE MATERIAL
66	RESEARCH AND DEVELOPMENT
67	RIOT CONTROL AND URBAN DISORDERS
68	SECURITY SYSTEMS
69	STATISTICS
70	STUDENT DISORDERS
71	SUPPORT SERVICES
72	TRAINING
73	VICTIMLESS CRIMES
74	CORRECTIONAL MANAGEMENT
75	PERSONNEL ADMINISTRATION
76	REHABILITATION AND TREATMENT

F. Swedish Study. A scientifically diagramed scheme of the intellectual disciplines making an input into the forensic sciences presents a thoughtful example of the interrelationships of medicine, science, technology, and law which produce the forensic sciences; Research in Forensic Science and Technology, 1972, produced by the Forensic Science Committee of Swedish Research Councils, PA Box 23136, S 10435 Stockholm 23, Sweden, and by the National Police Board, p.14:



G. Scientific Areas Identified in Legal Literature Search:

After a complete search of legal literature from 1967 to 1973 the following areas were identified as ones involving forensic sciences personnel being used in the law process.

Accountancy
Bacteriology
Ballistics Identification
Biology
Blood Alcohol Determination
Blood Analysis other than Alcohol
Breathalyzer Alcohol Determination
Calorimetry
Chemistry
Comparative Micrography
Computer Programming
Criminalistics
Document Examination
Drug Analysis
Electronics Technology
Enzymology
Explosive Technology
Fiber Identification
Fingerprint Identification
Firearms Identification
Footprint Identification
Glass Identification
Graphology
Gravimetry
Hair Identification
Hypnosis
Immunology
Metallography
Microscopy
Narcoanalysis
Neutron Activation Analysis
Nursing
Odontology
Paint Identification
Pathology
Photography
Physical Anthropology
Poison Analysis
Polygraph
Psychiatry
Psychology
Radio-immune Assay
Radiology
Spectrofluormetry
Spectrophotometry (ultra-violet, visible, infra red)

Taxonomy (animal, plant identification)

Tire Identification

Titrimetry

Toxicology

Voice Identification

H. Library of Congress Search: October 2, 1973

The scientific literature research phase of the project revealed the following key word descriptions in the Library of Congress records. These forensic sciences areas have surfaced to such an extent that individual categories are deemed appropriate for library identification.

Key Word Descriptions

Forensic Audiology

Forensic Cardiology

Forensic Dermatology

Forensic Gynecology

Forensic Hematology

Forensic Hypnotism

Forensic Neurology

Forensic Neuropathology

Forensic Obstetrics

Forensic Opthalmology

Forensic Osteology

Forensic Pharmacy

Forensic Photography

Forensic Psychology

Forensic Radiography

I. Burns Annotated Indiana Statutes (1961) 159, Chap. 27, Forensic Sciences.

63-2704. Objectives of commission. - The objectives of the commission shall be to promote in the state of Indiana scientific information and services in pathology, immunology, radiology, photography, psychiatry, dentistry, anthropology, and other forensic sciences.

J. International Reference Organization in Forensic Medicine and Sciences.

In the indexed compilation of the world literature prepared by Inform, Wichita, Kansas, the subjects within this organization's purview are listed as: suicidology, homocide, autopsy, cadaver or death, drowning, diving and underwater problems, sex crimes, dangerous marine animals and food, puleopathology, sudden infant deaths, battered child and infanticide, drugs and drug abuse, aircraft accidents, alcohol, alcoholism, forensic odontology, questioned documents, forensic anthropology, traffic accidents, fingerprints, blood (forensic aspects).

K. U.S. Dept. of Labor, Bull. No. 1650, Occupational Outlook Handbook. 1970-71.

No identification of a forensic science as a specific occupation is made. The five basic areas of science indicated do reveal occupational titles wherein forensic use of the scientific discipline would be possible.

Health Sciences - physicians, dentists;

Life Sciences - botanists, geologists, microbiologists, biophysicists, ecologists, pathologists, pharmacologists, biochemists;

Physical Sciences - chemists, physicists, astronomists;

Behavioral Sciences - psychiatrists, psychologists;

Social Sciences - anthropologists, economists, geographers, historians, political scientists, sociologists.

In reality, the literature of both science and law can do no better than to define the forensic sciences as any science or technology accepted by the administration of justice to make legal decisions.

CHAPTER 3

HOW DO THE PRACTITIONERS ASSESS THE FORENSIC SCIENCES?

A. Specific Data

The Forensic sciences are used to administer criminal justice - detect crimes, identify criminals, determine guilt or innocence, impose punishments or penalties. The professional practitioners who utilize these sciences are judges and lawyers. Their evaluation of the quality, quantity and signigicance of the forensic sciences in American criminal justice is important.

To acquire this evaluation a questionnaire was designed, comprehensive enough to give a broad assessment, short enough to encourage a response. The addressees numbered 5500, approximately one-half judges and one-half lawyers. The membership rosters of the National College of State Judiciary, U.S. District Court Judges, National District Attorneys Association, National Association Criminal Defense Lawyers, and the Jurisprudence Section of the American Academy of Forensic Sciences provided the names. A 26% response was obtained categorized as: 1363 valid replies, 36 incompletes, 10 letters declining to respond, 6 responses too late to analyze.

The questions with answers totalled are set forth below:

1. I am a: 639 Judge; 691 Lawyer. I have been involved in criminal cases: 563 1-10 years; 416 11-20 years; 238 21-30 years; 88 over 30 years.

2. % of my criminal cases using scientific evidence; 26 0%; 411 10%; 322 20%; 275 30%; 216 50%; 83 75%; 13 100%.

3. In your criminal cases in which no scientific evidence was used, in what percentage could it have been used: 104 0%; 358 10%; 285 20%; 202 30%; 229 50%; 83 75%; 20 100%.

4. Why was expert scientific evidence not used? 452 qualified expert witness not available, 165 scientific evidence damaging to your case, (applicable to lawyers only)

541 lack of funds to obtain expert witness, 458 lack of scientific facilities available to make test, 245 lack of knowledge where to locate expert, 70 inability to determine qualifications of expert, 190 lack of time to obtain expert, 62 experts fail to show up at trial.

5. Would you like to use more scientific evidence in criminal cases? Yes 1172, No 100.

6. Does scientific evidence have more credibility than lay witness testimony? 1054 Yes, 188 No.

7. Is scientific evidence given more credibility than other evidence by decision-maker:

Judge: 1016 Yes, 247 No.

Juror: 958 Yes, 221 No.

8. Are there weaknesses in scientific witnesses' testimony due to:

A. Lack of expertise in the specialized field. 565 Yes, 497 No.

B. Lack of understanding of court process. 672 Yes, 404 No.

C. Insufficient preparation for court appearances. 672 Yes, 401 No.

9. Is the competence of prosecution scientific witness: better 538 worse 142 the same 591 as defense scientific witnesses?

10. A. In handling criminal cases are you influenced by data in the behavioral sciences (psychology, sociology)? 949 Yes, 349 No.

B. When did you last study behavioral science data: 604 last 3 months; 131 last 6 months; 126 last year; 436 over year ago.

C. Can behavioral science data contribute to improve criminal justice? 1109 Yes; 141 No.

11. A. In what percentage of your criminal cases are reports of psychiatrists or psychologists used? 763 10%; 324 20%; 153 30%; 59 50%; 34 75%; 5 100%.

B. Would more use of such reports be helpful? 910 Yes; 354 No.

C. Why is more use not made of such reports? Indicate priority by 1, 2, 3, etc.: 1 Unavailable, 3 don't consider helpful, 2 don't consider necessary, 4 immaterial, 5 don't trust them, 1 too costly.

D. Does your court have a psychiatric clinic for use in criminal cases? 625 Yes; 706 No.

E. Would you like to have more readily available psychiatric services for your criminal cases? 1003 Yes; 289 No.

12. Is certification or licensure by a public or private body of a forensic scientist an important criteria to determine the qualifications of him as an expert scientific witness? 840 Yes; 440 No. Should it be? 856 Yes; 288 No.

13. Would video tape deposition of scientific witness expedite criminal justice process? 907 Yes; 364 No; Do you approve? 763 Yes; 375 No.

14. Are changes needed in laws to permit better use of the forensic sciences? 769 Yes; 444 No.

15. How do you locate a forensic scientist to provide expert evidence? Indicate choice by priority: 1, 2, 3, etc. 5 ads in bar journals, 1 ask fellow-lawyer, 2 ask scientist acquaintance, 4 articles in legal literature, 6 articles in scientific literature, 3 contact scientific societies, 6 address lists of scientific societies.

In addition, 256 of the replies contained written comments. Of these 94 were not relevant to the assessment, but 162 were. Excerpts from these 162 comments with the commentators' statements, are set forth in Appendix C.

A distillation of these comments and responses into primary clusters would suggest this summary:

1. A lack of appreciation of what the forensic sciences can do for criminal justice can be found amongst a number of judges, lawyers, and police officers. Inadequate education and training for the investigatory and procedural use of such evidence are defined as major problems.

2. The inability of the defense counsel to acquire appropriate aid in forensic sciences is another concern expressed. Numerically the responders indicated by about 40% that the competence of the prosecution's scientific evidence was better than the defense's, 43% thought that it was about the same and 10% that it was worse. These comments and numbers suggest strongly a weakness in the processes providing the highest level of forensic science evidence on the criminal defendant's behalf.

3. The comments and responses on the behavioral sciences illuminate further their great significance to the criminal justice procedure. It has long been an opinion expressed in legal literature and law discussions that behavioral problems were a paramount concern in the criminal justice process. It is a basic principle of criminal law that

every accused person must have a criminal mind to be found guilty of a legal crime. The behavioral sciences, especially the forensic sciences of psychiatry and psychology, can and do contribute to the resolution of this issue in criminal cases. Factual data to support the value of the behavioral sciences to the criminal law practitioners are graphically revealed in the responses and comments of the judges/lawyers questionnaire. In addition, the value and importance of such scientific evidence in the disposition of the convicted person are heavily emphasized. The difficulty occurring when such evidence is injected into the trial to determine guilt or innocence is also revealed. In short, it would appear that the behavioral sciences are most helpful to judges and lawyers in disposing of the convicted and are considerably less helpful to lawyers, jurors and judges in deciding if the accused is a criminal or not.

B. General Conclusions

After study of all pertinent data from the questionnaire responses, certain generalizations are in order.

With the addressees nearly evenly divided between judges and lawyers, the responses reflected approximately the same division.

The respective years of criminal law practice showed a marked difference: judges having longer exposure to criminal justice, lawyers having a shorter exposure.

Three quarters of the responders indicated about 1/3 of their cases utilized scientific evidence. In cases where not used, also about 1/3 could have used such evidence. Lack of funds, inadequate facilities, and unavailable experts were the overwhelming reasons given for not using more expert scientific witnesses.

Over 90% of the replies expressed a desire to use more scientific evidence, probably because over 90% stated that such evidence has more credibility than lay testimony. Furthermore, about 80% of the replies contended that actually both judge and juror give more credibility to scientific evidence than to other evidence.

An interesting cluster of opinions revolve around the evaluation of the behavioral sciences in the criminal justice process. About 75% believe that these sciences influence the practitioners. Over 2/3rds of the responders had studied behavioral sciences data within the past year, while a surprising total of nearly 90% believed that such data could contribute to the improvement of American

criminal justice. Behavioral science data are used, according to 80% of the responders, in up to 20% of their cases. The most important reason given for not using more is their unavailability; the least important reason is a lack of trust in them. Slightly less than one-half the responders said their criminal court had a psychiatric clinic and 80% of the replies would like to have more readily available psychiatric services.

Two out of three of the responders viewed certification or licensing of a forensic scientist as an important criterion to determine his/her qualifications as an expert scientific witness.

The use of video tape depositions for the introduction into evidence of the scientific expert witness would expedite the criminal justice process about 75% of the replies indicated; 2 out of 3 approved such a procedure.

Likewise, about 2/3rds of the replies believed changes in laws to permit better use of the forensic sciences were essential.

The most likely source to locate a forensic scientist was to ask a fellow lawyer. The least likely sources used are articles in scientific literature and address lists of scientific societies.

In Appendix D is an analysis of the computer programmer as to the analytical procedure and effective quality of the questionnaire survey as well as 129 tables from the computer printout. These tables add considerable detail to the whole practitioner questionnaire survey and deserve careful study.

CHAPTER 4

THE FORENSIC SCIENCES - REFLECTIONS FROM THE LAW

Science and technology are parts of the contemporary American society - some say the most important parts. Because they are in society, they also become a part of the law of American society. Law has not created science and technology. Law has sought to resolve human conflicts by using science and technology. The judicial process needs expert witnesses in science and technology. The legislative process authenticates expert witnesses by public licensure. The administrative process certifies procedures whose scientific and technological results are accepted for legal decision-making. The executive process creates organizations and hires personnel to perform public scientific and technological tasks which become a part of the whole criminal justice administration.

The breadth of the law's involvement with science and technology is sweeping and the depth of such involvement is profound. The best means for assessment is to set forth various categories as representative examples of the criminal law's interaction with science and technology. The fifty states, federal, Puerto Rico, and Virgin Islands jurisdictions have been studied. The following examples are deemed significant to aid in the assessment of the forensic sciences in American criminal law.

A. A General Overview

An in-depth analysis of 206 judicial decisions, 453 legislative enactments and 17 administrative rulings randomly selected was made for the years 1967-1973. All state jurisdictions as well as the federal, Puerto Rico and Virgin Islands were represented in this comprehensive study. From this research is revealed the impressive growth of legislation involving the forensic sciences personnel, replacing the judicial decision as a prime source for advancement of this area of criminal law. The judiciary is still important, but the legislature today is making greater contributions toward the involvement of forensic scientists in the criminal justice process.

From the voluminous details identified through this in-depth analysis of legal action, certain specific indicators are discovered. Each of the 53 jurisdictions experienced legal action in the alcohol determination area of the forensic sciences. Over 80% of the jurisdictions had legal action in pathology and psychiatry. About one-half of the jurisdictions revealed legal actions in such areas as the polygraph and specific legal problems involving the forensic scientist as an expert witness. Toxicology legal action was found in 18 jurisdictions; radar or vascar in 16 jurisdictions; questioned document examinations and fingerprint identification in 15 jurisdictions;

firearms examinations and serology in 8 jurisdictions; psychology, in 5 jurisdictions; tire skid marks, in 3 jurisdictions; neutron activation analysis, footprint identification, graphology, in 2 jurisdictions; microscopy and voice print identification, each in one jurisdiction.

From this extensive legal research one can extract certain representative legal actions which dynamically influence the relationships of the forensic sciences personnel to the criminal law as noted in the following section.

B. Representative Legal Actions

Wigmore on Evidence, the classic legal treatise which covers the use of the forensic scientist as an expert witness, places in a nutshell what has been the specific guideline which courts have followed for many decades as the law has sought to utilize the developing sciences and technologies of the 20th century.

§555. General Theory of Experimental Capacity; Expertness is Relative to the Particular Topic. That sort of capacity which involves, not the organic powers, moral and mental, requisite for all testimony, nor yet the emotional power of unbiased observation and statement, but the skill to acquire accurate conceptions, may be termed Experimental Capacity. The person possessing it is commonly termed Expert.

(I) The Juror As Expert

The first problem can arise over the issue of whether a lay jury can itself be its own expert in a forensic science question. In at least one jurisdiction when an expert scientist was unable to testify whether or not certain handwriting matched the defendant's signature, the jury was deemed competent to make this scientific decision itself to sustain a criminal conviction of forgery. State v. Harslip, 77 Wash. 2d 838, 467 P. 2d 284 (1970). At least one statute has indicated the scientific determination of a child's age may be determined by the lay jury or by physicians appointed by the court. Rev. Code Wash. Ann. Sec. 9.01.111 (1961). The message of such examples is that the jury or judge as a decision-maker may be forced to handle a scientific issue in a criminal case without benefit of expert scientific testimony.

The normal procedure, however, involves the use of the expert witness as a forensic scientist who is authorized to provide the scientific opinion which the jury can rely on to render its verdict. It is the expert's opinion which is the crucial factor of the forensic sciences in the criminal justice process. The remainder of this section is devoted to significant matters surrounding this factor.

(II) Opinion Evidence

What testimony, in the form of opinion, can be related by a lay witness and by an expert witness? The New Jersey rule is one sample which seeks to define this relationship.

New Jersey Statutes Annotated; 2A:84A Rule 56 (Supp. 1974)

Testimony in the Form of Opinion

1. If the witness is not testifying as an expert, his testimony in the form of opinions or inferences is limited to such opinions or inferences as the judge finds.

   (a) may be rationally based on the perception of the witness and (b) are helpful to a clear understanding of his testimony or to the determination of the fact in issue.

2. If the witness is testifying as an expert, testimony of the witness in the form of opinions or inferences is limited to such opinions as the judge finds are (a) based primarily on facts, data or other expert opinion established by evidence at the trial and (b) within the scope of the special knowledge, skill, experience or training possessed by the witness.

3. Testimony in the form of opinions or inferences otherwise admissible under these rules is not objectionable because it embraces the ultimate issue or issues to be decided by the trier of the fact.

(III) Instrumentation Evidence

A preliminary concern is whether a scientific or technological process has reached a level of general acceptance to permit its use in legal decision-making. Must a full scale explanation by an expert witness concerning the scientific principles involved be introduced to undergird the expert's opinion in any given case? This concern is a major problem where technological instrumentation is commonly used. In one jurisdiction, the radar and vascar instruments in traffic law enforcement illuminate this problem.

The Ohio judiciary in East Cleveland v. Ferrell, 168 O. St. 298, 154 N.E. 2d 630 (1958) affirmed a conviction of speeding solely on the radar evidence without any expert's explanation of the scientific principle which undergirded the instrument's operation. When a similar case involved a new instrument for measuring speed, the vascar, an Ohio court in 1970, however, stated: "Because the device is new, expert testimony as to the scientific principle, construction, operation, accuracy and reliability of the device must be established beyond a reasonable doubt." Tiffin v. Whitmer, 60 O. Op. 2d 367, 290 N.E. 2d 198, 199 (1970).

When technological instruments which rest upon basic scientific principles are widely accepted and used in the general community, the legal community reflects such condition and utilizes the instrument without the necessity of testimony on the scientific principle. In this

way the results of scientific advances become a part of the legal process. The technique for such acceptance is by the judge taking judicial notice of the scientific matter without benefit of expert testimony as one court amply manifested.

> State v. Tomanelli, 153 Conn. 365, 216A 2d, 625, (1966).
>
> The scientific accuracy of the Doppler-shift principle for the measurement of speed, if the principle is correctly applied, is in the discretion of the court, a proper subject of judicial notice so that, especially where, as here, no evidence attacking it was proffered expert testimony in explanation of the principle is not a necessary prelude to the introduction of radar evidence.
>
> Judicial notice can extend, however, only to the scientific accuracy of the Doppler-shift principle as a means of measuring speed if the principle is correctly applied. Judicial notice does not extend to the accuracy or efficiency of any given instrument designed to employ the principle. Whether the instrument itself is accurate and is accurately operated must necessarily be demonstrated to the satisfaction of the trier in order to render the evidence produced by it admissible.

In contemporary criminal justice, the use of radar, speedmeters, cameras, x-rays, breathalyzers have reached such a stage of general acceptance by the public and by the officers of government that expert testimony need not be presented in a criminal trial to explain the scientific theory and operation. It is sufficient only to show that the equipment has been properly tested by a competent operator, proper operational procedures followed and proper records kept. See United States v. Dreos, 156 F. Supp. 200 (D. Md. 1957).

What has now occurred is the replacement of a human expert witness by an instrumental expert witness whose opinion as to speed, intoxication, fractured bones, and crime scene replication are accepted as evidence.

(IV) Scientific Report Evidence

A further example of the replacement of the expert scientific witness as a person is occuring in the enlarged area where the scientist's written report is accepted into evidence without the presence of the expert witness in the courtroom.

Scientific treatises are now being accepted, especially in the medical field, although originally such writings were held inadmissible. Courts have responded to the demands for use of such scientific writing because of the difficulty in obtaining the scientific witness. Legislatures have encouraged this process even further by enacting statutes authorizing that written reports of forensic scientists be admitted into evidence without the expert witness' presence in the courtroom. The following are significant examples of this development.

1. The original report of the analysis of blood or urine for presence of a controlled drug or alcohol prepared by the State Department of Health, qualified scientist, or U.S. Bureau of Narcotics is competent evidence in any trial. The report must be signed by the scientist, dated, nature of tests stated, identification and number of samples indicated and test results enscribed. Connecticut General Statutes, Sec. 19-483 (Supp. 1973), amending Sec. 19-483 (1967).

2. An affidavit of a scientist regarding the presence of alcohol or a controlled drug is admissible in a criminal trial to prove "the person from whom the affiant received the blood or urine for analysis and the presence or absence of alcohol or controlled substance. . ." Nevada Revised Statutes Sec. 50.315 (1973) amending Sec. 50.315 (1971)

3. New York Criminal Procedure Law, Sec. 60.60(2) (McKinney 1971). A report of a public servant charged with the custody of official fingerprint records which contains a certification that the fingerprints of a designated person who has previously been convicted of an offense are identical with those of a defendant in a criminal action, constitutes presumptive evidence of the fact that such defendant has previously been convicted of such offenses.

4. Georgia Code Annotated, Sec. 42-214 (Supp. 1973). In any controversy or prosecution arising under the provisions of this chapter (Sec. 42-2, Ga. Commercial Feed Law, 1906) a certificate of the State Chemist or other State employee making analyses or inspection, duly sworn to by the State Chemist or employee, shall be prima facie evidence of the facts therein certified.

5. Florida Statutes Annotated, Sec. 316.058 (Supp. 1974). Upon the production of a certificate signed and witnessed, showing that such device (speed computer) was tested within the time period specified and that such device was working properly, a presumption is established to that effect unless the contrary shall be established by competent evidence.

> Any person accused pursuant to the provisions of this section shall be entitled to have the officer actually operating the device appear in court and testify upon oral or written motion.

The paramount issue concerning the replacement of an expert witness by a technological instrument or a written document is the accused's constitutional rights to confront the person offering evidence against the accused. The judiciary's use of judicial notice to admit the scientific foundation for the technological instrument is a procedure with constitutional virtue because it is founded upon community acceptance. The legislature's enactments making scientific written reports admissible have also withstood the constitutional challenge. Commonwealth v. Harvard, 356 Mass. 452, 253, N.E. 2d 346 (1969).

Once one appreciates representative types of legal actions involving the forensic sciences as set forth above, the issue of how the forensic sciences are admitted into the criminal law becomes important.

How Do the Forensic Sciences Enter the Criminal Justice System?

(I) Legislative Mandate to Judicial Tribunal

The outstanding example of compulsive use of a forensic science in the criminal justice system is the statutory order to trial courts to determine the mental capacity of a person to stand for criminal trial and to determine his mental capacity at the time of the criminal act. Almost without exception states require courts to obtain the expertise of forensic psychiatry to help in the resolution of these problems. Numerous states provide also for psychiatric services directly attached to the court to facilitate the use of this important forensic science. Representative statutes are:

15 Maine Revised Statutes Annotated, Sec. 101 (Supp. 1973).

Massachusetts General Laws Annotated, Ch. 123 generally.

Code of Laws of South Carolina, 1962, Sec. 26-142.

The judges/lawyers questionnaire underscored the values of these forensic science services and urgently indicated more facilities should be available to the courts in this difficult area. Lack of faciliites is

a major problem in this forensic science area if the criminal justice system is to perform its appointed tasks. Lack of legal acceptance of such matters is not the problem.

(II) Legislative Right Granted to Defendant

Representative examples here are such statutes as the New York Vehicle and Traffic Law, Sec. 1194 (McKinney 1974) which authorizes the person subjected to a chemical test for alcohol determination to request his own physician to perform the test and the presentation to such person of the test results when performed by the police/prosecution forensic scientist.

To support further the defendant's right to an expert scientific witness, legislation authorizing public payment to the expert in capital cases has been extended in at least one state to all criminal cases by judicial decision. A court has observed that without such payments the defendant's right to an expert would be only a "shadow." People v. Watson, 36 Ill, 2d 228, 221 N.E. 2d 645 (1966), concurring and dissenting opinions: 222 N.E. 2d 801 (1966).

A caution is in order for, if the defendant does not exercise his right to have a scientific expert appointed within a certain time, such right may be deemed waived.

In State v. Bergenthal, 47 Wis. 2d 668, 178 N.W. 2d 16 (1970) cert. den. 402 U.S. 972,(1971)a defendant in a homicide case requested in the second week of the trial that the physical evidence of a couch cover be removed to permit the state crime lab and an independent expert to examine the cover for gunpowder burns. The motion was denied as an untimely request which would cause too much delay. It was also deemed unnecessary since the defense expert could examine the evidence and testify regarding it when on the witness stand.

Defendant's right to scientific evidence is also authorized by such rules as Wyoming Rules of Criminal Procedure 1968, Rule 18(a)(b). Here, the defendant can inspect, copy, or photograph any reports of tests and mental or physical examination records made in connection with the criminal case and held by the prosecutor.

If the defendant moves for examination of the physical evidence before trial and the court denies such motion when the statutory right exists, conviction can be reversed, State v. McArdle, _____W. Va. _____, 194 S.E. 2d 174 (1973). In this case, based on a charge of illegal possession and sale of marijuana, the defense's expert did examine the physical evidence while on the witness

stand. The appellate court held such examination insufficient. The accused must have the opportunity to have the expert of his choice conduct a thorough examination prior to trial. Several later cases have solidified this basic fairness rule, at least in the West Virginia jurisdiction. Woodall v. Lairita, _____ W. Va. _____. 195 S.E. 2d 717 (1973) (murder indictment); State v. Thomas, _____ W. Va. _____, 203 S.E. 2d 445 (1974) (indictment for breaking and entering). Note also that this line of cases has taken the statutory right to examine reports and expanded it to required opportunity for the forensic scientist actually to retest the physical evidence on behalf of the accused.

In other jurisdictions similar rights have been granted. The cases generally have involved criminal charges arising out of the controlled drug situations.

Warren v. State, 292 Ala. 71, 288 So. 2d 826 (1973).

Jackson v. State, __Miss.___, 243 So.2d 396(1971).

James v. Commonwealth, ___Ky. ___, 482 S.W. 2d 92 (1972).

People v. Perrell, 47 Misc. 2d 1024, 263, N.Y.S. 2d 640 (1965).

Where no right to examine reports exists, other jurisdictions have indicated that the defense is not entitled to examine the physical evidence prior to trial.

Lander v. State, 238 Ind. 680, 154 N.E. 2d 507(1958).

Dogley v. State, 394 S.W. 2d 179 (Tex. Cr. App. 1965).

In Texas, however, a more recent case has upheld the right of pre-trial examination by a defense expert to identify LSD. Detering v. State, 481 S.W. 2d 863 (Tex. Cr. App. 1972). A trend to more liberal use of the right to pre-trial examination of physical evidence appears to be developing.

In Simms v. State, _____ Wyo. _____, 492 P. 2d 516 (1972), cert. den. 409 U.S. 886 (1973) however, this right was held to have time limitations. Here, the state did not present certain physical evidence for pre-trial inspection when the accused had moved for disclosure. The withheld evidence, a pair of broken eye glasses found at the homicide scene, was admitted into evidence at the trial. Defense counsel's failure to move for a continuance to allow further study of this previously undis-

closed evidence and failure to show where the accused was prejudiced resulted in the appellate court's finding of no prejudicial error.

Pre-trial examinations are not without limitations, however, even where the right is firmly fixed in criminal procedure. A sufficient quantity of the physical matter must exist on which the test can be made, State v. Migliore, 261 La. 722, 260 So. 2d 682 (1972). A limitation on the extent of the test can also be imposed. In People v. McDonald, 59 Misc. 2d 311, 298 N.Y.S. 2d 625 (1969) the pre-trial examination was limited to a visual exam and a weight exam (measured under supervision of the police or prosecutor) since the weight of the evidentiary material (marijuana) was determinative of the degree of the crime.

(III) Judicial Discretion to Appoint Expert Witnesses

The prime judicial concern for fairness and due process places an inherent authority in the criminal trial judge to appoint an expert scientific witness.

The court can act on its own motion. Frequently, state statutes incorporate this judicial initiative into legislative authorizations.

New Mexico Statutes Annotated, Sec. 20-4-706 (Supp. 1973).

General Statutes of North Carolina, Sec. 7A-454(1969).

South Dakota Compiled Laws, 1967, Sec. 19-6-1.

These statutes probably create no right in the defendant to require such judicial appointment. The action is exclusively a discretion of the court. Utsler v. State, 84 S.D. 360, 171 N.W. 2d 739 (1969).

Several of the statutes granting to the trial court its power to initiate appointment of the expert witness permit the defense counsel and the prosecutor to nominate such witnesses but the trial judge retains final discretion in the matter.

5 Virgin Islands Code, Sec. 914, App. II R. 28 (1957).

Federal Rules Criminal Procedure, as amended 1966, Rule 28(a).

Wisconsin Statutes Annotated, Sec. 907.06 (Supp. 1974).

Indiana Statutes Annotated, Sec. 9-1702(1927).

California Penal Code, Sec. 1972 (West 1965).

D. Determination of Who is Qualified as an Expert Scientific Wtiness

(I) THE JUDICIAL FUNCTION

The historical experience in the legal determination of who can present scientific evidence as an expert witness rested in the judiciary, specifically on the trial judge. While Wigmore on Evidence devotes many scholarly pages to this vast legal experience, no better statement encapsules the basic rule than that provided in Lewis v. State, Alaska ___, 469 P2d 689 (1970). The court first acknowledged that there is no "consensus as to what qualifies a witness to testify as an expert in the field of handwriting analysis." Then, the court stated at p. 694. citing the opinion in Crawford v. Rogers, ___ Alaska ___, 406 P.2d 189 (1965) where , in dealing with the qualifications of a pilot to testify, that court wrote:

> The true criterion in determining whether one qualifies as an expert witness and whether his opinion is admissible is not whether he employs his knowledge and skill professionally or commercially. The true criterion is whether the jury can receive appreciable help from this particular person on this particular subject. (406 P.2d 189 at 192).

Application of this criterion to the witness in question was made by determining his training and experience in handwriting examinations: 6-10 hours of instruction from Office of Special Investigation, U.S.A.F.; 15 years work in O.S.I. including forgery cases; 3 1/2 years as bank credit manager where documents were studied; credit

union employment in examining forged instruments; compared 500-700 documents in all; testified at 50-100 court martials and once in Federal District Court. This witness was found to be legally qualified as a scientific expert.

In some jurisdictions the field of expert scientific witness for handwriting is encompassed by a statutory definition of an expert. "In trials for forgery of any bill or note of a corporation or bank, persons of skill are competant witnesses to prove that such bill or note is forged or counterfeited." North Dakota Cent. Code, Sec. 29-21-13. (1974)

The expertise required to qualify as an expert on the subject of fingerprints is similar to Handwriting. Formal training in a school is not necessary. "Expertise" can be supported through in-service training, self-teaching, plus experience acquired in the job of comparing fingerprints. State v. Smith, 228 Ore. 340, 364 P. 2d 786 (1961). The Maryland High Court has stated: ". . .formal training is unnecessary so long as the record demonstrates that he is possessed of any knowledge or information which would elevate his opinion above the level of conjecture or personal reaction." Hewitt v. Maryland State Board of Censors, 243 Md. 574, 221 A2d 894 (1966). These words were put into legal action in a rape case where the victim was hypnotized by a clinical psychologist. The psychologist qualified as an expert witness even though he testified that he had not graduated from any school of hypnotism. His training

and experience as a psychologist plus his experience with hypnosis qualified him as an expert in hypnosis. Harding v. State, 5 Md. App. 230, 246 A. 2d 302 (1967), cert. den. 395 U.S. 949 (1968).

On the other hand, in State v. Tiernan, 123 N.J. Super. 322. 302 A.2d 561 (Cape May County Court, 1973) in a driving under influence of drugs case, the police officer had the required academy training in narcotics and an additional one week's course in narcotics. The officer's training was held insufficient,however, to qualify him as an expert on drug influence. Medical or scientific evidence would be required for drug influence cases and are never "established other than by expert testimony."

An additional factor to determine qualification could rest on the expert's use of the proper scientific test upon which to base his expert opinion - the prime purpose for expert testimony. When more than one test is scientifically acceptable, the expert can qualify if he accepts and uses only one generally accepted test. Disagreement by experts in the same field affects only the weight of the expert evidence not its admissibility. The expert is qualified if he represents an acceptable school; he need not represent the acceptable school.

An expanded field for qualification of the expert often arises when the primary expert who handled all the evidence is not available. Two other experts must qualify to provide the vital expert opinion. In an attempted bank

robbery, the hold-up note revealed a latent palmprint. The forensic scientist who processed this crucial evidence was no longer employed by the police crime lab and could not be located for trial. The chief of the scientific bureau provided evidence as to the authenticity of the latent palmprint and the proper performance of the print processing. A fingerprint expert then testified as to the comparison between the palmprint on the note and the defendant's palmprint. This legal procedure permitted the admission of the scientific evidence. U.S. v. Beasley, 438 F. 2d 1279 (6th Cir. 1971)

Without any doubt a major advance in judicial rulings which expand an expert's area for opinion testimony has been in the determination of whether the accused suffers from a mental disease or defect. In Jenkins v. U.S., 307 F. 2d 637 (D.C. CA 1962)

the trial court excluded the expert testimony of three psychologists relating to defendant's mental disease rendering him insane at the time of trial. Not being psychiatrists, the psychologists could not advance this far in their testimony. The Court of Appeals held some clinical psychologists, particularly those with Ph.D. degrees, could be found qualified to testify as to an accused's mental disease or defect. A medical degree is not a necessary requirement in this area of expertise. Basically, the trial court is given broad discretion by this advanced appellate holding in qualifying the psychologist on his individual competence as an expert in an accused's mental condition.

(II) The Legislative Function

The second category for establishing qualifications of an expert is by legislative enactments. In the area of forensic pathology and toxicology the specific qualifications required of medical examiners and coroners are set forth in their statutory duties. The court is relieved of determining qualifications based on training or experience. A license from the state or a satisfaction of the statutory requirements for employment in the forensic sciences field places the stamp of "qualified to be an expert witness" on the individual.

Iowa Code Annotated, Sec. 749 A. 5 (Supp. 1974).

Maryland Annotated Code, 1973, Art. 22 Sec. 2.

A major example of this type of qualifying procedure for court testimony is the alcohol determination in automobile driving statutes found throughout the United States. Statutory provisions plus departmental regulations generally designate who is qualified to provide the scientific evidence of intoxication: e.g., police officer, certified by the state after specific training in an alcohol determination school. His expert testimony on the level of blood alcohol must be accepted by the court provided he can authenticate the test procedures. The medical opinion required to determine intoxication is provided by

statute without the need of calling an expert qualified in the effect of specific blood level alcohol conditions on the human brain. The statute provides the expert opinion, e.g., less than 0.05% weight of alcohol in blood presumption not intoxicated, 0.05% to 0.15% relevant evidence of intoxication, over 0.15% prima facie evidence of defendant's being under the influence. Burns Annotated Indiana Statutes, Sec. 47-2003 (1965).

These comprehensive blood alcohol determination statutes, so wisely adopted, have been limited usually to the drinking driver cases. They are a legal response to a vast social problem demanding considerable judicial time and effort. The statutes utilize the modern technology of the breath machine to permit the handling of a massive number of cases. The statutes accept the widely accepted medical opinion on the blood alcohol effect on the average human brain which by law is applied to the individual defendant. Expert medical witnesses, heretofore required at trial, can remain in their offices, clinics or hospitals dispensing health. They are not now needed to dispense justice - legislative mandate does this act.

A repeat word of caution is in order. The comprehensive procedure for expert scientific evidence provided in blood alcohol determination cases is limited to the drunk driver

case. The statutes specify this procedure for the driving while intoxicated case only. Court decisions support this restricted use. In State v. Wade, 14 N.C. App. 414, 188 S.E. 2d 714 (1972) the use of the breathalyzer evidence was held inadmissible in a breaking and entering case.

Building on the technique of mass justice found in the blood alcohol determination, some state legislatures have expanded the concept of authenticating scientific opinion by written evidence alone without the need of the forensic scientist's presence in court or his oral testimony. Iowa Code Annotated, Sec. 749 A. 2 (Supp. 1974) amending Sec. 749.2 (1929):

> Presumption of Qualification-Acceptance in Evidence. It shall be presumed that any employee or technician of the criminalistics laboratory is qualified or possesses the required expertise to accomplish any analysis, comparison, or identification done by him in the course of his employment in the criminalistics laboratory. Any report, or copy thereof, or the findings of the criminalistics laboratory shall be received in evidence in any court, preliminary hearing, and grand jury proceeding in the same manner and with the same force and effect as if the

employee or technician of the criminalistics laboratory who accomplished the requested analysis, comparison, or identification had testified in person. An accused person or his attorney may request that such employee or technician testify in person at a criminal trial on behalf of the state before a jury or to the court, by notifying the proper county attorney at least ten days before the date of such criminal trial.

In a situation where an expert scientific witness had been licensed in another jurisdiction, but not in the state of trial, the trial judge can qualify the witness as an expert. In Hayes v. U.S., 367 F. 2d 216 (10th Cir. 1966), a physician licensed in Missouri performed an autopsy in Kansas. Kansas statutes qualified a coroner, competent pathologist, or other licensed physician to be an expert witness on the cause and manner of death. The court concluded that the physician was well qualified as an expert and whether or not licensed to practice medicine in Kansas was not controlling in this case.

A major consideration in qualifying the expert hinges on what basic scientific knowledge he must be able to demonstrate that he possesses. In an early case involving the tormenting problem of drunk driving, one court

qualified a witness to be an expert for admission of an alcometer intoxication test even though the police officer seeking to testify did not understand how the machine worked. City of Wichita v. Showalter, 185 Kan. 181, 341 P.2d 1001 (1959). A later decision in the same state had the benefit of a statute authorizing admission into evidence of blood alcohol determination. City of Abilene v. Hall, 202 Kan. 636, 451 P.2d 188 (1969). The chemist who analyzed defendant's blood by gas chromatography understood the chromatographic process, but not how the electrical circuitry sensed the concentration of the substance emerging from the chromatographic columns. The chemist was an expert whose testimony was held to be admissible.

A chemical technician who makes standard tests for heroin but does not understand the chemistry involved qualifies as an expert to identify the drug where he has made 2000-3000 such tests and the validity of the tests he uses is not questioned. People v. Judkins, 10 Ill. 2d 445, 140 N.E. 2d 663 (1957).

In the emerging computer specialization area, potent with scientific impact on criminal justice, the courts demand more background knowledge before qualification of the expert to interpret computer results can be authen-

ticated. Unlike the heroin test or gas chromatography cases where the expert need not know background science the computer scientist does not qualify until the background program is submitted. It is also greatly desireable with the program to offer flow-charts used in the preparation of the program. The defendant is entitled to all these data before trial so that pre-trial testing is available. U.S.V. Dioguardi, 428 F. 2d 1033 (2nd Cir. 1970) cert. den. 400 U.S. 825 (1970).

Analagous to the court's determination of what background knowledge an expert witness must provide is how far an expert may go in his opinion testimony. Where a murder conviction was obtained in an arsenic poisoning case, the appellate court reversed the trial outcome because the prosecution's expert physician had no prior experience in arsenic poisoning cases. The essential scientific facts on which the expert opinion of arsenic poisoning rests were the victim's symptoms prior to death, deceased's body turning black after death, and the behavior of the accused. No autopsy was performed. Actual experience by the testifying physician or autopsy tests would be required for expert opinion on the cause and manner of death. Soquet v. State, 72 Wis. 659, 40 N.W. 391, (1888).

Similarly, in an accidental death case where death was alleged to be by external violence, expert testimony on the cause and manner of death based on external trauma was not admissible when lay witnesses reported a red spot on defendant's temple and a physician's opinion that trauma causing such a red spot was capable of causing death. Dreher v. Order of United Commercial Travelers of America, 173 Wis. 180 N.W. 815 (1921). Fortunately, advanced coroners' and medical examiners' techniques now provide qualified experts in modern criminal trials which remove the great inadequacies indicated in these two older cases.

In chemistry the experts have been accorded wider latitude than would appear possible in the area of the effect of chemicals on the human body. A chemist can be an expert to testify on the physiological action of a poison. He can extract organs from the human body and testify as to the quantity of poison therein contained. To preclude his opinion on the necessary quantity of poison to provoke death "would reduce the law to the point of absurdity." State v. Hahn, 10 O. Op. 29, 25 O. Abs. 449 (Comm. Pl. Hamilton Cty 1937). Nearly four decades later the advanced specializations in chemistry and pathology requiring scientists from both disciplines to make the ultimate determination does not appear as an absurdity.

An expert chemist and toxicologist has also been permitted to give an opinion as to the origin of burns of a human body at the trial court's discretion. The judiciary, in a negative mood, allowed this testimony even though "seemingly in large measure no more than the kind of guesswork a layman might indulge in." State v. Rickles, 46 N.J. 542, 218 A2d 609(1966). Similarly, a chemist was permitted to give his opinion on the amount of morphine administered into a human body based on the factual data he found on the amount of morphine in the stomach contents. State v. Crivelli, 89 N.J.L. 259, 98 A. 250 (1916).

In an especially extreme situation, an experienced chemist was permitted to testify as to his opinion on the therapeutic value of the medical drug he analyzed. In a mail fraud case the chemist presented testimony that the medicine contained a solution of salt, sugar, calcium and magnesium phosphates and boric acid. In his experience he stated that these substances in the quantity found lacked any known therapeutic value. Samuels v. U.S. 232 F. 536 (8th Cir. 1916).

Then, where a physician was tried for illegally dispensing drugs, an associate professor of pharmacology could testify that a physician needed certain knowledge about a

patient prior to dispensing a particular drug to that patient. The drugs involved in this case were amphetamine, hydrochloride, D-amphetamine sulfate, secobarbital sodium. White v. U.S., 399 F. 2d 813 (8th Cir. 1968).

The basic rule which emerges is that in some point of time a scientific idea gains sufficient authenticity to be legally acceptable. This transformation process must now be investigated.

E. How Does A Scientific Idea Mature Into A Legal Reality?

A laboratory science may become a forensic science by stipulation between the two parties to a criminal proceeding. Polygraph evidence with 50 years experience and use is particularly significant. To indicate a witness is practicing deception is devastating evidence with high impact on the trial jury. Such evidence can frequently touch the ultimate issue in a case, guilt or innocence, thereby allegedly replacing a jury's deliberation. Until recently these factors precluded the polygraph expert from courtroom presence. By the stipulation route, however, the courts are making this laboratory science into a forensic science. In State v. Valdez, 91 Ariz. 274, 371 P. 2d 894 (1962) the court

found polygraph results had probative value so qualification of the expert and his opinion evidence would be acceptable under these criteria:

1. That Prosecution, Defendant, and Defense Counsel sign written stipulation for examination and admission of examiner's opinion on behalf of either party.

2. Notwithstanding the stipulation admissibility is at the discretion of trial judge; i.e., he may exclude evidence if test be improperly given.

3. If polygraph tracings and examiners' opinions are entered into evidence the opposing party may cross-examine re: (a) examiner's qualifications; (b) test conditions; (c) technical limitations and error; (d) any other matter "deemed pertinent" in judge's discretion.

4. "That if such evidence is admitted the trial judge should instruct the jury that the examiner's testimony does not tend to prove or disprove any element of the crime with which a defendant is charged, but, at most, it tends only to indicate that at the time of the examination the defendant was not telling the truth." The jury should also be told they are to determine the corrobarative value and weight of such testimony.

Supporting decisions have followed, such as State v. Bennett, ___ Ore. App. ___, 521 P.2d 31 (1974) where

the court rejected defendant's objection to admission of polygraph results by stipulation indicating that the effect of such a stipulation is express waiver of any objection.

The next step in admission of the polygraph laboratory science into the legal process has now been expressed in U.S. v. DeBethan, 348 F. Supp. 1377 (S.D. Cal. 1972). Such evidence is to be admissible under the normal procedure for the admission of scientific evidence in general: qualification of operator as an expert, foundation and theory of the instrument is generally accepted in society, reliability of the instrument is demonstrated.

The final step in making the laboratory science into a forensic science is the legislative enactment establishing criteria for licensing individuals as qualified to use and interpret a scientific instrument - in this situation the polygraph. Polygraph Examiners Acts are now in the state codes of a number of jurisdictions. Education, training, personal qualifications, internship programs, experience are all areas of statutory concern. In at least 11 states the approval of an acceptable scientific process and a qualified scientific operator now exist. The strong emergence of a very helpful and useful forensic science tool - the polygraph - is beginning to function in the criminal justice process.

A more sophisticated scientific area - neutron activation analysis - has also apparently made the ascent from an accepted laboratory science up to an accepted forensic science. In 1969. State v. Coolidge, 109 N.H. 403, 260 A. 2d 547, the expert opinion based on neutron activation analysis of human hair in a murder case was rejected. The defense produced a scientist in the field who testified that the state's expert scientist used neutron activation analysis methods different from the defendant's expert and such methods were not generally acceptable to scientists in the field. A contrary outcome resulted two years later in Missouri, however, where an assistant professor of nuclear engineering "educated and experienced in the special field of nuclear physics" with "extensive experience in neutron activation analysis of various materials, including the testing of human hair," qualified as an expert witness to identify two samples of human hair. State v. Stevens, 467 S.W. 2d 10 (1971) cert. denied, 404 U.S. 994 (1971). Neutron activation analysis is now generally acceptable as a laboratory science available for criminal justice procedures at the trial court's discretion, a classic example of the expanding use of new scientific techniques in old criminal justice processes.

The most recent instrumentation on the threshold of becoming a forensic science with its qualified expert is the voice identification spectrograph. Accepted into the

military jurisdiction in U.S.v. Wright, 17 USCMA 183, 37 CMR 447 (1967), the laboratory science was rejected for the civil jurisdiction in People v. King, 266 Cal. App. 2d 437, 72 Cal. Rptr. 478 (1968), but finally emerged as a forensic science in Hodo v. Superior Court, 30 Cal. App. 3d 778, 106 Cal. Rptr. 547 (1973), where the scientific witness was qualified to give expert opinion based on sound scientific theory and reliable technological progress. Traditionally qualifying new sciences with their expert witnesses still functions. Rapid expansion of such a process is inevitable in our scientific age with its fantastic technological progress.

F. Legal Protections Against Contamination of Scientific Evidence

The law requires absolutely credible control over material which is the subject matter for scientific evidence and the basis for expert testimony and opinion in the trial court.

The chain of evidence from crime scene through laboratory to courtroom must be unbroken. Each person handling the material and every period of time must be accounted for. This credibility is demanded by the court. An unaccounted lapse of time or an absence of individual control bars use of the forensic science evidence.

The chain of evidence was not interrupted, however, when a lab-technician brushed a rape-murder victim's clothing striving to collect particles for microscopic examination. This mechanical task need not be performed by the expert

analyst who will testify. Commonwealth v. Thomas, 448 Pa. 42, 292 A.2d 352 (1972).

Other contaminations which preclude scientific evidence from legal use may also arise. Radar equipment checked against a speedometer which was itself not checked creates a defect barring a conviction for speeding unless cured by other competent testimony. People v. Dusing, 4 N.Y. 2d 126, 155 N.E. 2d 393, 181 N.Y.S. 2d 493 (1959).

Similarly, the use of narcoanalysis during a psychiatric examination does not discredit the expert witness' opinion that accused was sane. The drug use "contributed only a part, in fact, a small portion of the examination." The expert's personal observations and examinations as well as his collaboration with associates on x-ray reports, charts, and similar matters were a legal foundation for the expert opinion. In a conviction for commission of a sex offense against a 10 year old girl, defendant was denied admission of psychiatric evidence based on two examinations, one with narcoanalysis. These indicated that defendant was a normal man not prone to commiting such a crime, not disposed to be a sexual deviate. Such narcoanalysis evidence was relevant to help prove the good character of defendant. It should have been admitted as such. It was not admissible to prove, however, any facts revealed by statements defendant made during the narcoanalysis examinations. People v. Jones, 42 Cal. 2d 219, 266 P. 2d 38 (1954).

If scientific tests made by the prosecution are negative, will the prosecutor's failure to reveal the negative results to defense counsel be error?

If the tests are in favor of defendant's contention in a positive way, the prosecution is obligated under due process to make such known to defendant. But here, where a neutral result occurred, it does not contaminate the legal process not to disclose such matter. The defendant knew the tests were made. He can inform his counsel who can ask the prosecution for the results. People v. Rosenberg, 59 Misc. 2d 1, 297 N.Y.S. 2d 860, aff'd 32 App. Div. 2d 1030, 303 N.Y.S. 2d 1005 (1969).

G. Availability of Scientific Facilities Authorized by Legal Action

Organized upgrading of scientific facilities to provide expert witnesses for the criminal justice process has been achieved in part through the legal creation of state or regional science laboratories. An outstanding example is Wisconsin Statutes Annotated, Sec. 165.75(1969), which provides for a crime laboratory for technical assistance to local law enforcement agencies. The lab is authorized to perform tests in fields such as ballistics, chemistry, handwriting comparison, metallurgy, comparative micrography, lie-detection, fingerprinting, toxicology and pathology. The lab does not institute investigations, but assists

state and local agencies in criminal investigations. The statute also authorizes court appearances of lab personnel as expert witnesses.

In addition, Sec. 165.79 provides that the accused shall not have access to any evidence provided to the lab by law enforcement officers prior to trial. Similarly, the prosecution shall not have access to any evidence provided to the lab by the accused prior to trial. The exceptions to these provisions are: if evidence is used by one side at a preliminary hearing, the other side may have access to it. Upon request by a defendant in a felony action, with approval by the presiding judge, the laboratory shall conduct analysis of evidence on behalf of the accused.

Other examples of this important legal advance are found in Tennessee and Texas. Tennessee Code, Sec. 38-503 (1951) empowers the laboratory division of the Bureau of Criminal Investigation to employ experts including ballistics experts, toxicologists, blood stain identification and fingerprint experts. The services of this division are to be made available to the state bureau, F.B.I., and the attorneys-general in the several districts of the state.

Texas Annotated Civil Statutes, Art. 4413 (14)(1935), creates a Bureau of Identification and Records in the Department of Public Safety. It consists of a chief and his assistants, of whom the chief and at least one assistant shall be "recognized identification experts" with three years

or more experience. The Bureau is charged with the responsibility of, among other things, making ballistics tests and chemical analysis for state law enforcement officers.

A different legal pathway to provide facilities has been taken in Kansas where existing public offices and institutions created for other purposes shall be utilized by law enforcement agencies requiring forensic sciences services. Kansas Statutes Annotated, Sec. 21-2502 (1965). The University of Kansas and state departments are to assist law enforcement officers and district coroners. It is the duty of the University, the state board of health, and all other state departments and institutions, free of charge or reward, to cooperate with the law enforcement officers of the state, and with the district coroners, to render to them such service and assistance relative to microanalysis, handwriting, toxicology, chemistry, photography, medicine, ballistics and all other sciences and matters relating to or that would aid in controlling crime, disease and the detection, apprehension, identification and prosecution of criminals.

The separation of forensic science personnel from law enforcement personnel has not always been a requirement in crime laboratories. The opportunity to use either sworn police personnel or unsworn civilians is represented in the Iowa statutes. Iowa Code Annotated, Sec. 149 A. 1 (Supp. 1974) establishes under control, direction and supervision

of the commissioner of public safety a state criminalistics laboratory. The commissioner of public safety may assign the criminalistics laboratory to a division or bureau within his department. The laboratory shall, within its capabilities, conduct analysis, comparative studies, fingerprint identification, firearms identification, questioned documents studies, and other studies normally performed by a criminalistics laboratory when requested by a county attorney, medical examiner, or law enforcement agency of the state to aid in any criminal investigation. Agents of the division of criminal investigation and bureau of identification may be assigned to the criminalistics laboratory by the commissioner. New employees can be appointed pursuant to civilian employment laws and need not qualify as agents for the division of criminal investigation and bureau of identification, and do not participate in the peace officers' retirement plan established by law.

The legal opportunity for local agencies to unite their desire for a forensic sciences facility creating a regional agency to serve the interested parties is exemplified in Louisiana Statutes Annotated, Rev. Stat. Sec. 33-1559.1 (1952): by mutual agreement between two-thirds of the coroners of the parishes included in any congressional district of the state and approved by the police jury of the parish in which such coroner has agreed, there may be established a forensic laboratory for the mutual use and benefit of the coroners. The laboratory and its facilities shall be at the disposal of the respective coroners

and law enforcement officers of such parish. The cost, equipment and maintenance of such service and laboratory are to be shared on a just and mutually agreeable basis by the participating parishes.

The absence of legally created facilities for the use of criminal defendants, except in such rare instances as represented by the Wisconsin statutes, supra, must be of great concern. While the accused has every legal right to use forensic sciences in his defense, the inability to locate a public or private forensic science laboratory to serve the defendant is a challenge. One answer could be the establishment of private forensic science laboratories comparable to physical, medical or health sciences laboratories which serve in the delivery of private and public health. The private forensic science lab would help to deliver justice. Most recently a nationwide public announcement of such a private laboratory's availability in a midwest state stated:

> Announcing the opening
> of a
> New Scientific Service
> Specialists in Technical Performance
> . Expert "opinion evidence" in all major
> Forensic Science aspects
> . Expert Polygraph Examinations
> . Professional Forensic Criminalistics
> . Skilled Security Consultants.

The equalization of opportunity for utilization of the forensic sciences between prosecution and defense may not only be generated by public law as in Wisconsin, but can

be the result of private initiative.

H. Legal Actions of Pioneering Significance

Occasionally, in the development of law to meet the community needs for better use of the forensic sciences in the criminal justice system, new thrusts are made. The three examples below may not be unique, but they are different. The jurisdictions of Puerto Rico, Indiana and Ohio are represented.

18 Laws Puerto Rico Annotated, Sec. 696 et. seq. (1958) amending Sec. 696 et. seq. (1943) establishes an Institute of Forensic Medicine with the following legal authorities:

Personnel: A director, meeting qualifications of University of Puerto Rico and support staff. Duties:

1. Investigation of deaths when such deaths
   a. are suspicious
   b. involve accidents
   c. occur within 24 hrs. of admission to a hospital facility
   d. occur in prisons
   3. involve abortions, premature births, suicides, poisoning, occupational hazard, surgical operations or therapy, anesthesia, intoxication, drugs, malnutrition, neglect, exposure, physical forces, menacing contagious diseases, or sanitariums and psychiatric

institutions, corpse cremation.

2. Train post-graduate physicians at the University of Puerto Rico in the field of medicine to facilitate their appointments as district assistant forensic physicians.

Duties of District Assistant Forensic Physicians:

1. Investigation of deaths occuring under the circumstances listed above.

2. Perform autopsies.

3. Take depositions in investigations.

4. Render preliminary report of cause of death to investigating judge or prosecutor.

5. Perform in accordance with the rules promulgated by the director.

6. Provide the prosecuting attorney or judge with any information required by them or by the director.

7. File a report of autopsy with the director.

8. Work in collaboration with police and Puerto Rico Justice Department officials.

Further duties of the director:

1. Set fees for District Assistant Forensic Physicians.

2. Contract for services of physicians, pathologists, or technicians.

3. Order any physician to perform an autopsy.

4. Render final decision.

5. Maintain files of investigations.

Indiana statutes provide for a specific public agency in the forensic sciences area, Burns Annotated Indiana Statutes (1961) 159 Chap. 27 Forensic Sciences:

> 63-2701. Commission created - Members - Terms. A commission is hereby created which shall be known as the "commission on forensic sciences." It shall consist of five (5) members appointed by the governor; one (1) shall be a pathologist, one (1) shall be a person engaged in police work, one (1) shall be a coroner and one (1) shall be a lawyer. The state health commissioner shall be the fifth member of the commission and shall serve as its secretary. In making the appointments, the governor may consult with, but shall not be bound by, the recommendation of organizations representing such categories of appointees.
>
> 63-2704. Objectives of commission. - The objectives of the commission shall be to promote in the state of Indiana scientific information and services in pathology, immunology, radiology, photography, psychiatry, dentistry, anthropology and other forensic sciences. [Acts 1959, ch. 361, §4, p. 968.]
>
> 63-2705. Powers of commission. - The powers of the commission shall be as follows: (a) To establish and maintain a scientific laboratory for research and experimentation. The commission shall not dup-

licate adequate facilities for experimentation, research or information which are available to the citizens of the state.

(b) To appoint an administrative director who shall be a physician and should be a pathologist certified by the American board of pathology and to select and appoint or accept the loan of such other personnel as it deems necessary to carry out its purposes.

(c) To establish and maintain a system of records and to collect data pertinent to the objectives of the commission.

(d) To correlate information concerning forensic science facilities and make this information available to coroners, law enforcement officers, attorneys and others.

(e) To contract from time to time for the services or opinion of experts in connection with a particular problem or a program of reseach.

(f) To engage in research and experimentation consistent with the objectives of the commission.

(g) To establish and maintain a forensic sciences library either alone or in cooperation with any other agency of the state, the use of which shall be available to any interested persons.

(h) To engage in and foster programs of information in forensic sciences for interested groups.

(i) To establish from time to time and to promulgate a schedule of reasonable fees and to collect the same for the services of the commission.

The considerations in formulating such a schedule shall be: (1) uniformity, (2) recovery of at least a portion of the cost of furnishing the major services of the commission, and (3) availability of the services without burdensome expense to officers, agencies and others in need of the services.

All moneys received by the commission pursuant to this subsection shall be paid to the commission which shall give a proper receipt for the same, and shall at the end of each month report to the auditor of the state the total amount received by it under the provisions of this subsection, from all sources, and shall at the same time, deposit the entire amount of such receipts with the state treasurer, who shall place them to the credit of a special fund to be created and known as the "forensic sciences commission laboratory expense fund." The commission shall, by its chairman from time to time, certify to the auditor of state any necessary laboratory expenses incurred by the commission, and the auditor shall issue his warrant for the same, which shall be paid out of any funds so collected and hereby appropriated to the com-

mission. Provided, however, that payments made by the auditor of the state from the "forensic sciences commission laboratory expense fund" created herein shall be limited so as not to exceed the amounts allotted from this fund by the state budget committee.

(j) To accept gifts and grants of money, services or property and to use the same for any given purpose consistent with the objectives of the commission.

(k) To use the services and facilities of the state board of health and hospitals, colleges and universities and other agencies supported in whole or in part by public funds.

(l) To establish and maintain such branch offices as it deems necessary.

(m) To cooperate with any state or local agency or with any hospital, college or university in any scientific program consistent with the objectives of the commission. [Acts 1959, ch. 361, §5, p. 968.]

Ohio Revised Code, Sec. 307.75 (Supp. 1974) permits the local county government by contract to operate a police science laboratory with a public or private university.

307.75. Operation of police schools and police science laboratories.

The board of county commissioners may operate or may contract with an accredited university or

college to operate a police training school, a law enforcement training and research school, a police science laboratory for criminal investigation, or a crime prevention activity program, for the use of police officers, sheriffs, deputy sheriffs, marshals, and deputy marshals within such county and such county may contract for such training or schooling with and on behalf of the municipalities within such county.

Distinctive features emerging from these three widely diverse legal actions are:

1. Uniting forensic sciences in criminal justice with universities both public and private.
2. Encouraging research into the forensic sciences.
3. Educating and training forensic sciences personnel.
4. Professionalizing forensic sciences personnel.
5. Unifying the whole concept of forensic sciences serving criminal justice by one legislative enactment rather than by piecemeal statutory actions or individual judicial case decisions.
6. Permitting prospective planning and programming of the forensic sciences in order to improve criminal justice problems involving forensic sciences techniques as manifested in the traditional common law case method or specialized legislative enactments.

I. The Ultimate Value of the Forensic Sciences in Legal Decision Making

(I) Weight of the Evidence in Court

Scientific evidence is highly credible both to judges and jurors as the user questionnarie results so graphically indicate. Expert scientific opinions based on data collected at the crime scene and analyzed in the laboratory provide in countless cases each year that quantum of prosecution evidence which pushes the probability of the accused's guilt beyond reasonable doubt, the necessary quantum of proof for conviction. The forensic scientist can and does provide evidence heavy in the weight which the decision-makers rely upon for the ultimate verdict and judgment.

Before introducing certain specific examples in this area, an understanding of the logic of scientific probabilities must be emphasized. The forensic scientist supports his expert opinion by data gathered and analyzed. The facts produced by such scientific data indicate the probabilities which undergird the scientific opinion he can state. If a thumbprint is found at a crime scene which matches in 12 major elements the suspect's thumbprint the odds, gathered from scientific experience, are between 100,000 and 1 or 1,000,000 to 1 that the suspect was present at that location sometime. Obviously, this important element of any criminal case is "proved" far beyond a reasonable doubt in the minds of judges and jurors.

An excellent example of how this forensic science process works is recorded in a recent criminal trial in Cleveland, Ohio. The prosecution in State v. Schroeder, Cuyahoga County, Common Pleas Court, Criminal Branch, Case. No. 11724 (Dec. 18, 1973) proved absolutely the identification of the skeletal remains of the murder victim. Conviction of the accused for first degree murder of this victim was buttressed by this logical process which resulted in overwhelming mathematical probabilities. The forensic odontologist, Dr. David B. Scott, submitted the following report to the Cuyahoga County Coroner's office:

MEMORANDUM

CASE WESTERN RESERVE UNIVERSITY
CLEVELAND, OHIO
April 1, 1974

TO: Dr. Charles Hirsch, Deputy Coroner

FROM: Dr. David B. Scott, Dean, Case Western Reserve University School of Dentistry David B. Scott

Re: Identification of Cuyahoga County Coroner's Office remains #153344 as those of Christine McWeeny.

This is to report that on March 29, 1974, I examined a skull, completely devoid of investing soft tissue, bearing Cuyahoga County Coroner's number 153344, recorded my observations, performed further laboratory work on the specimen, and compared the findings with dental records submitted by Dr. Joseph L. Faust as those maintained for Christine McWeeny. Dr. Faust's records were basically narrative, rather than diagrammatic, and radiologic (five sets of x-rays taken at intervals from 9/16/66 to 4/21/71).

The following features were observed in the skull and all were corroborated in Dr. Faust's records and/or x-rays. No discrepancies were found.

Number of Teeth: 28 teeth were present and in full eruption. The four third molars were still unerupted and were fully embedded in bone. The upper third molars were about ready to erupt, as indicated by perforations in the overlying bone.

Arrangement and occlusion of teeth: The lower incisors were crowded, so that the laterals were located lingually to the centrals; there was a less prominent crowding of the upper incisors, expressed mainly by the right lateral overlapping the central. With respect to occlusion, the posterior teeth were in normal (class I) relation, but there was some overbite in the anterior region, the upper incisors overlapping the lowers to about the mid-crown level. In addition, a key identifying feature was noted in the lower left premolar region. The first premolar was markedly tilted posteriorly, as well as slightly rotated, lingual to distal. At the same time the second premolar was tilted anteriorly. This configuration was shown in Dr. Faust's x-rays and we were able to produce exactly matching films from the skull (x-rays attached).

Restorations: 7 teeth were filled with amalgam, 4 by Dr. Faust and 3 by an earlier dentist. All of these are accounted for in Dr. Faust's records or x-rays. The three fillings inserted previously appear in all x-rays, starting with the initial ones made 9/16/66, as does one of Dr. Faust's, which was inserted 1/25/66. The last 3 fillings made by Dr. Faust are well described in his notations, but do not appear in his x-rays, since they were placed some 6 months after his last x-rays were made. Our x-rays made from the skull show all 7 fillings, and

there is a perfect match between the outlines of the 4 fillings which appear in both Dr. Faust's pictures and ours. The three fillings made after Dr. Faust's last pictures are shown in our films, and their locations are correct. The striking identity of the filling outlines is another key identifying feature.

Caries: All 21 remaining teeth were non-carious, and Dr. Faust's records indicated that in his repeated checks this was the case.

A visual age estimate was made, and from the eruptive state, especially in the third molar region, as well as the general lack of signs of attrition and alveolar bone loss, it was concluded that the age was 18-20. The lower right second premolar was removed and sectioned for a microscopic age estimation by the Gustafson method, which analyzes 6 structural features. By this method the best estimate was about 18.

Conclusions: The correspondence between Dr. Faust's recorded notes and our observations about the dentition, jaw relations and fillings, the exact coincidence in his x-rays and ours of the tilted and rotated teeth, as well as the perfect match in filling outlines, and the estimated age provide unquestionable evidence that the skull, #153344, can be positively identified as that of Christine McWeeny.

Attachments
Examination Chart
Chart made from Dr. Faust's records
Composite x-ray film
Copies of Dr. Faust's written records

In support of this forensic science report and opinion were the records of the victim's dentist, Dr. Scott's examination chart, and the x-ray comparisons set forth in Appendix E.

At the trial before a three judge court with jury waived, prosecution qualified Dr. Scott as an expert forensic odontologist, then received his factual reports and scientific opinion. Prosecution then continued by inquiring if the forensic scientist had done a mathematical probability study. Dr. Scott affirmed that he had. His study was submitted as follows:

The skeleton records and those of Ms. McWeeney matched in two quantitative measures. Both contained seven filled teeth with restorations on the same teeth and the same ten surfaces.

Given the following configuration of restorations from the skeletal records:

KEY
(upper right)

o: occlusal
d: distal
m: mesial
b: buccal
l: lingual

30

19

We first wish to examine the probability of there existing individuals with this exact configuration.

Based upon National Center for Health Statistics records, the number of adult women with any seven teeth restored (based on a sample of approximately 50,000) is:

$$P_A = 3.587 \times 10^{-2} \qquad \text{(approximately 1/30)}$$

If one assumes that of seven restored teeth, the four first molars would be universally filled (# 3, 15, 19, 30), then we next investigate the probability that the other three filled teeth are specifically # 2, 4, 15. One may further limit consideration to only those teeth commonly affected, second molars, first and second premolars. The probability of three specific teeth restored among 12 commonly vulnerable teeth is:

$$P_B = 4.545 \times 10^{-3} \qquad \text{(approximately 1/200)}$$

Of the seven filled teeth, one may assume the seven occlusals are universally involved. We then restrict our attention to the other three surfaces filled. The most commonly affected surfaces (aside from occlusals) are the mesials, distals, and first molar buccals. Thus on the seven teeth restored, we may consider 18 vulnerable surfaces. The probability of finding three specific surfaces out of 18 restored is:

$$P_C = 1.225 \times 10^{-3} \qquad \text{(approximately 1/800)}$$

The combined probability of there existing an individual with these specific 10 surfaces restored on these 7 teeth is then:

$$P_A P_B P_C = 1.997 \times 10^{-7} \qquad \text{(approximately 1/5 million)}$$

The probability of picking such a second individual at random is:

$$P_D = 7.138 \times 10^{-9} \qquad \text{(approximately 1/140 million)}$$

The assumptions of this statistical analysis (first molars, occlusals universally affected, only twelve other teeth and 18 other surfaces vulnerable) are quite severe. Any more realistic assumptions (e.g. the possibility that an anterior tooth may be affected) would lessen the existence probability.

In addition, it must be recognized that these calculations do not take into account other coincidences between the records of Ms. McWeeney and those of the skeleton. Other correspondence include:

a) age specifically estimated as 18
b) identical tooth morphology, angulations and rotations of tilted teeth, incisor crowding
c) four unerupted wisdom teeth, no other missing or decayed teeth (i.e. total DMF = 7)
d) identical outlines of restorations
e) existence of care and of up-to-date dental restoration, with no unattended disease

The addition of these factors to the filling configuration would make the probability of finding another individual due to chance alone many times smaller.

With this background the prosecutor asked if the forensic scientist had an opinion of the statistical probability that the skeletal remains were someone other than the murder victim. The forensic odontologist replied he had an opinion and said it was one chance in about 200,000,000.

Courts have been willing to accept the forensic scientists' expert opinions in these matters where the logical process of probabilities supports the scientific conclusions in specific instances such as fingerprints, ballistics, blood, or dental identifications.

But, the judiciary has been reluctant to apply the same process to the whole criminal incident where lay witness eye observations are the foundation for the probability process. The denial of the use of this type of logical process in a criminal trial is represented by People v. Collins, 68 Cal. 2d 319, 66 Cal Rptr. 497, 438 P. 2d 33 (1968) wherein the court stated:

> While we discern no inherent incompatibility between the discipline of law and mathematics and intend no general disapproval or disparagement of the latter as an auxiliary in the fact-finding processes of the former, we cannot uphold the technique employed in the instant case.

In Collins, defendant and his wife were convicted of robbery, 2nd degree. The victim testified her purse had been taken by a Caucasian woman, about 145 lbs. in weight, with a blond ponytail. A witness also testified that a

young woman about 5 ft. tall ran from the scene and entered a yellow car driven by a Negro male with beard and mustache. Defendant was arrested four days later sans beard. The accused claimed he had shaved the beard off two and one-half weeks before the alleged robbery. Other witnesses testified that defendant had a beard the day after the robbery. At trial, conflicting evidence was given on defendant's and his wife's appearances and clothing.

Prosecution, to bolster its identification claim, sought to introduce mathematical probabilities to show "there was an overhwelming probability that the crime was committed by any couple answering such distinctive characteristics." The expert witness utilized the product rule that the probability of joint occurrences of mutually independent events is the product of their individual probabilities. The witness' opinion based on six traits was that there was only one chance in 12,000,000 that any couple possessed those traits. The ultimate possibility of a second couple would far exceed the mathematical equivalent of the criminal proof required - beyond a reasonable doubt.

Since the defense made timely objections to this statistical evidence of probability the appellate court reviewed its admission. The high court reversed the conviction on the erroneous admission of such probability evidence indicating these "glaring" errors:

a) No statistical basis for the probability factors was assigned the six traits; e.g., no evidence that in fact 1 car in 10 was partly yellow. There is therefore no foundation for the testimony.

b) There was no demonstration that the six traits were truly independent; e.g., no demonstration that Negroes drive the same proportion of yellow cars as the general population, or that blond girls wear ponytails as frequently as other girls.

c) No certainty that such statistics ever could be obtained; i.e., it may be impossible to determine what people might be in the given area, which means the actual probability cannot be determined.

d) Using the prosecution factors the court noted that while the probability of a couple possessing all six of the characteristcs is 1/12,000,000, the probability of finding at least one other such couple in a population of 12,000,000 couples in about 40%; i.e., there is a very high probability that another couple was involved so it would be far from proof beyond a reasonable doubt.

e) There is no certainty that the robbers actually look like the descriptions rendered by the witnesses.

Since the jury was probably impressed by the prosecutor's mathematics but, unable properly to evaluate flaws, the closeness of the case gave a reasonable likelih od of a different verdict without this statistical evidence.

Where, however, the forensic scientist deals with physical properties of specific matter such as fingerprints, ballistics, questioned documents, etc., the use of mathematical probabilities to prove a trial issue can be most helpful.

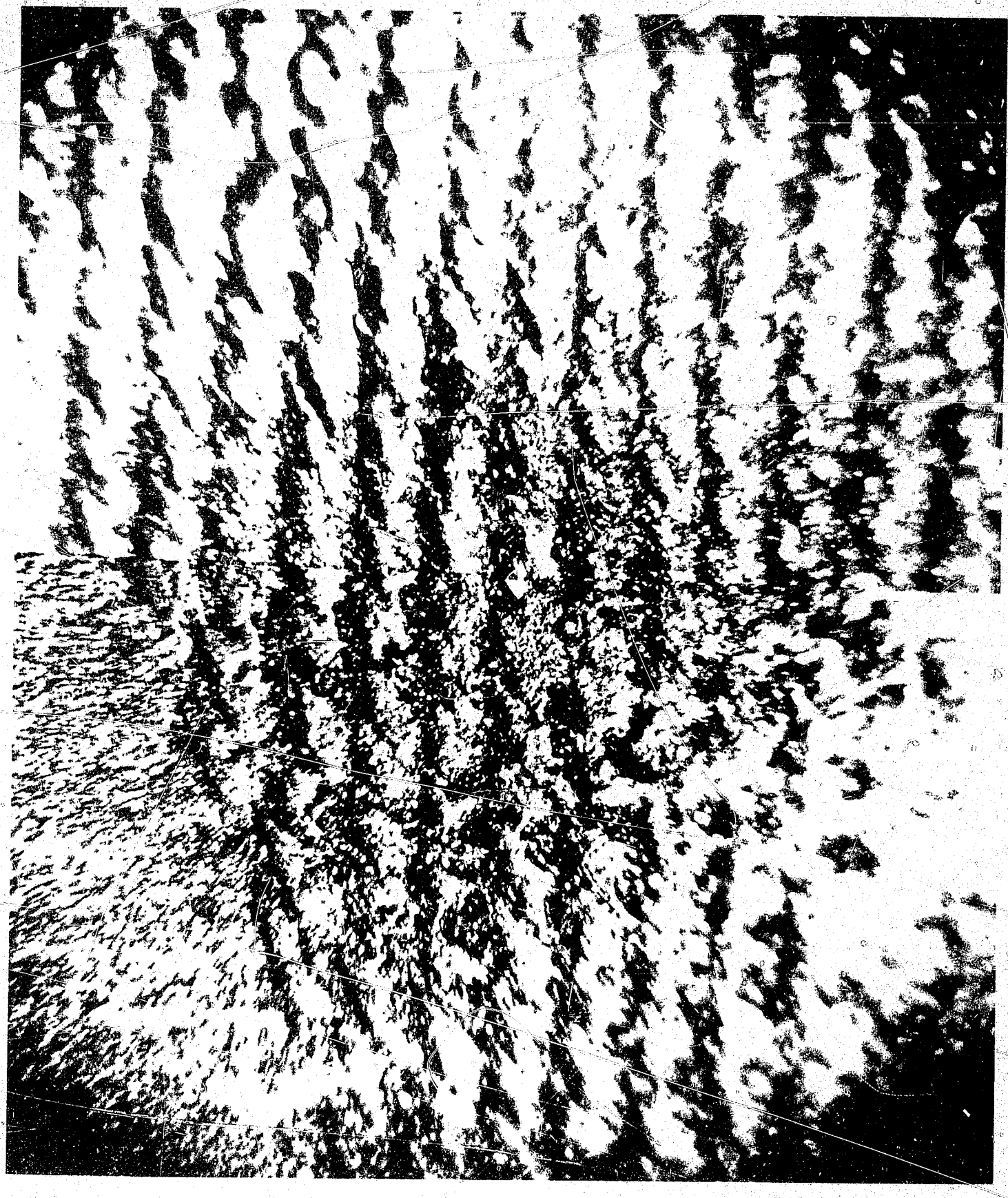
Admittedly, the Schroeder case evidence was given to a three judge trial panel rather than a jury. Hopefully, flaws, if any, could be detected by those on the judicial

bench more readily than those in the jury box. But, more significantly is the fact that this statistical evidence is specifically rooted in dental comparisons of specific physical matter - teeth. In the Collins case, the probability factors were based on whole appearances of human beings during a street incident as seen by the untrained eye of lay witnesses.

Given a scientific process of study, the law of mathematical probabilities could well emerge in the years ahead as solid scientific evidence, especially as the utilization of computer programs becomes more readily acceptable to the criminal justice decision process. The Collins decision on the probabilities process could well represent a forensic science procedure whose time has not arrived. When the time for scientific authenticity does arrive, such a forensic science technique might be elevated to becoming evidence acceptable to law. Such has been the experience of the case examples set forth on the following pages, the results of on-site visits.

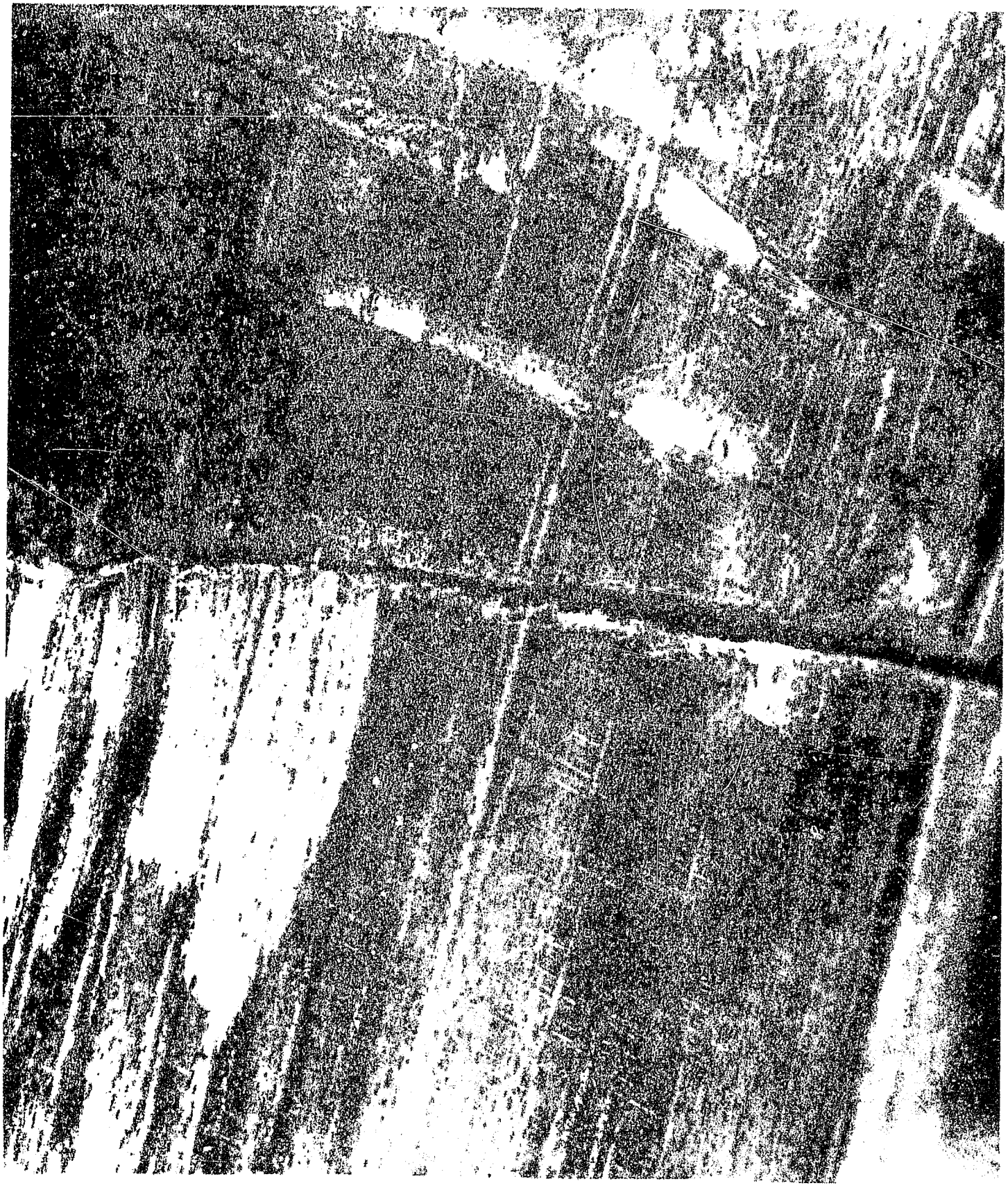
These specific examples are the common situations found at crime scenes where matter has been touched, disturbed or scattered. The two individual samples of matter involved in such physical interchange offer the whole spectrum of comparative analysis which links the accused to the crime scene thereby assuring conviction of the guilty and release of the innocent.

Through the courtesy of Major John Koch, Director Crime Laboratory, New Orleans Police Department, three case examples of this highly effective and widely used technique for physical evidence are set forth below. As Major Koch has stated: "In these cases, the physical evidence, while not solving the crime, was instrumental in the successful court presentation of these cases."



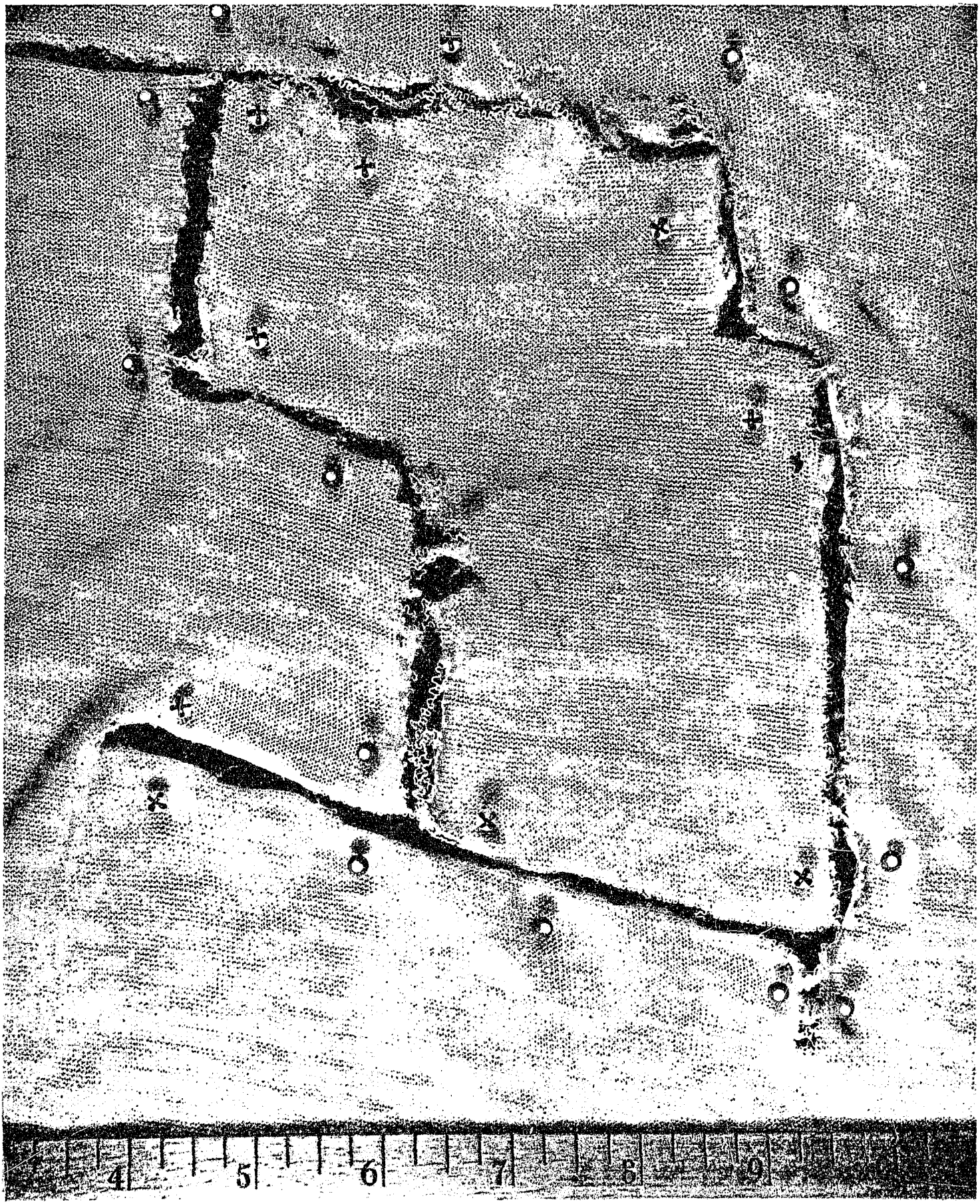
Photograph I- Comparison of cloth impression in paint on suspected vehicle with impression of clothing worn by the victim of a hit and run fatality.

Photograph II- Larger piece of metal is portion of a safe hinge which had been sawed through. Smaller piece of metal found embedded in nail hole of heel of shoe of suspect.



Photograph III- Comparison of sledge hammer handle, one being part of a sledge hammer with the handle sawed off found at scene and the other being a part of a tool handle also sawed off, found in home of suspect.

Even when the scientific evidence of comparative analysis supported by the logic or probabilities does not play a vital role in obtaining conviction, it can be important as Director Frank Shiller of the Fort Worth Police Department Criminalistics indicates. In a recent mass rape case involving four victims and five defendants a physical match of the torn blouse of one victim established the exact location of the offense and revealed the severity of the attack.



Torn blouse of rape victim matches the patch found at the crime scene.

A police officer may "solve" a case. The law demands that a case be "proved" in court. It is this "proving" that makes the forensic scientist a sine qua non in any criminal prosecution where physical evidence is or may be a factor. He, generally alone, carries the proof of the matter at issue beyond a reasonable doubt as protrayed in the examples set forth above. Occasionally, the forensic scientist's opinion founded on physical evidence facts can be the sole basis for the prosecution's case. An excellent example of this extreme value of the forensic sciences is found in Departmental Training Bulletin IV-A.9, 20 Mar 70, Oakland, California, Police Department:

> The value of physical evidence cannot be overemphasized and is clearly demonstrated in a recent murder trial which was conducted in Alameda County. The case was developed and successfully prosecuted with nearly complete reliance upon physical evidence.
>
> In this particular case, a storeowner was found lying in a pool of blood by a mailman who notified the police. The responding officer found that the victim had been severely beaten and, though the victim was immediately transported to the hospital, he died the same evening. Death was determined to have been caused by multiple injuries to the head followed by cardiac arrest.

The responding officer observed a large pool of blood at the scene of the crime, as well as shattered glass fragments, a small torn paper bag and a broken soft drink bottle on the floor of the victim's shop. These items were collected and submitted to a criminalist for scientific analysis.

The criminalist determined that fingerprints found on the paper bag were those of a person later arrested. When the defendant was arrested, three glass particles found in the soles of his shoes were microscopically matched with similar particles which had been found on the floor of the store.

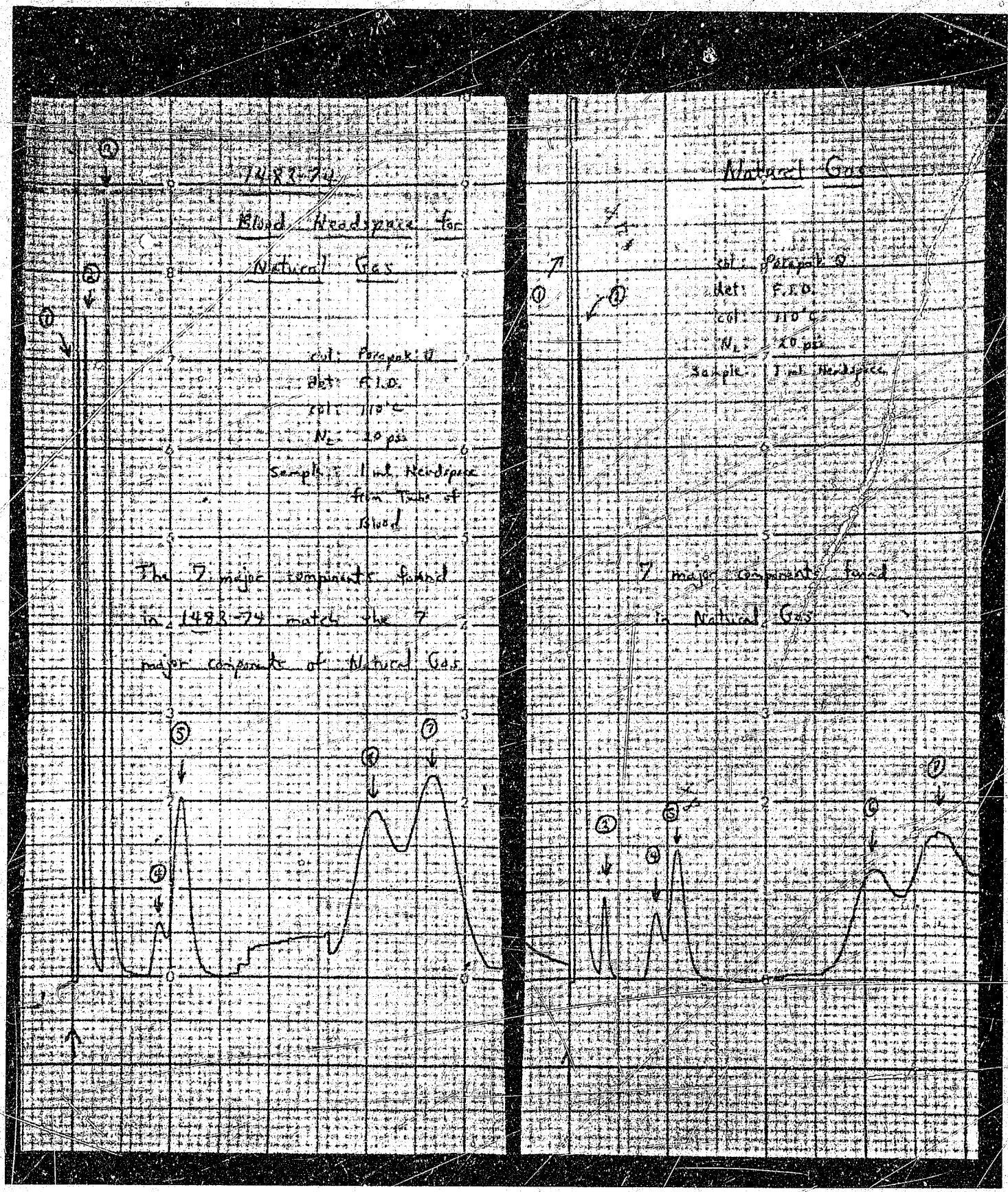
Except for a very general description offered by eyewitnesses to the crime and a contradictory statement by the suspect concerning his whereabouts at the time of the offense, the glass particles and fingerprints were the only evidence presented by the prosecution during the trial. This evidence was sufficient to convince the jury and the suspect was convicted of first degree murder.

This is but one example of the importance of following correct procedures during the preliminary examination of a crime scene. By employing proper crime scene security, appropriate search techniques, and by careful collection, preservation and packaging of physical evidence, you will increase the likelihood that the suspect who committed the crime will be apprehended and successfully prosecuted.

(II) Allaying Citizens' Fears in The Community

Legal decisions are made not only in courtrooms but in police offices and forensic science laboratories where the results of good investigation are put to the test of the scientific process. Often what appears to be a crime such as homicidal killing in reality is an accidental killing. The release of innocent persons under strong suspicion of criminal activities can thus be accomplished in the criminal justice process as the following case suggested by J.C. Stone, Ph.D., Chief, Physical Evidence Analysis Section, Southwestern Institute of Forensic Sciences at Dallas, reveals:

> The body of a 20 year old man was brought in for autopsy. Reportedly he had been present when a fire was being extinguished at a natural gas well but, his two companions were suspected of murder. Nothing remarkable was found at autopsy except evidence of natural gas inhalation. Foul play was suspected as the body was found several hundred yards from the fire. Gas chromatographic procedures, as indicated in the following photograph, revealed that the hydrocarbon content in the blood of the victim was the same in type and quantity as the gas from the well. Using this information, the two suspects admitted that they had gone to the well with the victim, opened a valve to sniff gas and accidentally started the fire. The victim disappeared while they were trying to extinguish the fire and they ran for help. When they returned, the fire was put out and the victim's body located. As a result of autopsy and toxicological examination, an apparent murder case was shown to be an accident, and two innocent persons released.


1483-74
Blood Headspace for Natural Gas
col: Porapak Q
Det: F.I.D.
col: 110°C
N_2: 20 psi
Sample: 1 ml Headspace from Tube of Blood
The 7 major components found in 1483-74 match the 7 major components of Natural Gas
Natural Gas
col: Porapak Q
Det: F.I.D.
col: 110°C
N_2: 20 psi
Sample: 1 ml Headspace
7 major components found in Natural Gas

A second case from this same source represents the valuable contribution of the forensic sciences to allay the fears of citizens when an apparent criminal situation creates an atmosphere of fear in any neighborhood. Resolution of the event explains what has happened to the citizen who can then understand the truchful story of a criminal event. Truth can dissolve fear and restore confidence in the community that its criminal justice process is working. Dr. Stone explains his second representative case in the following words:

> The partly decomposed bodies of four members of a family were found dead in their home. They had not been seen for four days and friends became concerned. All windows and doors were locked with no visible sign of forced entry. The father was found on the floor of the den with one bullet wound to the head; the mother was in the bedroom with two bullets to the body and one to the head; the daughter and son were in the daughter's bedroom each with a bullet wound to the head and a weapon lying between them. Although no evidence of burglary or robbery was apparent, the neighbors were very upset and frightened. The police agency collected evidence carefully, including the weapon and blood smears. Using advanced blood grouping techniques, blood from each of the family members was differentiated. Blood from the father was found on the son's feet. Examination of the weapon showed that six rounds had been fired, with the fourth possessing peculiar powder characteristics. At autopsy, powder particles from each wound were obtained and compared with the ammunition type. Although gunshot residue analysis of the hands of each member was negative, it was determined that the fourth round fired had killed the daughter. This eliminated the daughter as the person who fired the rounds.
>
> It was concluded that the son had killed all members of the family, his sister being dispatched with the fourth round, and then killed himself. The blood on the bottom of his feet supported this.
>
> Although shocked by the incident, the neighbors were relieved to know that it was not a fifth party who might still be free.

(III) Improving The Law

The forensic sciences also contribute strongly to improve criminal justice not only by supplying the truthful facts and reliable opinions for the guilt-innocence issue, but also by the forensic sciences processes improving laws - both legislative statutes and administrative ruling. The words of one forensic scientist, Ms. June K. Jones, Crime Laboratory, Georgia Bureau of Investigation, graphically reveal this important contribution which the forensic scienees make to American criminal justice:

> To put the paramethoxyamphetamine problem under control all the way from the streets through the morgue and laboratory to revisions of Federal and State laws, to my way of thinking, is a dramatic example of the impact of the Forensic Sciences on the Criminal Justice System. It clearly demonstrates (1) the ingenuity of suppliers of abused substances; (2) the necessity for highly trained forensic scientists; (3) the need for sophisticated instrumentation in Crime Labs; (4) the importance of cooperation among Forensic Scientists and the mutual benefits derived therefrom; (5) the desireability of a central agency such as the Drug Enforcement Administration, Department of Justice for disseminating information from Crime Labs in the interest of public welfare;

and (6) the impact of research from the Forensic Sciences on shaping both State and Federal laws. To many of us at the bench it is a difficult, but rewarding experience.

To support her general theories, Ms. Jones offers this specific example based on the challenge in drug analysis caused by the paramethoxyemphetamine explosion:

> Toxicological determinations in most instances involve the isolation and identification of substances whose physical, chemical, and pharmacological properties are well defined and documented. Occasionally, however, a substance is encountered for which comparative instrumental data are not available, and the toxicologist is put to the time-consuming task of determining molecular structure in order to adequately interpret his results. Such was the situation at the Georgia Crime Laboratory in April 1973. Within a ten day period analysis of biological specimens from two cases submitted from jurisdictions about 100 miles apart revealed the presence of the same but unknown substance. In the first case, the Medical Examiner stated that death resulted from head injuries, but because of the presence of "possible" needle puncture marks on the the left arm, an analysis

for drugs was requested. The second case was a suspected drug overdose based on a history of drug abuse by the decedent.

Furthermore, during this ten day interval the same substance was also found among street drugs analyzed in the Drug Identification Section of the Laboratory.

The picture was clear: a new street drug, the death of a user involved in an altercation, and possibly a death from overdose. The public had to be warned, but of what?

Instrumental data from the substance was acquired as rapidly as possible. In addition to ultraviolet and infra-red spectrophotometric determinations, thin layers and gas chromatographic results, and various chromogenic tests available in the Georgia lab, samples of the solid dosage were also analyzed at other laboratories by nuclear magnetic resonance (NMR)[1] and GC/MS[2,3,4].

Because of the combined efforts of many forensic chemists and toxicologists the problem was elucidated within a few days. The substance was determined to be an amphetamine analog, 4-methoxy amphetamine (paramethoxy amphetamine; PMA). A survey of the literature revealed PMA by no means to be

a new substance[5,6] but, rather one that had dropped out of sight in recent years except for a study of its hallucenogenic activity together with that of other amphetamine analogs by Kong and Green[7]. They found the activity of PMA to be 5 on the hallucenogenic scale expressed in mescaline units (mescaline=1; amphetamine=0).

With the scientific facts in hand, laboratory results were promptly reported to the law enforcement agencies involved, and repeated warnings to the public were issued through the news media.

Interestingly enough, PMA also as an "unknown" which had to be identified, was found almost simultaneously in a number of other cities in the U.S. and Canada, pointing up the fact that the use of newly available "goodies" spreads almost overnight. Reports from all laboratories involved in the problem were correlated by the Drug Enforcement Administration in Washington, D.C., and other law enforcement labs were quickly warned of the emergence of PMA as a street drug.

It is believed that a potentially dangerous situation was nipped in the bud, for during the remainder of 1973 only two other deaths in Georgia were attributed to overdose of PMA.

There was, at that time, however, a legal stumbling block in attempts to prosecute individuals accused of possessing and/or selling PMA in Georgia for it was not covered under any Federal Act or Regulation, nor was it subject to control under the Georgia Drug Abuse Control Act. As a result, indictments in those early cases had to be dropped, but prompt action was initiated to remedy this situation. Within a few months, 4-methoxy amphetamine was placed under federal control, and by an act of the Georgia Legislature in January, 1974, it was added to the list of substances in the law now titled The Georgia Controlled Substances Act.

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1 Georgia Institute of Technology, Atlanta, Ga.

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3 Louisiana State Police Crime Laboratory, Baton Rouge, La.

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5 Mannich, C. and Jacobsohn, W., Chemisch Berichte, 43: 189 (1910).

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CHAPTER 5

Forensic Sciences and the Law: The Future Unfolding

Law practice begins in legal education. In the law schools of America, future practitioners are exposed to the old legal concepts as well as the new legal practices. Not until 1960 did legal education have available a traditional-style casebook for law students to study medicine, science and the law. Law and Medicine: Text and Source Materials on Medico-legal Problems, (1960, 829 pp) was edited by William J. Curran, then Professor of legal medicine and Director of the Law-Medicine Research Institute at Boston University. This pioneering law text commented on the lawyer's orientation to medical science and the medical professions, the process of medical diagnosis and case management, the anatomy of trauma, medical proof in litigation, psychiatry and law, and government regulation in medicine and public health. The second edition of this legal publication, Law, Medicine and Forensic Science, (1970, 1046 pp) added a second editor, E. Donald Shapiro, and introduced the forensic sciences as an important component part of the text devoting 142 pages or nearly 14% of the book to this dynamic new aspect of the law. The specific topics covered included forensic science in general, forensic pathology and toxicology, coroners and medical examiners, intoxication tests in court, forensic serology and chemistry (blood grouping tests), truth in law and science (the polygraph narcoanalysis and hypnosis), new tests and new sciences,

and forensic psychiatry.

In one decade, forensic sciences had burst upon the legal education scene as a legitimate concern of law study. Even more significant has been the development since 1970. With the 1974 Supplement of this law text, the new material on the forensic sciences totalled 80 pages out of the total 196 or 40% of the whole new material. New matters were offered in forensic pathology and toxicology, coroners and medical examiners, intoxication tests in court, truth in law and science (the polygraph), new tests and new sciences, and forensic psychiatry.

The fact that this legal education tool has been adopted for use in more colleges and universities is solid proof that editors Curran, now Frances Glessner Lee Professor of legal medicine at Harvard University, and Shapiro, now Dean and Professor of Law at New York Law School, are satisfying the increased interest in the forensic sciences and legal medicine now rapidly emerging in the study of law. Tomorrow's legal practitioners will come to the bar of criminal justice not only better instructed in the use of the forensic sciences and legal medicine, but also more cognizant of the dynamic impact which these scientific developments have on the improvement of criminal justice.

Legal educators are responding to the expanding role of the forensic sciences in the administration of justice. How are the legal practitioners reacting? The American Bar Association has manifested its concern for science and technology by recently elevating its Committee on Science and Technology to the status of a Section on Science and Technology. This demonstrable concern for science and the law will provide a permanent agency within the American Bar which will focus on science and technology as they impact the processes of justice. Traditionally, the American Bar Association has responded to the economic, social and political problems emerging in American society by creating a special section to concentrate on the legal matters. National problems involving anti-trust situations, corporations, banking and business activities, insurance, negligence, workmen's compensation, labor relations, natural resources, patents, trademarks, copyrights, public utilities, and taxation have all generated a Section in the American Bar Association's comprehensive organization. What this contemporary action by the American Bar Association manifests is a recognition that science and technology are now relevant in the legal processes and significant to the achievement of justice. Hopefully, the utilization of science and technology within

the administration of criminal justice can become a major concern of this new American Bar Association Section. Research projects can be encouraged. Model legislation can be drafted. Professional training in the use of the forensic sciences can be offered. Contemporaneously with this national approach to science and technology in the law will undoubtedly come the opportunity for state associations to produce similar programs of research, legislative drafting and professional training. With these efforts, the utilization of the sciences and technologies in the criminal justice processes will increase both quantitatively and qualitatively.

This legal study already indicates that a central core of judges and lawyers recognize the value of the forensic sciences to the administration of American criminal justice. Furthermore, these legal practitioners through the agencies of court decisions and legislative enactments are skillfully weaving the sciences and technologies which are forensic into the criminal law processes which seek to bring justice. The true weakness in the law rests upon the small number of legal practitioners who make full use of the forensic sciences. Expanded

legal education and increased professional training should remove this weakness.

It now remains to study in depth the state of the forensic sciences themselves to be certain that these sciences are ready, willing and able to meet the criminal justice demands in the decades ahead.

The Forensic Sciences Foundation, Inc.

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"ASSESSMENT OF THE FORENSIC SCIENCE PROFESSION"
(Project #73-NI-99-0052-G)

THIS PROJECT HAS BEEN AUTHORIZED BY THE OMNIBUS CRIME CONTROL AND SAFE STREETS ACT OF 1968

KENNETH S. FIEL
Project Staff Dire

INA J. CURTIS
Financial Officer

March 30, 1974

Dear Colleague,

All of us on the Joint Advisory Committee are, like you, deeply concerned with criminal justice - as judge, lawyer, police officer or expert scientific witness. We seek to evaluate the forensic sciences in American criminal justice. Your ideas and opinions are needed.

Will you take 3 minutes and indicate your answers with an "X" mark in the appropriate box for each question below, then mail in the post paid envelope? Your name and address would be helpful to indicate geographic and jurisdictional spread, but they are not obligatory. Response by April 30 requested.

Many thanks,

Oliver Schroeder Jr.

Oliver Schroeder, Jr.
Attorney-Chairman

OS:cmm

1. I am a: ____ Judge ____ Lawyer. I have been involved in criminal cases: ____ 1-10 yrs. ____ 11-20 yrs. ____ 21-30 yrs. ____ over 30 yrs.

2. % of my criminal cases using scientific evidence:
____ 0% ____ 10% ____ 20% ____ 30% ____ 50%
____ 75% ____ 100%

3. In your criminal cases in which no scientific evidence was used, in what percentage could it have been used: ____ 0% ____ 10% ____ 20%
____ 30% ____ 50% ____ 75% ____ 100%

4. Why was expert scientific evidence not used? _____ Qualified expert witness not available, _____ Scientific evidence damaging to your case, _____ Lack of funds to obtain expert witness, _____ Lack of knowledge where to locate expert, _____ Inability to determine qualifications of expert, _____ Lack of time to obtain expert, _____ Experts fail to show up at trial.

5. Would you like to use more scientific evidence in criminal cases? Yes _____ No _____

6. Does scientific evidence have more credibility than lay witness testimony? _____ yes _____ No

7. Is scientific evidence given more credibility than other evidence by decision-maker: Judge _____ Yes _____ No
Juror _____ Yes _____ No

8. Are there weaknesses in scientific witnesses' testimony due to:
A. Lack of expertise in the specialized field. _____ Yes _____ No
B. Lack of understanding of court process. _____ Yes _____ No
C. Insufficient preparation for court appearance. _____ Yes _____ No

9. Is the competence of prosecution scientific witness better _____, worse, _____, the same _____ as defense scientific witnesses?

10. A. In handling criminal cases are you influenced by data in the behavioral sciences (psychology, sociology)? _____ Yes _____ No

B. When did you last study behavioral science data: _____ last 3 months _____ last 6 months _____ last year _____ over year ago

C. Can behavioral science data contribute to improve criminal justice? _____ Yes _____ No

11. A. In what percentage of your criminal cases are reports of psychiatrists or psychologists used? _____ 10% _____ 20% _____ 30% _____ 50% _____ 75% _____ 100%

B. Would more use of such reports be helpful? _____ Yes _____ No

C. Why is more use not made of such reports? Indicate priority by 1, 2, 3, etc.: _____ Unavailable, _____ Immaterial, _____ Don't trust them, _____ Too costly

D. Does your court have a psychiatric clinic for use in criminal cases? _____ Yes _____ No

E. Would you like to have more readily available psychiatric services for your criminal cases? _____ Yes _____ No

12. Is certification or licensure by a public or private body of a forensic scientist an important criteria to determine the qualifications of him as an expert scientific witness? _____ Yes _____ No
Should it be? _____ Yes _____ No

13. Would video tape deposition of scientific witness expedite criminal justice process? ____ Yes ____ No; Do you approve? ____ Yes ____ No

14. Are changes needed in laws to permit better use of the forensic sciences? ____ Yes ____ No

15. How do you locate a forensic scientist to provide expert evidence? Indicate choice by priority: 1, 2, 3, etc., ____ Ads in bar journals ____ Ask fellow-lawyer, ____ Ask scientist acquaintance, ____ Articles in legal literature, ____ Articles in scientific literature, ____ Contact scientific societies, ____ Address lists of scientific societies

16. Any Comments: _____

_____

_____

NAME: _____ ADDRESS: _____

_____ ZIP _____

Appendix B

Forensic Sciences Profession Project

Science Literature Search

Appendix B

FORENSIC SCIENCES PROFESSION PROJECT

Science Literature Search

INTRODUCTION AND OBJECTIVE

This report concerns a literature search of medical and legal journals in which articles relating to the forensic sciences profession were to be located. More specifically, the articles to be sought, cited and abstracted were those which pertained to the personnel, training and education of the forensic sciences profession as they related to the criminal justice system. This literature search was a first step in the development of a project which has as one of its objectives the assessment and evaluation of the qualifications of the forensic sciences profession.

Under chairmanship of Professor Oliver Schroeder, Jr., Director of the Law Medicine Center of Case Western Reserve University, this project is under auspices of The Forensic Sciences Foundation, Inc., research arm of the American Academy of Forensic Sciences, and the Law Enforcement Assistance Administration of the United States Justice Department.

PROCEDURE AND SOURCES UTILIZED

Weekly meetings with Professor Schroeder and two Case Western Reserve University medical library science graduate students

requested to carry out the search were arranged. Professor Schroeder noted the progression the search was taking as well as evaluated the desirability of the literature as it was retrieved. A support librarian, Mrs. Maryann Barnes, served as a resource person, and occasionally she would attend these meetings. The titles of articles were presented to Professor Schroeder for consideration. The articles were then obtained and perused. A determination would be made by the students in the matter of each article's relevancy. Accepted articles were cited, abstracted and presented to Professor Schroeder.

It was decided early that all sources would be searched from 1963 to the present. It was also decided that INDEX MEDICUS, published by the National Library of Medicine, would serve as a most valuable tool in locating journal articles. INDEX MEDICUS, which indexes journals only, provides an index to 2741 journals in the field of medicine and biomedicine. Although these areas are covered exhaustively, not all articles in every journal are indexed. The N.L.M. has a selective indexing policy in which only articles of "critical importance" to medicine are indexed. By using the three structures of MESH (acronym for controlled medical subjects headings, published by N.L.M. for use in INDEX MEDICUS), it was possible to unfold a variety of subject headings. The following terms are examples of subject headings provided by MESH which related to the subject under

search: Criminal Investigations, Expert Testimony, Forensic Medicine, Forensic Odontology, Forensic Psychiatry, etc. In addition, key words for the search were suggested in the overall project's format. These included such descriptors as Coroner Offices, Crime Scene Investigation, Questioned Documents, etc. Although these latter terms were not always used as subject headings in INDEX MEDICUS, they served as a basis for searching other sources.

Another index source heavily used was WHAT'S NEW IN FORENSIC SCIENCES, which the American Academy of Forensic Sciences began publishing in 1963. There was some variation in the format of this index in the early years of publication. Also its scope appeared to be quite broad in that it included papers and legal cases as well as books and journals from many fields. The following subject headings are examples of those provided in this source: Forensic Anthropology, Forensic Criminalistics, Forensic Toxicology etc.

Other peripheral indices searched were U.S. MONTHLY CATALOG OF GOVERNMENT PUBLICATIONS, GOVERNMENT REPORT INDEX, INDEX TO DENTAL LITERATURE, INDEX TO LEGAL MEDICINE and PUBLIC AFFAIRS INFORMATION SERVICE. The governmental sources were difficult to access because related subject headings were either too broad or nonexistent. Secondly, it was felt that the yield would be fruitless so exhaustive searching would not be valuable. The latter three indices proved

to be of little worth in that the articles were either irrelevant or had already been indexed in INDEX MEDICUS. It is important to mention at this point that bibliographies of pertinent articles were also considered.

LOCATION OF JOURNALS

Medical journal articles which appeared relevant on the basis of title were available, by and large, at the Allen Memorial Library, Cleveland. Dental journals were located at C.W.R.U. Health Center Library. The C.W.R.U. Law Library provided many of the legal journals. Several libraries in the area were contacted to determine their holdings, but this was unrewarding in that, by then, lesser known journals were sought. In particular, the police journals sought could not be located. No inter-library loan was initiated.

CONCLUSION

What were thought to be potential articles for the project's aims most often proved to be not applicable. Of the 600 or more titles selected from the indices and bibliographies, only 37 were considered appropriate and subsequently abstracted. There was minimal overlap between INDEX MEDICUS and WHAT'S NEW IN FORENSIC SCIENCES, with each producing about equal numbers of applicable articles. Other sources provided very little, two citations being from article bibliographies.

In relation to the goals of the project, Professor Schroeder determined that 16 articles were reasonably useful, while the remaining 21 were of secondary importance to the subject of the search. The former ones may be printed in toto for distribution to the participants of the project, and the latter ones may be dispersed in abstract form.

* * * * *

For persons who desire to study in depth the forensic sciences, in order to utilize these sciences in the administration of criminal justice, the following journals are valuable:

Journal of Forensic Sciences

Medicine, Science and the Law

Journal of Forensic Medicine

Journal of the Forensic Science Society

Journal of the Indian Academy of Forensic Sciences

German Journal of Forensic Sciences

Indexed compilations of tables of contents of these forensic sciences journals may be obtained from Inform, c/o William G. Eckert, M.D., Laboratory, St. Francis Hospital, Wichita, Kansas 67214.

A most comprehensive annual compilation of literature citations in the forensic sciences has been published since 1965 by the American Academy of Forensic Sciences, 11400 Rockville Pike, Rockville, Maryland 20852, under the title What's New in Forensic Sciences. For European forensic sciences literature the new journal Forensic Sciences is being published by

Elsevier Sequoia, SA. P.O. Box 851, 1001 Lausanne, Switzerland.

In addition to the textbook, Law, Medicine and Forensic Science, edited by William J. Curran and E. Donald Shapiro, Little Brown and Co., Boston, 1970, with 1974 Supplement, persons concerned with the forensic sciences and the law should use the treatise Gradwohl's Legal Medicine, edited by Francis E. Camps, 2nd edition 1968, John Wright & Sons Ltd., Bristol, U.K.

* * * * *

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Appendix C

Written Comments from the Judge/Lawyer Questionnaire By Individual Responders

Most scientific evidence comes from police dept. Virginia

I don't need services or experts to be made more readily available, perhaps I need more training in how best to use the ones who are available. Montana

The testimony of too many psychiatrists seems to depend upon which side hires him and what his subject philosophy is about the law. We have already turned too much of the decision-making power over to psychiatrists. Oregon

. . . utilize a psychologist to help me pick juries. I also use experts for "drug analysis" and blood alcohol ratios. I have even qualified on "expert queer" in a case of anal intercourse to prove that this was physical impossibility. Penna.

Vast majority of criminal cases I handle do not have or need scientific evidence but when they do it is of extreme importance. Tenn.

Categorical answers to most of these questions are unsatisfactory. Obviously the "correct" answer depends not on the direction suggested but upon the respondent's personal philosophy. Kentucky

Precise definitions, standards and guidelines must be set by scientific bodies in relationship to criminal law before they will reach substantial acceptance in criminal cases. Ohio

In the drug field the courts definitely out of an emotional basis are relating requirements and expertise of state's witnesses. In obscenity cases no expert need at all for state. Ohio

In addition to use of scientific experts, it is important for attorney to become familiar with subject matter through the use of tests and prior records and transcripts. New York

Excepting psychiatry and the behavioral sciences, expert witnesses such as engineers, botanists, chemists, etc. are not locally available for criminal cases and cost of "importing" a professional witness is too high. Georgia

Defendents cannot always afford such services but the state can. I cannot help but feel experts start with an opinion and set out proving it and therefore exclude other possibilities which may exist. Kansas

Scientific evidence is not obtained in many cases because investigating police officers are not aware of its significance or evidence is mishandled. Michigan

Need closer laboratories with greater ease of getting the evidence there and getting reports back promptly. Maryland

Certification not important as to expertise or ability to testify. Florida

There is a broad category of forensic sciences. . . there should be varying degrees of reliability. Texas

Reports of especially trained alcohol abuse counselors, family court counselors, social. . . are used although these people do not have degrees in psychiatry or psychology. N. Carolina

Between state crime lab and local resources state and defense usually make maximum use of scientific testimony and evidence. Wisconsin

Scientific field for the average case is relatively untouched and most attorneys are not acquainted with potential and use. Maryland

We need more experts to testify at our request. Oklahoma

The first step in your study should be a more "in depth" analysis of the problems than the above questions suggest. Nebraska

Sophisticated police techniques are seldom used. Expert witnesses are not available close by and cost considerations usually prohibit their use. Missouri

Judges should be more prone to allow indigent defendants experts in drug, drunk-driving and fingerprint cases. Virginia

So many improvements have been created without understanding all of the practical implications. Michigan

Most of my experts are in drug related cases. Most of my clients are too poor to hire experts. Virginia

I regard scientific evidence as highly valuable. There are not too many really competent expert witnesses nor good trial lawyers. Better cooperation between the legal and medical professions is especially needed. D.C.

Many experts talk so over the heads of the average juror that their testimony is almost worthless in a jury trial. Michigan

Psychological and psychiatric reports should be required on all persons committed for a felony and used by judge in determining punishment. Illinois

The most helpful approach would be the holding of seminars between judges and forensic scientists. Georgia

We need scientific evidence for proof during trial. Psychiatric, psychological and sociological service should be available for pre-sentence reports and available to judge for determining appropriate disposition. Maryland

Scientific evidence often supports direct testimony. Lack of it often raises questions of credibility of witnesses. Ohio

Lawyers are not trained in law school to use forensic scientists nor are they taught the importance of same. This is the prime reason such is not used. D.C.

Lawyers generally don't bother seeking out such help. D.C.

Many times I have felt that had fingerprint experts testified to strengthen the testimony of other witnesses, the cases would have been stronger. Kentucky

The lack of lab resources available not only to the police and prosecution but to the general public is a crying need in this state. The greatest need in forensic testimony is training in testimony to the end that the evidence is acceptable and absolutely impartial. Kansas

To a judge the use of the scientific or medical expert must be distinquished between trial evidence and presentive information. D.C.

I continually use scientific evidence. However, it appears to me that juries are becoming more incredulous of such evidence rather than accepting it more readily. Penna.

My practice consists primarily of "white collar" federal cases. Experts have been used to prove lighting conditions, ballistics, sanity (psychologists and psychiatrists, handwriting). Illinois

Liberalization of use of scientific evidence in trial is dangerous - public is too trusting. But, very helpful at sentencing. California

Almost every court appoints experts for defendants upon request and at public expense. Locally, in many criminal cases expert testimony is of little help if it helps at all. Penna.

Behavioral sciences could be better used to prevent crime and for proper sentences. Michigan

My clients do not have funds with which to hire experts. Kentucky

I'm really enthused over your interest and work in this general area as indicated by the mailing of this questionaire. Texas

We note that police (lawyers) etc., often do not use available scientific assistance and evidence. Illinois

Scientific expertise is essential in a large percentage of criminal cases, yet it seems impossible to obtain. Washington

This is a waste of time and money. Penna.

All small courts need help to locate scientific assistance and financial aid to pay for it. Arizona

Any additional data on this would be appreciated. N. Carolina

Forensic science has not been too important in our cases (misdemeanor and traffic) except as to use of vascar, radar and breathalyzer and occasionally a handwriting expert. Ohio

Particularly in the field of the behavioral sciences we have not kept pace with the advancements in the field. N. Mexico

The officers in my jurisdiction do an excellent job of collecting scientific evidence and the state forensic lab is available 24 hrs. per day to assist. Idaho

. . . have used police chemists etc. all the time since being on the bench have had only little use of other than police experts. Kansas

As traffic judge use of blood alcohol measuring devices very helpful. Arkansas

Contacts for expert forensic testimony are made through practicing forensic pathologists in our area. Alaska

Behavioral evidence is really practiced only for sentencing or determining ability to go to trial. Calif.

Many attorneys fail to appreciate the usefulness or do not bother to obtain scientific evidence. Virginia

In the prosecution of criminal cases greater use of forensic experts is necessary - in the disposition of criminal cases after conviction behavioral science is more important. Illinois

I find it to be a rare case (other than a routine narcotic case) in which "scientific" evidence is used or required. N.J.

I have no doubt that more use of scientific evidence would be beneficial, but the cost and facilities required seem prohibitive in misdemeanor cases. Louisianna

I believe the behavioral sciences area needs to be better utilized in sentences, and probation, etc. Kansas

A forensic science journal made available with the attorney-general's list of resource material would be helpful for source information in scientific evidence cases. Maine

Psychiatry has been "over done" as a diagnostic tool in aiding courts. This inexact science has been over sold and in many cases judges have been too prone to rely on hastily conducted and prepared examinations rather than their own experience, "hunch," and pre-sentence reports. Penna.

There seems not to be any crying need for changes in this area. Washington

Because of the impact of television many jurors are disappointed and feel that the state's prosecution is not complete without some scientific evidence. They have come to expect fingerprint testimony even if burglars are caught in a building. They have great confidence in fingerprint comparison, ballistics analysis, chemical evaluations, and pathological autopsy reports. If they don't hear something, they feel deprived. Texas

The defense should be permitted use of F.B.I. lab and witnesses. Kansas

I detect a more simple and basic problem of prosecutor and police reluctance to take the time to bolster prosecution by greater use of photographs, fingerprints, microscopic analysis and the readiness to wrap up a case by a confession or identification by a witness. Indiana

Major problem of forensic science is knowing difference between legal certainty and scientific certainty - also a need to be aware of reasons for and basis for so-called scientific norms or standards. Vermont

Most lawyers slow to adopt new methods, experts not easily accessible or too costly. Minnesota

We have conducted a closed circuit television receipt of crime lab evidence from a scientific expert witness (marijuana possession). The use shortly will be pending on appeal before Mo. Supreme Court. LEAA funded project. Missouri

Felonies require more scientific evidence of all types. We usually use only in misdemeanor DWI or drug uses. Too remote to use regularly. Texas

There is wide open field for video taping and better record of offense by properly trained officers - properly certified and with better training in courtroom presentation...The rich can afford the attorneys and the experts. Florida

Sure could use a directory regularly updated, on a state basis. Michigan

We have excellent facilities for most of the above. We just need to get the message across. Ohio

Your questions reflect lack of understanding of what is needed to prosecute a criminal case. Oklahoma

I favor the increased use of the polygraph in all criminal uses. Ohio

To term a subject "Forensic Science" sounds as if you are trying to up-grade the subject into one which is really not that high in the ladder of science. It sounds pompous and phoney. Wisconsin

As a judge, I find the use of scientific evidence, desirable, effective, and badly needed. Georgia

The primary limitation upon the more extensive use of scientific or expert evidence by defendant in criminal cases is cost. Reasonable availability is the second most severe limitation. Colorado

Lawyers fail frequently to recognize the potential value of an expert as a tool for use in their cases. More education as to what an expert can do is needed. Alabama

As it relates to scientific expert evidence in criminal cases the federal criminal justice system provides for more opportunities, including funds to hire such experts. Ohio

Defense availability of scientific experts far greater than to prosecutor primarily due to court payment for them. Washington

Lack of prosecutor staff, etc. limits use of experts to certain extent. Kansas

I find experts are effective in a number of areas, but must relate to the man on the street more- not use so many scientific terms that are not understood. Texas

Labs and experts are available through police agencies but at great distances causing inconveniences, time lapses and extensions in the chain of evidence. Labs and experts close at home would be helpful. Illinois

This is a hard questionnaire to answer - statistics are not available or kept and "scientific" evidence can range from a blood alcohol level in a drunk driving misdemeanor case to compassions in murder cases - hard to equate. Michigan

I am spoiled since the FBI people are available in most of my area. I have browbeaten a policeman into being "forensic" on fingerprints. Our defense counsel rarely get into this area. Washington

What is behavioral science data? Academic? Public Health? Mental health? Police? Corrections? Michigan

Am interested in recent reports that voice prints and hair matching are less reliable. Would like to see increased use of polygraph as form of expert testimony. Ohio

I feel too many behavioral scientists present an abstract picture of platitudes of make-believe, rather than being realistic. W.Va.

As a judge in Juvenile Court, extensive use is made of forensic sciences - our job would be impossible without it. Penna.

I believe ABA and other law enforcement agencies should advocate a strong system in each state of forensic pathologists to handle all unattended deaths. Oklahoma

Behavioral sciences are a great aid to courts in disposing of criminal cases and should be available to every court. Experts are very helpful in certain types of cases and should be available to both sides. Kansas

I have been a judge since 1938 and during that time it has been my observation that only about 10% of all psychiatrists are worth their salt. Illinois

When I defended, scientific evidence often wasn't used because it was damaging or the client couldn't afford it. N. Mexico

The inability of local psychiatrists to quickly give appointments, due to their caseload, slows down the criminal process and prevents us from using more psychiatric reports. Florida

Trial courts are bound by appellate rulings (as in the case of the polygraph). Witnesses should be schooled in testifying. California

Judges don't control the presentation of evidence --the prosecutor and defense counsel do! All persons committed have a pre-sentence where expertise of the behavioral scientist is used. Indiana

We need Federal subsidies in the area of forensic psychiatry to provide more training of those in this field and inducement for others preferably MD/JD's to enter this field. Ohio

Scientific evidence in the behavioral fields is really where I feel is the greatest need in our criminal justice system today. Illinois

This type of questionnaire might be more useful if it defined scientific evidence and distinguished between science, e.g. chemistry and social science e.g. predictive behavior studies. Judges and juries place considerable weight on science, but not necessarily equal weight on social science. Oregon

Forensic science is not developed to any great extent in this jurisdiction. Kentucky

I have scientific back-up on guilty pleas usually. Wyoming

Law students, attorneys, and judges should be instructed in the field of forensic science. Ohio

Use of gastromatigraph, radar, analysis of drugs etc. is always a time consuming thing to prove operator is qualified to use. Montana

For far too long judges have neglected the useful information to be provided by the behavioral sciences. Kansas

I feel we see far too many psychiatrists and psychologists in court who speculate, don't nail down facts, rely entirely on word of criminals who bend the truth with ease. . .also many psychologists in this area with M.A.'s have a habit of passing themselves off as Dr.'s. Kansas

As a defense lawyer the greatest problem is finding a well-qualified expert that is not 450 miles away and too costly for the defendants in the majority of cases. Florida

All the scientific help in the world won't help if lawyers remain in the "dark ages" and refuse to equip themselves to use it.

I confess some distrust of behavior sciences because of general lack of agreement among the scientists. Indiana

The biggest problems are the inability of lawyers to qualify witnesses and examine them, the lack of knowledge of such witnesses as to what his function is and his partianship when he is supposed to be testifying to neutral matters. Penna.

There is a "sociologist" or "pychologist" available to testify to anything on proper terms. . .something should be done to raise ethical and performance standards among them. Texas

The time which is available to prepare any case may be a more important factor than any expert in any field.
Kansas

We need to get away from the traditional concept of testimonial compulsion with all its evils and concentrate more on scientific approaches to resolve determinations of guilt.
Kansas

When the logic of an expert is warped it is usually due to partisanship and he becomes very vulnerable. Minnesota

The question of scientific evidence has never been a case of locating the qualified experts in the particular scientific specialty. The problem is "tuning police officers in" on the great help that scientific proof offers an investigation. More emphasis should be made on better crime scene search and retrieval of physical evidence.
Florida

Scientific data is very advantageous in ascertaining problem areas in pre-sentence investigation. Oklahoma

The police do not have the time, money or training ability to develop experts in scientific fields. Such experts would be very helpful at trial. N.J.

Keep up the attempts to help arrive at truth. N.J.

Questionnaires such as this are never adequate; subjects of a complex nature cannot be reduced to "objective" question and answer. Washington

I would like to see a greater use of expert testimony both by prosecution and defense. Defense lawyers are generally not competent to know what is available-prosecutors do not have the resources. I would like to have a social and psychological report on most felons prior to sentence - it is available on a sharply limited basis. N. Carolina

We use assigned psychiatrists from a panel. They are used in rotation. N. Mexico

We are 175 miles from Denver making it difficult and expensive to get expert witnesses. Colorado

A very excellent questionnaire, more municipal judges should be aware of such service. . . case loads to appeals would be less and de novo trials possibly eliminated. Missouri

Simple physical crimes are all that we prosecute here. There is no great need for scientific evidence. Iowa

Delays, expense, unavailability deter the use of expert testimony. Florida

Forensic scientists are like other expert witnesses. They are only as good as the case. Washington

Unless you get to the problem of perjured testimony etc. there will be no courts whatever. Florida

Scientific witnesses should be made available to both sides and paid by the county. Selection should be by lot from an approved group. Penna.

Forensic sciences services provided by state should be confidential to defense - otherwise of little value since usually the risk of a bad report would outweigh benefits. Virginia

Main problem is that the patient orientation inherent in the medical ethic and training undermines social objectivity; in other words, too many young forensic psychiatrists are biased and prejudiced against the criminal law system (with and without some just cause) and this sometimes destroys their opinion. Michigan

I reserve for my own determination the weight I will accord psychiatric testimony in insanity defense cases. Need to get away from "hired gun" employment of psychiatrists in such cases. They should testify as court called witnesses. Alaska

We are in dire need of pre-sentence investigations in adult cases. This should include forensic reports. Mississippi

Rural areas have great difficulty obtaining scientific evidence and experts. Colorado

Wish agencies like National Bureau of Standards and FBI laboratory, etc. could examine and certify qualifications of qualified experts in <u>known</u> fields of science. Ohio

The psychiatrist characteristically assumes the role of an advocate for the lawyer who hires him. Also, a tendency to find all his patients psychotic and in need of treatment. Texas

We have local State Police crime detection laboratory facilities available to us but it needs assistance. Psychiatric testimony has not proved helpful for a variety or reasons. Oregon

When behavioral sciences are involved a qualified serious credibility question arises. Illinois

Lay jurors are less likely to accept conclusions of psychiatrists and more likely to accept conclusions of other experts when in conflict with other witnesses and/or juror observations. Alabama

We are a small city near a large city and get most of our scientific help from there, but that is time consuming for them and we do not call on them unless absolutely necessary. Texas

Chemical test results on physical evidence for use during trial is good. Behavioral science data or reports are most useful after trial. These reports also useful juvenile cases. Oklahoma

With regard to psychiatric expertise, I strongly favor its use only in the "disposition" phase of the case. This would require significant change in law, but present "insanity defense" is unrealistic and jurors tend to divide without regard to psychiatric opinions-which usually conflict anyway. Oregon

Psychological profile of defendant would help in prosecution of defendant and in his rehabilitation after conviction. Louisianna

Investigative agencies are not sufficiently trained to be aware some tests available and therefore preserve necessary evidence for testing. New Mexico

Behavioral scientists should be used after conviction rather than (or preferable to) before. Colorado

We are a rural area and extensive scientific experts are not always appropriate. Idaho

My perspective is as a prosecutor. We need more criminalistics evidence, chief lack is technician data collection. As to psychiatry we need more as long as it is permitted at trial. There should be re-examination of that total concept in terms of whether or not psychotic testimony is sufficiently credible to be deemed admissible as expert opinion. Cal.

In Wisconsin expert scientific witnesses are available to both the state and the defendant. . .Our standards of qualification are high and I believe the witnesses are entirely credible. Wisconsin

I think the questions you ask should be broken down into the various areas of forensic science. Because my answers would vary depending upon the specialty.

Illinois

I have never lost a criminal case to a jury when scientific evidence was used to my benefit-either (and most importantly) through direct examination or cross-examination of the state's witnesses. Texas

My primary problems with defense expert witnesses are 1. expert too expensive for non-indigent middle income client, 2. no one available, e.g. I have yet to find a defense breathalyzer expert in Texas. Texas

Much of my work is drug defense, and the scientific aspect is very important. More often than not a stipulation is entered into re: analysis of drugs (80% of cases) as my client admits the analysis and modern lab techniques, dispute is futile especially at trial before judge. Penna.

Though most of the above questions are obviously self-serving to your foundation, they are not entirely without validity. Send me some of your literature please. Florida

A psychologist can be helpful in analyzing individual cases, but general psychological and sociological data are worthless.

N. Mexico

Remember that evidence and presentation must be "geared" to mentality of "average" juror. Oklahoma

The lawyer in criminal defense practice has a strong need for the services of a forensic science academy for obvious reasons of which I am sure you are aware. Florida

I get afraid of some M.D.'s and psychologists year after year making examinations. The tendency is too easy to follow. There is too much reliance upon the "report of the crime" by police. Little attempt is made to check facts given to psychiatrist and psychologist on which they base their conclusions.

Penna.

I see a need to reform admissibility of expert testimony in criminal cases. . .I believe in constitutional right of defendant to present all proofs in his defense. The rule <u>should</u> be admissibility of all proferred evidence. Weight is up to jury as the fact. Incompetent and absurd "experts" will expose themselves or be exposed by cross-examination. Mass.

I believe in the forensic sciences, however, they are ordinarily helpful only to the prosecution. Texas

The biggest problem is serving a capable witness who is willing to lock horns with government witnesses. Mass.

It is my opinion that the entire system is weak . . .that our contempt of justice is childish. . .that judges are not students of human behavior, and whatever hope we have lies in the application of the behavioral sciences. Mississippi

Whether you can find people willing in psychiatric cases to work with anything other than a simple case that even a lay person can handle. The tough ones they try to avoid. Minnesota

Appendix D

Description of the computer analysis done on the 1363 responses to the Judge/Lawyer Questionnaire with 129 tables of the computer print-outs displaying specific details.

Appendix D
with
Tables 1-129

This raw data from the questionnaires was subjected to the following computer analysis described by the programmer as:

Descriptive Statistics

A frequency distribution of the responses for all variables was calculated. The raw frequencies were counted and two percentage distributions were also calculated. One percentage distribution was based upon the total number of respondents and the other upon the actual number of responses to each individual question. Cumulative distributions were also calculated from the raw frequencies and both related percentage distributions.

Cross tabulation tables including raw frequencies, row, column, and total percentages were developed to compare all questions relative to the occupation and length of service of the individuals in the sample. Chi-square tests were not run because of the large sample size.

Parametric Analysis

All variables having an adequate number of sample points and exhibiting a continuous, dichotomous, or pseudo-continuous nature were included in a Pearson product-moment correlation analysis. The correlation matrix was used as input to a factor analysis. All factors with associated characteristic roots greater than or equal to one were retained and rotated by the Varimax method. The factors thus obtained led to the same concerns that were often stated in the free form natural language response section of the questionnarie.

The results of a factor analysis produced the following clusters of important concerns:

1) A progressive/conservative approach;

2) Scientific credibility;

3) Use of scientific evidence.

These clusters were developed by the computer analysis of individual questions; however, they very much reflect the natural language open-ended responses of the population.

As to the quality of the questionnaire in the mind of the computer programmer -very good. The coefficient of correlations revealed in computer print-out III indicated that most questions were useful, most coefficients being between-.29 and +.29, showing the variables randomly related, a condition described as nearly orthogonal.

The series of computer print-outs following analyzes questions 3 to 15 inclusive on three separate bases for the 1363 responders.

Tables 1-42: How the several categories of responders based on their percentage of criminal cases utilizing scientific evidence responded to each of the questions.

Tables 43-86: How the two categories of judges and lawyers responded to each of the questions.

Tables 87-129: How the several categories of responders based on their years of being involved with criminal cases responded to each of the questions.

A set of 4 figures is produced for each point of contact between the left column categories in each table and the several possible responses to each question stretched across the top of each table. The meaning of these 4 figures can be determined by looking at Table 1, horizontal column 50%; vertical column 20%.

5: number of responses to this question for this category.

4.0: % of these 55 responses to total responses of 1363.

2.5: % which these 55 responses represent of all the responders in the 50% horizontal line.

1.9: % which these 55 responses represent of all the responders in the 20% vertical column.

Along the bottom of each table are two lines; the total numerical responses for the vertical columns and the percentage which the column total represents to the whole number of questionnaire responders (1363).

On the right side of each table is a column of numbers grouped in twos. These are the total number of responses for the horizontal line and the percentage which these responses represent to the whole number of questionnaire responders (1363).

Each reader can probe in depth the ideas which may be revealed through these computer analyses. Major ideas which are suggested by the results for each table are set forth at the bottom of each table.

Overall, no major differences between judges' and lawyers' responses appear. Among the various groups of responders broken down on the percentage of their cases involving criminal justice and broken down on the various years of being involved in criminal cases there were also no major differences in responses, generally speaking.

TABLE 1

Ques. 3. In your criminal cases in which no scientific evidence was used, in what percentage could it have been used?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

			No Response	0%	10%	20%	30%	50%	75%	100%	
No Response	0	0	15	0	0	0	1	0	1	0	17
		.0	1.1	.0	.0	.0	.1	.0	.1	.0	1.2
		.0	88.2	.0	.0	.0	5.9	.0	5.9	.0	
		.0	18.3	.0	.0	.0	.5	.0	1.2	.0	
0%	1	0	2	6	12	4	2	0	0	0	26
		.0	.1	.4	.9	.3	.1	.0	.0	.0	1.9
		.0	7.7	23.1	46.2	15.4	7.7	.0	.0	.0	
		.0	2.4	5.8	3.4	1.4	1.0	.0	.0	.0	
10%	2	0	22	34	127	92	70	45	21	0	411
		.0	1.6	2.5	9.3	6.7	5.1	3.3	1.5	.0	30.2
		.0	5.4	8.3	30.9	22.4	17.0	10.9	5.1	.0	
		.0	26.8	32.7	35.5	32.3	34.7	19.7	25.3	.0	
20%	3	0	12	16	81	65	60	77	10	1	322
		.0	.9	1.2	5.9	4.8	4.4	5.6	.7	.1	23.6
		.0	3.7	5.0	25.2	20.2	18.6	23.9	3.1	.3	
		.0	14.6	15.4	22.6	22.8	29.7	33.6	12.0	5.0	
30%	4	0	16	21	59	58	38	63	18	2	275
		.0	1.2	1.5	4.3	4.3	2.8	4.6	1.3	.1	20.2
		.0	5.8	7.6	21.5	21.1	13.8	22.9	6.5	.7	
		.0	19.5	20.2	16.5	20.4	18.8	27.5	21.7	10.0	
50%	5	0	7	13	50	55	22	31	28	10	216
		.0	.5	1.0	3.7	4.0	1.6	2.3	2.1	.7	15.8
		.0	3.2	6.0	23.1	25.5	10.2	14.4	13.0	4.6	
		.0	8.5	12.5	14.0	19.3	10.9	13.5	33.7	50.0	
75%	6	0	3	11	29	10	8	13	5	4	83
		.0	.2	.8	2.1	.7	.6	1.0	.4	.3	6.1
		.0	3.6	13.3	34.9	12.0	9.6	15.7	6.0	4.8	
		.0	3.7	10.6	8.1	3.5	4.0	5.7	6.0	20.0	
100%	7	0	5	3	0	1	1	0	0	3	13
		.0	.4	.2	.0	.1	.1	.0	.0	.2	1.0
		.0	38.5	23.1	.0	7.7	7.7	.0	.0	23.1	
		.0	6.1	2.9	.0	.4	.5	.0	.0	15.0	
	TOTAL	0	82	104	358	285	202	229	83	20	1363
		.0	6.0	7.6	26.3	20.9	14.8	16.8	6.1	1.5	

TABLE 2

Ques. 4. Why was scientific evidence not used in your criminal cases? Qualified witness not available?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No		Yes						
No Response	0	0	0	15	2	0	0	0	0	0	17
		.0	.0	1.1	.1	.0	.0	.0	.0	.0	1.2
		.0	.0	88.2	11.8	.0	.0	.0	.0	.0	
		.0	.0	1.7	.4	.0	.0	.0	.0	.0	
0%	1	0	0	16	10	0	0	0	0	0	26
		.0	.0	1.2	.7	.0	.0	.0	.0	.0	1.9
		.0	.0	61.5	38.5	.0	.0	.0	.0	.0	
		.0	.0	1.8	2.2	.0	.0	.0	.0	.0	
10%	2	0	0	283	128	0	0	0	0	0	411
		.0	.0	20.8	9.4	.0	.0	.0	.0	.0	30.2
		.0	.0	68.9	31.1	.0	.0	.0	.0	.0	
		.0	.0	31.1	28.3	.0	.0	.0	.0	.0	
20%	3	0	0	197	125	0	0	0	0	0	322
		.0	.0	14.5	9.2	.0	.0	.0	.0	.0	23.6
		.0	.0	61.2	38.8	.0	.0	.0	.0	.0	
		.0	.0	21.7	27.7	.0	.0	.0	.0	.0	
30%	4	0	0	181	92	1	0	0	0	1	275
		.0	.0	13.3	6.7	.1	.0	.0	.0	.1	20.2
		.0	.0	65.8	33.5	.4	.0	.0	.0	.4	
		.0	.0	19.9	20.4	100.0	.0	.0	.0	100.0	
50%	5	0	0	148	68	0	0	0	0	0	216
		.0	.0	10.9	5.0	.0	.0	.0	.0	.0	15.8
		.0	.0	68.5	31.5	.0	.0	.0	.0	.0	
		.0	.0	16.3	15.0	.0	.0	.0	.0	.0	
75%	6	0	0	59	24	0	0	0	0	0	83
		.0	.0	4.3	1.8	.0	.0	.0	.0	.0	6.1
		.0	.0	71.1	28.9	.0	.0	.0	.0	.0	
		.0	.0	6.5	5.3	.0	.0	.0	.0	.0	
100%	7	0	0	10	3	0	0	0	0	0	13
		.0	.0	.7	.2	.0	.0	.0	.0	.0	1.0
		.0	.0	76.9	23.1	.0	.0	.0	.0	.0	
		.0	.0	1.1	.7	.0	.0	.0	.0	.0	
	TOTAL	0	0	909	452	1	0	0	0	1	1363
		.0	.0	66.7	33.2	.1	.0	.0	.0	.1	

TABLE 3

Ques. 4. Why was scientific evidence not used in your criminal cases? Scientific evidence damaging to your case?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No			Yes					
No Response	0	0	0	16	1	0	0	0	0	17
		.0	.0	1.2	.1	.0	.0	.0	.0	1.2
		.0	.0	94.1	5.9	.0	.0	.0	.0	
		.0	.0	1.3	.6	.0	.0	.0	.0	
0%	1	0	0	24	2	0	0	0	0	26
		.0	.0	1.8	.1	.0	.0	.0	.0	1.9
		.0	.0	92.3	7.7	.0	.0	.0	.0	
		.0	.0	2.0	1.2	.0	.0	.0	.0	
10%	2	0	0	368	43	0	0	0	0	411
		.0	.0	27.0	3.2	.0	.0	.0	.0	30.2
		.0	.0	89.5	10.5	.0	.0	.0	.0	
		.0	.0	30.7	26.1	.0	.0	.0	.0	
20%	3	0	0	281	41	0	0	0	0	322
		.0	.0	20.6	3.0	.0	.0	.0	.0	23.6
		.0	.0	87.3	12.7	.0	.0	.0	.0	
		.0	.0	23.5	24.8	.0	.0	.0	.0	
30%	4	0	0	239	35	0	0	1	0	0	275
		.0	.0	17.5	2.6	.0	.0	.1	.0	.0	20.2
		.0	.0	86.9	12.7	.0	.0	.4	.0	.0	
		.0	.0	20.0	21.2	.0	.0	100.0	.0	.0	
50%	5	0	0	183	33	0	0	0	0	0	216
		.0	.0	13.4	2.4	.0	.0	.0	.0	.0	15.8
		.0	.0	84.7	15.3	.0	.0	.0	.0	.0	
		.0	.0	15.3	20.0	.0	.0	.0	.0	.0	
75%	6	0	0	74	9	0	0	0	0	0	83
		.0	.0	5.4	.7	.0	.0	.0	.0	.0	6.1
		.0	.0	89.2	10.8	.0	.0	.0	.0	.0	
		.0	.0	6.2	5.5	.0	.0	.0	.0	.0	
100%	7	0	0	12	1	0	0	0	0	0	13
		.0	.0	.9	.1	.0	.0	.0	.0	.0	1.0
		.0	.0	92.3	7.7	.0	.0	.0	.0	.0	
		.0	.0	1.0	.6	.0	.0	.0	.0	.0	
	TOTAL	0	0	1197	165	0	0	1	0	0	1363
		.0	.0	87.8	12.1	.0	.0	.1	.0	.0	

TABLE 4

Ques. 4. Why was scientific evidence not used in your criminal cases? Lack of funds to obtain expert witness?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No								Yes	
No Response	0	0	0	14	3	0	0	0	0	0	17
		.0	.0	1.0	.2	.0	.0	.0	.0	.0	1.2
		.0	.0	82.4	17.6	.0	.0	.0	.0	.0	
		.0	.0	1.7	.6	.0	.0	.0	.0	.0	
0%	1	0	0	16	10	0	0	0	0	0	26
		.0	.0	1.2	.7	.0	.0	.0	.0	.0	1.9
		.0	.0	61.5	38.5	.0	.0	.0	.0	.0	
		.0	.0	2.0	1.8	.0	.0	.0	.0	.0	
10%	2	0	0	245	165	1	0	0	0	0	411
		.0	.0	18.0	12.1	.1	.0	.0	.0	.0	30.2
		.0	.0	59.6	40.1	.2	.0	.0	.0	.0	
		.0	.0	29.9	30.5	50.0	.0	.0	.0	.0	
20%	3	0	0	186	136	0	0	0	0	0	322
		.0	.0	13.6	10.0	.0	.0	.0	.0	.0	23.6
		.0	.0	57.8	42.2	.0	.0	.0	.0	.0	
		.0	.0	22.7	25.1	.0	.0	.0	.0	.0	
30%	4	0	0	166	108	1	0	0	0	0	275
		.0	.0	12.2	7.9	.1	.0	.0	.0	.0	20.2
		.0	.0	60.4	39.3	.4	.0	.0	.0	.0	
		.0	.0	20.2	20.0	50.0	.0	.0	.0	.0	
50%	5	0	0	127	89	0	0	0	0	0	216
		.0	.0	9.3	6.5	.0	.0	.0	.0	.0	15.8
		.0	.0	58.8	41.2	.0	.0	.0	.0	.0	
		.0	.0	15.5	16.5	.0	.0	.0	.0	.0	
75%	6	0	0	57	26	0	0	0	0	0	83
		.0	.0	4.2	1.9	.0	.0	.0	.0	.0	6.1
		.0	.0	68.7	31.3	.0	.0	.0	.0	.0	
		.0	.0	7.0	4.8	.0	.0	.0	.0	.0	
100%	7	0	0	9	4	0	0	0	0	0	13
		.0	.0	.7	.3	.0	.0	.0	.0	.0	1.0
		.0	.0	69.2	30.8	.0	.0	.0	.0	.0	
		.0	.0	1.1	.7	.0	.0	.0	.0	.0	
	TOTAL	0	0	820	541	2	0	0	0	0	1363
		.0	.0	60.2	39.7	.1	.0	.0	.0	.0	

TABLE 5

Ques. 4. Why was scientific evidence not used in your criminal cases? Lack of scientific facilities available to make test?

Responders' Criminal Cases - Percentage in which scientific evidence was used		No	Yes						
No Response	0	0	17	0	0	0	0	0	17
		.0	1.2	.0	.0	.0	.0	.0	1.2
		.0	100.0	.0	.0	.0	.0	.0	
		.0	1.9	.0	.0	.0	.0	.0	
0%	1	0	21	5	0	0	0	0	26
		.0	1.5	.4	.0	.0	.0	.0	1.9
		.0	80.8	19.2	.0	.0	.0	.0	
		.0	2.3	1.1	.0	.0	.0	.0	
10%	2	0	285	125	1	0	0	0	411
		.0	20.9	9.2	.1	.0	.0	.0	30.2
		.0	69.3	30.4	.2	.0	.0	.0	
		.0	31.6	27.3	100.0	.0	.0	.0	
20%	3	0	202	120	0	0	0	0	322
		.0	14.8	8.8	.0	.0	.0	.0	23.6
		.0	62.7	37.3	.0	.0	.0	.0	
		.0	22.4	26.2	.0	.0	.0	.0	
30%	4	0	172	102	0	1	0	0	275
		.0	12.6	7.5	.0	.1	.0	.0	20.2
		.0	62.5	37.1	.0	.4	.0	.0	
		.0	19.0	22.3	.0	100.0	.0	.0	
50%	5	0	134	82	0	0	0	0	216
		.0	9.8	6.0	.0	.0	.0	.0	15.8
		.0	62.0	38.0	.0	.0	.0	.0	
		.0	14.8	17.9	.0	.0	.0	.0	
75%	6	0	63	20	0	0	0	0	83
		.0	4.6	1.5	.0	.0	.0	.0	6.1
		.0	75.9	24.1	.0	.0	.0	.0	
		.0	7.0	4.4	.0	.0	.0	.0	
100%	7	0	9	4	0	0	0	0	13
		.0	.7	.3	.0	.0	.0	.0	1.0
		.0	69.2	30.8	.0	.0	.0	.0	
		.0	1.0	.9	.0	.0	.0	.0	
	TOTAL	0	903	458	1	1	0	0	1363
		.0	66.3	33.6	.1	.1	.0	.0	

TABLE 6

Ques. 4. Why was scientific evidence not used in your criminal cases? Lack of knowledge where to locate expert?

Responders' Criminal Cases - Percentage in which scientific evidence was used

				No	Yes						
No Response	0	0	0	15	2	0	0	0	0	0	17
		.0	.0	1.1	.1	.0	.0	.0	.0	.0	1.2
		.0	.0	88.2	11.8	.0	.0	.0	.0	.0	
		.0	.0	1.3	.8	.0	.0	.0	.0	.0	
0%	1	0	0	22	4	0	0	0	0	0	26
		.0	.0	1.6	.3	.0	.0	.0	.0	.0	1.9
		.0	.0	84.6	15.4	.0	.0	.0	.0	.0	
		.0	.0	2.0	1.6	.0	.0	.0	.0	.0	
10%	2	0	0	336	75	0	0	0	0	0	411
		.0	.0	24.7	5.5	.0	.0	.0	.0	.0	30.2
		.0	.0	81.8	18.2	.0	.0	.0	.0	.0	
		.0	.0	30.1	30.6	.0	.0	.0	.0	.0	
20%	3	0	0	261	61	0	0	0	0	0	322
		.0	.0	19.1	4.5	.0	.0	.0	.0	.0	23.6
		.0	.0	81.1	18.9	.0	.0	.0	.0	.0	
		.0	.0	23.4	24.9	.0	.0	.0	.0	.0	
30%	4	0	0	222	52	0	1	0	0	0	275
		.0	.0	16.3	3.8	.0	.1	.0	.0	.0	20.2
		.0	.0	80.7	18.9	.0	.4	.0	.0	.0	
		.0	.0	19.9	21.2	.0	100.0	.0	.0	.0	
50%	5	0	0	173	43	0	0	0	0	0	216
		.0	.0	12.7	3.2	.0	.0	.0	.0	.0	15.8
		.0	.0	80.1	19.9	.0	.0	.0	.0	.0	
		.0	.0	15.5	17.6	.0	.0	.0	.0	.0	
75%	6	0	0	77	6	0	0	0	0	0	83
		.0	.0	5.6	.4	.0	.0	.0	.0	.0	6.1
		.0	.0	92.8	7.2	.0	.0	.0	.0	.0	
		.0	.0	6.9	2.4	.0	.0	.0	.0	.0	
100%	7	0	0	11	2	0	0	0	0	0	13
		.0	.0	.8	.1	.0	.0	.0	.0	.0	1.0
		.0	.0	84.6	15.4	.0	.0	.0	.0	.0	
		.0	.0	1.0	.8	.0	.0	.0	.0	.0	
	TOTAL	0	0	1117	245	0	1	0	0	0	1363
		.0	.0	82.0	18.0	.0	.1	.0	.0	.0	

TABLE 7

Ques. 4. Why was scientific evidence not used in your criminal cases? Inability to determine qualifications of expert?

Responders' Criminal Cases - Percentage in which scientific evidence was used		No	Yes						
No Response	0	0	16	1	0	0	0	0	17
		.0	1.2	.1	.0	.0	.0	.0	1.2
		.0	94.1	5.9	.0	.0	.0	.0	
		.0	1.2	1.4	.0	.0	.0	.0	
0%	1	0	25	1	0	0	0	0	26
		.0	1.8	.1	.0	.0	.0	.0	1.9
		.0	96.2	3.8	.0	.0	.0	.0	
		.0	1.9	1.4	.0	.0	.0	.0	
10%	2	0	394	16	0	1	0	0	411
		.0	28.9	1.2	.0	.1	.0	.0	30.2
		.0	95.9	3.9	.0	.2	.0	.0	
		.0	30.5	22.9	.0	100.0	.0	.0	
20%	3	0	306	16	0	0	0	0	322
		.0	22.5	1.2	.0	.0	.0	.0	23.6
		.0	95.0	5.0	.0	.0	.0	.0	
		.0	23.7	22.9	.0	.0	.0	.0	
30%	4	0	258	17	0	0	0	0	275
		.0	18.9	1.2	.0	.0	.0	.0	20.2
		.0	93.8	6.2	.0	.0	.0	.0	
		.0	20.0	24.3	.0	.0	.0	.0	
50%	5	0	202	14	0	0	0	0	216
		.0	14.8	1.0	.0	.0	.0	.0	15.8
		.0	93.5	6.5	.0	.0	.0	.0	
		.0	15.6	20.0	.0	.0	.0	.0	
75%	6	0	80	3	0	0	0	0	83
		.0	5.9	.2	.0	.0	.0	.0	6.1
		.0	96.4	3.6	.0	.0	.0	.0	
		.0	6.2	4.3	.0	.0	.0	.0	
100%	7	0	11	2	0	0	0	0	13
		.0	.8	.1	.0	.0	.0	.0	1.0
		.0	84.6	15.4	.0	.0	.0	.0	
		.0	.9	2.9	.0	.0	.0	.0	
	TOTAL	0	1292	70	0	1	0	0	1363
		.0	94.8	5.1	.0	.1	.0	.0	

TABLE 8

Ques. 4. Why was scientific evidence not used in your criminal cases? Lack of time to obtain expert?

Responders' Criminal Cases - Percentage in which scientific evidence was used

		No	Yes						
No Response	0	0	17	0	0	0	0	0	17
		.0	1.2	.0	.0	.0	.0	.0	1.2
		.0	100.0	.0	.0	.0	.0	.0	
		.0	1.5	.0	.0	.0	.0	.0	
0%	1	0	22	4	0	0	0	0	26
		.0	1.6	.3	.0	.0	.0	.0	1.9
		.0	84.6	15.4	.0	.0	.0	.0	
		.0	1.9	2.1	.0	.0	.0	.0	
10%	2	0	365	46	0	0	0	0	411
		.0	26.8	3.4	.0	.0	.0	.0	30.2
		.0	88.8	11.2	.0	.0	.0	.0	
		.0	31.1	24.2	.0	.0	.0	.0	
20%	3	0	276	46	0	0	0	0	322
		.0	20.2	3.4	.0	.0	.0	.0	23.6
		.0	85.7	14.3	.0	.0	.0	.0	
		.0	23.5	24.2	.0	.0	.0	.0	
30%	4	0	230	44	0	0	1	0	275
		.0	16.9	3.2	.0	.0	.1	.0	20.2
		.0	83.6	16.0	.0	.0	.4	.0	
		.0	19.6	23.2	.0	.0	100.0	.0	
50%	5	0	181	35	0	0	0	0	216
		.0	13.3	2.6	.0	.0	.0	.0	15.8
		.0	83.8	16.2	.0	.0	.0	.0	
		.0	15.4	18.4	.0	.0	.0	.0	
75%	6	0	69	14	0	0	0	0	83
		.0	5.1	1.0	.0	.0	.0	.0	6.1
		.0	83.1	16.9	.0	.0	.0	.0	
		.0	5.9	7.4	.0	.0	.0	.0	
100%	7	0	12	1	0	0	0	0	13
		.0	.9	.1	.0	.0	.0	.0	1.0
		.0	92.3	7.7	.0	.0	.0	.0	
		.0	1.0	.5	.0	.0	.0	.0	
TOTAL		0	1172	190	0	0	1	0	1363
		.0	86.0	13.9	.0	.0	.1	.0	

TABLE 9

Ques. 4. Why was scientific evidence not used in your criminal cases? Experts fail to show up at trial?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

				No	Yes						
No Response	0	0	0	17	0	0	0	0	0	0	17
		.0	.0	1.2	.0	.0	.0	.0	.0	.0	1.2
		.0	.0	100.0	.0	.0	.0	.0	.0	.0	
		.0	.0	1.3	.0	.0	.0	.0	.0	.0	
0%	1	0	0	23	3	0	0	0	0	0	26
		.0	.0	1.7	.2	.0	.0	.0	.0	.0	1.9
		.0	.0	88.5	11.5	.0	.0	.0	.0	.0	
		.0	.0	1.8	4.8	.0	.0	.0	.0	.0	
10%	2	0	0	388	23	0	0	0	0	0	411
		.0	.0	28.5	1.7	.0	.0	.0	.0	.0	30.2
		.0	.0	94.4	5.6	.0	.0	.0	.0	.0	
		.0	.0	29.8	37.1	.0	.0	.0	.0	.0	
20%	3	0	0	306	16	0	0	0	0	0	322
		.0	.0	22.5	1.2	.0	.0	.0	.0	.0	23.6
		.0	.0	95.0	5.0	.0	.0	.0	.0	.0	
		.0	.0	23.5	25.8	.0	.0	.0	.0	.0	
30%	4	0	0	265	10	0	0	0	0	0	275
		.0	.0	19.4	.7	.0	.0	.0	.0	.0	20.2
		.0	.0	96.4	3.6	.0	.0	.0	.0	.0	
		.0	.0	20.4	16.1	.0	.0	.0	.0	.0	
50%	5	0	0	207	9	0	0	0	0	0	216
		.0	.0	15.2	.7	.0	.0	.0	.0	.0	15.8
		.0	.0	95.8	4.2	.0	.0	.0	.0	.0	
		.0	.0	15.9	14.5	.0	.0	.0	.0	.0	
75%	6	0	0	82	1	0	0	0	0	0	83
		.0	.0	6.0	.1	.0	.0	.0	.0	.0	6.1
		.0	.0	98.8	1.2	.0	.0	.0	.0	.0	
		.0	.0	6.3	1.6	.0	.0	.0	.0	.0	
100%	7	0	0	13	0	0	0	0	0	0	13
		.0	.0	1.0	.0	.0	.0	.0	.0	.0	1.0
		.0	.0	100.0	.0	.0	.0	.0	.0	.0	
		.0	.0	1.0	.0	.0	.0	.0	.0	.0	
	TOTAL	0	0	1301	62	0	0	0	0	0	1363
		.0	.0	95.5	4.5	.0	.0	.0	.0	.0	

TABLE 10

Ques. 5. Would you like to use more scientific evidence in criminal cases?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes					
No Response	0	0	8	0	9	0	0	0	0	0	17
		.0	.6	.0	.7	.0	.0	.0	.0	.0	1.2
		.0	47.1	.0	52.9	.0	.0	.0	.0	.0	
		.0	8.8	.0	.8	.0	.0	.0	.0	.0	
0%	1	0	1	3	22	0	0	0	0	0	26
		.0	.1	.2	1.6	.0	.0	.0	.0	.0	1.9
		.0	3.8	11.5	84.6	.0	.0	.0	.0	.0	
		.0	1.1	3.0	1.9	.0	.0	.0	.0	.0	
10%	2	0	27	38	346	0	0	0	0	0	411
		.0	2.0	2.8	25.4	.0	.0	.0	.0	.0	30.2
		.0	6.6	9.2	84.2	.0	.0	.0	.0	.0	
		.0	29.7	38.0	29.5	.0	.0	.0	.0	.0	
20%	3	0	19	18	285	0	0	0	0	0	322
		.0	1.4	1.3	20.9	.0	.0	.0	.0	.0	23.6
		.0	5.9	5.6	88.5	.0	.0	.0	.0	.0	
		.0	20.9	18.0	24.3	.0	.0	.0	.0	.0	
30%	4	0	14	21	240	0	0	0	0	0	275
		.0	1.0	1.5	17.6	.0	.0	.0	.0	.0	20.2
		.0	5.1	7.6	87.3	.0	.0	.0	.0	.0	
		.0	15.4	21.0	20.5	.0	.0	.0	.0	.0	
50%	5	0	12	11	193	0	0	0	0	0	216
		.0	.9	.8	14.2	.0	.0	.0	.0	.0	15.8
		.0	5.6	5.1	89.4	.0	.0	.0	.0	.0	
		.0	13.2	11.0	16.5	.0	.0	.0	.0	.0	
75%	6	0	9	8	66	0	0	0	0	0	83
		.0	.7	.6	4.8	.0	.0	.0	.0	.0	6.1
		.0	10.8	9.6	79.5	.0	.0	.0	.0	.0	
		.0	9.9	8.0	5.6	.0	.0	.0	.0	.0	
100%	7	0	1	1	11	0	0	0	0	0	13
		.0	.1	.1	.8	.0	.0	.0	.0	.0	1.0
		.0	7.7	7.7	84.6	.0	.0	.0	.0	.0	
		.0	1.1	1.0	.9	.0	.0	.0	.0	.0	
	TOTAL	0	91	100	1172	0	0	0	0	0	1363
		.0	6.7	7.3	86.0	.0	.0	.0	.0	.0	

TABLE 11

Ques. 6. Does scientific evidence have more credibility than by witness?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	6	3	8	0	0	0	0	0	17
		.0	.4	.2	.6	.0	.0	.0	.0	.0	1.2
		.0	35.3	17.6	47.1	.0	.0	.0	.0	.0	
		.0	5.0	1.6	.8	.0	.0	.0	.0	.0	
0%	1	0	5	5	16	0	0	0	0	0	26
		.0	.4	.4	1.2	.0	.0	.0	.0	.0	1.9
		.0	19.2	19.2	61.5	.0	.0	.0	.0	.0	
		.0	4.1	2.7	1.5	.0	.0	.0	.0	.0	
10%	2	0	37	56	318	0	0	0	0	0	411
		.0	2.7	4.1	23.3	.0	.0	.0	.0	.0	30.2
		.0	9.0	13.6	77.4	.0	.0	.0	.0	.0	
		.0	30.6	29.8	30.2	.0	.0	.0	.0	.0	
20%	3	0	28	45	249	0	0	0	0	0	322
		.0	2.1	3.3	18.3	.0	.0	.0	.0	.0	23.6
		.0	8.7	14.0	77.3	.0	.0	.0	.0	.0	
		.0	23.1	23.9	23.6	.0	.0	.0	.0	.0	
30%	4	0	15	44	216	0	0	0	0	0	275
		.0	1.1	3.2	15.8	.0	.0	.0	.0	.0	20.2
		.0	5.5	16.0	78.5	.0	.0	.0	.0	.0	
		.0	12.4	23.4	20.5	.0	.0	.0	.0	.0	
50%	5	0	22	23	171	0	0	0	0	0	216
		.0	1.6	1.7	12.5	.0	.0	.0	.0	.0	15.8
		.0	10.2	10.6	79.2	.0	.0	.0	.0	.0	
		.0	18.2	12.2	16.2	.0	.0	.0	.0	.0	
75%	6	0	5	12	66	0	0	0	0	0	83
		.0	.4	.9	4.8	.0	.0	.0	.0	.0	6.1
		.0	6.0	14.5	79.5	.0	.0	.0	.0	.0	
		.0	4.1	6.4	6.3	.0	.0	.0	.0	.0	
100%	7	0	3	0	10	0	0	0	0	0	13
		.0	.2	.0	.7	.0	.0	.0	.0	.0	1.0
		.0	23.1	.0	76.9	.0	.0	.0	.0	.0	
		.0	2.5	.0	.9	.0	.0	.0	.0	.0	
TOTAL		0	121	188	1054	0	0	0	0	0	1363
		.0	8.9	13.8	77.3	.0	.0	.0	.0	.0	

TABLE 12

Ques. 7. Is scientific evidence given more credibility by decision-maker: judge?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	6	3	8	0	0	0	0	0	17
		.0	.4	.2	.6	.0	.0	.0	.0	.0	1.2
		.0	35.3	17.6	47.1	.0	.0	.0	.0	.0	
		.0	6.0	1.2	.8	.0	.0	.0	.0	.0	
0%	1	0	3	6	17	0	0	0	0	0	26
		.0	.2	.4	1.2	.0	.0	.0	.0	.0	1.9
		.0	11.5	23.1	65.4	.0	.0	.0	.0	.0	
		.0	3.0	2.4	1.7	.0	.0	.0	.0	.0	
10%	2	0	29	71	311	0	0	0	0	0	411
		.0	2.1	5.2	22.8	.0	.0	.0	.0	.0	30.2
		.0	7.1	17.3	75.7	.0	.0	.0	.0	.0	
		.0	29.0	28.7	30.6	.0	.0	.0	.0	.0	
20%	3	0	25	52	245	0	0	0	0	0	322
		.0	1.8	3.8	18.0	.0	.0	.0	.0	.0	23.6
		.0	7.8	16.1	76.1	.0	.0	.0	.0	.0	
		.0	25.0	21.1	24.1	.0	.0	.0	.0	.0	
30%	4	0	15	57	203	0	0	0	0	0	275
		.0	1.1	4.2	14.9	.0	.0	.0	.0	.0	20.2
		.0	5.5	20.7	73.8	.0	.0	.0	.0	.0	
		.0	15.0	23.1	20.0	.0	.0	.0	.0	.0	
50%	5	0	16	40	160	0	0	0	0	0	216
		.0	1.2	2.9	11.7	.0	.0	.0	.0	.0	15.8
		.0	7.4	18.5	74.1	.0	.0	.0	.0	.0	
		.0	16.0	16.2	15.7	.0	.0	.0	.0	.0	
75%	6	0	4	17	62	0	0	0	0	0	83
		.0	.3	1.2	4.5	.0	.0	.0	.0	.0	6.1
		.0	4.8	20.5	74.7	.0	.0	.0	.0	.0	
		.0	4.0	6.9	6.1	.0	.0	.0	.0	.0	
100%	7	0	2	1	10	0	0	0	0	0	13
		.0	.1	.1	.7	.0	.0	.0	.0	.0	1.0
		.0	15.4	7.7	76.9	.0	.0	.0	.0	.0	
		.0	2.0	.4	1.0	.0	.0	.0	.0	.0	
	TOTAL	0	100	247	1016	0	0	0	0	0	1363
		.0	7.3	18.1	74.5	.0	.0	.0	.0	.0	

TABLE 13

Ques. 7. Is scientific evidence given more credibility by decision-maker: juror?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	8	2	7	0	0	0	0	0	17
		.0	.6	.1	.5	.0	.0	.0	.0	.0	1.2
		.0	47.1	11.8	41.2	.0	.0	.0	.0	.0	
		.0	4.3	.9	.7	.0	.0	.0	.0	.0	
0%	1	0	9	3	14	0	0	0	0	0	26
		.0	.7	.2	1.0	.0	.0	.0	.0	.0	1.9
		.0	34.6	11.5	53.8	.0	.0	.0	.0	.0	
		.0	4.9	1.4	1.5	.0	.0	.0	.0	.0	
10%	2	0	56	67	288	0	0	0	0	0	411
		.0	4.1	4.9	21.1	.0	.0	.0	.0	.0	30.2
		.0	13.6	16.3	70.1	.0	.0	.0	.0	.0	
		.0	30.4	30.3	30.1	.0	.0	.0	.0	.0	
20%	3	0	44	61	217	0	0	0	0	0	322
		.0	3.2	4.5	15.9	.0	.0	.0	.0	.0	23.6
		.0	13.7	18.9	67.4	.0	.0	.0	.0	.0	
		.0	23.9	27.6	22.7	.0	.0	.0	.0	.0	
30%	4	0	23	45	207	0	0	0	0	0	275
		.0	1.7	3.3	15.2	.0	.0	.0	.0	.0	20.2
		.0	8.4	16.4	75.3	.0	.0	.0	.0	.0	
		.0	12.5	20.4	21.6	.0	.0	.0	.0	.0	
50%	5	0	28	32	156	0	0	0	0	0	216
		.0	2.1	2.3	11.4	.0	.0	.0	.0	.0	15.8
		.0	13.0	14.8	72.2	.0	.0	.0	.0	.0	
		.0	15.2	14.5	16.3	.0	.0	.0	.0	.0	
75%	6	0	15	10	58	0	0	0	0	0	83
		.0	1.1	.7	4.3	.0	.0	.0	.0	.0	6.1
		.0	18.1	12.0	69.9	.0	.0	.0	.0	.0	
		.0	8.2	4.5	6.1	.0	.0	.0	.0	.0	
100%	7	0	1	1	11	0	0	0	0	0	13
		.0	.1	.1	.8	.0	.0	.0	.0	.0	1.0
		.0	7.7	7.7	84.6	.0	.0	.0	.0	.0	
		.0	.5	.5	1.1	.0	.0	.0	.0	.0	
TOTAL		0	184	221	958	0	0	0	0	0	1363
		.0	13.5	16.2	70.3	.0	.0	.0	.0	.0	

TABLE 14

Ques. 8A. Are there weaknesses in scientific witnesses' testimony due to lack of expertise in the specialized field?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0 .0 .0 .0	4 .3 23.5 1.3	2 .1 11.8 .4	11 .8 64.7 1.9	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	17 1.2
0%	1	0 .0 .0 .0	7 .5 26.9 2.3	7 .5 26.9 1.4	12 .9 46.2 2.1	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	26 1.9
10%	2	0 .0 .0 .0	111 8.1 27.0 36.9	142 10.4 34.5 28.6	158 11.6 38.4 28.0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	411 30.2
20%	3	0 .0 .0 .0	54 4.0 16.8 17.9	129 9.5 40.1 26.0	139 10.2 43.2 24.6	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	322 23.6
30%	4	0 .0 .0 .0	67 4.9 24.4 22.3	97 7.1 35.3 19.5	111 8.1 40.4 19.6	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	275 20.2
50%	5	0 .0 .0 .0	44 3.2 20.4 14.6	84 6.2 38.9 16.9	88 6.5 40.7 15.6	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	216 15.8
75%	6	0 .0 .0 .0	12 .9 14.5 4.0	35 2.6 42.2 7.0	36 2.6 43.4 6.4	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	83 6.1
100%	7	0 .0 .0 .0	2 .1 15.4 .7	1 .1 7.7 .2	10 .7 76.9 1.8	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0	0 .0	13 1.0
	TOTAL	0 .0	301 22.1	497 36.5	565 41.5	0 .0	0 .0	0 .0	0 .0	0 .0	1363

TABLE 15

Ques. 8B. Are there weaknesses in scientific witnesses' testimony due to lack of understanding of court process?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	6	3	8	0	0	0	0	0	1
		.0	.4	.2	.6	.0	.0	.0	.0	.0	1.2
		.0	35.3	17.6	47.1	.0	.0	.0	.0	.0	
		.0	2.1	.7	1.2	.0	.0	.0	.0	.0	
0%	1	0	10	7	9	0	0	0	0	0	26
		.0	.7	.5	.7	.0	.0	.0	.0	.0	1.9
		.0	38.5	26.9	34.6	.0	.0	.0	.0	.0	
		.0	3.5	1.7	1.3	.0	.0	.0	.0	.0	
10%	2	0	102	103	206	0	0	0	0	0	411
		.0	7.5	7.6	15.1	.0	.0	.0	.0	.0	30.2
		.0	24.8	25.1	50.1	.0	.0	.0	.0	.0	
		.0	35.5	25.5	30.7	.0	.0	.0	.0	.0	
20%											
	3	0	55	99	168	0	0	0	0	0	322
		.0	4.0	7.3	12.3	.0	.0	.0	.0	.0	23.6
		.0	17.1	30.7	52.2	.0	.0	.0	.0	.0	
30%		.0	19.2	24.5	25.0	.0	.0	.0	.0	.0	
	4	0	61	82	132	0	0	0	0	0	275
		.0	4.5	6.0	9.7	.0	.0	.0	.0	.0	20.2
		.0	22.2	29.8	48.0	.0	.0	.0	.0	.0	
50%		.0	21.3	20.3	19.6	.0	.0	.0	.0	.0	
	5	0	37	70	109	0	0	0	0	0	216
		.0	2.7	5.1	8.0	.0	.0	.0	.0	.0	15.8
		.0	17.1	32.4	50.5	.0	.0	.0	.0	.0	
75%		.0	12.9	17.3	16.2	.0	.0	.0	.0	.0	
	6	0	14	37	32	0	0	0	0	0	83
		.0	1.0	2.7	2.3	.0	.0	.0	.0	.0	6.1
		.0	16.9	44.6	38.6	.0	.0	.0	.0	.0	
100%		.0	4.9	9.2	4.8	.0	.0	.0	.0	.0	
	7	0	2	3	8	0	0	0	0	0	13
		.0	.1	.2	.6	.0	.0	.0	.0	.0	1.0
		.0	15.4	23.1	61.5	.0	.0	.0	.0	.0	
		.0	.7	.7	1.2	.0	.0	.0	.0	.0	
TOTAL		0	287	404	672	0	0	0	0	0	1363
		.0	21.1	29.6	49.3	.0	.0	.0	.0	.0	

TABLE 16

Ques. 8C. Are there weaknesses in scientific witnesses' testimony due to insufficient preparation for court appearance?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	8	1	8	0	0	0	0	0	17
		.0	.6	.1	.6	.0	.0	.0	.0	.0	1.2
		.0	47.1	5.9	47.1	.0	.0	.0	.0	.0	
		.0	2.8	.2	1.2	.0	.0	.0	.0	.0	
0%	1	0	10	4	12	0	0	0	0	0	26
		.0	.7	.3	.9	.0	.0	.0	.0	.0	1.9
		.0	38.5	15.4	46.2	.0	.0	.0	.0	.0	
		.0	3.4	1.0	1.8	.0	.0	.0	.0	.0	
10%	2	0	102	116	193	0	0	0	0	0	411
		.0	7.5	8.5	14.2	.0	.0	.0	.0	.0	30.2
		.0	24.8	28.2	47.0	.0	.0	.0	.0	.0	
		.0	35.2	28.9	28.7	.0	.0	.0	.0	.0	
20%	3	0	62	97	163	0	0	0	0	0	322
		.0	4.5	7.1	12.0	.0	.0	.0	.0	.0	23.6
		.0	19.3	30.1	50.6	.0	.0	.0	.0	.0	
		.0	21.4	24.2	24.3	.0	.0	.0	.0	.0	
30%	4	0	54	88	133	0	0	0	0	0	275
		.0	4.0	6.5	9.8	.0	.0	.0	.0	.0	20.2
		.0	19.6	32.0	48.4	.0	.0	.0	.0	.0	
		.0	18.6	21.9	19.8	.0	.0	.0	.0	.0	
50%	5	0	41	68	107	0	0	0	0	0	216
		.0	3.0	5.0	7.9	.0	.0	.0	.0	.0	15.8
		.0	19.0	31.5	49.5	.0	.0	.0	.0	.0	
		.0	14.1	17.0	15.9	.0	.0	.0	.0	.0	
75%	6	0	11	27	45	0	0	0	0	0	83
		.0	.8	2.0	3.3	.0	.0	.0	.0	.0	6.1
		.0	13.3	32.5	54.2	.0	.0	.0	.0	.0	
		.0	3.8	6.7	6.7	.0	.0	.0	.0	.0	
100%	7	0	2	0	11	0	0	0	0	0	13
		.0	.1	.0	.8	.0	.0	.0	.0	.0	1.0
		.0	15.4	.0	84.6	.0	.0	.0	.0	.0	
		.0	.7	.0	1.6	.0	.0	.0	.0	.0	
TOTAL		0	290	401	672	0	0	0	0	0	1363
		.0	21.3	29.4	49.3	.0	.0	.0	.0	.0	

TABLE 17

Ques. 9. Is the competence of prosecution scientific witness better, worse, or same as defense scientific witnesses?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	Worse	Same	Better					
No Response	0	0	7	5	2	3	0	0	0	0	17
		.0	.5	.4	.1	.2	.0	.0	.0	.0	1.2
		.0	41.2	29.4	11.8	17.6	.0	.0	.0	.0	
		.0	7.7	.9	1.4	.5	.0	.0	.0	.0	
0%	1	0	5	8	2	11	0	0	0	0	26
		.0	.4	.6	.1	.8	.0	.0	.0	.0	1.9
		.0	19.2	30.8	7.7	42.3	.0	.0	.0	.0	
		.0	5.5	1.5	1.4	1.9	.0	.0	.0	.0	
10%	2	0	30	150	44	187	0	0	0	0	411
		.0	2.2	11.0	3.2	13.7	.0	.0	.0	.0	30.2
		.0	7.3	36.5	10.7	45.5	.0	.0	.0	.0	
		.0	33.0	27.9	31.0	31.6	.0	.0	.0	.0	
20%	3	0	19	130	28	145	0	0	0	0	322
		.0	1.4	9.5	2.1	10.6	.0	.0	.0	.0	23.6
		.0	5.9	40.4	8.7	45.0	.0	.0	.0	.0	
		.0	20.9	24.2	19.7	24.5	.0	.0	.0	.0	
30%	4	0	16	109	25	125	0	0	0	0	275
		.0	1.2	8.0	1.8	9.2	.0	.0	.0	.0	20.2
		.0	5.8	39.6	9.1	45.5	.0	.0	.0	.0	
		.0	17.6	20.3	17.6	21.2	.0	.0	.0	.0	
50%	5	0	9	93	28	86	0	0	0	0	216
		.0	.7	6.8	2.1	6.3	.0	.0	.0	.0	15.8
		.0	4.2	43.1	13.0	39.8	.0	.0	.0	.0	
		.0	9.9	17.3	19.7	14.6	.0	.0	.0	.0	
75%	6	0	5	37	11	29	0	0	0	1	83
		.0	.4	2.7	.8	2.1	.0	.0	.0	.1	6.1
		.0	6.0	44.6	13.3	34.9	.0	.0	.0	1.2	
		.0	5.5	6.9	7.7	4.9	.0	.0	.0	100.0	
100%	7	0	0	6	2	5	0	0	0	0	13
		.0	.0	.4	.1	.4	.0	.0	.0	.0	1.0
		.0	.0	46.2	15.4	38.5	.0	.0	.0	.0	
		.0	.0	1.1	1.4	.8	.0	.0	.0	.0	
TOTAL		0	91	538	142	591	0	0	0	1	1363
		.0	6.7	39.5	10.4	43.4	.0	.0	.0	.1	

TABLE 18

Ques. 10A. In handling criminal cases are you influenced by data in the behavioral sciences (psychology, sociology)?

Respondents' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	6	5	6	0	0	0	0	0	17
		.0	.4	.4	.4	.0	.0	.0	.0	.0	1.2
		.0	35.3	29.4	35.3	.0	.0	.0	.0	.0	
		.0	9.2	1.4	.6	.0	.0	.0	.0	.0	
0%	1	0	4	11	11	0	0	0	0	0	26
		.0	.3	.8	.8	.0	.0	.0	.0	.0	1.9
		.0	15.4	42.3	42.3	.0	.0	.0	.0	.0	
		.0	6.2	3.2	1.2	.0	.0	.0	.0	.0	
10%	2	0	17	116	278	0	0	0	0	0	411
		.0	1.2	8.5	20.4	.0	.0	.0	.0	.0	30.2
		.0	4.1	28.2	67.6	.0	.0	.0	.0	.0	
		.0	26.2	33.2	29.3	.0	.0	.0	.0	.0	
20%	3	0	10	77	235	0	0	0	0	0	322
		.0	.7	5.6	17.2	.0	.0	.0	.0	.0	23.6
		.0	3.1	23.9	73.0	.0	.0	.0	.0	.0	
		.0	15.4	22.1	24.8	.0	.0	.0	.0	.0	
30%	4	0	9	60	206	0	0	0	0	0	275
		.0	.7	4.4	15.1	.0	.0	.0	.0	.0	20.2
		.0	3.3	21.8	74.9	.0	.0	.0	.0	.0	
		.0	13.8	17.2	21.7	.0	.0	.0	.0	.0	
50%	5	0	14	59	143	0	0	0	0	0	216
		.0	1.0	4.3	10.5	.0	.0	.0	.0	.0	15.8
		.0	6.5	27.3	66.2	.0	.0	.0	.0	.0	
		.0	21.5	16.9	15.1	.0	.0	.0	.0	.0	
75%	6	0	5	20	58	0	0	0	0	0	83
		.0	.4	1.5	4.3	.0	.0	.0	.0	.0	6.1
		.0	6.0	24.1	69.9	.0	.0	.0	.0	.0	
		.0	7.7	5.7	6.1	.0	.0	.0	.0	.0	
100%	7	0	0	1	12	0	0	0	0	0	13
		.0	.0	.1	.9	.0	.0	.0	.0	.0	1.0
		.0	.0	7.7	92.3	.0	.0	.0	.0	.0	
		.0	.0	.3	1.3	.0	.0	.0	.0	.0	
TOTAL		0	65	349	949	0	0	0	0	0	1363
		.0	4.8	25.6	69.6	.0	.0	.0	.0	.0	

TABLE 19

Ques. 10B. When did you last study behavioral science data?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	Last 3 mos.	Last 6 mos.	Last year	Over year ago				
No Response	0	0	8	5	0	0	4	0	0	0	17
		.0	.6	.4	.0	.0	.3	.0	.0	.0	1.2
		.0	47.1	29.4	.0	.0	23.5	.0	.0	.0	
		.0	12.1	.8	.0	.0	.9	.0	.0	.0	
0%	1	0	3	6	0	2	15	0	0	0	26
		.0	.2	.4	.0	.1	1.1	.0	.0	.0	1.9
		.0	11.5	23.1	.0	7.7	57.7	.0	.0	.0	
		.0	4.5	1.0	.0	1.6	3.4	.0	.0	.0	
10%	2	0	15	180	33	31	152	0	0	0	411
		.0	1.1	13.2	2.4	2.3	11.2	.0	.0	.0	30.2
		.0	3.6	43.8	8.0	7.5	37.0	.0	.0	.0	
		.0	22.7	29.8	25.2	24.6	34.9	.0	.0	.0	
20%	3	0	16	143	35	38	90	0	0	0	322
		.0	1.2	10.5	2.6	2.8	6.6	.0	.0	.0	23.6
		.0	5.0	44.4	10.9	11.8	28.0	.0	.0	.0	
		.0	24.2	23.7	26.7	30.2	20.6	.0	.0	.0	
30%	4	0	12	128	35	24	76	0	0	0	275
		.0	.9	9.4	2.6	1.8	5.6	.0	.0	.0	20.2
		.0	4.4	46.5	12.7	8.7	27.6	.0	.0	.0	
		.0	18.2	21.2	26.7	19.0	17.4	.0	.0	.0	
50%	5	0	10	97	18	22	69	0	0	0	216
		.0	.7	7.1	1.3	1.6	5.1	.0	.0	.0	15.8
		.0	4.6	44.9	8.3	10.2	31.9	.0	.0	.0	
		.0	15.2	16.1	13.7	17.5	15.8	.0	.0	.0	
75%	6	0	2	39	9	8	25	0	0	0	83
		.0	.1	2.9	.7	.6	1.8	.0	.0	.0	6.1
		.0	2.4	47.0	10.8	9.6	30.1	.0	.0	.0	
		.0	3.0	6.5	6.9	6.3	5.7	.0	.0	.0	
100%	7	0	0	6	1	1	5	0	0	0	13
		.0	.0	.4	.1	.1	.4	.0	.0	.0	1.0
		.0	.0	46.2	7.7	7.7	38.5	.0	.0	.0	
		.0	.0	1.0	.8	.8	1.1	.0	.0	.0	
TOTAL		0	66	604	131	126	436	0	0	0	1363
		.0	4.8	44.3	9.6	9.2	32.0	.0	.0	.0	

TABLE 20

Ques. 10C. Can behavioral science data contribute to improve criminal justice?

		No Response	No	Yes						
No Response	0	0	5	1	11	0	0	0	0	0	17
		.0	.4	.1	.8	.0	.0	.0	.0	.0	1.2
		.0	29.4	5.9	64.7	.0	.0	.0	.0	.0	
		.0	4.5	.7	1.0	.0	.0	.0	.0	.0	
0%	1	0	5	3	18	0	0	0	0	0	26
		.0	.4	.2	1.3	.0	.0	.0	.0	.0	1.9
		.0	19.2	11.5	69.2	.0	.0	.0	.0	.0	
10%		.0	4.5	2.1	1.6	.0	.0	.0	.0	.0	
	2	0	30	42	339	0	0	0	0	0	411
		.0	2.2	3.1	24.9	.0	.0	.0	.0	.0	30.2
		.0	7.3	10.2	82.5	.0	.0	.0	.0	.0	
20%		.0	26.8	29.8	30.6	.0	.0	.0	.0	.0	
	3	0	23	36	263	0	0	0	0	0	322
		.0	1.7	2.6	19.3	.0	.0	.0	.0	.0	23.6
		.0	7.1	11.2	81.7	.0	.0	.0	.0	.0	
30%		.0	20.5	25.5	23.7	.0	.0	.0	.0	.0	
	4	0	20	26	229	0	0	0	0	0	275
		.0	1.5	1.9	16.8	.0	.0	.0	.0	.0	20.2
		.0	7.3	9.5	83.3	.0	.0	.0	.0	.0	
50%		.0	17.9	18.4	20.6	.0	.0	.0	.0	.0	
	5	0	21	19	176	0	0	0	0	0	216
		.0	1.5	1.4	12.9	.0	.0	.0	.0	.0	15.8
		.0	9.7	8.8	81.5	.0	.0	.0	.0	.0	
75%		.0	18.8	13.5	15.9	.0	.0	.0	.0	.0	
	6	0	8	13	61	1	0	0	0	0	83
		.0	.6	1.0	4.5	.1	.0	.0	.0	.0	6.1
		.0	9.6	15.7	73.5	1.2	.0	.0	.0	.0	
100%		.0	7.1	9.2	5.5	100.0	.0	.0	.0	.0	
	7	0	0	1	12	0	0	0	0	0	13
		.0	.0	.1	.9	.0	.0	.0	.0	.0	1.0
		.0	.0	7.7	92.3	.0	.0	.0	.0	.0	
		.0	.0	.7	1.1	.0	.0	.0	.0	.0	
TOTAL		0	112	141	1109	1	0	0	0	0	1363
		.0	8.2	10.3	81.4	.1	.0	.0	.0	.0	

Responders - Cases - Percentage in which scientific evidence was used.

TABLE 21

Ques. 11A. In what percentage of your criminal cases are reports of psychiatrists or psychologists used?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	10%	20%	30%	50%	75%	100%		
No Response	0	0	4	8	3	0	1	1	0	0	17
		.0	.3	.6	.2	.0	.1	.1	.0	.0	1.2
		.0	23.5	47.1	17.6	.0	5.9	5.9	.0	.0	
		.0	16.0	1.0	.9	.0	1.7	2.9	.0	.0	
0%	1	0	4	17	2	1	1	0	1	0	26
		.0	.3	1.2	.1	.1	.1	.0	.1	.0	1.9
		.0	15.4	65.4	7.7	3.8	3.8	.0	3.8	.0	
		.0	16.0	2.2	.6	.7	1.7	.0	20.0	.0	
10%	2	0	6	270	81	30	14	9	1	0	411
		.0	.4	19.8	5.9	2.2	1.0	.7	.1	.0	30.2
		.0	1.5	65.7	19.7	7.3	3.4	2.2	.2	.0	
		.0	24.0	35.4	25.0	19.6	23.7	26.5	20.0	.0	
20%	3	0	3	192	70	40	7	9	1	0	322
		.0	.2	14.1	5.1	2.9	.5	.7	.1	.0	23.6
		.0	.9	59.6	21.7	12.4	2.2	2.8	.3	.0	
		.0	12.0	25.2	21.6	26.1	11.9	26.5	20.0	.0	
30%	4	0	2	135	83	32	12	9	2	0	275
		.0	.1	9.9	6.1	2.3	.9	.7	.1	.0	20.2
		.0	.7	49.1	30.2	11.6	4.4	3.3	.7	.0	
		.0	8.0	17.7	25.6	20.9	20.3	26.5	40.0	.0	
50%	5	0	3	99	60	39	13	2	0	0	216
		.0	.2	7.3	4.4	2.9	1.0	.1	.0	.0	15.8
		.0	1.4	45.8	27.8	18.1	6.0	.9	.0	.0	
		.0	12.0	13.0	18.5	25.5	22.0	5.9	.0	.0	
75%	6	0	2	38	22	9	9	3	0	0	83
		.0	.1	2.8	1.6	.7	.7	.2	.0	.0	6.1
		.0	2.4	45.8	26.5	10.8	10.8	3.6	.0	.0	
		.0	8.0	5.0	6.8	5.9	15.3	8.8	.0	.0	
100%	7	0	1	4	3	2	2	1	0	0	13
		.0	.1	.3	.2	.1	.1	.1	.0	.0	1.0
		.0	7.7	30.8	23.1	15.4	15.4	7.7	.0	.0	
		.0	4.0	.5	.9	1.3	3.4	2.9	.0	.0	
TOTAL		0	25	763	324	153	59	34	5	0	1363
		.0	1.8	56.0	23.8	11.2	4.3	2.5	.4	.0	

TABLE 22

Ques. 11B. Would more use of such reports (psychiatrists', psychologists') be helpful?

		No Response	No	Yes						
No Response	0	0	6	3	8	0	0	0	0	0	17
		.0	.4	.2	.6	.0	.0	.0	.0	.0	1.2
		.0	35.3	17.6	47.1	.0	.0	.0	.0	.0	
		.0	6.1	.8	.9	.0	.0	.0	.0	.0	
0%	1	0	5	6	15	0	0	0	0	0	26
		.0	.4	.4	1.1	.0	.0	.0	.0	.0	1.9
		.0	19.2	23.1	57.7	.0	.0	.0	.0	.0	
		.0	5.1	1.7	1.6	.0	.0	.0	.0	.0	
10%	2	0	21	107	283	0	0	0	0	0	411
		.0	1.5	7.9	20.8	.0	.0	.0	.0	.0	30.2
		.0	5.1	26.0	68.9	.0	.0	.0	.0	.0	
		.0	21.4	30.2	31.1	.0	.0	.0	.0	.0	
20%	3	0	18	80	224	0	0	0	0	0	322
		.0	1.3	5.9	16.4	.0	.0	.0	.0	.0	23.6
		.0	5.6	24.8	69.6	.0	.0	.0	.0	.0	
		.0	18.4	22.6	24.6	.0	.0	.0	.0	.0	
30%	4	0	23	70	182	0	0	0	0	0	275
		.0	1.7	5.1	13.4	.0	.0	.0	.0	.0	20.2
		.0	8.4	25.5	66.2	.0	.0	.0	.0	.0	
		.0	23.5	19.8	20.0	.0	.0	.0	.0	.0	
50%	5	0	20	57	138	1	0	0	0	0	216
		.0	1.5	4.2	10.1	.1	.0	.0	.0	.0	15.8
		.0	9.3	26.4	63.9	.5	.0	.0	.0	.0	
		.0	20.4	16.1	15.2	100.0	.0	.0	.0	.0	
75%	6	0	5	25	53	0	0	0	0	0	83
		.0	.4	1.8	3.9	.0	.0	.0	.0	.0	6.1
		.0	6.0	30.1	63.9	.0	.0	.0	.0	.0	
		.0	5.1	7.1	5.8	.0	.0	.0	.0	.0	
100%	7	0	0	6	7	0	0	0	0	0	13
		.0	.0	.4	.5	.0	.0	.0	.0	.0	1.0
		.0	.0	46.2	53.8	.0	.0	.0	.0	.0	
		.0	.0	1.7	.8	.0	.0	.0	.0	.0	
	TOTAL	0	98	354	910	1	0	0	0	0	1363
		.0	7.2	26.0	66.8	.1	.0	.0	.0	.0	

Responders Criminal Cases - Percentage in which scientific evidence was used.

TABLE 23

Ques. 11C. Why is more use not made of such reports (psychiatrists', psychologists')? Unavailable. Indicate priority by 1, 2, 3 etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

			No Response	1st Priority	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	10	5	1	0	0	0	1	0	17
		.0	.7	.4	.1	.0	.0	.0	.1	.0	1.2
		.0	58.8	29.4	5.9	.0	.0	.0	5.9	.0	
		.0	1.5	1.1	.8	.0	.0	.0	4.8	.0	
0%	1	0	15	7	3	1	0	0	0	0	26
		.0	1.1	.5	.2	.1	.0	.0	.0	.0	1.9
		.0	57.7	26.9	11.5	3.8	.0	.0	.0	.0	
		.0	2.3	1.5	2.3	2.1	.0	.0	.0	.0	
10%	2	0	196	156	33	16	7	2	1	0	411
		.0	14.4	11.4	2.4	1.2	.5	.1	.1	.0	30.2
		.0	47.7	38.0	8.0	3.9	1.7	.5	.2	.0	
		.0	29.7	34.1	24.8	33.3	29.2	10.0	4.8	.0	
20%	3	0	137	115	43	11	5	7	4	0	322
		.0	10.1	8.4	3.2	.8	.4	.5	.3	.0	23.6
		.0	42.5	35.7	13.4	3.4	1.6	2.2	1.2	.0	
		.0	20.8	25.1	32.3	22.9	20.8	35.0	19.0	.0	
30%	4	0	131	94	26	5	6	5	8	0	275
		.0	9.6	6.9	1.9	.4	.4	.4	.6	.0	20.2
		.0	47.6	34.2	9.5	1.8	2.2	1.8	2.9	.0	
		.0	19.9	20.5	19.5	10.4	25.0	25.0	38.1	.0	
50%	5	0	115	56	19	14	4	4	4	0	216
		.0	8.4	4.1	1.4	1.0	.3	.3	.3	.0	15.8
		.0	53.2	25.9	8.8	6.5	1.9	1.9	1.9	.0	
		.0	17.5	12.2	14.3	29.2	16.7	20.0	19.0	.0	
75%	6	0	47	21	8	1	2	1	3	0	83
		.0	3.4	1.5	.6	.1	.1	.1	.2	.0	6.1
		.0	56.6	25.3	9.6	1.2	2.4	1.2	3.6	.0	
		.0	7.1	4.6	6.0	2.1	8.3	5.0	14.3	.0	
100%	7	0	8	4	0	0	0	1	0	0	13
		.0	.6	.3	.0	.0	.0	.1	.0	.0	1.0
		.0	61.5	30.8	.0	.0	.0	7.7	.0	.0	
		.0	1.2	.9	.0	.0	.0	5.0	.0	.0	
	TOTAL	0	659	458	133	48	24	20	21	0	1363
		.0	48.3	33.6	9.8	3.5	1.8	1.5	1.5	.0	

TABLE 24

Ques. 11C. Why is more use not made of such reports (psychiatrists', psychologists')? Don't consider helpful. Indicate priority by 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scien

		No Response	1st Pri.	2nd Pri.	3rd Pril	4th Fri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	14	1	1	0	0	1	0	0	17
		.0	1.0	.1	.1	.0	.0	.1	.0	.0	1.2
		.0	82.4	5.9	5.9	.0	.0	5.9	.0	.0	
		.0	1.5	.8	1.3	.0	.0	2.5	.0	.0	
0%	1	0	19	3	1	2	1	0	0	0	26
		.0	1.4	.2	.1	.1	.1	.0	.0	.0	1.9
		.0	73.1	11.5	3.8	7.7	3.8	.0	.0	.0	
		.0	2.0	2.3	1.3	2.2	1.7	.0	.0	.0	
10%	2	0	296	36	28	27	13	11	0	0	411
		.0	21.7	2.6	2.1	2.0	1.0	.8	.0	.0	30.2
		.0	72.0	8.8	6.8	6.6	3.2	2.7	.0	.0	
		.0	30.9	27.5	35.4	29.3	22.4	27.5	.0	.0	
20%	3	0	231	28	16	21	15	9	2	0	322
		.0	16.9	2.1	1.2	1.5	1.1	.7	.1	.0	23.6
		.0	71.7	8.7	5.0	6.5	4.7	2.8	.6	.0	
		.0	24.1	21.4	20.3	22.8	25.9	22.5	40.0	.0	
30%	4	0	186	29	20	18	15	6	1	0	275
		.0	13.6	2.1	1.5	1.3	1.1	.4	.1	.0	20.2
		.0	67.6	10.5	7.3	6.5	5.5	2.2	.4	.0	
		.0	19.4	22.1	25.3	19.6	25.9	15.0	20.0	.0	
50%	5	0	154	19	6	17	10	8	2	0	216
		.0	11.3	1.4	.4	1.2	.7	.6	.1	.0	15.8
		.0	71.3	8.8	2.8	7.9	4.6	3.7	.9	.0	
		.0	16.1	14.5	7.6	18.5	17.2	20.0	40.0	.0	
75%	6	0	50	13	6	6	3	5	0	0	83
		.0	3.7	1.0	.4	.4	.2	.4	.0	.0	6.1
		.0	60.2	15.7	7.2	7.2	3.6	6.0	.0	.0	
		.0	5.2	9.9	7.6	6.5	5.2	12.5	.0	.0	
100%	7	0	8	2	1	1	1	0	0	0	13
		.0	.6	.1	.1	.1	.1	.0	.0	.0	1.0
		.0	61.5	15.4	7.7	7.7	7.7	.0	.0	.0	
		.0	.8	1.5	1.3	1.1	1.7	.0	.0	.0	
	TOTAL	0	958	131	79	92	58	40	5	0	1363
		.0	70.3	9.6	5.8	6.7	4.3	2.9	.4	.0	

TABLE 25

Ques. 11C. Why is more use not made of such reports (psychiatrists', psychologists')? Don't consider necessary. Indicate priority by 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	1st Pri	2nd Pri	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	14	2	1	0	0	0	0	17
		.0	1.0	.1	.1	.0	.0	.0	.0	1.2
		.0	82.4	11.8	5.9	.0	.0	.0	.0	
		.0	1.6	1.0	.8	.0	.0	.0	.0	
0%	1	0	21	2	1	2	0	0	0	26
		.0	1.5	.1	.1	.1	.0	.0	.0	1.9
		.0	80.8	7.7	3.8	7.7	.0	.0	.0	
		.0	2.4	1.0	.8	1.6	.0	.0	.0	
10%	2	0	274	47	37	40	10	2	1	0	411
		.0	20.1	3.4	2.7	2.9	.7	.1	.1	.0	30.2
		.0	66.7	11.4	9.0	9.7	2.4	.5	.2	.0	
		.0	31.9	23.7	29.1	31.7	27.8	14.3	25.0	.0	
20%	3	0	201	44	31	31	6	8	1	0	322
		.0	14.7	3.2	2.3	2.3	.4	.6	.1	.0	23.6
		.0	62.4	13.7	9.6	9.6	1.9	2.5	.3	.0	
		.0	23.4	22.2	24.4	24.6	16.7	57.1	25.0	.0	
30%	4	0	161	47	30	23	10	3	1	0	275
		.0	11.8	3.4	2.2	1.7	.7	.2	.1	.0	20.2
		.0	58.5	17.1	10.9	8.4	3.6	1.1	.4	.0	
		.0	18.8	23.7	23.6	18.3	27.8	21.4	25.0	.0	
50%	5	0	134	40	13	21	7	1	0	0	216
		.0	9.8	2.9	1.0	1.5	.5	.1	.0	.0	15.8
		.0	62.0	18.5	6.0	9.7	3.2	.5	.0	.0	
		.0	15.6	20.2	10.2	16.7	19.4	7.1	.0	.0	
75%	6	0	45	14	11	9	3	0	1	0	83
		.0	3.3	1.0	.8	.7	.2	.0	.1	.0	6.1
		.0	54.2	16.9	13.3	10.8	3.6	.0	1.2	.0	
		.0	5.2	7.1	8.7	7.1	8.3	.0	25.0	.0	
100%	7	0	8	2	3	0	0	0	0	0	1
		.0	.6	.1	.2	.0	.0	.0	.0	.0	1.
		.0	61.5	15.4	23.1	.0	.0	.0	.0	.0	
		.0	.9	1.0	2.4	.0	.0	.0	.0	.0	
	TOTAL	0	858	198	127	126	36	14	4	0	1363
		.0	62.9	14.5	9.3	9.2	2.6	1.0	.3	.0	

TABLE 26

Ques. 11C. Why is more use not made of such reports (psychiatrists', psychologists')? Immaterial. Indicate priority by 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	15	0	0	2	0	0	0	0	17
		.0	1.1	.0	.0	.1	.0	.0	.0	.0	1.2
		.0	88.2	.0	.0	11.8	.0	.0	.0	.0	
		.0	1.5	.0	.0	1.6	.0	.0	.0	.0	
0%	1	0	22	0	3	1	0	0	0	0	26
		.0	1.6	.0	.2	.1	.0	.0	.0	.0	1.9
		.0	84.6	.0	11.5	3.8	.0	.0	.0	.0	
		.0	2.3	.0	3.9	.8	.0	.0	.0	.0	
10%	2	0	303	36	19	28	12	10	3	0	411
		.0	22.2	2.6	1.4	2.1	.9	.7	.2	.0	30.2
		.0	73.7	8.8	4.6	6.8	2.9	2.4	.7	.0	
		.0	31.3	34.6	24.7	22.0	31.6	27.8	25.0	.0	
20%	3	0	231	22	17	31	10	5	6	0	322
		.0	16.9	1.6	1.2	2.3	.7	.4	.4	.0	23.6
		.0	71.7	6.8	5.3	9.6	3.1	1.6	1.9	.0	
		.0	23.8	21.2	22.1	24.4	26.3	13.9	50.0	.0	
30%	4	0	188	21	15	30	8	12	1	0	275
		.0	13.8	1.5	1.1	2.2	.6	.9	.1	.0	20.2
		.0	68.4	7.6	5.5	10.9	2.9	4.4	.4	.0	
		.0	19.4	20.2	19.5	23.6	21.1	33.3	8.3	.0	
50%	5	0	150	17	15	16	8	8	2	0	216
		.0	11.0	1.2	1.1	1.2	.6	.6	.1	.0	15.8
		.0	69.4	7.9	6.9	7.4	3.7	3.7	.9	.0	
		.0	15.5	16.3	19.5	12.6	21.1	22.2	16.7	.0	
75%	6	0	50	7	7	18	0	1	0	0	83
		.0	3.7	.5	.5	1.3	.0	.1	.0	.0	6.1
		.0	60.2	8.4	8.4	21.7	.0	1.2	.0	.0	
		.0	5.2	6.7	9.1	14.2	.0	2.8	.0	.0	
100%	7	0	10	1	1	1	0	0	0	0	13
		.0	.7	.1	.1	.1	.0	.0	.0	.0	1.0
		.0	76.9	7.7	7.7	7.7	.0	.0	.0	.0	
		.0	1.0	1.0	1.3	.8	.0	.0	.0	.0	
TOTAL		0	969	104	77	127	38	36	12	0	1363
		.0	71.1	7.6	5.6	9.3	2.8	2.6	.9	.0	

TABLE 27

Ques. 11C. Why is more use not made of such reports (psychiatrists', psychologists')? Don't trust them. Indicate priority by 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

			No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	15	1	0	0	1	0	0	0	17
		.0	1.1	.1	.0	.0	.1	.0	.0	.0	1.2
		.0	88.2	5.9	.0	.0	5.9	.0	.0	.0	
		.0	1.4	1.1	.0	.0	5.0	.0	.0	.0	
0%	1	0	24	1	0	1	0	0	0	0	26
		.0	1.8	.1	.0	.1	.0	.0	.0	.0	1.9
		.0	92.3	3.8	.0	3.8	.0	.0	.0	.0	
		.0	2.2	1.1	.0	2.5	.0	.0	.0	.0	
10%	2	0	337	21	11	11	3	9	19	0	411
		.0	24.7	1.5	.8	.8	.2	.7	1.4	.0	30.2
		.0	82.0	5.1	2.7	2.7	.7	2.2	4.6	.0	
		.0	31.6	23.9	33.3	27.5	15.0	32.1	22.1	.0	
20%	3	0	252	22	8	10	5	5	20	0	322
		.0	18.5	1.6	.6	.7	.4	.4	1.5	.0	23.6
		.0	78.3	6.8	2.5	3.1	1.6	1.6	6.2	.0	
		.0	23.6	25.0	24.2	25.0	25.0	17.9	23.3	.0	
30%	4	0	207	19	6	11	2	10	20	0	275
		.0	15.2	1.4	.4	.8	.1	.7	1.5	.0	20.2
		.0	75.3	6.9	2.2	4.0	.7	3.6	7.3	.0	
		.0	19.4	21.6	18.2	27.5	10.0	35.7	23.3	.0	
50%	5	0	162	17	6	4	4	3	20	0	216
		.0	11.9	1.2	.4	.3	.3	.2	1.5	.0	15.8
		.0	75.0	7.9	2.8	1.9	1.9	1.4	9.3	.0	
		.0	15.2	19.3	18.2	10.0	20.0	10.7	23.3	.0	
75%	6	0	60	6	2	3	4	1	7	0	83
		.0	4.4	.4	.1	.2	.3	.1	.5	.0	6.1
		.0	72.3	7.2	2.4	3.6	4.8	1.2	8.4	.0	
		.0	5.6	6.8	6.1	7.5	20.0	3.6	8.1	.0	
100%	7	0	11	1	0	0	1	0	0	0	13
		.0	.8	.1	.0	.0	.1	.0	.0	.0	1.0
		.0	84.6	7.7	.0	.0	7.7	.0	.0	.0	
		.0	1.0	1.1	.0	.0	5.0	.0	.0	.0	
	TOTAL	0	1068	88	33	40	20	28	86	0	1363
		.0	78.4	6.5	2.4	2.9	1.5	2.1	6.3	.0	

TABLE 28

Ques. 11C. Why is more use not made of such reports (psychiatrists', psychologists')? Too costly. Indicate priority by 1, 2, 3, etc.

		No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	13	4	0	0	0	0	0	0	17
	.0	1.0	.3	.0	.0	.0	.0	.0	.0	1.2
	.0	76.5	23.5	.0	.0	.0	.0	.0	.0	
	.0	2.2	.9	.0	.0	.0	.0	.0	.0	
0%										
1	0	16	9	0	1	0	0	0	0	26
	.0	1.2	.7	.0	.1	.0	.0	.0	.0	1.9
	.0	61.5	34.6	.0	3.8	.0	.0	.0	.0	
	.0	2.7	1.9	.0	1.5	.0	.0	.0	.0	
10%										
2	0	181	137	53	21	6	5	8	0	411
	.0	13.3	10.1	3.9	1.5	.4	.4	.6	.0	30.2
	.0	44.0	33.3	12.9	5.1	1.5	1.2	1.9	.0	
	.0	30.7	29.7	29.9	32.3	26.1	17.2	47.1	.0	
20%										
3	0	130	113	43	19	5	8	4	0	322
	.0	9.5	8.3	3.2	1.4	.4	.6	.3	.0	23.6
	.0	40.4	35.1	13.4	5.9	1.6	2.5	1.2	.0	
	.0	22.0	24.5	24.3	29.2	21.7	27.6	23.5	.0	
30%										
4	0	127	85	36	11	7	6	3	0	275
	.0	9.3	6.2	2.6	.8	.5	.4	.2	.0	20.2
	.0	46.2	30.9	13.1	4.0	2.5	2.2	1.1	.0	
	.0	21.5	18.4	20.3	16.9	30.4	20.7	17.6	.0	
50%										
5	0	78	82	36	11	1	7	1	0	216
	.0	5.7	6.0	2.6	.8	.1	.5	.1	.0	15.8
	.0	36.1	38.0	16.7	5.1	.5	3.2	.5	.0	
	.0	13.2	17.7	20.3	16.9	4.3	24.1	5.9	.0	
75%										
6	0	37	30	8	1	4	3	0	0	83
	.0	2.7	2.2	.6	.1	.3	.2	.0	.0	6.1
	.0	44.6	36.1	9.6	1.2	4.8	3.6	.0	.0	
	.0	6.3	6.5	4.5	1.5	17.4	10.3	.0	.0	
100%										
7	0	8	2	1	1	0	0	1	0	13
	.0	.6	.1	.1	.1	.0	.0	.1	.0	1.0
	.0	61.5	15.4	7.7	7.7	.0	.0	7.7	.0	
	.0	1.4	.4	.6	1.5	.0	.0	5.9	.0	
TOTAL	0	590	462	177	65	23	29	17	0	1363
	.0	43.3	33.9	13.0	4.8	1.7	2.1	1.2	.0	

TABLE 29

Ques. 11D. Does your court have a psychiatric clinic for use in criminal cases?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	4	9	4	0	0	0	0	0	17
		.0	.3	.7	.3	.0	.0	.0	.0	.0	1.2
		.0	23.5	52.9	23.5	.0	.0	.0	.0	.0	
		.0	12.9	1.3	.6	.0	.0	.0	.0	.0	
0%	1	0	0	15	11	0	0	0	0	0	26
		.0	.0	1.1	.8	.0	.0	.0	.0	.0	1.9
		.0	.0	57.7	42.3	.0	.0	.0	.0	.0	
		.0	.0	2.1	1.8	.0	.0	.0	.0	.0	
10%	2	0	5	226	180	0	0	0	0	0	411
		.0	.4	16.6	13.2	.0	.0	.0	.0	.0	30.2
		.0	1.2	55.0	43.8	.0	.0	.0	.0	.0	
		.0	16.1	32.0	28.8	.0	.0	.0	.0	.0	
20%	3	0	9	151	162	0	0	0	0	0	322
		.0	.7	11.1	11.9	.0	.0	.0	.0	.0	23.6
		.0	2.8	46.9	50.3	.0	.0	.0	.0	.0	
		.0	29.0	21.4	25.9	.0	.0	.0	.0	.0	
30%	4	0	8	138	129	0	0	0	0	0	275
		.0	.6	10.1	9.5	.0	.0	.0	.0	.0	20.2
		.0	2.9	50.2	46.9	.0	.0	.0	.0	.0	
		.0	25.8	19.5	20.[illegible]	.0	.0	.0	.0	.0	
50%	5	0	3	118	94	0	0	0	0	1	216
		.0	.2	8.7	6.9	.0	.0	.0	.0	.1	15.8
		.0	1.4	54.6	43.5	.0	.0	.0	.0	.5	
		.0	9.7	16.7	15.0	.0	.0	.0	.0	100.0	
75%	6	0	1	42	40	0	0	0	0	0	83
		.0	.1	3.1	2.9	.0	.0	.0	.0	.0	6.1
		.0	1.2	50.6	48.2	.0	.0	.0	.0	.0	
		.0	3.2	5.9	6.4	.0	.0	.0	.0	.0	
100%	7	0	1	7	5	0	0	0	0	0	13
		.0	.1	.5	.4	.0	.0	.0	.0	.0	1.0
		.0	7.7	53.8	38.5	.0	.0	.0	.0	.0	
		.0	3.2	1.0	.8	.0	.0	.0	.0	.0	
TOTAL		0	31	706	625	0	0	0	0	1	1363
		.0	2.3	51.8	45.9	.0	.0	.0	.0	.1	

TABLE 30

Ques. 11E. Would you like to have more readily available psychiatric services for your criminal cases?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	4	1	12	0	0	0	0	0	17
		.0	.3	.1	.9	.0	.0	.0	.0	.0	1.2
		.0	23.5	5.9	70.6	.0	.0	.0	.0	.0	
		.0	5.6	.3	1.2	.0	.0	.0	.0	.0	
0%											
	1	0	1	4	21	0	0	0	0	0	26
		.0	.1	.3	1.5	.0	.0	.0	.0	.0	1.9
		.0	3.8	15.4	80.8	.0	.0	.0	.0	.0	
		.0	1.4	1.4	2.1	.0	.0	.0	.0	.0	
10%											
	2	0	17	84	310	0	0	0	0	0	411
		.0	1.2	6.2	22.7	.0	.0	.0	.0	.0	30.2
		.0	4.1	20.4	75.4	.0	.0	.0	.0	.0	
		.0	23.9	29.1	30.9	.0	.0	.0	.0	.0	
20%											
	3	0	19	59	244	0	0	0	0	0	322
		.0	1.4	4.3	17.9	.0	.0	.0	.0	.0	23.6
		.0	5.9	18.3	75.8	.0	.0	.0	.0	.0	
		.0	26.8	20.4	24.3	.0	.0	.0	.0	.0	
30%											
	4	0	12	63	200	0	0	0	0	0	275
		.0	.9	4.6	14.7	.0	.0	.0	.0	.0	20.2
		.0	4.4	22.9	72.7	.0	.0	.0	.0	.0	
		.0	16.9	21.8	19.9	.0	.0	.0	.0	.0	
50%											
	5	0	13	49	154	0	0	0	0	0	216
		.0	1.0	3.6	11.3	.0	.0	.0	.0	.0	15.8
		.0	6.0	22.7	71.3	.0	.0	.0	.0	.0	
		.0	18.3	17.0	15.4	.0	.0	.0	.0	.0	
75%											
	6	0	5	26	52	0	0	0	0	0	83
		.0	.4	1.9	3.8	.0	.0	.0	.0	.0	6.1
		.0	6.0	31.3	62.7	.0	.0	.0	.0	.0	
		.0	7.0	9.0	5.2	.0	.0	.0	.0	.0	
100%											
	7	0	0	3	10	0	0	0	0	0	13
		.0	.0	.2	.7	.0	.0	.0	.0	.0	1.0
		.0	.0	23.1	76.9	.0	.0	.0	.0	.0	
		.0	.0	1.0	1.0	.0	.0	.0	.0	.0	
	TOTAL	0	71	289	1003	0	0	0	0	0	1363
		.0	5.2	21.2	73.6	.0	.0	.0	.0	.0	

TABLE 31

Ques. 12. Is certification or licensure by a public or private body of a forensic scientist an important criteria to determine the qualifications of him as an expert witness?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	3	6	8	0	0	0	0	0	17
		.0	.2	.4	.6	.0	.0	.0	.0	.0	1.2
		.0	17.6	35.3	47.1	.0	.0	.0	.0	.0	
		.0	3.6	1.4	1.0	.0	.0	.0	.0	.0	
0%											
	1	0	6	9	11	0	0	0	0	0	26
		.0	.4	.7	.8	.0	.0	.0	.0	.0	1.9
		.0	23.1	34.6	42.3	.0	.0	.0	.0	.0	
10%		.0	7.2	2.0	1.3	.0	.0	.0	.0	.0	
	2	0	21	133	257	0	0	0	0	0	411
		.0	1.5	9.8	18.9	.0	.0	.0	.0	.0	30.2
		.0	5.1	32.4	62.5	.0	.0	.0	.0	.0	
20%		.0	25.3	30.2	30.6	.0	.0	.0	.0	.0	
	3	0	26	111	185	0	0	0	0	0	322
		.0	1.9	8.1	13.6	.0	.0	.0	.0	.0	23.6
		.0	8.1	34.5	57.5	.0	.0	.0	.0	.0	
30%		.0	31.3	25.2	22.0	.0	.0	.0	.0	.0	
	4	0	14	77	184	0	0	0	0	0	275
		.0	1.0	5.6	13.5	.0	.0	.0	.0	.0	20.2
		.0	5.1	28.0	66.9	.0	.0	.0	.0	.0	
50%		.0	16.9	17.5	21.9	.0	.0	.0	.0	.0	
	5	0	12	65	139	0	0	0	0	0	216
		.0	.9	4.8	10.2	.0	.0	.0	.0	.0	15.8
		.0	5.6	30.1	64.4	.0	.0	.0	.0	.0	
75%		.0	14.5	14.8	16.5	.0	.0	.0	.0	.0	
	6	0	1	30	52	0	0	0	0	0	83
		.0	.1	2.2	3.8	.0	.0	.0	.0	.0	6.1
		.0	1.2	36.1	62.7	.0	.0	.0	.0	.0	
100%		.0	1.2	6.8	6.2	.0	.0	.0	.0	.0	
	7	0	0	9	4	0	0	0	0	0	13
		.0	.0	.7	.3	.0	.0	.0	.0	.0	1.0
		.0	.0	69.2	30.8	.0	.0	.0	.0	.0	
		.0	.0	2.0	.5	.0	.0	.0	.0	.0	
	TOTAL	0	83	440	840	0	0	0	0	0	1363
		.0	6.1	32.3	61.6	.0	.0	.0	.0	.0	

TABLE 32

Ques. 12. Should certification or licensure by a public or private body of a forensic scientist be an important criteria to determine the qualifications of him as an expert witness?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	6	3	8	0	0	0	0	0	17
		.0	.4	.2	.6	.0	.0	.0	.0	.0	1.2
		.0	35.3	17.6	47.1	.0	.0	.0	.0	.0	
		.0	2.7	1.0	.9	.0	.0	.0	.0	.0	
0%	1	0	8	5	13	0	0	0	0	0	26
		.0	.6	.4	1.0	.0	.0	.0	.0	.0	1.9
		.0	30.8	19.2	50.0	.0	.0	.0	.0	.0	
		.0	3.7	1.7	1.5	.0	.0	.0	.0	.0	
10%	2	0	72	89	250	0	0	0	0	0	411
		.0	5.3	6.5	18.3	.0	.0	.0	.0	.0	30.2
		.0	17.5	21.7	60.8	.0	.0	.0	.0	.0	
		.0	32.9	30.9	29.2	.0	.0	.0	.0	.0	
20%	3	0	53	79	190	0	0	0	0	0	322
		.0	3.9	5.8	13.9	.0	.0	.0	.0	.0	23.6
		.0	16.5	24.5	59.0	.0	.0	.0	.0	.0	
		.0	24.2	27.4	22.2	.0	.0	.0	.0	.0	
30%	4	0	38	44	193	0	0	0	0	0	275
		.0	2.8	3.2	14.2	.0	.0	.0	.0	.0	20.2
		.0	13.8	16.0	70.2	.0	.0	.0	.0	.0	
		.0	17.4	15.3	22.5	.0	.0	.0	.0	.0	
50%	5	0	31	44	141	0	0	0	0	0	216
		.0	2.3	3.2	10.3	.0	.0	.0	.0	.0	15.8
		.0	14.4	20.4	65.3	.0	.0	.0	.0	.0	
		.0	14.2	15.3	16.5	.0	.0	.0	.0	.0	
75%	6	0	10	18	55	0	0	0	0	0	83
		.0	.7	1.3	4.0	.0	.0	.0	.0	.0	6.1
		.0	12.0	21.7	66.3	.0	.0	.0	.0	.0	
		.0	4.6	6.3	6.4	.0	.0	.0	.0	.0	
100%	7	0	1	6	6	0	0	0	0	0	13
		.0	.1	.4	.4	.0	.0	.0	.0	.0	1.0
		.0	7.7	46.2	46.2	.0	.0	.0	.0	.0	
		.0	.5	2.1	.7	.0	.0	.0	.0	.0	
	TOTAL	0	219	288	856	0	0	0	0	0	1363
		.0	16.1	21.1	62.8	.0	.0	.0	.0	.0	

TABLE 33

Ques. 13. Would video tape deposition of scientific witness expediate criminal justice process?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	4	2	11	0	0	0	0	0	17
		.0	.3	.1	.8	.0	.0	.0	.0	.0	1.2
		.0	23.5	11.8	64.7	.0	.0	.0	.0	.0	
		.0	4.3	.5	1.2	.0	.0	.0	.0	.0	
0%	1	0	1	6	19	0	0	0	0	0	26
		.0	.1	.4	1.4	.0	.0	.0	.0	.0	1.9
		.0	3.8	23.1	73.1	.0	.0	.0	.0	.0	
		.0	1.1	1.6	2.1	.0	.0	.0	.0	.0	
10%	2	0	22	122	267	0	0	0	0	0	411
		.0	1.6	9.0	19.6	.0	.0	.0	.0	.0	30.2
		.0	5.4	29.7	65.0	.0	.0	.0	.0	.0	
		.0	23.9	33.5	29.4	.0	.0	.0	.0	.0	
20%	3	0	26	74	222	0	0	0	0	0	322
		.0	1.9	5.4	16.3	.0	.0	.0	.0	.0	23.6
		.0	8.1	23.0	68.9	.0	.0	.0	.0	.0	
		.0	28.3	20.3	24.5	.0	.0	.0	.0	.0	
30%	4	0	22	72	181	0	0	0	0	0	275
		.0	1.6	5.3	13.3	.0	.0	.0	.0	.0	20.2
		.0	8.0	26.2	65.8	.0	.0	.0	.0	.0	
		.0	23.9	19.8	20.0	.0	.0	.0	.0	.0	
50%	5	0	11	53	152	0	0	0	0	0	216
		.0	.8	3.9	11.2	.0	.0	.0	.0	.0	15.8
		.0	5.1	24.5	70.4	.0	.0	.0	.0	.0	
		.0	12.0	14.6	16.8	.0	.0	.0	.0	.0	
75%	6	0	5	31	47	0	0	0	0	0	83
		.0	.4	2.3	3.4	.0	.0	.0	.0	.0	6.1
		.0	6.0	37.3	56.6	.0	.0	.0	.0	.0	
		.0	5.4	8.5	5.2	.0	.0	.0	.0	.0	
100%	7	0	1	4	8	0	0	0	0	0	13
		.0	.1	.3	.6	.0	.0	.0	.0	.0	1.0
		.0	7.7	30.8	61.5	.0	.0	.0	.0	.0	
		.0	1.1	1.1	.9	.0	.0	.0	.0	.0	
TOTAL		0	92	364	907	0	0	0	0	0	1363
		.0	6.7	26.7	66.5	.0	.0	.0	.0	.0	

TABLE 34

Ques. 13. Do you approve video tape deposition of scientific witness?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

VALUE		-1	0	1	2	3	4	5	6	7	
			No Response	No	Yes						
No Response	0	0	7	2	8	0	0	0	0	0	17
		.0	.5	.1	.6	.0	.0	.0	.0	.0	1.2
		.0	41.2	11.8	47.1	.0	.0	.0	.0	.0	
		.0	3.1	.5	1.0	.0	.0	.0	.0	.0	
0%	1	0	7	6	13	0	0	0	0	0	26
		.0	.5	.4	1.0	.0	.0	.0	.0	.0	1.9
		.0	26.9	23.1	50.0	.0	.0	.0	.0	.0	
		.0	3.1	1.6	1.7	.0	.0	.0	.0	.0	
10%	2	0	74	105	231	0	0	0	1	0	411
		.0	5.4	7.7	16.9	.0	.0	.0	.1	.0	30.2
		.0	18.0	25.5	56.2	.0	.0	.0	.2	.0	
		.0	33.0	28.0	30.3	.0	.0	.0	100.0	.0	
20%	3	0	50	80	192	0	0	0	0	0	322
		.0	3.7	5.9	14.1	.0	.0	.0	.0	.0	23.6
		.0	15.5	24.8	59.6	.0	.0	.0	.0	.0	
		.0	22.3	21.3	25.2	.0	.0	.0	.0	.0	
30%	4	0	39	82	154	0	0	0	0	0	275
		.0	2.9	6.0	11.3	.0	.0	.0	.0	.0	20.2
		.0	14.2	29.8	56.0	.0	.0	.0	.0	.0	
		.0	17.4	21.9	20.2	.0	.0	.0	.0	.0	
50%	5	0	34	62	120	0	0	0	0	0	216
		.0	2.5	4.5	8.8	.0	.0	.0	.0	.0	15.8
		.0	15.7	28.7	55.6	.0	.0	.0	.0	.0	
		.0	15.2	16.5	15.7	.0	.0	.0	.0	.0	
75%	6	0	13	32	38	0	0	0	0	0	83
		.0	1.0	2.3	2.8	.0	.0	.0	.0	.0	6.1
		.0	15.7	38.6	45.8	.0	.0	.0	.0	.0	
		.0	5.8	8.5	5.0	.0	.0	.0	.0	.0	
100%	7	0	0	6	7	0	0	0	0	0	13
		.0	.0	.4	.5	.0	.0	.0	.0	.0	1.0
		.0	.0	46.2	53.8	.0	.0	.0	.0	.0	
		.0	.0	1.6	.9	.0	.0	.0	.0	.0	
TOTAL		0	224	375	763	0	0	0	1	0	1363
		.0	16.4	27.5	56.0	.0	.0	.0	.1	.0	

TABLE 35

Ques. 14. Are changes needed in laws to permit better use of the forensic sciences?

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	No	Yes						
No Response	0	0	4	4	9	0	0	0	0	0	17
		.0	.3	.3	.7	.0	.0	.0	.0	.0	1.2
		.0	23.5	23.5	52.9	.0	.0	.0	.0	.0	
		.0	2.7	.9	1.2	.0	.0	.0	.0	.0	
0%	1	0	5	11	10	0	0	0	0	0	26
		.0	.4	.8	.7	.0	.0	.0	.0	.0	1.9
		.0	19.2	42.3	38.5	.0	.0	.0	.0	.0	
		.0	3.3	2.5	1.3	.0	.0	.0	.0	.0	
10%	2	0	47	143	221	0	0	0	0	0	411
		.0	3.4	10.5	16.2	.0	.0	.0	.0	.0	30.2
		.0	11.4	34.8	53.8	.0	.0	.0	.0	.0	
		.0	31.3	32.2	28.7	.0	.0	.0	.0	.0	
20%	3	0	31	95	196	0	0	0	0	0	322
		.0	2.3	7.0	14.4	.0	.0	.0	.0	.0	23.6
		.0	9.6	29.5	60.9	.0	.0	.0	.0	.0	
		.0	20.7	21.4	25.5	.0	.0	.0	.0	.0	
30%	4	0	36	95	144	0	0	0	0	0	275
		.0	2.6	7.0	10.6	.0	.0	.0	.0	.0	20.2
		.0	13.1	34.5	52.4	.0	.0	.0	.0	.0	
		.0	24.0	21.4	18.7	.0	.0	.0	.0	.0	
50%	5	0	20	63	133	0	0	0	0	0	216
		.0	1.5	4.6	9.8	.0	.0	.0	.0	.0	15.8
		.0	9.3	29.2	61.6	.0	.0	.0	.0	.0	
		.0	13.3	14.2	17.3	.0	.0	.0	.0	.0	
75%	6	0	7	30	46	0	0	0	0	0	83
		.0	.5	2.2	3.4	.0	.0	.0	.0	.0	6.1
		.0	8.4	36.1	55.4	.0	.0	.0	.0	.0	
		.0	4.7	6.8	6.0	.0	.0	.0	.0	.0	
100%	7	0	0	3	10	0	0	0	0	0	13
		.0	.0	.2	.7	.0	.0	.0	.0	.0	1.0
		.0	.0	23.1	76.9	.0	.0	.0	.0	.0	
		.0	.0	.7	1.3	.0	.0	.0	.0	.0	
	TOTAL	0	150	444	769	0	0	0	0	0	1363
		.0	11.0	32.6	56.4	.0	.0	.0	.0	.0	

TABLE 36

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ads in bar journal. Indicate choice by priority 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	16	0	0	0	0	0	1	0	17
	.0	1.2	.0	.0	.0	.0	.0	.1	.0	1.2
	.0	94.1	.0	.0	.0	.0	.0	5.9	.0	
	.0	1.4	.0	.0	.0	.0	.0	4.5	.0	
0%	1	23	1	0	1	0	0	0	1	26
	.0	1.7	.1	.0	.1	.0	.0	.0	.1	1.9
	.0	88.5	3.8	.0	3.8	.0	.0	.0	3.8	
	.0	2.1	1.5	.0	1.9	.0	.0	.0	3.8	
10%	2	346	18	16	15	5	4	4	3	411
	.0	25.4	1.3	1.2	1.1	.4	.3	.3	.2	30.2
	.0	84.2	4.4	3.9	3.6	1.2	1.0	1.0	.7	
	.0	31.3	27.3	29.1	28.3	27.8	22.2	18.2	11.5	
20%	3	243	17	19	21	4	6	4	8	322
	.0	17.8	1.2	1.4	1.5	.3	.4	.3	.6	23.6
	.0	75.5	5.3	5.9	6.5	1.2	1.9	1.2	2.5	
	.0	22.0	25.8	34.5	39.6	22.2	33.3	18.2	30.8	
30%	4	222	11	9	11	5	4	7	6	275
	.0	16.3	.8	.7	.8	.4	.3	.5	.4	20.2
	.0	80.7	4.0	3.3	4.0	1.8	1.5	2.5	2.2	
	.0	20.1	16.7	16.4	20.8	27.8	22.2	31.8	23.1	
50%	5	178	14	8	1	3	1	4	7	216
	.0	13.1	1.0	.6	.1	.2	.1	.3	.5	15.8
	.0	82.4	6.5	3.7	.5	1.4	.5	1.9	3.2	
	.0	16.1	21.2	14.5	1.9	16.7	5.6	18.2	26.9	
75%	6	67	3	3	4	1	3	1	1	83
	.0	4.9	.2	.2	.3	.1	.2	.1	.1	6.1
	.0	80.7	3.6	3.6	4.8	1.2	3.6	1.2	1.2	
	.0	6.1	4.5	5.5	7.5	5.6	16.7	4.5	3.8	
100%	7	10	2	0	0	0	0	1	0	13
	.0	.7	.1	.0	.0	.0	.0	.1	.0	1.0
	.0	76.9	15.4	.0	.0	.0	.0	7.7	.0	
	.0	.9	3.0	.0	.0	.0	.0	4.5	.0	
TOTAL	0	1105	66	55	53	18	18	22	26	1363
	.0	81.1	4.8	4.0	3.9	1.3	1.3	1.6	1.9	

TABLE 37

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ask fellow-lawyer. Indicate choice by priority 1, 2, 3, tec.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	15	0	1	1	0	0	0	0	17
		.0	1.1	.0	.1	.1	.0	.0	.0	.0	1.2
		.0	88.2	.0	5.9	5.9	.0	.0	.0	.0	
		.0	2.0	.0	.8	1.9	.0	.0	.0	.0	
0%	1	0	16	8	2	0	0	0	0	0	26
		.0	1.2	.6	.1	.0	.0	.0	.0	.0	1.9
		.0	61.5	30.8	7.7	.0	.0	.0	.0	.0	
		.0	2.2	1.9	1.6	.0	.0	.0	.0	.0	
10%	2	0	227	132	32	11	2	6	1	0	411
		.0	16.7	9.7	2.3	.8	.1	.4	.1	.0	30.2
		.0	55.2	32.1	7.8	2.7	.5	1.5	.2	.0	
		.0	30.9	31.0	25.6	21.2	18.2	75.0	16.7	.0	
20%	3	0	164	97	35	18	4	2	1	1	322
		.0	12.0	7.1	2.6	1.3	.3	.1	.1	.1	23.6
		.0	50.9	30.1	10.9	5.6	1.2	.6	.3	.3	
		.0	22.3	22.8	28.0	34.6	36.4	25.0	16.7	100.0	
30%	4	0	147	96	24	5	2	0	1	0	275
		.0	10.8	7.0	1.8	.4	.1	.0	.1	.0	20.2
		.0	53.5	34.9	8.7	1.8	.7	.0	.4	.0	
		.0	20.0	22.5	19.2	9.6	18.2	.0	16.7	.0	
50%	5	0	111	67	22	13	2	0	1	0	216
		.0	8.1	4.9	1.6	1.0	.1	.0	.1	.0	15.8
		.0	51.4	31.0	10.2	6.0	.9	.0	.5	.0	
		.0	15.1	15.7	17.6	25.0	18.2	.0	16.7	.0	
75%	6	0	47	21	9	3	1	0	2	0	83
		.0	3.4	1.5	.7	.2	.1	.0	.1	.0	6.1
		.0	56.6	25.3	10.8	3.6	1.2	.0	2.4	.0	
		.0	6.4	4.9	7.2	5.8	9.1	.0	33.3	.0	
100%	7	0	7	5	0	1	0	0	0	0	13
		.0	.5	.4	.0	.1	.0	.0	.0	.0	1.0
		.0	53.8	38.5	.0	7.7	.0	.0	.0	.0	
		.0	1.0	1.2	.0	1.9	.0	.0	.0	.0	
TOTAL		0	734	426	125	52	11	8	6	1	1363
		.0	53.9	31.3	9.2	3.8	.8	.6	.4	.1	

TABLE 38

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ask scientific acquaintance. Indicate choice by priority, 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

			No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	12	4	0	0	1	0	0	0	17
		.0	.9	.3	.0	.0	.1	.0	.0	.0	1.2
		.0	70.6	23.5	.0	.0	5.9	.0	.0	.0	
		.0	1.5	1.4	.0	.0	4.8	.0	.0	.0	
0%	1	0	18	3	4	1	0	0	0	0	26
		.0	1.3	.2	.3	.1	.0	.0	.0	.0	1.9
		.0	69.2	11.5	15.4	3.8	.0	.0	.0	.0	
		.0	2.2	1.1	2.4	1.6	.0	.0	.0	.0	
10%	2	0	259	75	46	20	5	1	4	1	411
		.0	19.0	5.5	3.4	1.5	.4	.1	.3	.1	30.2
		.0	63.0	18.2	11.2	4.9	1.2	.2	1.0	.2	
		.0	31.9	27.0	27.5	31.3	23.8	16.7	66.7	11.1	
20%	3	0	190	65	45	13	2	3	1	3	322
		.0	13.9	4.8	3.3	1.0	.1	.2	.1	.2	23.6
		.0	59.0	20.2	14.0	4.0	.6	.9	.3	.9	
		.0	23.4	23.4	26.9	20.3	9.5	50.0	16.7	33.3	
30%	4	0	165	51	37	12	4	2	1	3	275
		.0	12.1	3.7	2.7	.9	.3	.1	.1	.2	20.2
		.0	60.0	18.5	13.5	4.4	1.5	.7	.4	1.1	
		.0	20.3	18.3	22.2	18.8	19.0	33.3	16.7	33.3	
50%	5	0	115	61	25	11	3	0	0	1	216
		.0	8.4	4.5	1.8	.8	.2	.0	.0	.1	15.8
		.0	53.2	28.2	11.6	5.1	1.4	.0	.0	.5	
		.0	14.2	21.9	15.0	17.2	14.3	.0	.0	11.1	
75%	6	0	47	16	8	6	5	0	0	1	83
		.0	3.4	1.2	.6	.4	.4	.0	.0	.1	6.1
		.0	56.6	19.3	9.6	7.2	6.0	.0	.0	1.2	
		.0	5.8	5.8	4.8	9.4	23.8	.0	.0	11.1	
100%	7	0	6	3	2	1	1	0	0	0	13
		.0	.4	.2	.1	.1	.1	.0	.0	.0	1.0
		.0	46.2	23.1	15.4	7.7	7.7	.0	.0	.0	
		.0	.7	1.1	1.2	1.6	4.8	.0	.0	.0	
	TOTAL	0	812	278	167	64	21	6	6	9	1363
		.0	59.6	20.4	12.3	4.7	1.5	.4	.4	.7	

TABLE 39

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Articles in legal literature. Indicate choice by priority 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

			No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	17	0	0	0	0	0	0	0	17
		.0	1.2	.0	.0	.0	.0	.0	.0	.0	1.2
		.0	100.0	.0	.0	.0	.0	.0	.0	.0	
		.0	1.6	.0	.0	.0	.0	.0	.0	.0	
0%	1	0	20	3	0	3	0	0	0	0	26
		.0	1.5	.2	.0	.2	.0	.0	.0	.0	1.9
		.0	76.9	11.5	.0	11.5	.0	.0	.0	.0	
		.0	1.9	3.9	.0	3.3	.0	.0	.0	.0	
10%	2	0	339	13	21	17	15	1	5	0	411
		.0	24.9	1.0	1.5	1.2	1.1	.1	.4	.0	30.2
		.0	82.5	3.2	5.1	4.1	3.6	.2	1.2	.0	
		.0	32.3	17.1	33.9	18.9	30.6	4.5	38.5	.0	
20%	3	0	227	24	18	28	13	8	3	1	322
		.0	16.7	1.8	1.3	2.1	1.0	.6	.2	.1	23.6
		.0	70.5	7.5	5.6	8.7	4.0	2.5	.9	.3	
		.0	21.6	31.6	29.0	31.1	26.5	36.4	23.1	50.0	
30%	4	0	215	12	8	23	10	5	2	0	275
		.0	15.8	.9	.6	1.7	.7	.4	.1	.0	20.2
		.0	78.2	4.4	2.9	8.4	3.6	1.8	.7	.0	
		.0	20.5	15.8	12.9	25.6	20.4	22.7	15.4	.0	
50%	5	0	160	18	9	13	7	5	3	1	216
		.0	11.7	1.3	.7	1.0	.5	.4	.2	.1	15.8
		.0	74.1	8.3	4.2	6.0	3.2	2.3	1.4	.5	
		.0	15.3	23.7	14.5	14.4	14.3	22.7	23.1	50.0	
75%	6	0	63	3	6	6	3	2	0	0	83
		.0	4.6	.2	.4	.4	.2	.1	.0	.0	6.1
		.0	75.9	3.6	7.2	7.2	3.6	2.4	.0	.0	
		.0	6.0	3.9	9.7	6.7	6.1	9.1	.0	.0	
100%	7	0	8	3	0	0	1	1	0	0	13
		.0	.6	.2	.0	.0	.1	.1	.0	.0	1.0
		.0	61.5	23.1	.0	.0	7.7	7.7	.0	.0	
		.0	.8	3.9	.0	.0	2.0	4.5	.0	.0	
	TOTAL	0	1049	76	62	90	49	22	13	2	1363
		.0	77.0	5.6	4.5	6.6	3.6	1.6	1.0	.1	

TABLE 40

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Articles in scientific literature. Indicate choice of priority 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

			No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	14	0	1	2	0	0	0	0	17
		.0	1.0	.0	.1	.1	.0	.0	.0	.0	1.2
		.0	82.4	.0	5.9	11.8	.0	.0	.0	.0	
		.0	1.3	.0	2.7	4.0	.0	.0	.0	.0	
0%	1	0	22	1	0	1	2	0	0	0	26
		.0	1.6	.1	.0	.1	.1	.0	.0	.0	1.9
		.0	84.6	3.8	.0	3.8	7.7	.0	.0	.0	
		.0	2.0	1.9	.0	2.0	6.1	.0	.0	.0	
10%	2	0	356	7	8	12	5	11	4	8	411
		.0	26.1	.5	.6	.9	.4	.8	.3	.6	30.2
		.0	86.6	1.7	1.9	2.9	1.2	2.7	1.0	1.9	
		.0	32.2	13.5	21.6	24.0	15.2	26.8	14.3	44.4	
20%	3	0	244	18	10	12	11	9	13	5	322
		.0	17.9	1.3	.7	.9	.8	.7	1.0	.4	23.6
		.0	75.8	5.6	3.1	3.7	3.4	2.8	4.0	1.6	
		.0	22.1	34.6	27.0	24.0	33.3	22.0	46.4	27.8	
30%	4	0	225	6	8	8	10	10	4	4	275
		.0	16.5	.4	.6	.6	.7	.7	.3	.3	20.2
		.0	81.8	2.2	2.9	2.9	3.6	3.6	1.5	1.5	
		.0	20.4	11.5	21.6	16.0	30.3	24.4	14.3	22.2	
50%	5	0	173	14	7	6	3	9	3	1	216
		.0	12.7	1.0	.5	.4	.2	.7	.2	.1	15.8
		.0	80.1	6.5	3.2	2.8	1.4	4.2	1.4	.5	
		.0	15.7	26.9	18.9	12.0	9.1	22.0	10.7	5.6	
75%	6	0	63	3	3	7	2	2	3	0	83
		.0	4.6	.2	.2	.5	.1	.1	.2	.0	6.1
		.0	75.9	3.6	3.6	8.4	2.4	2.4	3.6	.0	
		.0	5.7	5.8	8.1	14.0	6.1	4.9	10.7	.0	
100%	7	0	7	3	0	2	0	0	1	0	13
		.0	.5	.2	.0	.1	.0	.0	.1	.0	1.0
		.0	53.8	23.1	.0	15.4	.0	.0	7.7	.0	
		.0	.6	5.8	.0	4.0	.0	.0	3.6	.0	
	TOTAL	0	1104	52	37	50	33	41	28	18	1363
		.0	81.0	3.8	2.7	3.7	2.4	3.0	2.1	1.3	

TABLE 41

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Contact scientific societies. Indicate choice of priority 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	14	1	1	0	1	0	0	0	17
		.0	1.0	.1	.1	.0	.1	.0	.0	.0	1.2
		.0	82.4	5.9	5.9	.0	5.9	.0	.0	.0	
		.0	1.4	.8	1.4	.0	4.0	.0	.0	.0	
0%	1	0	17	6	1	0	0	2	0	0	26
		.0	1.2	.4	.1	.0	.0	.1	.0	.0	1.9
		.0	65.4	23.1	3.8	.0	.0	7.7	.0	.0	
		.0	1.7	4.7	1.4	.0	.0	6.5	.0	.0	
10%	2	0	305	36	22	27	5	10	5	1	411
		.0	22.4	2.6	1.6	2.0	.4	.7	.4	.1	30.2
		.0	74.2	8.8	5.4	6.6	1.2	2.4	1.2	.2	
		.0	31.0	28.3	30.6	28.7	20.0	32.3	18.5	25.0	
20%	3	0	232	26	16	22	9	6	9	2	322
		.0	17.0	1.9	1.2	1.6	.7	.4	.7	.1	23.6
		.0	72.0	8.1	5.0	6.8	2.8	1.9	2.8	.6	
		.0	23.6	20.5	22.2	23.4	36.0	19.4	33.3	50.0	
30%	4	0	192	30	14	21	5	6	6	1	275
		.0	14.1	2.2	1.0	1.5	.4	.4	.4	.1	20.2
		.0	69.8	10.9	5.1	7.6	1.8	2.2	2.2	.4	
		.0	19.5	23.6	19.4	22.3	20.0	19.4	22.2	25.0	
50%	5	0	163	17	9	15	4	3	5	0	216
		.0	12.0	1.2	.7	1.1	.3	.2	.4	.0	15.8
		.0	75.5	7.9	4.2	6.9	1.9	1.4	2.3	.0	
		.0	16.6	13.4	12.5	16.0	16.0	9.7	18.5	.0	
75%	6	0	52	9	7	9	1	3	2	0	83
		.0	3.8	.7	.5	.7	.1	.2	.1	.0	6.1
		.0	62.7	10.8	8.4	10.8	1.2	3.6	2.4	.0	
		.0	5.3	7.1	9.7	9.6	4.0	9.7	7.4	.0	
100%	7	0	8	2	2	0	0	1	0	0	13
		.0	.6	.1	.1	.0	.0	.1	.0	.0	1.0
		.0	61.5	15.4	15.4	.0	.0	7.7	.0	.0	
		.0	.8	1.6	2.8	.0	.0	3.2	.0	.0	
TOTAL		0	983	127	72	94	25	31	27	4	1363
		.0	72.1	9.3	5.3	6.9	1.8	2.3	2.0	.3	

TABLE 42

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Address lists of scientific societies. Indicate choice of priorities 1, 2, 3, etc.

Responders' Criminal Cases - Percentage in which scientific evidence was used.

		No Response	1st	2nd	3rd	4th	5th	6th	7th	
No Response	0	0	15	0	1	0	0	1	0	0	17
		.0	1.1	.0	.1	.0	.0	.1	.0	.0	1.2
		.0	88.2	.0	5.9	.0	.0	5.9	.0	.0	
		.0	1.4	.0	3.4	.0	.0	3.4	.0	.0	
0%	1	0	22	2	0	1	0	0	1	0	26
		.0	1.6	.1	.0	.1	.0	.0	.1	.0	1.9
		.0	84.6	7.7	.0	3.8	.0	.0	3.8	.0	
		.0	2.0	2.8	.0	2.0	.0	.0	2.9	.0	
10%	2	0	343	20	7	14	7	7	9	4	411
		.0	25.2	1.5	.5	1.0	.5	.5	.7	.3	30.2
		.0	83.5	4.9	1.7	3.4	1.7	1.7	2.2	1.0	
		.0	31.6	27.8	24.1	27.5	21.9	24.1	25.7	13.8	
20%	3	0	249	16	6	14	9	10	8	10	322
		.0	18.3	1.2	.4	1.0	.7	.7	.6	.7	23.6
		.0	77.3	5.0	1.9	4.3	2.8	3.1	2.5	3.1	
		.0	22.9	22.2	20.7	27.5	28.1	34.5	22.9	34.5	
30%	4	0	215	15	8	12	6	6	7	6	275
		.0	15.8	1.1	.6	.9	.4	.4	.5	.4	20.2
		.0	78.2	5.5	2.9	4.4	2.2	2.2	2.5	2.2	
		.0	19.8	20.8	27.6	23.5	18.8	20.7	20.0	20.7	
50%	5	0	173	10	4	7	7	4	7	4	216
		.0	12.7	.7	.3	.5	.5	.3	.5	.3	15.8
		.0	80.1	4.6	1.9	3.2	3.2	1.9	3.2	1.9	
		.0	15.9	13.9	13.8	13.7	21.9	13.8	20.0	13.8	
75%	6	0	59	8	2	3	3	1	3	4	83
		.0	4.3	.6	.1	.2	.2	.1	.2	.3	6.1
		.0	71.1	9.6	2.4	3.6	3.6	1.2	3.6	4.8	
		.0	5.4	11.1	6.9	5.9	9.4	3.4	8.6	13.8	
100%	7	0	10	1	1	0	0	0	0	1	13
		.0	.7	.1	.1	.0	.0	.0	.0	.1	1.0
		.0	76.9	7.7	7.7	.0	.0	.0	.0	7.7	
		.0	.9	1.4	3.4	.0	.0	.0	.0	3.4	
	TOTAL	0	1086	72	29	51	32	29	35	29	1363
		.0	79.7	5.3	2.1	3.7	2.3	2.1	2.6	2.1	

TABLE 43

Ques. 1. I have been involved in criminal cases:

		No Response	1-10 yrs.	11-20 yrs.	21-30 yrs.	over 30 yrs.				
No Response	0	0	2	9	11	5	6	0	0	0	33
		.0	.1	.7	.8	.4	.4	.0	.0	.0	2.4
		.0	6.1	27.3	33.3	15.2	18.2	.0	.0	.0	
		.0	3.4	1.6	2.6	2.1	6.8	.0	.0	.0	
Judges	1	0	35	184	217	148	55	0	0	0	639
		.0	2.6	13.5	15.9	10.9	4.0	.0	.0	.0	46.9
		.0	5.5	28.8	34.0	23.2	8.6	.0	.0	.0	
		.0	60.3	32.7	52.2	62.2	62.5	.0	.0	.0	
Lawyers	2	0	21	370	188	85	27	0	0	0	691
		.0	1.5	27.1	13.8	6.2	2.0	.0	.0	.0	50.7
		.0	3.0	53.5	27.2	12.3	3.9	.0	.0	.0	
		.0	36.2	65.7	45.2	35.7	30.7	.0	.0	.0	
TOTAL		0	58	563	416	238	88	0	0	0	1363
		.0	4.3	41.3	30.5	17.5	6.5	.0	.0	.0	

TABLE 44

Ques. 2. Percentage of responders' criminal cases using scientific evidence:

			No Response	0%	10%	20%	30%	50%	75%	100%	
No Response	0	0	1	0	11	7	8	4	0	2	33
		.0	.1	.0	.8	.5	.6	.3	.0	.1	2.4
		.0	3.0	.0	33.3	21.2	24.2	12.1	.0	6.1	
		.0	5.9	.0	2.7	2.2	2.9	1.9	.0	15.4	
Judges	1	0	11	15	218	164	112	84	33	2	639
		.0	.8	1.1	16.0	12.0	8.2	6.2	2.4	.1	46.9
		.0	1.7	2.3	34.1	25.7	17.5	13.1	5.2	.3	
		.0	64.7	57.7	53.0	50.9	40.7	38.9	39.8	15.4	
Lawyers	2	0	5	11	182	151	155	128	50	9	691
		.0	.4	.8	13.4	11.1	11.4	9.4	3.7	.7	50.7
		.0	.7	1.6	26.3	21.9	22.4	18.5	7.2	1.3	
		.0	29.4	42.3	44.3	46.9	56.4	59.3	60.2	69.2	
	TOTAL	0	17	26	411	322	275	216	83	13	1363
		.0	1.2	1.9	30.2	23.6	20.2	15.8	6.1	1.0	

TABLE 45

Ques. 3. In your criminal cases in which no scientific evidence was used, in what percentage could it have been used:

		No Response	0%	10%	20%	30%	50%	75%	100%	
No Response	0	0	2	9	5	5	7	3	0	33
		.0	.1	.7	.4	.4	.5	.2	.0	2.4
		.0	6.1	27.3	15.2	15.2	21.2	9.1	.0	
		.0	2.4	2.5	1.8	2.5	3.1	3.6	.0	
Judges	1	0	45	176	128	94	103	42	6	639
		.0	3.3	12.9	9.4	6.9	7.6	3.1	.4	46.9
		.0	7.0	27.5	20.0	14.7	16.1	6.6	.9	
		.0	54.9	49.2	44.9	46.5	45.0	50.6	30.0	
Lawyers	2	0	35	173	152	103	119	38	14	691
		.0	2.6	12.7	11.2	7.6	8.7	2.8	1.0	50.7
		.0	5.1	25.0	22.0	14.9	17.2	5.5	2.0	
		.0	42.7	48.3	53.3	51.0	52.0	45.8	70.0	
TOTAL		0	82	358	285	202	229	83	20	1363
		.0	6.0	26.3	20.9	14.8	16.8	6.1	1.5	

TABLE 46

Ques. 4. Why was expert scientific evidence not used? Qualified expert witness not available:

		No Response	No	Yes						
No response	0	0	24	9	0	0	0	0	0	33
		.0	1.8	.7	.0	.0	.0	.0	.0	2.4
		.0	72.7	27.3	.0	.0	.0	.0	.0	
		.0	2.6	2.0	.0	.0	.0	.0	.0	
Judges	1	0	438	200	0	0	0	0	1	639
		.0	32.1	14.7	.0	.0	.0	.0	.1	46.9
		.0	68.5	31.3	.0	.0	.0	.0	.2	
		.0	48.2	44.2	.0	.0	.0	.0	100.0	
Lawyers	2	0	447	243	1	0	0	0	0	691
		.0	32.8	17.8	.1	.0	.0	.0	.0	50.7
		.0	64.7	35.2	.1	.0	.0	.0	.0	
		.0	49.2	53.8	100.0	.0	.0	.0	.0	
	TOTAL	0	909	452	1	0	0	0	1	1363
		.0	66.7	33.2	.1	.0	.0	.0	.1	

TABLE 47

Ques. 4. Why was expert scientific evidence not used?
Scientific evidence damaging to case:

		No Response	No	Yes						
No Response	0	0	30	3	0	0	0	0	0	33
		.0	2.2	.2	.0	.0	.0	.0	.0	2.4
		.0	90.9	9.1	.0	.0	.0	.0	.0	
		.0	2.5	1.8	.0	.0	.0	.0	.0	
Judges	1	0	591	48	0	0	0	0	0	639
		.0	43.4	3.5	.0	.0	.0	.0	.0	46.9
		.0	92.5	7.5	.0	.0	.0	.0	.0	
		.0	49.4	29.1	.0	.0	.0	.0	.0	
Lawyers	2	0	576	114	0	0	1	0	0	691
		.0	42.3	8.4	.0	.0	.1	.0	.0	50.7
		.0	83.4	16.5	.0	.0	.1	.0	.0	
		.0	48.1	69.1	.0	.0	100.0	.0	.0	
TOTAL		0	1197	165	0	0	1	0	0	1363
		.0	87.8	12.1	.0	.0	.1	.0	.0	

TABLE 48

Ques. 4. Why was expert scientific evidence not used? Lack of funds to obtain expert witness:

		No Response	No	Yes						
No Response	0	0	0	24	9	0	0	0	0	0	33
		.0	.0	1.8	.7	.0	.0	.0	.0	.0	2.4
		.0	.0	72.7	27.3	.0	.0	.0	.0	.0	
		.0	.0	2.9	1.7	.0	.0	.0	.0	.0	
Judges	1	0	0	437	202	0	0	0	0	0	639
		.0	.0	32.1	14.8	.0	.0	.0	.0	.0	46.9
		.0	.0	68.4	31.6	.0	.0	.0	.0	.0	
		.0	.0	53.3	37.3	.0	.0	.0	.0	.0	
Lawyers	2	0	0	359	330	2	0	0	0	0	691
		.0	.0	26.3	24.2	.1	.0	.0	.0	.0	50.7
		.0	.0	52.0	47.8	.3	.0	.0	.0	.0	
		.0	.0	43.8	61.0	100.0	.0	.0	.0	.0	
TOTAL		0	0	820	541	2	0	0	0	0	1363
		.0	.0	60.2	39.7	.1	.0	.0	.0	.0	

TABLE 49

Ques. 4. Why was expert scientific evidence not used? Lack of scientific facilities available to make test:

		No Response	No	Yes						
No Response	0	0	22	11	0	0	0	0	0	33
		.0	1.6	.8	.0	.0	.0	.0	.0	2.4
		.0	66.7	33.3	.0	.0	.0	.0	.0	
		.0	2.4	2.4	.0	.0	.0	.0	.0	
Judges	1	0	443	196	0	0	0	0	0	639
		.0	32.5	14.4	.0	.0	.0	.0	.0	46.9
		.0	69.3	30.7	.0	.0	.0	.0	.0	
		.0	49.1	42.8	.0	.0	.0	.0	.0	
Lawyers	2	0	438	251	1	1	0	0	0	691
		.0	32.1	18.4	.1	.1	.0	.0	.0	50.7
		.0	63.4	36.3	.1	.1	.0	.0	.0	
		.0	48.5	54.8	100.0	100.0	.0	.0	.0	
TOTAL		0	903	458	1	1	0	0	0	1363
		.0	66.3	33.6	.1	.1	.0	.0	.0	

TABLE 50

Ques. 4. Why was expert scientific evidence not used? Lack of knowledge where to locate expert:

		No Response	No	Yes						
No Response	0	0	30	3	0	0	0	0	0	33
		.0	.0	2.2	.2	.0	.0	.0	.0	.0	2.4
		.0	.0	90.9	9.1	.0	.0	.0	.0	.0	
		.0	.0	2.7	1.2	.0	.0	.0	.0	.0	
Judges	1	0	0	539	100	0	0	0	0	0	639
		.0	.0	39.5	7.3	.0	.0	.0	.0	.0	46.9
		.0	.0	84.4	15.6	.0	.0	.0	.0	.0	
		.0	.0	48.3	40.8	.0	.0	.0	.0	.0	
Lawyers	2	0	0	548	142	0	1	0	0	0	691
		.0	.0	40.2	10.4	.0	.1	.0	.0	.0	50.7
		.0	.0	79.3	20.5	.0	.1	.0	.0	.0	
		.0	.0	49.1	58.0	.0	100.0	.0	.0	.0	
	TOTAL	0	0	1117	245	0	1	0	0	0	1363
		.0	.0	82.0	18.0	.0	.1	.0	.0	.0	

TABLE 51

Ques. 4. Why was expert scientific evidence not used?
Inability to determine qualifications of expert:

		No Response	No	Yes						
No Response	0	0	0	31	2	0	0	0	0	0	33
		.0	.0	2.3	.1	.0	.0	.0	.0	.0	2.4
		.0	.0	93.9	6.1	.0	.0	.0	.0	.0	
		.0	.0	2.4	2.9	.0	.0	.0	.0	.0	
Judges	1	0	0	608	31	0	0	0	0	0	639
		.0	.0	44.6	2.3	.0	.0	.0	.0	.0	46.9
		.0	.0	95.1	4.9	.0	.0	.0	.0	.0	
		.0	.0	47.1	44.3	.0	.0	.0	.0	.0	
Lawyers	2	0	0	653	37	0	1	0	0	0	691
		.0	.0	47.9	2.7	.0	.1	.0	.0	.0	50.7
		.0	.0	94.5	5.4	.0	.1	.0	.0	.0	
		.0	.0	50.5	52.9	.0	100.0	.0	.0	.0	
TOTAL		0	0	1292	70	0	1	0	0	0	1363
		.0	.0	94.8	5.1	.0	.1	.0	.0	.0	

TABLE 52

Ques. 4. Why was expert scientific evidence not used? Lack of time to obtain expert:

		No Response	No	Yes						
No sponse	0	0	29	4	0	0	0	0	0	33
		.0	2.1	.3	.0	.0	.0	.0	.0	2.4
		.0	87.9	12.1	.0	.0	.0	.0	.0	
		.0	2.5	2.1	.0	.0	.0	.0	.0	
udges	1	0	561	78	0	0	0	0	0	639
		.0	41.2	5.7	.0	.0	.0	.0	.0	46.9
		.0	87.8	12.2	.0	.0	.0	.0	.0	
		.0	47.9	41.1	.0	.0	.0	.0	.0	
ers	2	0	582	108	0	0	0	1	0	691
		.0	42.7	7.9	.0	.0	.0	.1	.0	50.7
		.0	84.2	15.6	.0	.0	.0	.1	.0	
		.0	49.7	56.8	.0	.0	.0	100.0	.0	
	TOTAL	0	1172	190	0	0	0	1	0	1363
		.0	86.0	13.9	.0	.0	.0	.1	.0	

TABLE 53

Ques. 4. Why was expert scientific evidence not used?
Experts fail to show up at trial:

		No Response	No	Yes						
No Response	0	0	30	3	0	0	0	0	0	33
		.0	2.2	.2	.0	.0	.0	.0	.0	2.4
		.0	90.9	9.1	.0	.0	.0	.0	.0	
		.0	2.3	4.8	.0	.0	.0	.0	.0	
Judges	1	0	601	38	0	0	0	0	0	639
		.0	44.1	2.8	.0	.0	.0	.0	.0	46.9
		.0	94.1	5.9	.0	.0	.0	.0	.0	
		.0	46.2	61.3	.0	.0	.0	.0	.0	
Lawyers	2	0	670	21	0	0	0	0	0	691
		.0	49.2	1.5	.0	.0	.0	.0	.0	50.7
		.0	97.0	3.0	.0	.0	.0	.0	.0	
		.0	51.5	33.9	.0	.0	.0	.0	.0	
TOTAL		0	1301	62	0	0	0	0	0	1363
		.0	95.5	4.5	.0	.0	.0	.0	.0	

TABLE 54

Ques. 5. Would you like to use more scientific evidence in criminal cases?

		No Response	No	Yes						
No Response	0	0	3	5	25	0	0	0	0	0	33
		.0	.2	.4	1.8	.0	.0	.0	.0	.0	2.4
		.0	9.1	15.2	75.8	.0	.0	.0	.0	.0	
		.0	3.3	5.0	2.1	.0	.0	.0	.0	.0	
Judges	1	0	71	57	511	0	0	0	0	0	639
		.0	5.2	4.2	37.5	.0	.0	.0	.0	.0	46.9
		.0	11.1	8.9	80.0	.0	.0	.0	.0	.0	
		.0	78.0	57.0	43.6	.0	.0	.0	.0	.0	
Lawyers	2	0	17	38	636	0	0	0	0	0	691
		.0	1.2	2.8	46.7	.0	.0	.0	.0	.0	50.7
		.0	2.5	5.5	92.0	.0	.0	.0	.0	.0	
		.0	18.7	38.0	54.3	.0	.0	.0	.0	.0	
TOTAL		0	91	100	1172	0	0	0	0	0	1363
		.0	6.7	7.3	86.0	.0	.0	.0	.0	.0	

TABLE 55

Ques. 6. Does scientific evidence have more credibility than lay witness testimony?

		No Response	No	Yes						
No Response	0	0	5	7	21	0	0	0	0	0	33
		.0	.4	.5	1.5	.0	.0	.0	.0	.0	2.4
		.0	15.2	21.2	63.6	.0	.0	.0	.0	.0	
		.0	4.1	3.7	2.0	.0	.0	.0	.0	.0	
Judges	1	0	55	110	474	0	0	0	0	0	639
		.0	4.0	8.1	34.8	.0	.0	.0	.0	.0	46.9
		.0	8.6	17.2	74.2	.0	.0	.0	.0	.0	
		.0	45.5	58.5	45.0	.0	.0	.0	.0	.0	
Lawyers	2	0	61	71	559	0	0	0	0	0	691
		.0	4.5	5.2	41.0	.0	.0	.0	.0	.0	50.7
		.0	8.8	10.3	80.9	.0	.0	.0	.0	.0	
		.0	50.4	37.8	53.0	.0	.0	.0	.0	.0	
	TOTAL	0	121	188	1054	0	0	0	0	0	1363
		.0	8.9	13.8	77.3	.0	.0	.0	.0	.0	

TABLE 56

Ques. 7. Is scientific evidence given more credibility than other evidence by decision-maker, judge?

		No Response	No	Yes						
No Response	0	0	6	7	20	0	0	0	0	0	33
		.0	.4	.5	1.5	.0	.0	.0	.0	.0	2.4
		.0	18.2	21.2	60.6	.0	.0	.0	.0	.0	
		.0	6.0	2.8	2.0	.0	.0	.0	.0	.0	
Judges	1	0	42	127	470	0	0	0	0	0	639
		.0	3.1	9.3	34.5	.0	.0	.0	.0	.0	46.9
		.0	6.6	19.9	73.6	.0	.0	.0	.0	.0	
		.0	42.0	51.4	46.3	.0	.0	.0	.0	.0	
Lawyers	2	0	52	113	526	0	0	0	0	0	691
		.0	3.8	8.3	38.6	.0	.0	.0	.0	.0	50.7
		.0	7.5	16.4	76.1	.0	.0	.0	.0	.0	
		.0	52.0	45.7	51.8	.0	.0	.0	.0	.0	
TOTAL		0	100	247	1016	0	0	0	0	0	1363
		.0	7.3	18.1	74.5	.0	.0	.0	.0	.0	

TABLE 57

Ques. 7. Is scientific evidence given more credibility than other evidence by decision-maker: juror?

		No Response	No	Yes						
No Response	0	0	8	10	15	0	0	0	0	0	33
		.0	.6	.7	1.1	.0	.0	.0	.0	.0	2.4
		.0	24.2	30.3	45.5	.0	.0	.0	.0	.0	
		.0	4.3	4.5	1.6	.0	.0	.0	.0	.0	
Judges	1	0	106	123	410	0	0	0	0	0	639
		.0	7.8	9.0	30.1	.0	.0	.0	.0	.0	46.9
		.0	16.6	19.2	64.2	.0	.0	.0	.0	.0	
		.0	57.6	55.7	42.8	.0	.0	.0	.0	.0	
Lawyers	2	0	70	88	533	0	0	0	0	0	691
		.0	5.1	6.5	39.1	.0	.0	.0	.0	.0	50.7
		.0	10.1	12.7	77.1	.0	.0	.0	.0	.0	
		.0	38.0	39.8	55.6	.0	.0	.0	.0	.0	
	TOTAL	0	184	221	958	0	0	0	0	0	1363
		.0	13.5	16.2	70.3	.0	.0	.0	.0	.0	

TABLE 58

Ques. 8A. Are there weaknesses in scientific witnesses' testimony due to lack of expertise in the specialized field?

		No Response	No	Yes						
No esponse	0	0	11	10	12	0	0	0	0	0	33
		.0	.8	.7	.9	.0	.0	.0	.0	.0	2.4
		.0	33.3	30.3	36.4	.0	.0	.0	.0	.0	
		.0	3.7	2.0	2.1	.0	.0	.0	.0	.0	
idges	1	0	134	223	282	0	0	0	0	0	639
		.0	9.8	16.4	20.7	.0	.0	.0	.0	.0	46.9
		.0	21.0	34.9	44.1	.0	.0	.0	.0	.0	
		.0	44.5	44.9	49.9	.0	.0	.0	.0	.0	
awyers	2	0	156	264	271	0	0	0	0	0	691
		.0	11.4	19.4	19.9	.0	.0	.0	.0	.0	50.7
		.0	22.6	38.2	39.2	.0	.0	.0	.0	.0	
		.0	51.8	53.1	48.0	.0	.0	.0	.0	.0	
TOTAL		0	301	497	565	0	0	0	0	0	1363
		.0	22.1	36.5	41.5	.0	.0	.0	.0	.0	

TABLE 59

Ques. 8B. Are there weaknesses in scientific witnesses' testimony due to lack of understanding of court process?

		No Response	No	Yes						
No Response	0	0	8	10	15	0	0	0	0	0	33
		.0	.6	.7	1.1	.0	.0	.0	.0	.0	2.4
		.0	24.2	30.3	45.5	.0	.0	.0	.0	.0	
		.0	2.8	2.5	2.2	.0	.0	.0	.0	.0	
Judges	1	0	127	186	326	0	0	0	0	0	639
		.0	9.3	13.6	23.9	.0	.0	.0	.0	.0	46.9
		.0	19.9	29.1	51.0	.0	.0	.0	.0	.0	
		.0	44.3	46.0	48.5	.0	.0	.0	.0	.0	
Lawyers	2	0	152	208	331	0	0	0	0	0	691
		.0	11.2	15.3	24.3	.0	.0	.0	.0	.0	50.7
		.0	22.0	30.1	47.9	.0	.0	.0	.0	.0	
		.0	53.0	51.5	49.3	.0	.0	.0	.0	.0	
	TOTAL	0	287	404	672	0	0	0	0	0	1363
		.0	21.1	29.6	49.3	.0	.0	.0	.0	.0	

TABLE 60

Ques. 8C. Are there weaknesses in scientific witnesses' testimony due to insufficient preparation for court appearance?

		No Response	No	Yes						
No Response	0	0	10	9	14	0	0	0	0	0	33
		.0	.7	.7	1.0	.0	.0	.0	.0	.0	2.4
		.0	30.3	27.3	42.4	.0	.0	.0	.0	.0	
		.0	3.4	2.2	2.1	.0	.0	.0	.0	.0	
Judges	1	0	135	172	332	0	0	0	0	0	639
		.0	9.9	12.6	24.4	.0	.0	.0	.0	.0	46.9
		.0	21.1	26.9	52.0	.0	.0	.0	.0	.0	
		.0	46.6	42.9	49.4	.0	.0	.0	.0	.0	
Lawyers	2	0	145	220	326	0	0	0	0	0	691
		.0	10.6	16.1	23.9	.0	.0	.0	.0	.0	50.7
		.0	21.0	31.8	47.2	.0	.0	.0	.0	.0	
		.0	50.0	54.9	48.5	.0	.0	.0	.0	.0	
	TOTAL	0	290	401	672	0	0	0	0	0	1363
		.0	21.3	29.4	49.3	.0	.0	.0	.0	.0	

TABLE 61

Ques. 9. Is the competence of prosecution scientific witness: better, worse, the same as defense scientific witnesses?

		No Response	Worse	Same	Better					
No Response	0	0	13	5	15	0	0	0	0	33
	.0	.0	1.0	.4	1.1	.0	.0	.0	.0	2.4
	.0	.0	39.4	15.2	45.5	.0	.0	.0	.0	
	.0	.0	2.4	3.5	2.5	.0	.0	.0	.0	
Judges 1	0	42	228	53	316	0	0	0	0	639
	.0	3.1	16.7	3.9	23.2	.0	.0	.0	.0	46.9
	.0	6.6	35.7	8.3	49.5	.0	.0	.0	.0	
	.0	46.2	42.4	37.3	53.5	.0	.0	.0	.0	
Lawyers 2	0	49	297	84	260	0	0	0	1	691
	.0	3.6	21.8	6.2	19.1	.0	.0	.0	.1	50.7
	.0	7.1	43.0	12.2	37.6	.0	.0	.0	.1	
	.0	53.8	55.2	59.2	44.0	.0	.0	.0	100.0	
TOTAL	0	91	538	142	591	0	0	0	1	1363
	.0	6.7	39.5	10.4	43.4	.0	.0	.0	.1	

TABLE 62

Ques. 10A. In handling criminal cases are you influenced by data in the behavioral sciences (psychology, sociology)?

		No Response	No	Yes						
No Response	0	0	2	9	22	0	0	0	0	0	33
		.0	.1	.7	1.6	.0	.0	.0	.0	.0	2.4
		.0	6.1	27.3	66.7	.0	.0	.0	.0	.0	
		.0	3.1	2.6	2.3	.0	.0	.0	.0	.0	
Judges	1	0	46	124	469	0	0	0	0	0	639
		.0	3.4	9.1	34.4	.0	.0	.0	.0	.0	46.9
		.0	7.2	19.4	73.4	.0	.0	.0	.0	.0	
		.0	70.8	35.5	49.4	.0	.0	.0	.0	.0	
Lawyers	2	0	17	216	458	0	0	0	0	0	691
		.0	1.2	15.8	33.6	.0	.0	.0	.0	.0	50.7
		.0	2.5	31.3	66.3	.0	.0	.0	.0	.0	
		.0	26.2	61.9	48.3	.0	.0	.0	.0	.0	
TOTAL		0	65	349	949	0	0	0	0	0	1363
		.0	4.8	25.6	69.6	.0	.0	.0	.0	.0	

TABLE 63

Ques. 10B. When did you last study behavioral science data?

		No Response	3 mts.	6 mts.	1 yr.	over yr.	ago				
No Response	0	0	1	7	6	3	16	0	0	0	33
		.0	.1	.5	.4	.2	1.2	.0	.0	.0	2.4
		.0	3.0	21.2	18.2	9.1	48.5	.0	.0	.0	
		.0	1.5	1.2	4.6	2.4	3.7	.0	.0	.0	
Judges	1	0	41	318	55	66	159	0	0	0	639
		.0	3.0	23.3	4.0	4.8	11.7	.0	.0	.0	46.9
		.0	6.4	49.8	8.6	10.3	24.9	.0	.0	.0	
		.0	62.1	52.6	42.0	52.4	36.5	.0	.0	.0	
Lawyers	2	0	24	279	70	57	261	0	0	0	691
		.0	1.8	20.5	5.1	4.2	19.1	.0	.0	.0	50.7
		.0	3.5	40.4	10.1	8.2	37.8	.0	.0	.0	
		.0	36.4	46.2	53.4	45.2	59.9	.0	.0	.0	
	TOTAL	0	66	604	131	126	436	0	0	0	1363
		.0	4.8	44.3	9.6	9.2	32.0	.0	.0	.0	

TABLE 64

Ques. 10C. Can behavioral science data contribute to improve criminal justice?

		No Response	No	Yes						
No Response	0	0	3	8	22	0	0	0	0	0	33
		.0	.2	.6	1.6	.0	.0	.0	.0	.0	2.4
		.0	9.1	24.2	66.7	.0	.0	.0	.0	.0	
		.0	2.7	5.7	2.0	.0	.0	.0	.0	.0	
Judges	1	0	54	43	541	1	0	0	0	0	639
		.0	4.0	3.2	39.7	.1	.0	.0	.0	.0	46.9
		.0	8.5	6.7	84.7	.2	.0	.0	.0	.0	
		.0	48.2	30.5	48.8	100.0	.0	.0	.0	.0	
Lawyers	2	0	55	90	546	0	0	0	0	0	691
		.0	4.0	6.6	40.1	.0	.0	.0	.0	.0	50.7
		.0	8.0	13.0	79.0	.0	.0	.0	.0	.0	
		.0	49.1	63.8	49.2	.0	.0	.0	.0	.0	
TOTAL		0	112	141	1109	1	0	0	0	0	1363
		.0	8.2	10.3	81.4	.1	.0	.0	.0	.0	

TABLE 65

Ques. 11A. In what percentage of your criminal cases are reports of psychiatrists or psychologists used?

		No Response	10%	20%	30%	50%	75%	100%		
No Response	0	0	18	11	2	2	0	0	0	33
		.0	1.3	.8	.1	.1	.0	.0	.0	2.4
		.0	54.5	33.3	6.1	6.1	.0	.0	.0	
		.0	2.4	3.4	1.3	3.4	.0	.0	.0	
Judges	1	0	377	135	68	26	20	1	0	639
		.0	27.7	9.9	5.0	1.9	1.5	.1	.0	46.9
		.0	59.0	21.1	10.6	4.1	3.1	.2	.0	
		.0	49.4	41.7	44.4	44.1	58.8	20.0	.0	
Lawyers	2	0	368	178	83	31	14	4	0	691
		.0	27.0	13.1	6.1	2.3	1.0	.3	.0	50.7
		.0	53.3	25.8	12.0	4.5	2.0	.6	.0	
		.0	48.2	54.9	54.2	52.5	41.2	80.0	.0	
TOTAL		0	763	324	153	59	34	5	0	1363
		.0	56.0	23.8	11.2	4.3	2.5	.4	.0	

TABLE 66

Ques. 11B. Would more use of psychiatric or psychological reports be helpful?

		No Response	No	Yes						
No Response	0	0	13	19	1	0	0	0	0	33
		.0	.0	1.0	1.4	.1	.0	.0	.0	.0	2.4
		.0	.0	39.4	57.6	3.0	.0	.0	.0	.0	
		.0	.0	3.7	2.1	100.0	.0	.0	.0	.0	
Judges	1	0	39	146	454	0	0	0	0	0	639
		.0	2.9	10.7	33.3	.0	.0	.0	.0	.0	46.9
		.0	6.1	22.8	71.0	.0	.0	.0	.0	.0	
		.0	39.8	41.2	49.9	.0	.0	.0	.0	.0	
Lawyers	2	0	59	195	437	0	0	0	0	0	691
		.0	4.3	14.3	32.1	.0	.0	.0	.0	.0	50.7
		.0	8.5	28.2	63.2	.0	.0	.0	.0	.0	
		.0	60.2	55.1	48.0	.0	.0	.0	.0	.0	
	TOTAL	0	98	354	910	1	0	0	0	0	1363
		.0	7.2	26.0	66.8	.1	.0	.0	.0	.0	

TABLE 67

Ques. 11C. More use of psychiatric or psychological reports is not made because they are unavailable:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	15	11	4	2	0	0	1	0	33
		.0	1.1	.8	.3	.1	.0	.0	.1	.0	2.4
		.0	45.5	33.3	12.1	6.1	.0	.0	3.0	.0	
		.0	2.3	2.4	3.0	4.2	.0	.0	4.8	.0	
Judges	1	0	272	261	59	22	11	7	7	0	639
		.0	20.0	19.1	4.3	1.6	.8	.5	.5	.0	46.9
		.0	42.6	40.8	9.2	3.4	1.7	1.1	1.1	.0	
		.0	41.3	57.0	44.4	45.8	45.8	35.0	33.3	.0	
Lawyers	2	0	372	186	70	24	13	13	13	0	691
		.0	27.3	13.6	5.1	1.8	1.0	1.0	1.0	.0	50.7
		.0	53.8	26.9	10.1	3.5	1.9	1.9	1.9	.0	
		.0	56.4	40.6	52.6	50.0	54.2	65.0	61.9	.0	
TOTAL		0	659	458	133	48	24	20	21	0	1363
		.0	48.3	33.6	9.8	3.5	1.8	1.5	1.5	.0	

TABLE 68

Ques. 11C. More use of psychiatric or psychological reports is not made because they are not considered helpful:

			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	22	4	3	2	1	1	0	0	33
		.0	1.6	.3	.2	.1	.1	.1	.0	.0	2.4
		.0	66.7	12.1	9.1	6.1	3.0	3.0	.0	.0	
		.0	2.3	3.1	3.8	2.2	1.7	2.5	.0	.0	
Judges	1	0	484	50	27	35	23	19	1	0	639
		.0	35.5	3.7	2.0	2.6	1.7	1.4	.1	.0	46.9
		.0	75.7	7.8	4.2	5.5	3.6	3.0	.2	.0	
		.0	50.5	38.2	34.2	38.0	39.7	47.5	20.0	.0	
Lawyers	2	0	452	77	49	55	34	20	4	0	691
		.0	33.2	5.6	3.6	4.0	2.5	1.5	.3	.0	50.7
		.0	65.4	11.1	7.1	8.0	4.9	2.9	.6	.0	
		.0	47.2	58.8	62.0	59.8	58.6	50.0	80.0	.0	
TOTAL		0	958	131	79	92	58	40	5	0	1363
		.0	70.3	9.6	5.8	6.7	4.3	2.9	.4	.0	

TABLE 69

Ques. 11C. More use of psychiatric or psychological reports is not made because they are not considered necessary:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	21	4	3	4	0	1	0	0	33
		.0	1.5	.3	.2	.3	.0	.1	.0	.0	2.4
		.0	63.6	12.1	9.1	12.1	.0	3.0	.0	.0	
		.0	2.4	2.0	2.4	3.2	.0	7.1	.0	.0	
Judges	1	0	408	96	59	56	15	4	1	0	639
		.0	29.9	7.0	4.3	4.1	1.1	.3	.1	.0	46.9
		.0	63.8	15.0	9.2	8.8	2.3	.6	.2	.0	
		.0	47.6	48.5	46.5	44.4	41.7	28.6	25.0	.0	
Lawyers	2	0	429	98	65	66	21	9	3	0	691
		.0	31.5	7.2	4.8	4.8	1.5	.7	.2	.0	50.7
		.0	62.1	14.2	9.4	9.6	3.0	1.3	.4	.0	
		.0	50.0	49.5	51.2	52.4	58.3	64.3	75.0	.0	
TOTAL		0	858	198	127	126	36	14	4	0	1363
		.0	62.9	14.5	9.3	9.2	2.6	1.0	.3	.0	

TABLE 70

Ques. 11C. More use of psychiatric or psychological reports is not made because they are immaterial:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response 0	0	22	4	2	3	1	1	0	0	33
	.0	1.6	.3	.1	.2	.1	.1	.0	.0	2.4
	.0	66.7	12.1	6.1	9.1	3.0	3.0	.0	.0	
	.0	2.3	3.8	2.6	2.4	2.6	2.8	.0	.0	
Judges 1	0	476	48	21	58	13	18	5	0	639
	.0	34.9	3.5	1.5	4.3	1.0	1.3	.4	.0	46.9
	.0	74.5	7.5	3.3	9.1	2.0	2.8	.8	.0	
	.0	49.1	46.2	27.3	45.7	34.2	50.0	41.7	.0	
Lawyers 2	0	471	52	54	66	24	17	7	0	691
	.0	34.6	3.8	4.0	4.8	1.8	1.2	.5	.0	50.7
	.0	68.2	7.5	7.8	9.6	3.5	2.5	1.0	.0	
	.0	48.6	50.0	70.1	52.0	63.2	47.2	58.3	.0	
TOTAL	0	969	104	77	127	38	36	12	0	1363
	.0	71.1	7.6	5.6	9.3	2.8	2.6	.9	.0	

TABLE 71

Ques. 11C. More use of psychiatric or psychological reports is not made because they are not trusted:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	U	0	25	6	0	1	0	0	1	0	33
		.0	1.8	.4	.0	.1	.0	.0	.1	.0	2.4
		.0	75.8	18.2	.0	3.0	.0	.0	3.0	.0	
		.0	2.3	6.8	.0	2.5	.0	.0	1.2	.0	
Judges	J	0	528	28	9	16	10	7	41	0	639
		.0	38.7	2.1	.7	1.2	.7	.5	3.0	.0	46.9
		.0	82.6	4.4	1.4	2.5	1.6	1.1	6.4	.0	
		.0	49.4	31.8	27.3	40.0	50.0	25.0	47.7	.0	
Lawyers	L	0	515	54	24	23	10	21	44	0	691
		.0	37.8	4.0	1.8	1.7	.7	1.5	3.2	.0	50.7
		.0	74.5	7.8	3.5	3.3	1.4	3.0	6.4	.0	
		.0	48.2	61.4	72.7	57.5	50.0	75.0	51.2	.0	
TOTAL		0	1068	88	33	40	20	28	86	0	1363
		.0	78.4	6.5	2.4	2.9	1.5	2.1	6.3	.0	

TABLE 72

Ques. 11C. More use of psychiatric or psychological reports is not made because they are too costly:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	12	12	4	4	1	0	0	0	33
		.0	.9	.9	.3	.3	.1	.0	.0	.0	2.4
		.0	36.4	36.4	12.1	12.1	3.0	.0	.0	.0	
		.0	2.0	2.6	2.3	6.2	4.3	.0	.0	.0	
Judges	1	0	287	202	97	25	9	14	5	0	639
		.0	21.1	14.8	7.1	1.8	.7	1.0	.4	.0	46.9
		.0	44.9	31.6	15.2	3.9	1.4	2.2	.8	.0	
		.0	48.6	43.7	54.8	38.5	39.1	48.3	29.4	.0	
Lawyers	2	0	291	248	76	36	13	15	12	0	691
		.0	21.3	18.2	5.6	2.6	1.0	1.1	.9	.0	50.7
		.0	42.1	35.9	11.0	5.2	1.9	2.2	1.7	.0	
		.0	49.3	53.7	42.9	55.4	56.5	51.7	70.6	.0	
TOTAL		0	590	462	177	65	23	29	17	0	1363
		.0	43.3	33.9	13.0	4.8	1.7	2.1	1.2	.0	

TABLE 73

Ques. 11D. Does your court have a psychiatric clinic for use in criminal cases?

	No Response	No	Yes						
No Response	0	0	24	9	0	0	0	0	0	33
	.0	.0	1.8	.7	.0	.0	.0	.0	.0	2.4
	.0	.0	72.7	27.3	.0	.0	.0	.0	.0	
	.0	.0	3.4	1.4	.0	.0	.0	.0	.0	
Judges	0	13	325	301	0	0	0	0	0	639
	.0	1.0	23.8	22.1	.0	.0	.0	.0	.0	46.9
	.0	2.0	50.9	47.1	.0	.0	.0	.0	.0	
	.0	41.9	46.0	48.2	.0	.0	.0	.0	.0	
Lawyers	0	18	357	315	0	0	0	0	1	691
	.0	1.3	26.2	23.1	.0	.0	.0	.0	.1	50.7
	.0	2.6	51.7	45.6	.0	.0	.0	.0	.1	
	.0	58.1	50.6	50.4	.0	.0	.0	.0	100.0	
TOTAL	0	31	706	625	0	0	0	0	1	1363
	.0	2.3	51.8	45.9	.0	.0	.0	.0	.1	

TABLE 74

Ques.11E. Would you like to have more readily available psychiatric services for your criminal cases?

		No Response	No	Yes						
No Response	0	0	2	9	22	0	0	0	0	0	33
		.0	.1	.7	1.6	.0	.0	.0	.0	.0	2.4
		.0	6.1	27.3	66.7	.0	.0	.0	.0	.0	
		.0	2.8	3.1	2.2	.0	.0	.0	.0	.0	
Judges	1	0	41	117	481	0	0	0	0	0	639
		.0	3.0	8.6	35.3	.0	.0	.0	.0	.0	46.9
		.0	6.4	18.3	75.3	.0	.0	.0	.0	.0	
		.0	57.7	40.5	48.0	.0	.0	.0	.0	.0	
Lawyers	2	0	28	163	500	0	0	0	0	0	691
		.0	2.1	12.0	36.7	.0	.0	.0	.0	.0	50.7
		.0	4.1	23.6	72.4	.0	.0	.0	.0	.0	
		.0	39.4	56.4	49.9	.0	.0	.0	.0	.0	
TOTAL		0	71	289	1003	0	0	0	0	0	1363
		.0	5.2	21.2	73.6	.0	.0	.0	.0	.0	

TABLE 75

Ques. 12A. Is certification or licensure by a public or private body of a forensi scientist an important criterion to determine the qualifications of him as an exp scientific witness?

		No Response	No	Yes						
No Response	0	0	2	11	20	0	0	0	0	0	33
		.0	.1	.8	1.5	.0	.0	.0	.0	.0	2.4
		.0	6.1	33.3	60.6	.0	.0	.0	.0	.0	
		.0	2.4	2.5	2.4	.0	.0	.0	.0	.0	
Judges	1	0	41	199	399	0	0	0	0	0	639
		.0	3.0	14.6	29.3	.0	.0	.0	.0	.0	46.9
		.0	6.4	31.1	62.4	.0	.0	.0	.0	.0	
		.0	49.4	45.2	47.5	.0	.0	.0	.0	.0	
Lawyers	2	0	40	230	421	0	0	0	0	0	691
		.0	2.9	16.9	30.9	.0	.0	.0	.0	.0	50.7
		.0	5.8	33.3	60.9	.0	.0	.0	.0	.0	
		.0	48.2	52.3	50.1	.0	.0	.0	.0	.0	
TOTAL		0	83	440	840	0	0	0	0	0	1363
		.0	6.1	32.3	61.6	.0	.0	.0	.0	.0	

TABLE 76

Ques. 12B. Should certification or licensure by a public or private body of a forensic scientist be an important criterion to determine the qualifications of him as an expert scientific witness?

		No Response	No	Yes						
No Response	0	0 .0 .0 .0	2 .1 6.1 .9	11 .8 33.3 3.8	20 1.5 60.6 2.3	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	33 2.4
Judges	1	0 .0 .0 .0	109 8.0 17.1 49.8	133 9.8 20.8 46.2	397 29.1 62.1 46.4	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	639 46.9
Lawyers	2	0 .0 .0 .0	108 7.9 15.6 49.3	144 10.6 20.8 50.0	439 32.2 63.5 51.3	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	0 .0 .0 .0	691 50.7
TOTAL		0 .0	219 16.1	288 21.1	856 62.8	0 .0	0 .0	0 .0	0 .0	0 .0	1363

TABLE 77

Ques. 13. Would video tape deposition of scientific witness expedite criminal justice process?

		No Response	No	Yes						
No Response	0	0	3	10	20	0	0	0	0	0	33
		.0	.2	.7	1.5	.0	.0	.0	.0	.0	2.4
		.0	9.1	30.3	60.6	.0	.0	.0	.0	.0	
		.0	3.3	2.7	2.2	.0	.0	.0	.0	.0	
Judges	1	0	37	152	450	0	0	0	0	0	639
		.0	2.7	11.2	33.0	.0	.0	.0	.0	.0	46.9
		.0	5.8	23.8	70.4	.0	.0	.0	.0	.0	
		.0	40.2	41.8	49.6	.0	.0	.0	.0	.0	
Lawyers	2	0	52	202	437	0	0	0	0	0	691
		.0	3.8	14.8	32.1	.0	.0	.0	.0	.0	50.7
		.0	7.5	29.2	63.2	.0	.0	.0	.0	.0	
		.0	56.5	55.5	48.2	.0	.0	.0	.0	.0	
TOTAL		0	92	364	907	0	0	0	0	0	1363
		.0	6.7	26.7	66.5	.0	.0	.0	.0	.0	

TABLE 78

Ques. 13. Do you approve video tape deposition of scientific witness in the criminal justice process?

		No Response	No	Yes						
No Response	0	0	8	8	17	0	0	0	0	0	33
		.0	.6	.6	1.2	.0	.0	.0	.0	.0	2.4
		.0	24.2	24.2	51.5	.0	.0	.0	.0	.0	
		.0	3.6	2.1	2.2	.0	.0	.0	.0	.0	
Judges	1	0	109	140	389	0	0	0	1	0	639
		.0	8.0	10.3	28.5	.0	.0	.0	.1	.0	46.9
		.0	17.1	21.9	60.9	.0	.0	.0	.2	.0	
		.0	48.7	37.3	51.0	.0	.0	.0	100.0	.0	
Lawyers	2	0	107	227	357	0	0	0	0	0	691
		.0	7.9	16.7	26.2	.0	.0	.0	.0	.0	50.7
		.0	15.5	32.9	51.7	.0	.0	.0	.0	.0	
		.0	47.8	60.5	46.8	.0	.0	.0	.0	.0	
TOTAL		0	224	375	763	0	0	0	1	0	1363
		.0	16.4	27.5	56.0	.0	.0	.0	.1	.0	

TABLE 79

Ques. 14. Are changes needed in laws to permit better use of the forensic sciences?

		No Response	No	Yes						
No Response	0	0	2	9	22	0	0	0	0	0	33
		.0	.1	.7	1.6	.0	.0	.0	.0	.0	2.4
		.0	6.1	27.3	66.7	.0	.0	.0	.0	.0	
		.0	1.3	2.0	2.9	.0	.0	.0	.0	.0	
Judges	1	0	76	239	324	0	0	0	0	0	639
		.0	5.6	17.5	23.8	.0	.0	.0	.0	.0	46.9
		.0	11.9	37.4	50.7	.0	.0	.0	.0	.0	
		.0	50.7	53.8	42.1	.0	.0	.0	.0	.0	
Lawyers	2	0	72	196	423	0	0	0	0	0	691
		.0	5.3	14.4	31.0	.0	.0	.0	.0	.0	50.7
		.0	10.4	28.4	61.2	.0	.0	.0	.0	.0	
		.0	48.0	44.1	55.0	.0	.0	.0	.0	.0	
TOTAL		0	150	444	769	0	0	0	0	0	1363
		.0	11.0	32.6	56.4	.0	.0	.0	.0	.0	

TABLE 80

Ques. 15. How do you locate a fornesic scientist to provide expert evidence? Ads in bar journals:

			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	22	4	4	2	0	0	1	0	33
		.0	1.6	.3	.3	.1	.0	.0	.1	.0	2.4
		.0	66.7	12.1	12.1	6.1	.0	.0	3.0	.0	
		.0	2.0	6.1	7.3	3.8	.0	.0	4.5	.0	
Judges	1	0	547	20	19	20	7	9	6	11	639
		.0	40.1	1.5	1.4	1.5	.5	.7	.4	.8	46.9
		.0	85.6	3.1	3.0	3.1	1.1	1.4	.9	1.7	
		.0	49.5	30.3	34.5	37.7	38.9	50.0	27.3	42.3	
Lawyers	2	0	536	42	32	31	11	9	15	15	691
		.0	39.3	3.1	2.3	2.3	.8	.7	1.1	1.1	50.7
		.0	77.6	6.1	4.6	4.5	1.6	1.3	2.2	2.2	
		.0	48.5	63.6	58.2	58.5	61.1	50.0	68.2	57.7	
	TOTAL	0	1105	66	55	53	18	18	22	26	1363
		.0	81.1	4.8	4.0	3.9	1.3	1.3	1.6	1.9	

TABLE 81

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ask fellow lawyer?

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	19	10	1	3	0	0	0	0	33
		.0	1.4	.7	.1	.2	.0	.0	.0	.0	2.4
		.0	57.6	30.3	3.0	9.1	.0	.0	.0	.0	
		.0	2.6	2.3	.8	5.8	.0	.0	.0	.0	
Judges	1	0	459	108	40	19	5	3	4	1	639
		.0	33.7	7.9	2.9	1.4	.4	.2	.3	.1	46.9
		.0	71.8	16.9	6.3	3.0	.8	.5	.6	.2	
		.0	62.5	25.4	32.0	36.5	45.5	37.5	66.7	100.0	
Lawyers	2	0	256	308	84	30	6	5	2	0	691
		.0	18.8	22.6	6.2	2.2	.4	.4	.1	.0	50.7
		.0	37.0	44.6	12.2	4.3	.9	.7	.3	.0	
		.0	34.9	72.3	67.2	57.7	54.5	62.5	33.3	.0	
TOTAL		0	734	426	125	52	11	8	6	1	1363
		.0	53.9	31.3	9.2	3.8	.8	.6	.4	.1	

TABLE 82

Ques. 15. How do you locate a forensic scientist to provide expert evidenc
Ask scientist acquaintance:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No sponse	0	0	17	9	4	2	1	0	0	0	33
		.0	1.2	.7	.3	.1	.1	.0	.0	.0	2.4
		.0	51.5	27.3	12.1	6.1	3.0	.0	.0	.0	
		.0	2.1	3.2	2.4	3.1	4.8	.0	.0	.0	
Judges	1	0	455	103	53	18	4	1	4	1	639
		.0	33.4	7.6	3.9	1.3	.3	.1	.3	.1	46.9
		.0	71.2	16.1	8.3	2.8	.6	.2	.6	.2	
		.0	56.0	37.1	31.7	28.1	19.0	16.7	66.7	11.1	
Lawyers	2	0	340	166	110	44	16	5	2	8	691
		.0	24.9	12.2	8.1	3.2	1.2	.4	.1	.6	50.7
		.0	49.2	24.0	15.9	6.4	2.3	.7	.3	1.2	
		.0	41.9	59.7	65.9	68.8	76.2	83.3	33.3	88.9	
TOTAL		0	812	278	167	64	21	6	6	9	1363
		.0	59.6	20.4	12.3	4.7	1.5	.4	.4	.7	

TABLE 83

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Articles in legal literature:

			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	27	2	1	1	1	1	0	0	33
		.0	2.0	.1	.1	.1	.1	.1	.0	.0	2.4
		.0	81.8	6.1	3.0	3.0	3.0	3.0	.0	.0	
		.0	2.6	2.6	1.6	1.1	2.0	4.5	.0	.0	
Judges	1	0	526	31	21	31	17	7	5	1	639
		.0	38.6	2.3	1.5	2.3	1.2	.5	.4	.1	46.9
		.0	82.3	4.9	3.3	4.9	2.7	1.1	.8	.2	
		.0	50.1	40.8	33.9	34.4	34.7	31.8	38.5	50.0	
Lawyers	2	0	496	43	40	58	31	14	8	1	691
		.0	36.4	3.2	2.9	4.3	2.3	1.0	.6	.1	50.7
		.0	71.8	6.2	5.8	8.4	4.5	2.0	1.2	.1	
		.0	47.3	56.6	64.5	64.4	63.3	63.6	61.5	50.0	
	TOTAL	0	1049	76	62	90	49	22	13	2	1363
		.0	77.0	5.6	4.5	6.6	3.6	1.6	1.0	.1	

TABLE 84

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Articles in scientific literature?

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	28	1	1	1	0	1	1	0	33
		.0	2.1	.1	.1	.1	.0	.1	.1	.0	2.4
		.0	84.8	3.0	3.0	3.0	.0	3.0	3.0	.0	
		.0	2.5	1.9	2.7	2.0	.0	2.4	3.6	.0	
Judges	1	0	544	20	16	17	10	17	8	7	639
		.0	39.9	1.5	1.2	1.2	.7	1.2	.6	.5	46.9
		.0	85.1	3.1	2.5	2.7	1.6	2.7	1.3	1.1	
		.0	49.3	38.5	43.2	34.0	30.3	41.5	28.6	38.9	
Lawyers	2	0	532	31	20	32	23	23	19	11	691
		.0	39.0	2.3	1.5	2.3	1.7	1.7	1.4	.8	50.7
		.0	77.0	4.5	2.9	4.6	3.3	3.3	2.7	1.6	
		.0	48.2	59.6	54.1	64.0	69.7	56.1	67.9	61.1	
TOTAL		0	1104	52	37	50	33	41	28	18	1363
		.0	81.0	3.8	2.7	3.7	2.4	3.0	2.1	1.3	

TABLE 85

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Contact scientific societies:

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	22	6	2	3	0	0	0	0	33
	.0	1.6	.4	.1	.2	.0	.0	.0	.0	2.4
	.0	66.7	18.2	6.1	9.1	.0	.0	.0	.0	
	.0	2.2	4.7	2.8	3.2	.0	.0	.0	.0	
Judges 1	0	488	61	28	31	9	10	10	2	639
	.0	35.8	4.5	2.1	2.3	.7	.7	.7	.1	46.9
	.0	76.4	9.5	4.4	4.9	1.4	1.6	1.6	.3	
	.0	49.6	48.0	38.9	33.0	36.0	32.3	37.0	50.0	
Lawyers 2	0	473	60	42	60	16	21	17	2	691
	.0	34.7	4.4	3.1	4.4	1.2	1.5	1.2	.1	50.7
	.0	68.5	8.7	6.1	8.7	2.3	3.0	2.5	.3	
	.0	48.1	47.2	58.3	63.8	64.0	67.7	63.0	50.0	
TOTAL	0	983	127	72	94	25	31	27	4	1363
	.0	72.1	9.3	5.3	6.9	1.8	2.3	2.0	.3	

TABLE 86

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Address lists of scientific societies:

			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	24	4	1	2	0	0	0	2	33
		.0	1.8	.3	.1	.1	.0	.0	.0	.1	2.4
		.0	72.7	12.1	3.0	6.1	.0	.0	.0	6.1	
		.0	2.2	5.6	3.4	3.9	.0	.0	.0	6.9	
Judges	1	0	525	36	13	21	14	10	12	8	639
		.0	38.5	2.6	1.0	1.5	1.0	.7	.9	.6	46.9
		.0	82.2	5.6	2.0	3.3	2.2	1.6	1.9	1.3	
		.0	48.3	50.0	44.8	41.2	43.8	34.5	34.3	27.6	
Lawyers	2	0	537	32	15	28	18	19	23	19	691
		.0	39.4	2.3	1.1	2.1	1.3	1.4	1.7	1.4	50.7
		.0	77.7	4.6	2.2	4.1	2.6	2.7	3.3	2.7	
		.0	49.4	44.4	51.7	54.9	56.3	65.5	65.7	65.5	
	TOTAL	0	1086	72	29	51	32	29	35	29	1363
		.0	79.7	5.3	2.1	3.7	2.3	2.1	2.6	2.1	

TABLE 87

Ques. 2. Percentage of responder's criminal cases using scientific evidence

Years involved in criminal cases.			No Response	0%	10%	20%	30%	50%	75%	100%	
No Response	0	0	5	1	16	14	11	9	1	1	58
		.0	.4	.1	1.2	1.0	.8	.7	.1	.1	4.3
		.0	8.6	1.7	27.6	24.1	19.0	15.5	1.7	1.7	
		.0	29.4	3.8	3.9	4.3	4.0	4.2	1.2	7.7	
1-10 yrs.	1	0	6	8	167	129	124	85	40	4	563
		.0	.4	.6	12.3	9.5	9.1	6.2	2.9	.3	41.3
		.0	1.1	1.4	29.7	22.9	22.0	15.1	7.1	.7	
		.0	35.3	30.8	40.6	40.1	45.1	39.4	48.2	30.8	
11-20 yrs.	2	0	2	10	119	109	81	71	23	1	416
		.0	.1	.7	8.7	8.0	5.9	5.2	1.7	.1	30.5
		.0	.5	2.4	28.6	26.2	19.5	17.1	5.5	.2	
		.0	11.8	38.5	29.0	33.9	29.5	32.9	27.7	7.7	
21-30 yrs.	3	0	2	4	81	47	43	40	16	5	238
		.0	.1	.3	5.9	3.4	3.2	2.9	1.2	.4	17.5
		.0	.8	1.7	34.0	19.7	18.1	16.8	6.7	2.1	
		.0	11.8	15.4	19.7	14.6	15.6	18.5	19.3	38.5	
over 30 yrs.	4	0	2	3	28	23	16	11	3	2	88
		.0	.1	.2	2.1	1.7	1.2	.8	.2	.1	6.5
		.0	2.3	3.4	31.8	26.1	18.2	12.5	3.4	2.3	
		.0	11.8	11.5	6.8	7.1	5.8	5.1	3.6	15.4	
TOTAL		0	17	26	411	322	275	216	83	13	1363
		.0	1.2	1.9	30.2	23.6	20.2	15.8	6.1	1.0	

TABLE 88

Ques. 3. In your criminal cases in which no scientific evidence was used, in what percentage could it have been used?

Years involved in criminal cases.			No Response	0%	10%	20%	30%	50%	75%	100%	
No Response	0	0	9	4	16	8	6	10	5	0	58
		.0	.7	.3	1.2	.6	.4	.7	.4	.0	4.3
		.0	15.5	6.9	27.6	13.8	10.3	17.2	8.6	.0	
		.0	11.0	3.8	4.5	2.8	3.0	4.4	6.0	.0	
1-10 yrs.	1	0	23	39	137	132	87	94	42	9	563
		.0	1.7	2.9	10.1	9.7	6.4	6.9	3.1	.7	41.3
		.0	4.1	6.9	24.3	23.4	15.5	16.7	7.5	1.6	
		.0	28.0	37.5	38.3	46.3	43.1	41.0	50.6	45.0	
11-20 yrs.	2	0	25	30	126	80	60	71	19	5	416
		.0	1.8	2.2	9.2	5.9	4.4	5.2	1.4	.4	30.5
		.0	6.0	7.2	30.3	19.2	14.4	17.1	4.6	1.2	
		.0	30.5	28.8	35.2	28.1	29.7	31.0	22.9	25.0	
21-30 yrs.	3	0	11	19	61	49	38	41	14	5	238
		.0	.8	1.4	4.5	3.6	2.8	3.0	1.0	.4	17.5
		.0	4.6	8.0	25.6	20.6	16.0	17.2	5.9	2.1	
		.0	13.4	18.3	17.0	17.2	18.8	17.9	16.9	25.0	
over 30 yrs.	4	0	14	12	18	16	11	13	3	1	88
		.0	1.0	.9	1.3	1.2	.8	1.0	.2	.1	6.5
		.0	15.9	13.6	20.5	18.2	12.5	14.8	3.4	1.1	
		.0	17.1	11.5	5.0	5.6	5.4	5.7	3.6	5.0	
TOTAL		0	82	104	358	285	202	229	83	20	1363
		.0	6.0	7.6	26.3	20.9	14.8	16.8	6.1	1.5	

TABLE 89

Ques. 4. Why was expert scientific evidence not used? Qualified expert witness not available:

Years involved in criminal cases.		No	Yes						
No Response	0	0	47	11	0	0	0	0	58
		.0	3.4	.8	.0	.0	.0	.0	4.3
		.0	81.0	19.0	.0	.0	.0	.0	
		.0	5.2	2.4	.0	.0	.0	.0	
1-10 yrs.	1	0	349	213	1	0	0	0	563
		.0	25.6	15.6	.1	.0	.0	.0	41.3
		.0	62.0	37.8	.2	.0	.0	.0	
		.0	38.4	47.1	100.0	.0	.0	.0	
11-20 yrs.	2	0	291	124	0	0	0	1	416
		.0	21.3	9.1	.0	.0	.0	.1	30.5
		.0	70.0	29.8	.0	.0	.0	.2	
		.0	32.0	27.4	.0	.0	.0	100.0	
21-30 yrs.	3	0	156	82	0	0	0	0	238
		.0	11.4	6.0	.0	.0	.0	.0	17.5
		.0	65.5	34.5	.0	.0	.0	.0	
		.0	17.2	18.1	.0	.0	.0	.0	
over 30 yrs.	4	0	66	22	0	0	0	0	88
		.0	4.8	1.6	.0	.0	.0	.0	6.5
		.0	75.0	25.0	.0	.0	.0	.0	
		.0	7.3	4.9	.0	.0	.0	.0	
TOTAL		0	909	452	1	0	0	1	1363
		.0	66.7	33.2	.1	.0	.0	.1	

TABLE 90

Ques. 4. Why was expert scientific evidence not used? Scientific evidence damaging to your case:

Years involved in criminal cases.		No	Yes						
No Response	0	0	57	1	0	0	0	0	58
		.0	4.2	.1	.0	.0	.0	.0	4.3
		.0	98.3	1.7	.0	.0	.0	.0	
		.0	4.8	.6	.0	.0	.0	.0	
1-10 yrs.	1	0	482	80	0	0	1	0	563
		.0	35.4	5.9	.0	.0	.1	.0	41.3
		.0	85.6	14.2	.0	.0	.2	.0	
		.0	40.3	48.5	.0	.0	100.0	.0	
11-20 yrs.	2	0	370	46	0	0	0	0	416
		.0	27.1	3.4	.0	.0	.0	.0	30.5
		.0	88.9	11.1	.0	.0	.0	.0	
		.0	30.9	27.9	.0	.0	.0	.0	
21-30 yrs.	3	0	208	30	0	0	0	0	238
		.0	15.3	2.2	.0	.0	.0	.0	17.5
		.0	87.4	12.6	.0	.0	.0	.0	
		.0	17.4	18.2	.0	.0	.0	.0	
over 30 yrs.	4	0	80	8	0	0	0	0	88
		.0	5.9	.6	.0	.0	.0	.0	6.5
		.0	90.9	9.1	.0	.0	.0	.0	
		.0	6.7	4.8	.0	.0	.0	.0	
TOTAL		0	1197	165	0	0	1	0	0	1363
		.0	87.8	12.1	.0	.0	.1	.0	.0	

TABLE 91

Ques. 4. Why was expert scientific evidence not used? Lack of funds to obtain expert witness:

Years involved in criminal cases.		No		Yes							
No Response	0	0	0	49	9	0	0	0	0	0	58
		.0	.0	3.6	.7	.0	.0	.0	.0	.0	4.3
		.0	.0	84.5	15.5	.0	.0	.0	.0	.0	
		.0	.0	6.0	1.7	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	0	327	235	1	0	0	0	0	563
		.0	.0	24.0	17.2	.1	.0	.0	.0	.0	41.3
		.0	.0	58.1	41.7	.2	.0	.0	.0	.0	
		.0	.0	39.9	43.4	50.0	.0	.0	.0	.0	
11-20 yrs.	2	0	0	250	165	1	0	0	0	0	416
		.0	.0	18.3	12.1	.1	.0	.0	.0	.0	30.5
		.0	.0	60.1	39.7	.2	.0	.0	.0	.0	
		.0	.0	30.5	30.5	50.0	.0	.0	.0	.0	
21-30 yrs.	3	0	0	140	98	0	0	0	0	0	238
		.0	.0	10.3	7.2	.0	.0	.0	.0	.0	17.5
		.0	.0	58.8	41.2	.0	.0	.0	.0	.0	
		.0	.0	17.1	18.1	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	0	54	34	0	0	0	0	0	88
		.0	.0	4.0	2.5	.0	.0	.0	.0	.0	6.5
		.0	.0	61.4	38.6	.0	.0	.0	.0	.0	
		.0	.0	6.6	6.3	.0	.0	.0	.0	.0	
TOTAL		0	0	820	541	2	0	0	0	0	1363
		.0	.0	60.2	39.7	.1	.0	.0	.0	.0	

TABLE 92

Ques. 4. Why was expert scientific evidence not used? Lack of scientific facilities available to make test:

Years involved in criminal cases.		No	Yes							
No Response	0	0	0	46	12	0	0	0	0	0	58
		.0	.0	3.4	.9	.0	.0	.0	.0	.0	4.3
		.0	.0	79.3	20.7	.0	.0	.0	.0	.0	
		.0	.0	5.1	2.6	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	0	363	199	0	1	0	0	0	563
		.0	.0	26.6	14.6	.0	.1	.0	.0	.0	41.3
		.0	.0	64.5	35.3	.0	.2	.0	.0	.0	
		.0	.0	40.2	43.4	.0	100.0	.0	.0	.0	
11-20 yrs.	2	0	0	282	134	0	0	0	0	0	416
		.0	.0	20.7	9.8	.0	.0	.0	.0	.0	30.5
		.0	.0	67.8	32.2	.0	.0	.0	.0	.0	
		.0	.0	31.2	29.3	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	0	153	84	1	0	0	0	0	238
		.0	.0	11.2	6.2	.1	.0	.0	.0	.0	17.5
		.0	.0	64.3	35.3	.4	.0	.0	.0	.0	
		.0	.0	16.9	18.3	100.0	.0	.0	.0	.0	
over 30 yrs.	4	0	0	59	29	0	0	0	0	0	88
		.0	.0	4.3	2.1	.0	.0	.0	.0	.0	6.5
		.0	.0	67.0	33.0	.0	.0	.0	.0	.0	
		.0	.0	6.5	6.3	.0	.0	.0	.0	.0	
TOTAL		0	0	903	458	1	1	0	0	0	1363
		.0	.0	66.3	33.6	.1	.1	.0	.0	.0	

TABLE 93

Ques. 4. Why was expert scientific evidence not sued? Lack of knowledge where to locate expert:

Years involved in criminal cases.		No	Yes						
No Response	0	0	51	7	0	0	0	0	58
		.0	3.7	.5	.0	.0	.0	.0	4.3
		.0	87.9	12.1	.0	.0	.0	.0	
		.0	4.6	2.9	.0	.0	.0	.0	
1-10 yrs.	1	0	449	114	0	0	0	0	563
		.0	32.9	8.4	.0	.0	.0	.0	41.3
		.0	79.8	20.2	.0	.0	.0	.0	
		.0	40.2	46.5	.0	.0	.0	.0	
11-20 yrs.	2	0	352	63	0	1	0	0	416
		.0	25.8	4.6	.0	.1	.0	.0	30.5
		.0	84.6	15.1	.0	.2	.0	.0	
		.0	31.5	25.7	.0	100.0	.0	.0	
21-30 yrs.	3	0	193	45	0	0	0	0	238
		.0	14.2	3.3	.0	.0	.0	.0	17.5
		.0	81.1	18.9	.0	.0	.0	.0	
		.0	17.3	18.4	.0	.0	.0	.0	
over 30 yrs.	4	0	72	16	0	0	0	0	88
		.0	5.3	1.2	.0	.0	.0	.0	6.5
		.0	81.8	18.2	.0	.0	.0	.0	
		.0	6.4	6.5	.0	.0	.0	.0	
TOTAL		0	1117	245	0	1	0	0	1363
		.0	82.0	18.0	.0	.1	.0	.0	

TABLE 94

Ques. 4. Why was expert scientific evidence not used? Inability to determine qualificati of expert:

Years involved in criminal cases.

		No	Yes						
VALUE	-1	0	1	2	3	4	5	6	7	
No Response 0	0	0	55	3	0	0	0	0	0	58
	.0	.0	4.0	.2	.0	.0	.0	.0	.0	4.3
	.0	.0	94.8	5.2	.0	.0	.0	.0	.0	
	.0	.0	4.3	4.3	.0	.0	.0	.0	.0	
1-10 yrs. 1	0	0	536	27	0	0	0	0	0	563
	.0	.0	39.3	2.0	.0	.0	.0	.0	.0	41.3
	.0	.0	95.2	4.8	.0	.0	.0	.0	.0	
	.0	.0	41.5	38.6	.0	.0	.0	.0	.0	
11-20 yrs. 2	0	0	390	26	0	0	0	0	0	416
	.0	.0	28.6	1.9	.0	.0	.0	.0	.0	30.5
	.0	.0	93.8	6.3	.0	.0	.0	.0	.0	
	.0	.0	30.2	37.1	.0	.0	.0	.0	.0	
21-30 yrs. 3	0	0	227	10	0	1	0	0	0	238
	.0	.0	16.7	.7	.0	.1	.0	.0	.0	17.5
	.0	.0	95.4	4.2	.0	.4	.0	.0	.0	
	.0	.0	17.6	14.3	.0	100.0	.0	.0	.0	
over 30 yrs. 4	0	0	84	4	0	0	0	0	0	88
	.0	.0	6.2	.3	.0	.0	.0	.0	.0	6.5
	.0	.0	95.5	4.5	.0	.0	.0	.0	.0	
	.0	.0	6.5	5.7	.0	.0	.0	.0	.0	
TOTAL	0	0	1292	70	0	1	0	0	0	1363
	.0	.0	94.8	5.1	.0	.1	.0	.0	.0	

TABLE 95

Ques. 4. Why was expert scientific evidence not used? Lack of time to obtain expert:

Years involved in criminal cases.		No			Yes					
No Response	0	0	0	55	3	0	0	0	0	0	58
		.0	.0	4.0	.2	.0	.0	.0	.0	.0	4.3
		.0	.0	94.8	5.2	.0	.0	.0	.0	.0	
		.0	.0	4.7	1.6	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	0	466	96	0	0	0	1	0	563
		.0	.0	34.2	7.0	.0	.0	.0	.1	.0	41.3
		.0	.0	82.8	17.1	.0	.0	.0	.2	.0	
		.0	.0	39.8	50.5	.0	.0	.0	100.0	.0	
11-20 yrs.	2	0	0	360	56	0	0	0	0	0	416
		.0	.0	26.4	4.1	.0	.0	.0	.0	.0	30.5
		.0	.0	86.5	13.5	.0	.0	.0	.0	.0	
		.0	.0	30.7	29.5	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	0	213	25	0	0	0	0	0	238
		.0	.0	15.6	1.8	.0	.0	.0	.0	.0	17.5
		.0	.0	89.5	10.5	.0	.0	.0	.0	.0	
		.0	.0	18.2	13.2	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	0	78	10	0	0	0	0	0	88
		.0	.0	5.7	.7	.0	.0	.0	.0	.0	6.5
		.0	.0	88.6	11.4	.0	.0	.0	.0	.0	
		.0	.0	6.7	5.3	.0	.0	.0	.0	.0	
TOTAL		0	0	1172	190	0	0	0	1	0	1363
		.0	.0	86.0	13.9	.0	.0	.0	.1	.0	

TABLE 96

Ques. 4. Why was expert scientific evidence not used? Experts fail to show up at trial:

Years involved in criminal cases.		No	Yes						
No Response	0	0	58	0	0	0	0	0	0	58
		.0	4.3	.0	.0	.0	.0	.0	.0	4.3
		.0	100.0	.0	.0	.0	.0	.0		
		.0	4.5	.0	.0	.0	.0	.0		
1-10 yrs.	1	0	539	24	0	0	0	0	0	563
		.0	39.5	1.8	.0	.0	.0	.0	.0	41.3
		.0	95.7	4.3	.0	.0	.0	.0		
		.0	41.4	38.7	.0	.0	.0	.0		
11-20 yrs.	2	0	393	23	0	0	0	0	0	416
		.0	28.8	1.7	.0	.0	.0	.0	.0	30.5
		.0	94.5	5.5	.0	.0	.0	.0		
		.0	30.2	37.1	.0	.0	.0	.0		
21-30 yrs.	3	0	232	6	0	0	0	0	0	238
		.0	17.0	.4	.0	.0	.0	.0	.0	17.5
		.0	97.5	2.5	.0	.0	.0	.0		
		.0	17.8	9.7	.0	.0	.0	.0		
over 30 yrs.	4	0	79	9	0	0	0	0	0	88
		.0	5.8	.7	.0	.0	.0	.0	.0	6.5
		.0	89.8	10.2	.0	.0	.0	.0		
		.0	6.1	14.5	.0	.0	.0	.0		
TOTAL		0	1301	62	0	0	0	0	0	1363
		.0	95.5	4.5	.0	.0	.0	.0	.0	

TABLE 97

Ques. 5. Would you like to use more scientific evidence in criminal cases?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	7	6	45	0	0	0	0	0	58
		.0	.5	.4	3.3	.0	.0	.0	.0	.0	4.3
		.0	12.1	10.3	77.6	.0	.0	.0	.0	.0	
		.0	7.7	6.0	3.8	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	26	29	508	0	0	0	0	0	563
		.0	1.9	2.1	37.3	.0	.0	.0	.0	.0	41.3
		.0	4.6	5.2	90.2	.0	.0	.0	.0	.0	
		.0	28.6	29.0	43.3	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	28	35	353	0	0	0	0	0	416
		.0	2.1	2.6	25.9	.0	.0	.0	.0	.0	30.5
		.0	6.7	8.4	84.9	.0	.0	.0	.0	.0	
		.0	30.8	35.0	30.1	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	20	17	201	0	0	0	0	0	238
		.0	1.5	1.2	14.7	.0	.0	.0	.0	.0	17.5
		.0	8.4	7.1	84.5	.0	.0	.0	.0	.0	
		.0	22.0	17.0	17.2	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	10	13	65	0	0	0	0	0	88
		.0	.7	1.0	4.8	.0	.0	.0	.0	.0	6.5
		.0	11.4	14.8	73.9	.0	.0	.0	.0	.0	
		.0	11.0	13.0	5.5	.0	.0	.0	.0	.0	
TOTAL		0	91	100	1172	0	0	0	0	0	1363
		.0	6.7	7.3	86.0	.0	.0	.0	.0	.0	

TABLE 98

Ques. 6. Does scientific evidence have more credibility than lay witness testimony?

Years involved in criminal cases.

		No Response	No	Yes						
No Response	0	0	7	9	42	0	0	0	0	0	58
		.0	.5	.7	3.1	.0	.0	.0	.0	.0	4.3
		.0	12.1	15.5	72.4	.0	.0	.0	.0	.0	
		.0	5.8	4.8	4.0	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	45	55	463	0	0	0	0	0	563
		.0	3.3	4.0	34.0	.0	.0	.0	.0	.0	41.3
		.0	8.0	9.8	82.2	.0	.0	.0	.0	.0	
		.0	37.2	29.3	43.9	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	35	68	313	0	0	0	0	0	416
		.0	2.6	5.0	23.0	.0	.0	.0	.0	.0	30.5
		.0	8.4	16.3	75.2	.0	.0	.0	.0	.0	
		.0	28.9	36.2	29.7	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	18	41	179	0	0	0	0	0	238
		.0	1.3	3.0	13.1	.0	.0	.0	.0	.0	17.5
		.0	7.6	17.2	75.2	.0	.0	.0	.0	.0	
		.0	14.9	21.8	17.0	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	16	15	57	0	0	0	0	0	88
		.0	1.2	1.1	4.2	.0	.0	.0	.0	.0	6.5
		.0	18.2	17.0	64.8	.0	.0	.0	.0	.0	
		.0	13.2	8.0	5.4	.0	.0	.0	.0	.0	
TOTAL		0	121	188	1054	0	0	0	0	0	1363
		.0	8.9	13.8	77.3	.0	.0	.0	.0	.0	

TABLE 99

Ques. 7. Is scientific evidence given more credibility than other evidence by decision-maker: judge?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	7	6	45	0	0	0	0	0	58
		.0	.5	.4	3.3	.0	.0	.0	.0	.0	4.3
		.0	12.1	10.3	77.6	.0	.0	.0	.0	.0	
		.0	7.0	2.4	4.4	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	38	99	426	0	0	0	0	0	563
		.0	2.8	7.3	31.3	.0	.0	.0	.0	.0	41.3
		.0	6.7	17.6	75.7	.0	.0	.0	.0	.0	
		.0	38.0	40.1	41.9	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	35	78	303	0	0	0	0	0	416
		.0	2.6	5.7	22.2	.0	.0	.0	.0	.0	30.5
		.0	8.4	18.8	72.8	.0	.0	.0	.0	.0	
		.0	35.0	31.6	29.8	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	12	40	186	0	0	0	0	0	238
		.0	.9	2.9	13.6	.0	.0	.0	.0	.0	17.5
		.0	5.0	16.8	78.2	.0	.0	.0	.0	.0	
		.0	12.0	16.2	18.3	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	8	24	56	0	0	0	0	0	88
		.0	.6	1.8	4.1	.0	.0	.0	.0	.0	6.5
		.0	9.1	27.3	63.6	.0	.0	.0	.0	.0	
		.0	8.0	9.7	5.5	.0	.0	.0	.0	.0	
TOTAL		0	100	247	1016	0	0	0	0	0	1363
		.0	7.3	18.1	74.5	.0	.0	.0	.0	.0	

TABLE 100

Ques. 7. Is scientific evidence given more credibility than other evidence by decision-maker: Juror?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	10	10	38	0	0	0	0	0	58
		.0	.7	.7	2.8	.0	.0	.0	.0	.0	4.3
		.0	17.2	17.2	65.5	.0	.0	.0	.0	.0	
		.0	5.4	4.5	4.0	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	74	75	414	0	0	0	0	0	563
		.0	5.4	5.5	30.4	.0	.0	.0	.0	.0	41.3
		.0	13.1	13.3	73.5	.0	.0	.0	.0	.0	
		.0	40.2	33.9	43.2	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	56	70	290	0	0	0	0	0	416
		.0	4.1	5.1	21.3	.0	.0	.0	.0	.0	30.5
		.0	13.5	16.8	69.7	.0	.0	.0	.0	.0	
		.0	30.4	31.7	30.3	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	26	41	171	0	0	0	0	0	238
		.0	1.9	3.0	12.5	.0	.0	.0	.0	.0	17.5
		.0	10.9	17.2	71.8	.0	.0	.0	.0	.0	
		.0	14.1	18.6	17.8	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	18	25	45	0	0	0	0	0	88
		.0	1.3	1.8	3.3	.0	.0	.0	.0	.0	6.5
		.0	20.5	28.4	51.1	.0	.0	.0	.0	.0	
		.0	9.8	11.3	4.7	.0	.0	.0	.0	.0	
TOTAL		0	184	221	958	0	0	0	0	0	1363
		.0	13.5	16.2	70.3	.0	.0	.0	.0	.0	

TABLE 101

Ques. 8A. Are there weaknesses in scientific witnesses' testimony due to lack of expertise in the specialized field?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	10	21	27	0	0	0	0	0	58
		.0	.7	1.5	2.0	.0	.0	.0	.0	.0	4.3
		.0	17.2	36.2	46.6	.0	.0	.0	.0	.0	
		.0	3.3	4.2	4.8	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	118	235	210	0	0	0	0	0	563
		.0	8.7	17.2	15.4	.0	.0	.0	.0	.0	41.3
		.0	21.0	41.7	37.3	.0	.0	.0	.0	.0	
		.0	39.2	47.3	37.2	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	98	156	162	0	0	0	0	0	416
		.0	7.2	11.4	11.9	.0	.0	.0	.0	.0	30.5
		.0	23.6	37.5	38.9	.0	.0	.0	.0	.0	
21-30 yrs.		.0	32.6	31.4	28.7	.0	.0	.0	.0	.0	
	3	0	57	62	119	0	0	0	0	0	238
		.0	4.2	4.5	8.7	.0	.0	.0	.0	.0	17.5
		.0	23.9	26.1	50.0	0	.0	.0	.0	.0	
over 30 yrs.		.0	18.9	12.5	21.1	.0	.0	.0	.0	.0	
	4	0	18	23	47	0	0	0	0	0	88
		.0	1.3	1.7	3.4	.0	.0	.0	.0	.0	6.5
		.0	20.5	26.1	53.4	.0	.0	.0	.0	.0	
		.0	6.0	4.6	8.3	.0	.0	.0	.0	.0	
TOTAL		0	301	497	565	0	0	0	0	0	1363
		.0	22.1	36.5	41.5	.0	.0	.0	.0	.0	

TABLE 102

Ques. 8B. Are there weaknesses in scientific witnesses' testimony due to lack of understanding of court process?

Years involved in criminal cases.

		No Response	No	Yes						
No Response	0	0	14	17	27	0	0	0	0	0	58
		.0	1.0	1.2	2.0	.0	.0	.0	.0	.0	4.3
		.0	24.1	29.3	46.6	.0	.0	.0	.0	.0	
		.0	4.9	4.2	4.0	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	107	186	270	0	0	0	0	0	563
		.0	7.9	13.6	19.8	.0	.0	.0	.0	.0	41.3
		.0	19.0	33.0	48.0	.0	.0	.0	.0	.0	
		.0	37.3	46.0	40.2	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	86	119	211	0	0	0	0	0	416
		.0	6.3	8.7	15.5	.0	.0	.0	.0	.0	30.5
		.0	20.7	28.6	50.7	.0	.0	.0	.0	.0	
		.0	30.0	29.5	31.4	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	59	59	120	0	0	0	0	0	238
		.0	4.3	4.3	8.8	.0	.0	.0	.0	.0	17.5
		.0	24.8	24.8	50.4	.0	.0	.0	.0	.0	
		.0	20.6	14.6	17.9	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	21	23	44	0	0	0	0	0	88
		.0	1.5	1.7	3.2	.0	.0	.0	.0	.0	6.5
		.0	23.9	26.1	50.0	.0	.0	.0	.0	.0	
		.0	7.3	5.7	6.5	.0	.0	.0	.0	.0	
TOTAL		0	287	404	672	0	0	0	0	0	1363
		.0	21.1	29.6	49.3	.0	.0	.0	.0	.0	

TABLE 103

Ques. 8C. Are there weaknesses in scientific witnesses' testimony due to insufficien preparation for court appearance?

Years involved in criminal cases.

		No Response	No	Yes						
	0	12	17	29	0	0	0	0	0	58
No Response	•0	•9	1•2	2•1	•0	•0	•0	•0	•0	4•3
	•0	20•7	29•3	50•0	•0	•0	•0	•0	•0	
	•0	4•1	4•2	4•3	•0	•0	•0	•0	•0	
1-10 yrs. 1	0	97	192	274	0	0	0	0	0	563
	•0	7•1	14•1	20•1	•0	•0	•0	•0	•0	41•3
	•0	17•2	34•1	48•7	•0	•0	•0	•0	•0	
	•0	33•4	47•9	40•8	•0	•0	•0	•0	•0	
11-20 yrs. 2	0	99	117	200	0	0	0	0	0	416
	•0	7•3	8•6	14•7	•0	•0	•0	•0	•0	30•5
	•0	23•8	28•1	48•1	•0	•0	•0	•0	•0	
	•0	34•1	29•2	29•8	•0	•0	•0	•0	•0	
21-30 yrs. 3	0	58	56	124	0	0	0	0	0	238
	•0	4•3	4•1	9•1	•0	•0	•0	•0	•0	17•5
	•0	24•4	23•5	52•1	•0	•0	•0	•0	•0	
	•0	20•0	14•0	18•5	•0	•0	•0	•0	•0	
over 30 yrs. 4	0	24	19	45	0	0	0	0	0	88
	•0	1•8	1•4	3•3	•0	•0	•0	•0	•0	6•5
	•0	27•3	21•6	51•1	•0	•0	•0	•0	•0	
	•0	8•3	4•7	6•7	•0	•0	•0	•0	•0	
TOTAL	0	290	401	672	0	0	0	0	0	1363
	•0	21•3	29•4	49•3	•0	•0	•0	•0	•0	

TABLE 104

Ques. 9. Is the competence of prosecution scientific witness better, worse, the same as defense scientific wi[illegible]sses?

Cases involved		No Response	Worse	Same	Better					
No Response	0	0	5	26	3	24	0	0	0	0	58
		.0	.4	1.9	.2	1.8	.0	.0	.0	.0	4.3
		.0	8.6	44.8	5.2	41.4	.0	.0	.0	.0	
		.0	5.5	4.8	2.1	4.1	.0	.0	.0	.0	
1-10 yrs.	1	0	44	217	70	231	0	0	0	1	563
		.0	3.2	15.9	5.1	16.9	.0	.0	.0	.1	41.3
		.0	7.8	38.5	12.4	41.0	.0	.0	.0	.2	
		.0	48.4	40.3	49.3	39.1	.0	.0	.0	100.0	
11-20 yrs.	2	0	22	173	40	181	0	0	0	0	416
		.0	1.6	12.7	2.9	13.3	.0	.0	.0	.0	30.5
		.0	5.3	41.6	9.6	43.5	.0	.0	.0	.0	
		.0	24.2	32.2	28.2	30.6	.0	.0	.0	.0	
21-30 yrs.	3	0	11	88	20	119	0	0	0	0	238
		.0	.8	6.5	1.5	8.7	.0	.0	.0	.0	17.5
		.0	4.6	37.0	8.4	50.0	.0	.0	.0	.0	
		.0	12.1	16.4	14.1	20.1	.0	.0	.0	.0	
over 30 yrs.	4	0	9	54	9	36	0	0	0	0	88
		.0	.7	2.5	.7	2.6	.0	.0	.0	.0	6.5
		.0	10.2	38.6	10.2	40.9	.0	.0	.0	.0	
		.0	9.9	6.3	6.3	6.1	.0	.0	.0	.0	
TOTAL		0	91	538	142	591	0	0	0	1	1363
		.0	6.7	39.5	10.4	43.4	.0	.0	.0	.1	

TABLE 105

Ques. 10A. In handling criminal cases are you influenced by data in the behavioral sciences (psychology, sociology)?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	7	16	35	0	0	0	0	0	58
		.0	.5	1.2	2.6	.0	.0	.0	.0	.0	4.3
		.0	12.1	27.6	60.3	.0	.0	.0	.0	.0	
		.0	10.8	4.6	3.7	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	18	151	394	0	0	0	0	0	563
		.0	1.3	11.1	28.9	.0	.0	.0	.0	.0	41.3
		.0	3.2	26.8	70.0	.0	.0	.0	.0	.0	
		.0	27.7	43.3	41.5	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	22	106	288	0	0	0	0	0	416
		.0	1.6	7.8	21.1	.0	.0	.0	.0	.0	30.5
		.0	5.3	25.5	69.2	.0	.0	.0	.0	.0	
		.0	33.8	30.4	30.3	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	11	55	172	0	0	0	0	0	238
		.0	.8	4.0	12.6	.0	.0	.0	.0	.0	17.5
		.0	4.6	23.1	72.3	.0	.0	.0	.0	.0	
		.0	16.9	15.8	18.1	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	7	21	60	0	0	0	0	0	88
		.0	.5	1.5	4.4	.0	.0	.0	.0	.0	6.5
		.0	8.0	23.9	68.2	.0	.0	.0	.0	.0	
		.0	10.8	6.0	6.3	.0	.0	.0	.0	.0	
TOTAL		0	65	349	949	0	0	0	0	0	1363
		.0	4.8	25.6	69.6	.0	.0	.0	.0	.0	

TABLE 106

Ques. 10B. When did you last study behavioral science data?

Years involved in criminal cases.

		No Response	3 mts.	6 mts.	1 yr.	over 1 yr.				
No Response	0	0	6	29	5	5	13	0	0	0	58
		.0	.4	2.1	.4	.4	1.0	.0	.0	.0	4.3
		.0	10.3	50.0	8.6	8.6	22.4	.0	.0	.0	
		.0	9.1	4.8	3.8	4.0	3.0	.0	.0	.0	
1-10 yrs.	1	0	16	245	59	46	197	0	0	0	563
		.0	1.2	18.0	4.3	3.4	14.5	.0	.0	.0	41.3
		.0	2.8	43.5	10.5	8.2	35.0	.0	.0	.0	
		.0	24.2	40.6	45.0	36.5	45.2	.0	.0	.0	
11-20 yrs.	2	0	19	174	47	53	123	0	0	0	416
		.0	1.4	12.8	3.4	3.9	9.0	.0	.0	.0	30.5
		.0	4.6	41.8	11.3	12.7	29.6	.0	.0	.0	
		.0	28.8	28.8	35.9	42.1	28.2	.0	.0	.0	
21-30 yrs.	3	0	16	120	15	16	71	0	0	0	238
		.0	1.2	8.8	1.1	1.2	5.2	.0	.0	.0	17.5
		.0	6.7	50.4	6.3	6.7	29.8	.0	.0	.0	
		.0	24.2	19.9	11.5	12.7	16.3	.0	.0	.0	
over 30 yrs.	4	0	9	36	5	6	32	0	0	0	88
		.0	.7	2.6	.4	.4	2.3	.0	.0	.0	6.5
		.0	10.2	40.9	5.7	6.8	36.4	.0	.0	.0	
		.0	13.6	6.0	3.8	4.8	7.3	.0	.0	.0	
TOTAL		0	66	604	131	126	436	0	0	0	1363
		.0	4.8	44.3	9.6	9.2	32.0	.0	.0	.0	

TABLE 107

Ques. 10C. Can behavioral science data contribute to improve criminal justice?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	3	6	49	0	0	0	0	0	58
		.0	.2	.4	3.6	.0	.0	.0	.0	.0	4.3
		.0	5.2	10.3	84.5	.0	.0	.0	.0	.0	
		.0	2.7	4.3	4.4	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	43	67	453	0	0	0	0	0	563
		.0	3.2	4.9	33.2	.0	.0	.0	.0	.0	41.3
		.0	7.6	11.9	80.5	.0	.0	.0	.0	.0	
		.0	38.4	47.5	40.8	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	34	35	347	0	0	0	0	0	416
		.0	2.5	2.6	25.5	.0	.0	.0	.0	.0	30.5
		.0	8.2	8.4	83.4	.0	.0	.0	.0	.0	
		.0	30.4	24.8	31.3	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	23	24	191	0	0	0	0	0	238
		.0	1.7	1.8	14.0	.0	.0	.0	.0	.0	17.5
		.0	9.7	10.1	80.3	.0	.0	.0	.0	.0	
		.0	20.5	17.0	17.2	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	9	9	69	1	0	0	0	0	88
		.0	.7	.7	5.1	.1	.0	.0	.0	.0	6.5
		.0	10.2	10.2	78.4	1.1	.0	.0	.0	.0	
		.0	8.0	6.4	6.2	100.0	.0	.0	.0	.0	
TOTAL		0	112	141	1109	1	0	0	0	0	1363
		.0	8.2	10.3	81.4	.1	.0	.0	.0	.0	

TABLE 108

Ques. 11A. In what percentage of your criminal cases are reports of psychiatrists and psychologists used?

		No Response	10%	20%	30%	50%	75%	100%		
No Response	0	0	3	27	15	10	1	2	0	0	58
		.0	.2	2.0	1.1	.7	.1	.1	.0	.0	4.3
		.0	5.2	46.6	25.9	17.2	1.7	3.4	.0	.0	
		.0	12.0	3.5	4.6	6.5	1.7	5.9	.0	.0	
1-10 yrs.	1	0	8	308	152	52	27	11	5	0	563
		.0	.6	22.6	11.2	3.8	2.0	.8	.4	.0	41.3
		.0	1.4	54.7	27.0	9.2	4.8	2.0	.9	.0	
		.0	32.0	40.4	46.9	34.0	45.8	32.4	100.0	.0	
11-20 yrs.	2	0	6	244	91	53	13	9	0	0	416
		.0	.4	17.9	6.7	3.9	1.0	.7	.0	.0	30.5
		.0	1.4	58.7	21.9	12.7	3.1	2.2	.0	.0	
		.0	24.0	32.0	28.1	34.6	22.0	26.5	.0	.0	
21-30 yrs.	3	0	3	136	51	26	13	9	0	0	238
		.0	.2	10.0	3.7	1.9	1.0	.7	.0	.0	17.5
		.0	1.3	57.1	21.4	10.9	5.5	3.8	.0	.0	
		.0	12.0	17.8	15.7	17.0	22.0	26.5	.0	.0	
over 30 yrs.	4	0	5	48	15	12	5	3	0	0	88
		.0	.4	3.5	1.1	.9	.4	.2	.0	.0	6.5
		.0	5.7	54.5	17.0	13.6	5.7	3.4	.0	.0	
		.0	20.0	6.3	4.6	7.8	8.5	8.8	.0	.0	
TOTAL		0	25	763	324	153	59	34	5	0	1363
		.0	1.8	56.0	23.8	11.2	4.3	2.5	.4	.0	

TABLE 109

Ques. 11B. Would more use of psychiatric and psychological reports be helpful?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	4	19	35	0	0	0	0	0	58
		.0	.3	1.4	2.6	.0	.0	.0	.0	.0	4.3
		.0	6.9	32.8	60.3	.0	.0	.0	.0	.0	
		.0	4.1	5.4	3.8	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	46	145	372	0	0	0	0	0	563
		.0	3.4	10.6	27.3	.0	.0	.0	.0	.0	41.3
		.0	8.2	25.8	66.1	.0	.0	.0	.0	.0	
		.0	46.9	41.0	40.9	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	24	111	280	1	0	0	0	0	416
		.0	1.8	8.1	20.5	.1	.0	.0	.0	.0	30.5
		.0	5.8	26.7	67.3	.2	.0	.0	.0	.0	
		.0	24.5	31.4	30.8	100.0	.0	.0	.0	.0	
21-30 yrs.	3	0	19	52	167	0	0	0	0	0	238
		.0	1.4	3.8	12.3	.0	.0	.0	.0	.0	17.5
		.0	8.0	21.8	70.2	.0	.0	.0	.0	.0	
		.0	19.4	14.7	18.4	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	5	27	56	0	0	0	0	0	88
		.0	.4	2.0	4.1	.0	.0	.0	.0	.0	6.5
		.0	5.7	30.7	63.6	.0	.0	.0	.0	.0	
		.0	5.1	7.6	6.2	.0	.0	.0	.0	.0	
TOTAL		0	98	354	910	1	0	0	0	0	1363
		.0	7.2	26.0	66.8	.1	.0	.0	.0	.0	

TABLE 110

Ques. 11C. Why is more use not made of psychiatric and psychological reports?
Unavailable:

Years involved in criminal cases.

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	31	17	8	0	1	0	1	0	58
		.0	2.3	1.2	.6	.0	.1	.0	.1	.0	4.3
		.0	53.4	29.3	13.8	.0	1.7	.0	1.7	.0	
		.0	4.7	3.7	6.0	.0	4.2	.0	4.8	.0	
1-10 yrs.	1	0	269	182	59	20	10	11	12	0	563
		.0	19.7	13.4	4.3	1.5	.7	.8	.9	.0	41.3
		.0	47.8	32.3	10.5	3.6	1.8	2.0	2.1	.0	
		.0	40.8	39.7	44.4	41.7	41.7	55.0	57.1	.0	
11-20 yrs.	2	0	201	134	45	13	11	6	6	0	416
		.0	14.7	9.8	3.3	1.0	.8	.4	.4	.0	30.5
		.0	48.3	32.2	10.8	3.1	2.6	1.4	1.4	.0	
		.0	30.5	29.3	33.8	27.1	45.8	30.0	28.6	.0	
21-30 yrs.	3	0	106	97	16	13	2	2	2	0	238
		.0	7.8	7.1	1.2	1.0	.1	.1	.1	.0	17.5
		.0	44.5	40.8	6.7	5.5	.8	.8	.8	.0	
		.0	16.1	21.2	12.0	27.1	8.3	10.0	9.5	.0	
over 30 yrs.	4	0	52	28	5	2	0	1	0	0	88
		.0	3.8	2.1	.4	.1	.0	.1	.0	.0	6.5
		.0	59.1	31.8	5.7	2.3	.0	1.1	.0	.0	
		.0	7.9	6.1	3.8	4.2	.0	5.0	.0	.0	
TOTAL		0	659	458	133	48	24	20	21	0	1363
		.0	48.3	33.6	9.8	3.5	1.8	1.5	1.5	.0	

TABLE 111

Ques. 11C. Why is more use not made of psychiatric or psychological reports? Don't consider helpful:

Years involved in criminal cases.		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	39	6	7	2	3	1	0	0	58
		.0	2.9	.4	.5	.1	.2	.1	.0	.0	4.3
		.0	67.2	10.3	12.1	3.4	5.2	1.7	.0	.0	
		.0	4.1	4.6	8.9	2.2	5.2	2.5	.0	.0	
1-10 yrs.	1	0	395	41	33	39	31	21	3	0	563
		.0	29.0	3.0	2.4	2.9	2.3	1.5	.2	.0	41.3
		.0	70.2	7.3	5.9	6.9	5.5	3.7	.5	.0	
		.0	41.2	31.3	41.8	42.4	53.4	52.5	60.0	.0	
11-20 yrs.	2	0	277	55	22	35	12	13	2	0	416
		.0	20.3	4.0	1.6	2.6	.9	1.0	.1	.0	30.5
		.0	66.6	13.2	5.3	8.4	2.9	3.1	.5	.0	
		.0	28.9	42.0	27.8	38.0	20.7	32.5	40.0	.0	
21-30 yrs.	3	0	180	18	13	11	11	5	0	0	238
		.0	13.2	1.3	1.0	.8	.8	.4	.0	.0	17.5
		.0	75.6	7.6	5.5	4.6	4.6	2.1	.0	.0	
		.0	18.8	13.7	16.5	12.0	19.0	12.5	.0	.0	
over 30 yrs.	4	0	67	11	4	5	1	0	0	0	88
		.0	4.9	.8	.3	.4	.1	.0	.0	.0	6.5
		.0	76.1	12.5	4.5	5.7	1.1	.0	.0	.0	
		.0	7.0	8.4	5.1	5.4	1.7	.0	.0	.0	
TOTAL		0	958	131	79	92	58	40	5	0	1363
		.0	70.3	9.6	5.8	6.7	4.3	2.9	.4	.0	

TABLE 112

Ques. 11C. Why is more use not made of psychiatric or psychological reports? Don't consider necessary?

Years involved in criminal cases.		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	30	9	4	12	2	1	0	0	58
		.0	2.2	.7	.3	.9	.1	.1	.0	.0	4.3
		.0	51.7	15.5	6.9	20.7	3.4	1.7	.0	.0	
		.0	3.5	4.5	3.1	9.5	5.6	7.1	.0	.0	
1-10 yrs.	1	0	345	76	56	59	17	7	3	0	563
		.0	25.3	5.6	4.1	4.3	1.2	.5	.2	.0	41.3
		.0	61.3	13.5	9.9	10.5	3.0	1.2	.5	.0	
		.0	40.2	38.4	44.1	46.8	47.2	50.0	75.0	.0	
11-20 yrs.	2	0	257	62	40	43	8	6	0	0	416
		.0	18.9	4.5	2.9	3.2	.6	.4	.0	.0	30.5
		.0	61.8	14.9	9.6	10.3	1.9	1.4	.0	.0	
		.0	30.0	31.3	31.5	34.1	22.2	42.9	.0	.0	
21-30 yrs.	3	0	167	30	19	12	9	0	1	0	238
		.0	12.3	2.2	1.4	.9	.7	.0	.1	.0	17.5
		.0	70.2	12.6	8.0	5.0	3.8	.0	.4	.0	
		.0	19.5	15.2	15.0	9.5	25.0	.0	25.0	.0	
over 30 yrs.	4	0	59	21	8	0	0	0	0	0	88
		.0	4.3	1.5	.6	.0	.0	.0	.0	.0	6.5
		.0	67.0	23.9	9.1	.0	.0	.0	.0	.0	
		.0	6.9	10.6	6.3	.0	.0	.0	.0	.0	
	TOTAL	0	858	198	127	126	36	14	4	0	1363
		.0	62.9	14.5	9.3	9.2	2.6	1.0	.3	.0	

TABLE 113

Ques. 11C. Why is more use not made of psychiatric or psychological reports?
Immaterial:

Years involved in criminal cases.

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	45	4	1	6	1	1	0	0	58
		.0	3.3	.3	.1	.4	.1	.1	.0	.0	4.3
		.0	77.6	6.9	1.7	10.3	1.7	1.7	.0	.0	
		.0	4.6	3.8	1.3	4.7	2.6	2.8	.0	.0	
1-10 yrs.	1	0	377	46	36	65	16	17	6	0	563
		.0	27.7	3.4	2.6	4.8	1.2	1.2	.4	.0	41.3
		.0	67.0	8.2	6.4	11.5	2.8	3.0	1.1	.0	
		.0	38.9	44.2	46.8	51.2	42.1	47.2	50.0	.0	
11-20 yrs.	2	0	293	29	28	29	19	13	5	0	416
		.0	21.5	2.1	2.1	2.1	1.4	1.0	.4	.0	30.5
		.0	70.4	7.0	6.7	7.0	4.6	3.1	1.2	.0	
21-30 yrs.		.0	30.2	27.9	36.4	22.8	50.0	36.1	41.7	.0	
	3	0	184	17	7	22	2	5	1	0	238
		.0	13.5	1.2	.5	1.6	.1	.4	.1	.0	17.5
		.0	77.3	7.1	2.9	9.2	.8	2.1	.4	.0	
over 30 yrs.		.0	19.0	16.3	9.1	17.3	5.3	13.9	8.3	.0	
	4	0	70	8	5	5	0	0	0	0	88
		.0	5.1	.6	.4	.4	.0	.0	.0	.0	6.5
		.0	79.5	9.1	5.7	5.7	.0	.0	.0	.0	
		.0	7.2	7.7	6.5	3.9	.0	.0	.0	.0	
TOTAL		0	969	104	77	127	38	36	12	0	1363
		.0	71.1	7.6	5.6	9.3	2.8	2.6	.9	.0	

TABLE 114

Ques. 11C. Why is more use not made of psychiatric or psychological reports? Don't trust them:

Years involved in criminal cases.			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	47	4	0	1	1	1	4	0	58
		.0	3.4	.3	.0	.1	.1	.1	.3	.0	4.3
		.0	81.0	6.9	.0	1.7	1.7	1.7	6.9	.0	
		.0	4.4	4.5	.0	2.5	5.0	3.6	4.7	.0	
1-10 yrs.	1	0	420	39	17	18	11	16	42	0	563
		.0	30.8	2.9	1.2	1.3	.8	1.2	3.1	.0	41.3
		.0	74.6	6.9	3.0	3.2	2.0	2.8	7.5	.0	
		.0	39.3	44.3	51.5	45.0	55.0	57.1	48.8	.0	
11-20 yrs.	2	0	327	24	10	13	5	8	29	0	416
		.0	24.0	1.8	.7	1.0	.4	.6	2.1	.0	30.5
		.0	78.6	5.8	2.4	3.1	1.2	1.9	7.0	.0	
		.0	30.6	27.3	30.3	32.5	25.0	28.6	33.7	.0	
21-30 yrs.	3	0	197	13	5	7	3	3	10	0	238
		.0	14.5	1.0	.4	.5	.2	.2	.7	.0	17.5
		.0	82.8	5.5	2.1	2.9	1.3	1.3	4.2	.0	
		.0	18.4	14.8	15.2	17.5	15.0	10.7	11.6	.0	
over 30 yrs.	4	0	77	8	1	1	0	0	1	0	88
		.0	5.6	.6	.1	.1	.0	.0	.1	.0	6.5
		.0	87.5	9.1	1.1	1.1	.0	.0	1.1	.0	
		.0	7.2	9.1	3.0	2.5	.0	.0	1.2	.0	
TOTAL		0	1068	88	33	40	20	28	86	0	1363
		.0	78.4	6.5	2.4	2.9	1.5	2.1	6.3	.0	

TABLE 115

Ques. 11C. Why is more use not made of psychiatric or psychological reports? Too costly?

Years involved in criminal cases.

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	27	18	6	4	0	2	1	0	58
		.0	2.0	1.3	.4	.3	.0	.1	.1	.0	4.3
		.0	46.6	31.0	10.3	6.9	.0	3.4	1.7	.0	
1-10 yrs.	1	0	235	196	72	28	14	11	7	0	563
		.0	17.2	14.4	5.3	2.1	1.0	.8	.5	.0	41.3
		.0	41.7	34.8	12.8	5.0	2.5	2.0	1.2	.0	
		.0	39.8	42.4	40.7	43.1	60.9	37.9	41.2	.0	
11-20 yrs.	2	0	185	132	56	20	6	10	7	0	416
		.0	13.6	9.7	4.1	1.5	.4	.7	.5	.0	30.5
		.0	44.5	31.7	13.5	4.8	1.4	2.4	1.7	.0	
		.0	31.4	28.6	31.6	30.8	26.1	34.5	41.2	.0	
21-30 yrs.	3	0	98	67	35	7	3	6	2	0	238
		.0	7.2	6.4	2.6	.5	.2	.4	.1	.0	17.5
		.0	41.2	36.6	14.7	2.9	1.3	2.5	.8	.0	
		.0	16.6	18.8	19.8	10.8	13.0	20.7	11.8	.0	
over 30 yrs.	4	0	45	29	8	6	0	0	0	0	88
		.0	3.3	2.1	.6	.4	.0	.0	.0	.0	6.5
		.0	51.1	33.0	9.1	6.8	.0	.0	.0	.0	
		.0	7.6	6.3	4.5	9.2	.0	.0	.0	.0	
TOTAL		0	590	462	177	65	23	29	17	0	1363
		.0	43.3	33.9	13.0	4.8	1.7	2.1	1.2	.0	

TABLE 116

Ques. 11D. Does your court have a psychiatric clinic for use in criminal cases?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	3	29	26	0	0	0	0	0	58
		.0	.2	2.1	1.9	.0	.0	.0	.0	.0	4.3
		.0	5.2	50.0	44.8	.0	.0	.0	.0	.0	
		.0	9.7	4.1	4.2	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	11	297	255	0	0	0	0	0	563
		.0	.8	21.8	18.7	.0	.0	.0	.0	.0	41.3
		.0	2.0	52.8	45.3	.0	.0	.0	.0	.0	
		.0	35.5	42.1	40.8	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	6	202	208	0	0	0	0	0	416
		.0	.4	14.8	15.3	.0	.0	.0	.0	.0	30.5
		.0	1.4	48.6	50.0	.0	.0	.0	.0	.0	
		.0	19.4	28.6	33.3	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	5	133	99	0	0	0	0	1	238
		.0	.4	9.8	7.3	.0	.0	.0	.0	.1	17.5
		.0	2.1	55.9	41.6	.0	.0	.0	.0	.4	
		.0	16.1	18.8	15.8	.0	.0	.0	.0	100.0	
over 30 yrs.	4	0	6	45	37	0	0	0	0	0	88
		.0	.4	3.3	2.7	.0	.0	.0	.0	.0	6.5
		.0	6.8	51.1	42.0	.0	.0	.0	.0	.0	
		.0	19.4	6.4	5.9	.0	.0	.0	.0	.0	
TOTAL		0	31	706	625	0	0	0	0	1	1363
		.0	2.3	51.8	45.9	.0	.0	.0	.0	.1	

TABLE 117

Ques. 11E. Would you like to have more readily available psychiatric services for your criminal cases?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	6	15	37	0	0	0	0	0	58
		.0	.4	1.1	2.7	.0	.0	.0	.0	.0	4.3
		.0	10.3	25.9	63.8	.0	.0	.0	.0	.0	
		.0	8.5	5.2	3.7	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	22	113	428	0	0	0	0	0	563
		.0	1.6	8.3	31.4	.0	.0	.0	.0	.0	41.3
		.0	3.9	20.1	76.0	.0	.0	.0	.0	.0	
		.0	31.0	39.1	42.7	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	29	87	300	0	0	0	0	0	416
		.0	2.1	6.4	22.0	.0	.0	.0	.0	.0	30.5
		.0	7.0	20.9	72.1	.0	.0	.0	.0	.0	
		.0	40.8	30.1	29.9	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	8	51	179	0	0	0	0	0	238
		.0	.6	3.7	13.1	.0	.0	.0	.0	.0	17.5
		.0	3.4	21.4	75.2	.0	.0	.0	.0	.0	
		.0	11.3	17.6	17.8	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	6	23	59	0	0	0	0	0	88
		.0	.4	1.7	4.3	.0	.0	.0	.0	.0	6.5
		.0	6.8	26.1	67.0	.0	.0	.0	.0	.0	
		.0	8.5	8.0	5.9	.0	.0	.0	.0	.0	
TOTAL		0	71	289	1003	0	0	0	0	0	1363
		.0	5.2	21.2	73.6	.0	.0	.0	.0	.0	

TABLE 118

Ques. 12. Is certification or licensure by a public or private body of a forensic scientist an important criterion to determine the qualifications him as an expert scientific witness?

Years Involved in Criminal Cases

		No Response	No	Yes						
No Response	0	0	2	20	36	0	0	0	0	0	58
		.0	.1	1.5	2.6	.0	.0	.0	.0	.0	4.3
		.0	3.4	34.5	62.1	.0	.0	.0	.0	.0	
		.0	2.4	4.5	4.3	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	25	189	349	0	0	0	0	0	563
		.0	1.8	13.9	25.6	.0	.0	.0	.0	.0	41.3
		.0	4.4	33.6	62.0	.0	.0	.0	.0	.0	
		.0	30.1	43.0	41.5	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	28	143	245	0	0	0	0	0	416
		.0	2.1	10.5	18.0	.0	.0	.0	.0	.0	30.5
		.0	6.7	34.4	58.9	.0	.0	.0	.0	.0	
		.0	33.7	32.5	29.2	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	19	65	154	0	0	0	0	0	238
		.0	1.4	4.8	11.3	.0	.0	.0	.0	.0	17.5
		.0	8.0	27.3	64.7	.0	.0	.0	.0	.0	
		.0	22.9	14.8	18.3	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	9	23	56	0	0	0	0	0	88
		.0	.7	1.7	4.1	.0	.0	.0	.0	.0	6.5
		.0	10.2	26.1	63.6	.0	.0	.0	.0	.0	
		.0	10.8	5.2	6.7	.0	.0	.0	.0	.0	
TOTAL		0	83	440	840	0	0	0	0	0	1363
		.0	6.1	32.3	61.6	.0	.0	.0	.0	.0	

TABLE 119

Ques. 12. Should certification or licensure by a public or private body of a forens scientist be an important criterion to determine the qualifications of him as an expert scientific witness?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	9	12	37	0	0	0	0	0	58
		.0	.7	.9	2.7	.0	.0	.0	.0	.0	4.3
		.0	15.5	20.7	63.8	.0	.0	.0	.0	.0	
		.0	4.1	4.2	4.3	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	77	119	367	0	0	0	0	0	563
		.0	5.6	8.7	26.9	.0	.0	.0	.0	.0	41.3
		.0	13.7	21.1	65.2	.0	.0	.0	.0	.0	
		.0	35.2	41.3	42.9	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	71	91	254	0	0	0	0	0	416
		.0	5.2	6.7	18.6	.0	.0	.0	.0	.0	30.5
		.0	17.1	21.9	61.1	.0	.0	.0	.0	.0	
		.0	32.4	31.6	29.7	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	37	52	149	0	0	0	0	0	238
		.0	2.7	3.8	10.9	.0	.0	.0	.0	.0	17.5
		.0	15.5	21.8	62.6	.0	.0	.0	.0	.0	
		.0	16.9	18.1	17.4	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	25	14	49	0	0	0	0	0	88
		.0	1.8	1.0	3.6	.0	.0	.0	.0	.0	6.5
		.0	28.4	15.9	55.7	.0	.0	.0	.0	.0	
		.0	11.4	4.9	5.7	.0	.0	.0	.0	.0	
TOTAL		0	219	288	856	0	0	0	0	0	1363
		.0	16.1	21.1	62.8	.0	.0	.0	.0	.0	

TABLE 120

Ques. 13. Would video tape deposition of scientific witness expedite criminal justice process?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	2	15	41	0	0	0	0	0	58
		.0	.1	1.1	3.0	.0	.0	.0	.0	.0	4.3
		.0	3.4	25.9	70.7	.0	.0	.0	.0	.0	
		.0	2.2	4.1	4.5	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	39	145	379	0	0	0	0	0	563
		.0	2.9	10.6	27.8	.0	.0	.0	.0	.0	41.3
		.0	6.9	25.8	67.3	.0	.0	.0	.0	.0	
		.0	42.4	39.8	41.8	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	31	110	275	0	0	0	0	0	416
		.0	2.3	8.1	20.2	.0	.0	.0	.0	.0	30.5
		.0	7.5	26.4	66.1	.0	.0	.0	.0	.0	
		.0	33.7	30.2	30.3	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	10	70	158	0	0	0	0	0	238
		.0	.7	5.1	11.6	.0	.0	.0	.0	.0	17.5
		.0	4.2	29.4	66.4	.0	.0	.0	.0	.0	
		.0	10.9	19.2	17.4	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	10	24	54	0	0	0	0	0	88
		.0	.7	1.8	4.0	.0	.0	.0	.0	.0	6.5
		.0	11.4	27.3	61.4	.0	.0	.0	.0	.0	
		.0	10.9	6.6	6.0	.0	.0	.0	.0	.0	
TOTAL		0	92	364	907	0	0	0	0	0	1363
		.0	6.7	26.7	66.5	.0	.0	.0	.0	.0	

TABLE 121

Ques. 13. Do you approve video tape deposition of scientific witness?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	8	16	34	0	0	0	0	0	58
		.0	.6	1.2	2.5	.0	.0	.0	.0	.0	4.3
		.0	13.8	27.6	58.6	.0	.0	.0	.0	.0	
		.0	3.6	4.3	4.5	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	81	159	323	0	0	0	0	0	563
		.0	5.9	11.7	23.7	.0	.0	.0	.0	.0	41.3
		.0	14.4	28.2	57.4	.0	.0	.0	.0	.0	
		.0	36.2	42.4	42.3	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	75	109	231	0	0	0	1	0	416
		.0	5.5	8.0	16.9	.0	.0	.0	.1	.0	30.5
		.0	18.0	26.2	55.5	.0	.0	.0	.2	.0	
		.0	33.5	29.1	30.3	.0	.0	.0	100.0	.0	
21-30 yrs.	3	0	45	68	125	0	0	0	0	0	238
		.0	3.3	5.0	9.2	.0	.0	.0	.0	.0	17.5
		.0	18.9	28.6	52.5	.0	.0	.0	.0	.0	
		.0	20.1	18.1	16.4	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	15	23	50	0	0	0	0	0	88
		.0	1.1	1.7	3.7	.0	.0	.0	.0	.0	6.5
		.0	17.0	26.1	56.8	.0	.0	.0	.0	.0	
		.0	6.7	6.1	6.6	.0	.0	.0	.0	.0	
TOTAL		0	224	375	763	0	0	0	1	0	1363
		.0	16.4	27.5	56.0	.0	.0	.0	.1	.0	

TABLE 122

Ques. 14. Are changes needed in laws to permit better use of forensic sciences?

Years involved in criminal cases.		No Response	No	Yes						
No Response	0	0	5	18	35	0	0	0	0	0	58
		.0	.4	1.3	2.6	.0	.0	.0	.0	.0	4.3
		.0	8.6	31.0	60.3	.0	.0	.0	.0	.0	
		.0	3.3	4.1	4.6	.0	.0	.0	.0	.0	
1-10 yrs.	1	0	64	169	330	0	0	0	0	0	563
		.0	4.7	12.4	24.2	.0	.0	.0	.0	.0	41.3
		.0	11.4	30.0	58.6	.0	.0	.0	.0	.0	
		.0	42.7	38.1	42.9	.0	.0	.0	.0	.0	
11-20 yrs.	2	0	46	154	216	0	0	0	0	0	416
		.0	3.4	11.3	15.8	.0	.0	.0	.0	.0	30.5
		.0	11.1	37.0	51.9	.0	.0	.0	.0	.0	
		.0	30.7	34.7	28.1	.0	.0	.0	.0	.0	
21-30 yrs.	3	0	20	80	138	0	0	0	0	0	238
		.0	1.5	5.9	10.1	.0	.0	.0	.0	.0	17.5
		.0	8.4	33.6	58.0	.0	.0	.0	.0	.0	
		.0	13.3	18.0	17.9	.0	.0	.0	.0	.0	
over 30 yrs.	4	0	15	23	50	0	0	0	0	0	88
		.0	1.1	1.7	3.7	.0	.0	.0	.0	.0	6.5
		.0	17.0	26.1	56.8	.0	.0	.0	.0	.0	
		.0	10.0	5.2	6.5	.0	.0	.0	.0	.0	
TOTAL		0	150	444	769	0	0	0	0	0	1363
		.0	11.0	32.6	56.4	.0	.0	.0	.0	.0	

TABLE 123

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ads in bar journals:

Years involved in criminal cases.

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	51	2	1	1	1	0	2	0	58
		.0	3.7	.1	.1	.1	.1	.0	.1	.0	4.3
		.0	87.9	3.4	1.7	1.7	1.7	.0	3.4	.0	
		.0	4.6	3.0	1.8	1.9	5.6	.0	9.1	.0	
1-10 yrs.	1	0	443	22	33	26	6	7	12	14	563
		.0	32.5	1.6	2.4	1.9	.4	.5	.9	1.0	41.3
		.0	78.7	3.9	5.9	4.6	1.1	1.2	2.1	2.5	
		.0	40.1	33.3	60.0	49.1	33.3	38.9	54.5	53.8	
11-20 yrs.	2	0	346	20	8	15	6	8	4	9	416
		.0	25.4	1.5	.6	1.1	.4	.6	.3	.7	30.5
		.0	83.2	4.8	1.9	3.6	1.4	1.9	1.0	2.2	
		.0	31.3	30.3	14.5	28.3	33.3	44.4	18.2	34.6	
21-30 yrs.	3	0	189	14	10	10	5	3	4	3	238
		.0	13.9	1.0	.7	.7	.4	.2	.3	.2	17.5
		.0	79.4	5.9	4.2	4.2	2.1	1.3	1.7	1.3	
		.0	17.1	21.2	18.2	18.9	27.8	16.7	18.2	11.5	
over 30 yrs.	4	0	76	8	3	1	0	0	0	0	88
		.0	5.6	.6	.2	.1	.0	.0	.0	.0	6.5
		.0	86.4	9.1	3.4	1.1	.0	.0	.0	.0	
		.0	6.9	12.1	5.5	1.9	.0	.0	.0	.0	
TOTAL		0	1105	66	55	53	18	18	22	26	1363
		.0	81.1	4.8	4.0	3.9	1.3	1.3	1.6	1.9	

TABLE 124

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ask fellow lawyer:

Years involved in criminal cases.		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.		
No Response	0	0	33	17	4	3	0	1	0	0	58
		.0	2.4	1.2	.3	.2	.0	.1	.0	.0	4.3
		.0	56.9	29.3	6.9	5.2	.0	1.7	.0	.0	
		.0	4.5	4.0	3.2	5.8	.0	12.5	.0	.0	
1-10 yrs.	1	0	273	203	57	18	6	3	2	1	563
		.0	20.0	14.9	4.2	1.3	.4	.2	.1	.1	41.3
		.0	48.5	36.1	10.1	3.2	1.1	.5	.4	.2	
		.0	37.2	47.7	45.6	34.6	54.5	37.5	33.3	100.0	
11-20 yrs.	2	0	229	125	38	16	2	3	3	0	416
		.0	16.8	9.2	2.8	1.2	.1	.2	.2	.0	30.5
		.0	55.0	30.0	9.1	3.8	.5	.7	.7	.0	
		.0	31.2	29.3	30.4	30.8	18.2	37.5	50.0	.0	
21-30 yrs.	3	0	142	59	22	11	2	1	1	0	238
		.0	10.4	4.3	1.6	.8	.1	.1	.1	.0	17.5
		.0	59.7	24.8	9.2	4.6	.8	.4	.4	.0	
		.0	19.3	13.8	17.6	21.2	18.2	12.5	16.7	.0	
over 30 yrs.	4	0	57	22	4	4	1	0	0	0	88
		.0	4.2	1.6	.3	.3	.1	.0	.0	.0	6.5
		.0	64.8	25.0	4.5	4.5	1.1	.0	.0	.0	
		.0	7.8	5.2	3.2	7.7	9.1	.0	.0	.0	
TOTAL		0	734	426	125	52	11	8	6	1	1363
		.0	53.9	31.3	9.2	3.8	.8	.6	.4	.1	

TABLE 125

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Ask scientific acquaintance?

Years involved in criminal cases.			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	32	11	8	4	0	2	0	1	58
		.0	2.3	.8	.6	.3	.0	.1	.0	.1	4.3
		.0	55.2	19.0	13.8	6.9	.0	3.4	.0	1.7	
		.0	3.9	4.0	4.8	6.3	.0	33.3	.0	11.1	
1-10 yrs.	1	0	343	98	70	32	12	1	1	6	563
		.0	25.2	7.2	5.1	2.3	.9	.1	.1	.4	41.3
		.0	60.9	17.4	12.4	5.7	2.1	.2	.2	1.1	
		.0	42.2	35.3	41.9	50.0	57.1	16.7	16.7	66.7	
11-20 yrs.	2	0	239	95	53	18	7	0	2	2	416
		.0	17.5	7.0	3.9	1.3	.5	.0	.1	.1	30.5
		.0	57.5	22.8	12.7	4.3	1.7	.0	.5	.5	
		.0	29.4	34.2	31.7	28.1	33.3	.0	33.3	22.2	
21-30 yrs.	3	0	141	54	27	8	2	3	3	0	238
		.0	10.3	4.0	2.0	.6	.1	.2	.2	.0	17.5
		.0	59.2	22.7	11.3	3.4	.8	1.3	1.3	.0	
		.0	17.4	19.4	16.2	12.5	9.5	50.0	50.0	.0	
over 30 yrs.	4	0	57	20	9	2	0	0	0	0	88
		.0	4.2	1.5	.7	.1	.0	.0	.0	.0	6.5
		.0	64.8	22.7	10.2	2.3	.0	.0	.0	.0	
		.0	7.0	7.2	5.4	3.1	.0	.0	.0	.0	
TOTAL		0	812	278	167	64	21	6	6	9	1363
		.0	59.6	20.4	12.3	4.7	1.5	.4	.4	.7	

TABLE 126

Ques. 15. How do you locate a forensic scientist to provide expert evidence?
Articles in legal literature:

Years Involved in Criminal Cases.

		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	49	2	1	3	3	0	0	0	58
		.0	3.6	.1	.1	.2	.2	.0	.0	.0	4.3
		.0	84.5	3.4	1.7	5.2	5.2	.0	.0	.0	
		.0	4.7	2.6	1.6	3.3	6.1	.0	.0	.0	
1-10 yrs.	1	0	433	21	29	43	21	8	7	1	563
		.0	31.8	1.5	2.1	3.2	1.5	.6	.5	.1	41.3
		.0	76.9	3.7	5.2	7.6	3.7	1.4	1.2	.2	
		.0	41.3	27.6	46.8	47.8	42.9	36.4	53.8	50.0	
11-20 yrs.	2	0	322	29	21	19	14	8	3	0	416
		.0	23.6	2.1	1.5	1.4	1.0	.6	.2	.0	30.5
		.0	77.4	7.0	5.0	4.6	3.4	1.9	.7	.0	
		.0	30.7	38.2	33.9	21.1	28.6	36.4	23.1	.0	
21-30 yrs.	3	0	176	17	7	17	11	6	3	1	238
		.0	12.9	1.2	.5	1.2	.8	.4	.2	.1	17.5
		.0	73.9	7.1	2.9	7.1	4.6	2.5	1.3	.4	
		.0	16.8	22.4	11.3	18.9	22.4	27.3	23.1	50.0	
over 30 yrs.	4	0	69	7	4	8	0	0	0	0	88
		.0	5.1	.5	.3	.6	.0	.0	.0	.0	6.5
		.0	78.4	8.0	4.5	9.1	.0	.0	.0	.0	
		.0	6.6	9.2	6.5	8.9	.0	.0	.0	.0	
TOTAL		0	1049	76	62	90	49	22	13	2	1363
		.0	77.0	5.6	4.5	6.6	3.6	1.6	1.0	.1	

TABLE 127

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Articles in scientific literature:

Years involved in criminal cases.		No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	49	1	1	3	0	2	1	1	58
		.0	3.6	.1	.1	.2	.0	.1	.1	.1	4.3
		.0	84.5	1.7	1.7	5.2	.0	3.4	1.7	1.7	
		.0	4.4	1.9	2.7	6.0	.0	4.9	3.6	5.6	
1-10 yrs.	1	0	456	14	13	27	12	17	16	8	563
		.0	33.5	1.0	1.0	2.0	.9	1.2	1.2	.6	41.3
		.0	81.0	2.5	2.3	4.8	2.1	3.0	2.8	1.4	
		.0	41.3	26.9	35.1	54.0	36.4	41.5	57.1	44.4	
11-20 yrs.	2	0	338	20	14	11	10	13	6	4	416
		.0	24.8	1.5	1.0	.8	.7	1.0	.4	.3	30.5
		.0	81.3	4.8	3.4	2.6	2.4	3.1	1.4	1.0	
		.0	30.6	38.5	37.8	22.0	30.3	31.7	21.4	22.2	
21-30 yrs.	3	0	183	12	9	6	10	8	5	5	238
		.0	13.4	.9	.7	.4	.7	.6	.4	.4	17.5
		.0	76.9	5.0	3.8	2.5	4.2	3.4	2.1	2.1	
		.0	16.6	23.1	24.3	12.0	30.3	19.5	17.9	27.8	
over 30 yrs.	4	0	78	5	0	3	1	1	0	0	88
		.0	5.7	.4	.0	.2	.1	.1	.0	.0	6.5
		.0	88.6	5.7	.0	3.4	1.1	1.1	.0	.0	
		.0	7.1	9.6	.0	6.0	3.0	2.4	.0	.0	
TOTAL		0	1104	52	37	50	33	41	28	18	1363
		.0	81.0	3.8	2.7	3.7	2.4	3.0	2.1	1.3	

TABLE 128

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Contact scientific societies?

Years involved in criminal cases.			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	41	4	5	3	2	0	2	1	58
		.0	3.0	.3	.4	.2	.1	.0	.1	.1	4.3
		.0	70.7	6.9	8.6	5.2	3.4	.0	3.4	1.7	
		.0	4.2	3.1	6.9	3.2	8.0	.0	7.4	25.0	
1-10 yrs.	1	0	402	50	33	35	14	19	9	1	563
		.0	29.5	3.7	2.4	2.6	1.0	1.4	.7	.1	41.3
		.0	71.4	8.9	5.9	6.2	2.5	3.4	1.6	.2	
		.0	40.9	39.4	45.8	37.2	56.0	61.3	33.3	25.0	
11-20 yrs.	2	0	307	33	17	37	6	9	7	0	416
		.0	22.5	2.4	1.2	2.7	.4	.7	.5	.0	30.5
		.0	73.8	7.9	4.1	8.9	1.4	2.2	1.7	.0	
		.0	31.2	26.0	23.6	39.4	24.0	29.0	25.9	.0	
21-30 yrs.	3	0	164	29	15	14	3	3	8	2	238
		.0	12.0	2.1	1.1	1.0	.2	.2	.6	.1	17.5
		.0	68.9	12.2	6.3	5.9	1.3	1.3	3.4	.8	
		.0	16.7	22.8	20.8	14.9	12.0	9.7	29.6	50.0	
over 30 yrs.	4	0	69	11	2	5	0	0	1	0	88
		.0	5.1	.8	.1	.4	.0	.0	.1	.0	6.5
		.0	78.4	12.5	2.3	5.7	.0	.0	1.1	.0	
		.0	7.0	8.7	2.8	5.3	.0	.0	3.7	.0	
TOTAL		0	983	127	72	94	25	31	27	4	1363
		.0	72.1	9.3	5.3	6.9	1.8	2.3	2.0	.3	

TABLE 129

Ques. 15. How do you locate a forensic scientist to provide expert evidence? Address lists of scientific societies:

Years involved in criminal cases.			No Response	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	
No Response	0	0	50	2	1	0	2	1	1	1	58
		.0	3.7	.1	.1	.0	.1	.1	.1	.1	4.3
		.0	86.2	3.4	1.7	.0	3.4	1.7	1.7	1.7	
		.0	4.6	2.8	3.4	.0	6.3	3.4	2.9	3.4	
1-10 yrs.	1	0	437	29	11	27	15	15	16	13	563
		.0	32.1	2.1	.8	2.0	1.1	1.1	1.2	1.0	41.3
		.0	77.6	5.2	2.0	4.8	2.7	2.7	2.8	2.3	
		.0	40.2	40.3	37.9	52.9	46.9	51.7	45.7	44.8	
11-20 yrs.	2	0	339	14	11	16	10	5	13	8	416
		.0	24.9	1.0	.8	1.2	.7	.4	1.0	.6	30.5
		.0	81.5	3.4	2.6	3.8	2.4	1.2	3.1	1.9	
		.0	31.2	19.4	37.9	31.4	31.3	17.2	37.1	27.6	
21-30 yrs.	3	0	181	19	6	7	5	8	5	7	238
		.0	13.3	1.4	.4	.5	.4	.6	.4	.5	17.5
		.0	76.1	8.0	2.5	2.9	2.1	3.4	2.1	2.9	
		.0	16.7	26.4	20.7	13.7	15.6	27.6	14.3	24.1	
over 30 yrs.	4	0	79	8	0	1	0	0	0	0	88
		.0	5.8	.6	.0	.1	.0	.0	.0	.0	6.5
		.0	89.8	9.1	.0	1.1	.0	.0	.0	.0	
		.0	7.3	11.1	.0	2.0	.0	.0	.0	.0	
	TOTAL	0	1086	72	29	51	32	29	35	29	1363
		.0	79.7	5.3	2.1	3.7	2.3	2.1	2.6	2.1	

Appendix E

Records and photographs used by the forensic odontologist in State v. Schroeder.

PATIENT NUMBER DENTIST'S RECORDS — DR. JOS. L. FAUST
3817 W 160 ST.
CLEVELAND, 44111
671-0310

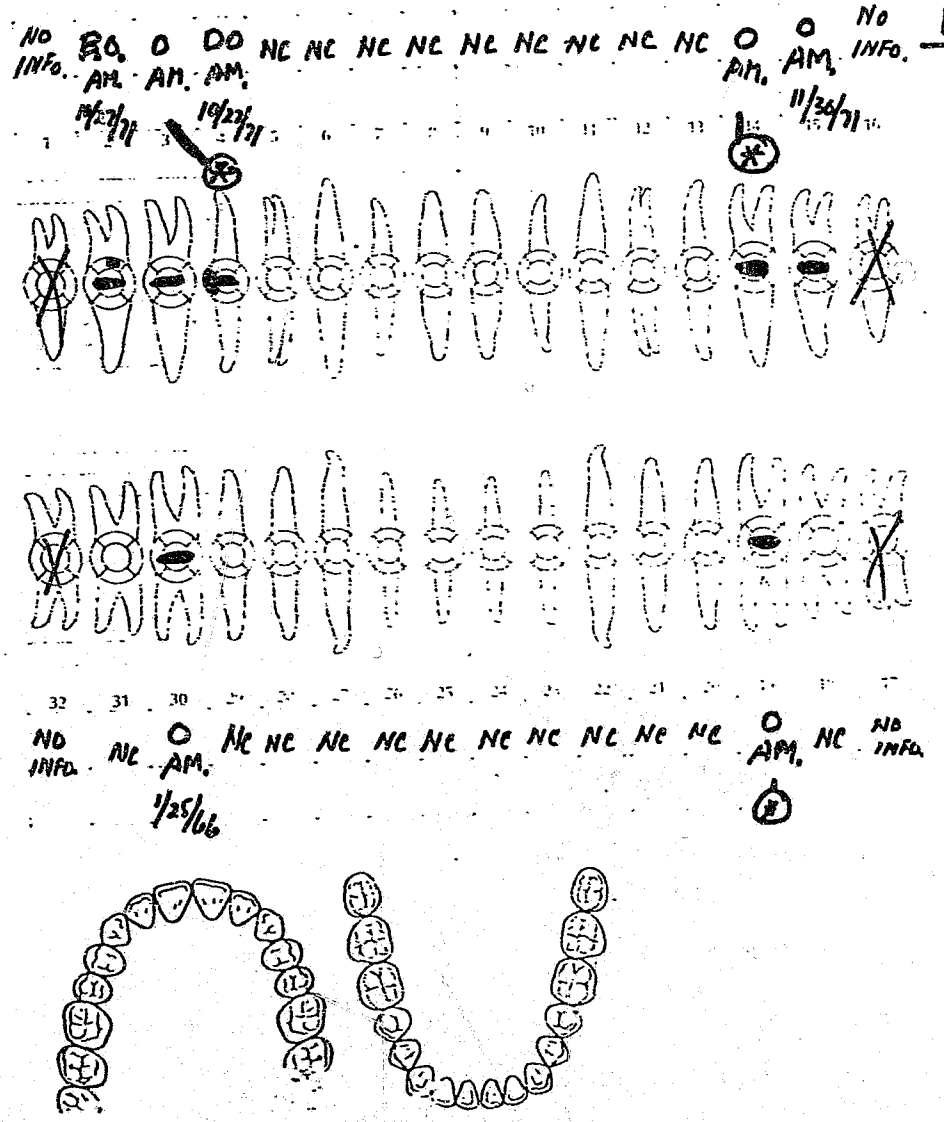
DATE OF EXAMINATION 3-29-74 9¹⁵ AM.

LAST NAME Mc WEENY FIRST NAME CHRISTINE
BORN: 4-4-55

ADDRESS 8537 W 48

CITY CLEVELAND STATE OHIO ZIP

DIAGRAM MADE FROM DATA IN X-RAYS AND WRITTEN RECORDS



RECORDS AVAILABLE:

2 STANDARD FORMS — 12-28-65 TO 1-25-66
9-16-66 TO 11-30-71

3 4X5 CARDS & NOTATIONS 11-24-67, 6-19-68, 12-22-69, 4-21-71, 10-27-71, 11-30-71.

X-RAYS — 9-16-66 L&R BW's
11-24-67 L&R BW's
6-19-68 L&R BW's
12-22-69 L&2R BW's
LOWER INCISORS (1)
UPPER INCISORS (1)
4-21-71 L&R BW's

1 SUMMARY SHEET PREPARED FROM RECORDS

NOTE: NO GRAPHIC NOTATIONS ON RECORDS, EXCEPT FILLING ON #30. ALL OTHER NOTES WRITTEN.

FINDINGS:

Ⓡ FILLINGS IN #3, 14, 19 DONE BY ANOTHER DENTIST PRIOR TO DR. FAUST'S WORK. VISIBLE IN X-RAYS OF 9-16-66 + ALL SUBSEQUENT.

WRITTEN RECORDS SHOW —
DEEP ANTERIOR OVERBITE & CLASS I OCCLUSION (11-24-67, 12-22-69)
CROWDED LOWER ANTERIORS & SLIGHTLY CROWDED UPPER ANTERIORS (11-24-67, 6-19-68, 4-8-71, 12-22-69)
NO MISSING TEETH — SUMMARY SHEET
28 TEETH PRESENT - 12-22-69

SUMM. SHEET { ALL 4 1ST MOLARS - SILVER OCCLUS. FILLINGS
BOTH UPPER 2d MOLARS. " " "
UPPER RT. 2d. BICUSPID. " FILLING, DO.

FILLINGS AS SHOWN PLACED IN #2, 4, 15, 30

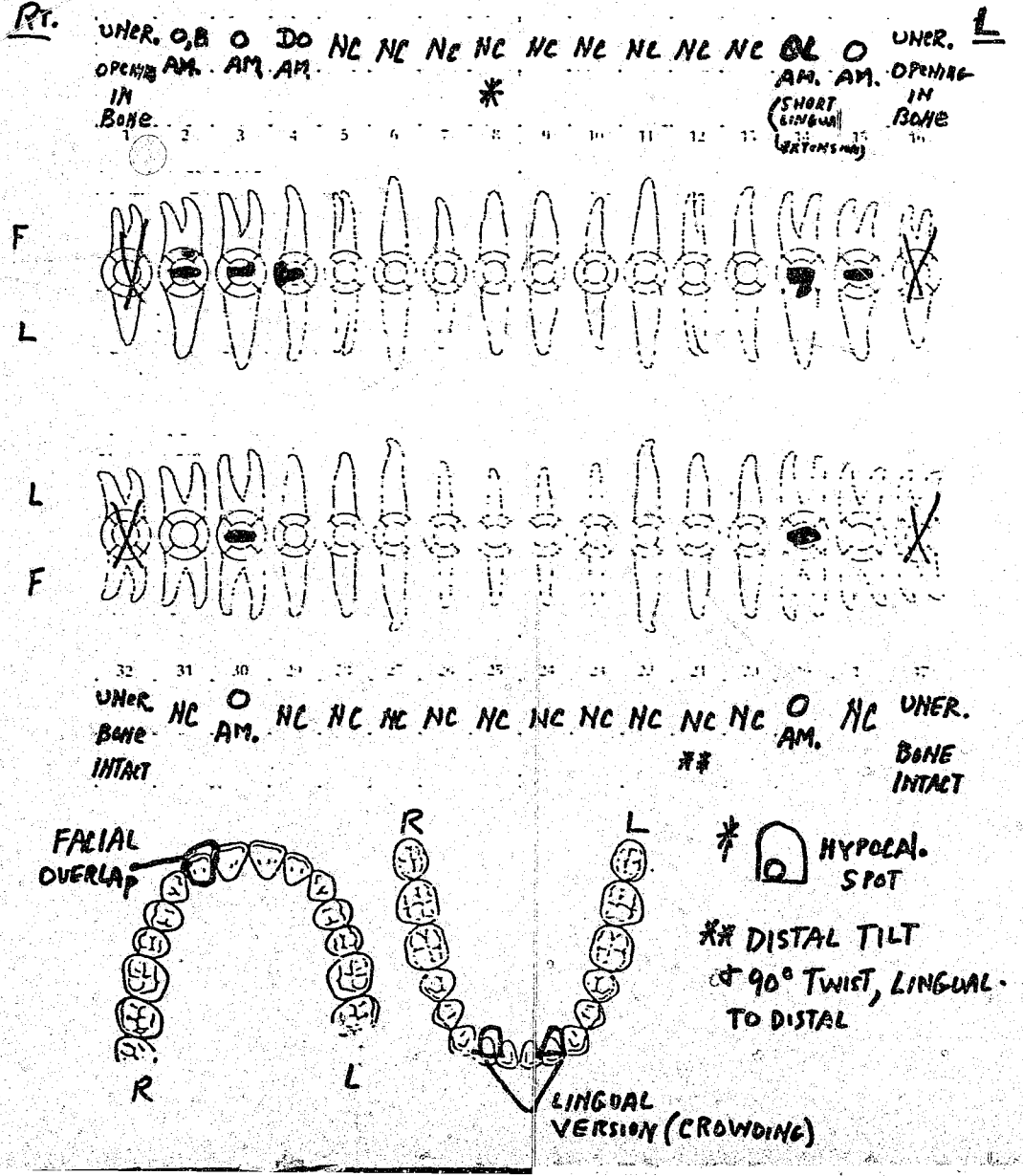
PATIENT NUMBER CCC # 153344

DATE OF EXAMINATION 3-29-71 8:45 A.M.

LAST NAME Poss. Christine McWeeny FIRST NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____



IMPRESSION: CAUCASIAN FEMALE

ESTIMATED AGE: 18-20 (VISUAL)

NO BONE RECESSION OR PATH.

28 Teeth present — 21 NC, 7 Filled. 3M's. UNER.

CL I POSTERIOR occl.; ANT. OVERBITE CA. ½ of lowers. NOT MUCH OVERJET.

GUSTAFSON SYSTEM AGE EST. ON #28: (MICROSCOPIC)

A - 0.25
P - 0
Sd - 0.25
Se - 0
T - 1
RR - 0

1.5 = 18 YRS.

TOOK SKULL to X-RAY CLINIC, & with JAMES THORNTON MADE L & R B.W. FILMS.

NOTE:

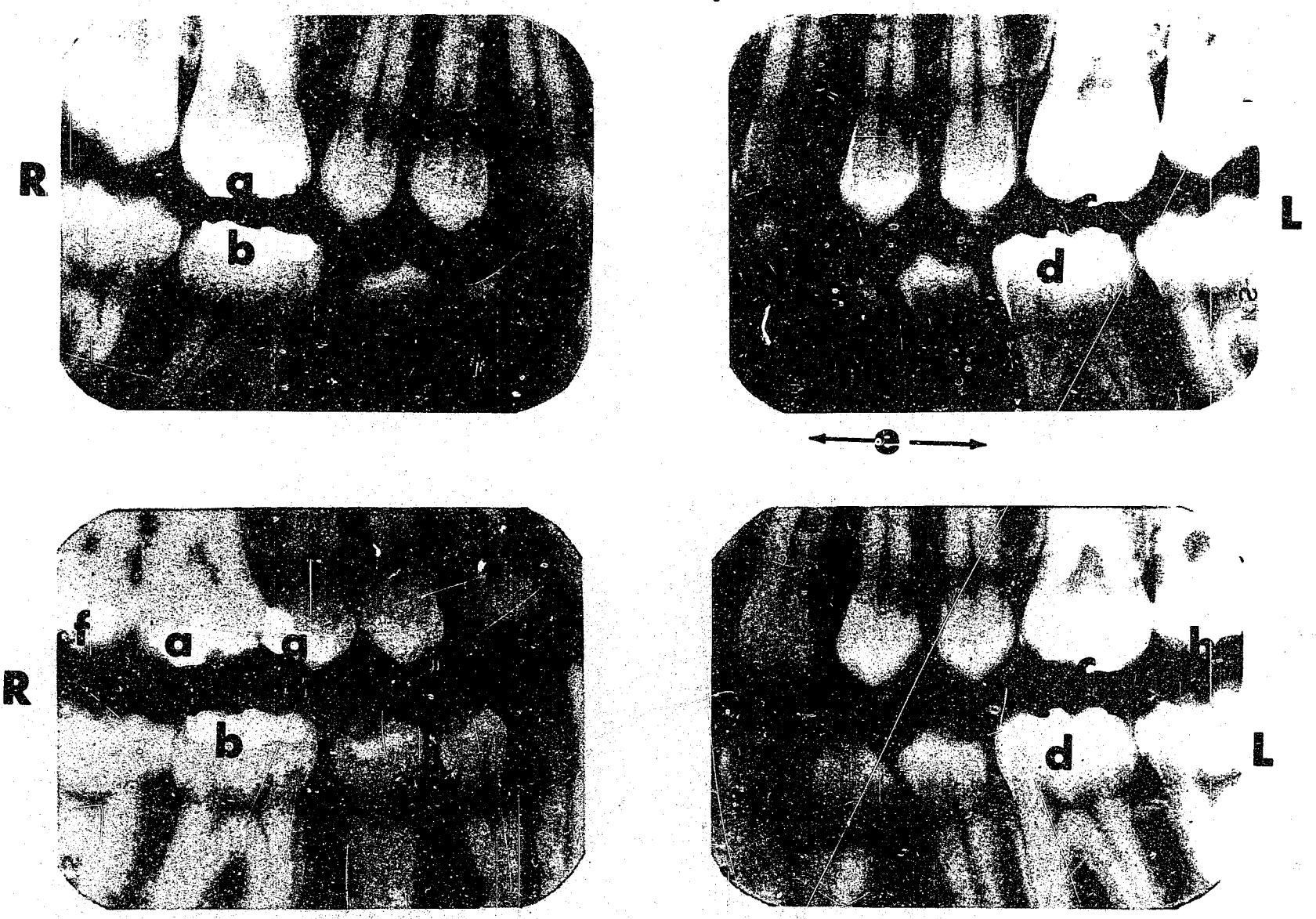
DATE OF DISAPPEARANCE OF Ms McWeeny — 10-25-73

" " BORN - 4-4-55

AGE 10-25-73 = 18.56

op pair: . c eeny, 4-21-71 (Dr. Faust)

Bottom pair: Skull no. 153344, 3-29-74 (Dr. Scott)



a-d: matching fillings
e: matching tilted teeth
f-h: filled after 4-21-71 by Dr. Faust

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