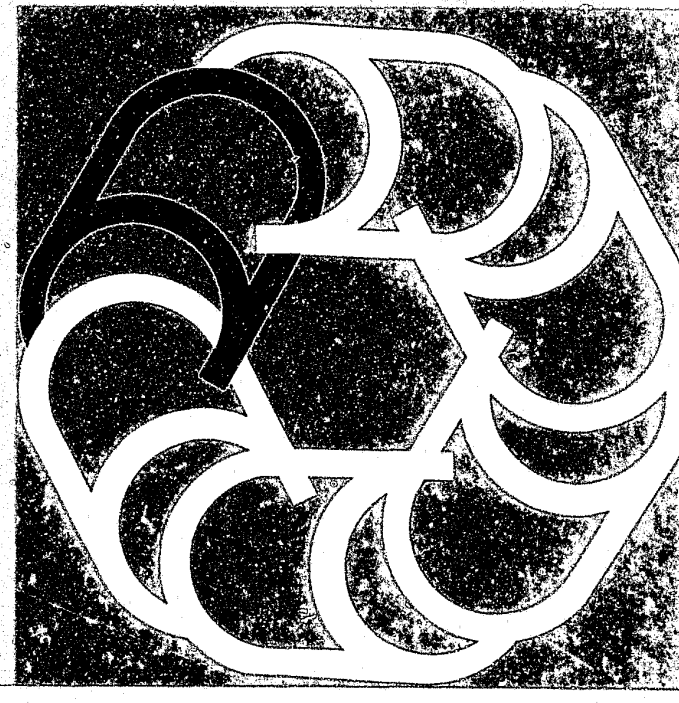
National Advisory Committee on Criminal Justice Standards and Goals

Criminal Justice Research and Development

Report of the Task Force on Criminal Justice Research and Development



National Advisory
Committee on
Criminal Justice
Standards and Goals
Washington: 1976

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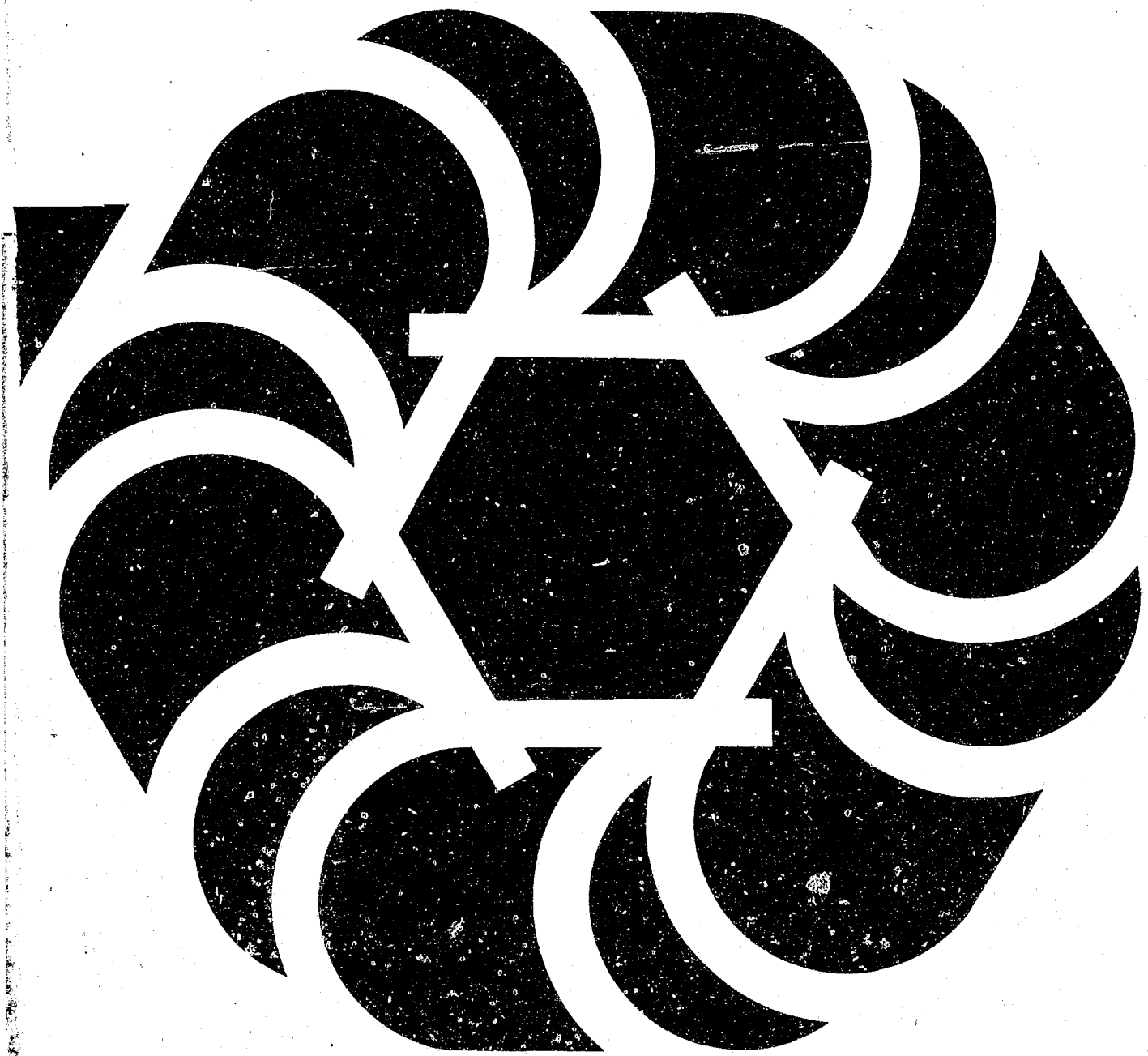
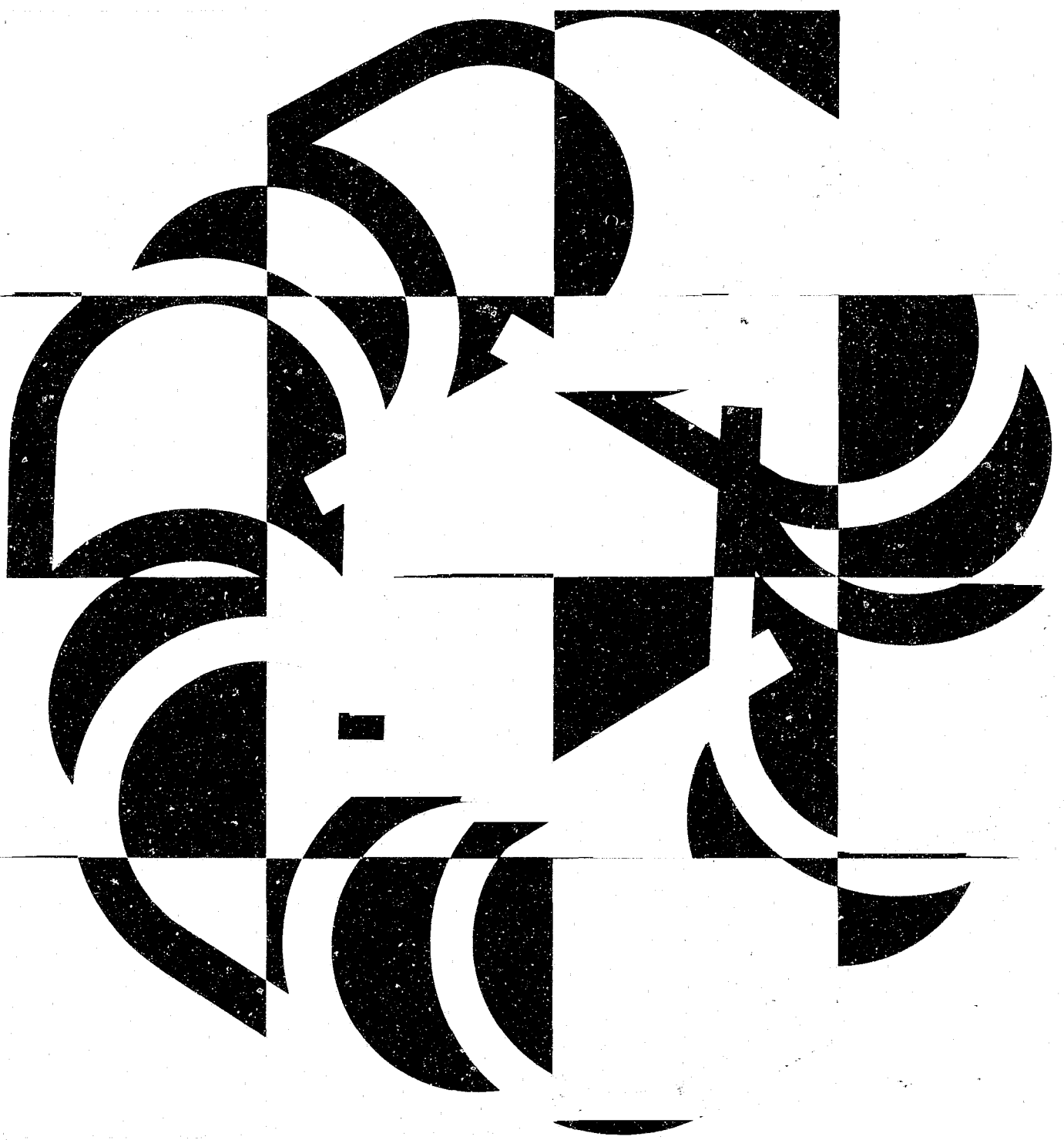
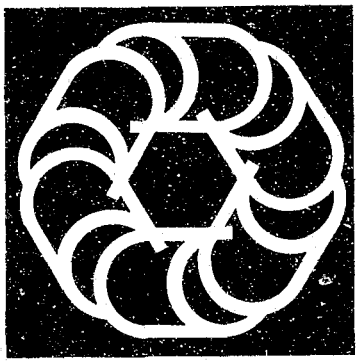


Statement of the Administrator





This volume, *Criminal Justice Research and Development,* is one of five reports of the National Advisory Committee on Criminal Justice Standards and Goals.

The National Advisory Committee was formed by the Law Enforcement Assistance Administration (LEAA) in the spring of 1975. Governor Brendan T. Byrne of New Jersey was appointed Chairman of the Committee. Charles S. House, Chief Justice of the Connecticut Supreme Court, was named Vice-Chairman. Other members were drawn from the three branches of State and local government, the criminal justice community, and the private sector. Four of the 12 members were elected officials of general government.

The purpose of the Committee was to continue the ground-breaking work of its predecessor organization, the National Advisory Commission on Criminal Justice Standards and Goals. In 1973 the Commission published a six-volume report setting forth standards and goals for police, courts, corrections, the criminal justice system, and crime prevention. Two years later, the National Advisory Committee addressed several additional areas of concern: juvenile justice and delinquency prevention, organized crime, research and development, disorders and terrorism, and private security. Task forces were established to study and propose standards in each of these areas. The task forces were comprised of a cross section of experts and leading practitioners in each of the respective fields.

The Committee reviewed the standards proposed by each task force and made suggestions for change, as appropriate. The process was a dynamic one, with an active exchange of views between task force and Committee members. In almost all instances, the Committee and the task forces ultimately concurred on the standards adopted. In a few cases, there were differences in philosophy and approach that were not resolved. Where such discrepancies exist, each view is presented with the Committee's position noted either in the Chairman's introduction or in a footnote to the particular standard.

Standards and goals is an ongoing process. As standards are implemented, experience will dictate that some be revised, or even discarded altogether. Further research and evaluation will also contribute to growing knowledge about what can and should be done to control crime and improve the system of criminal justice. It is in keeping with this emphasis on a dynamic, ongoing standards and goals effort that the Congress has recently established a permanent National Advisory Committee on Criminal Justice Standards and Goals.

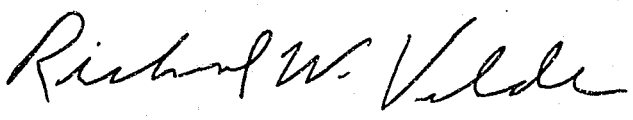
Although LEAA provided financial support to both the Committee and the task forces, the recommendations and judgements expressed in the reports do not necessarily reflect those of LEAA. LEAA had no voting participation at either the task force or Committee level. And,

as with the 1973 report of the previous Commission, it is LEAA's policy neither to endorse the standards nor to mandate their acceptance by State and local governments. It is LEAA policy, however, to encourage each State and locality to evaluate its present status in light of these reports, and to develop standards that are appropriate for their communities.

On behalf of the Law Enforcement Assistance Administration, I want to thank the members of the National Advisory Committee and the task forces for their time and effort. Those members of the Committee who did "double-duty" as task force chairmen deserve special thanks.

I want to express LEAA's sincerest gratitude to the Chairman of the National Advisory Committee, Governor Byrne. Much of the success of this undertaking is directly attributable to his leadership, hard work, and unflagging good humor.

Finally, it is also appropriate to pay tribute to William T. Archey of LEAA for his outstanding and dedicated service to the Committee and for bringing this entire effort to such a successful conclusion.



RICHARD W. VELDE
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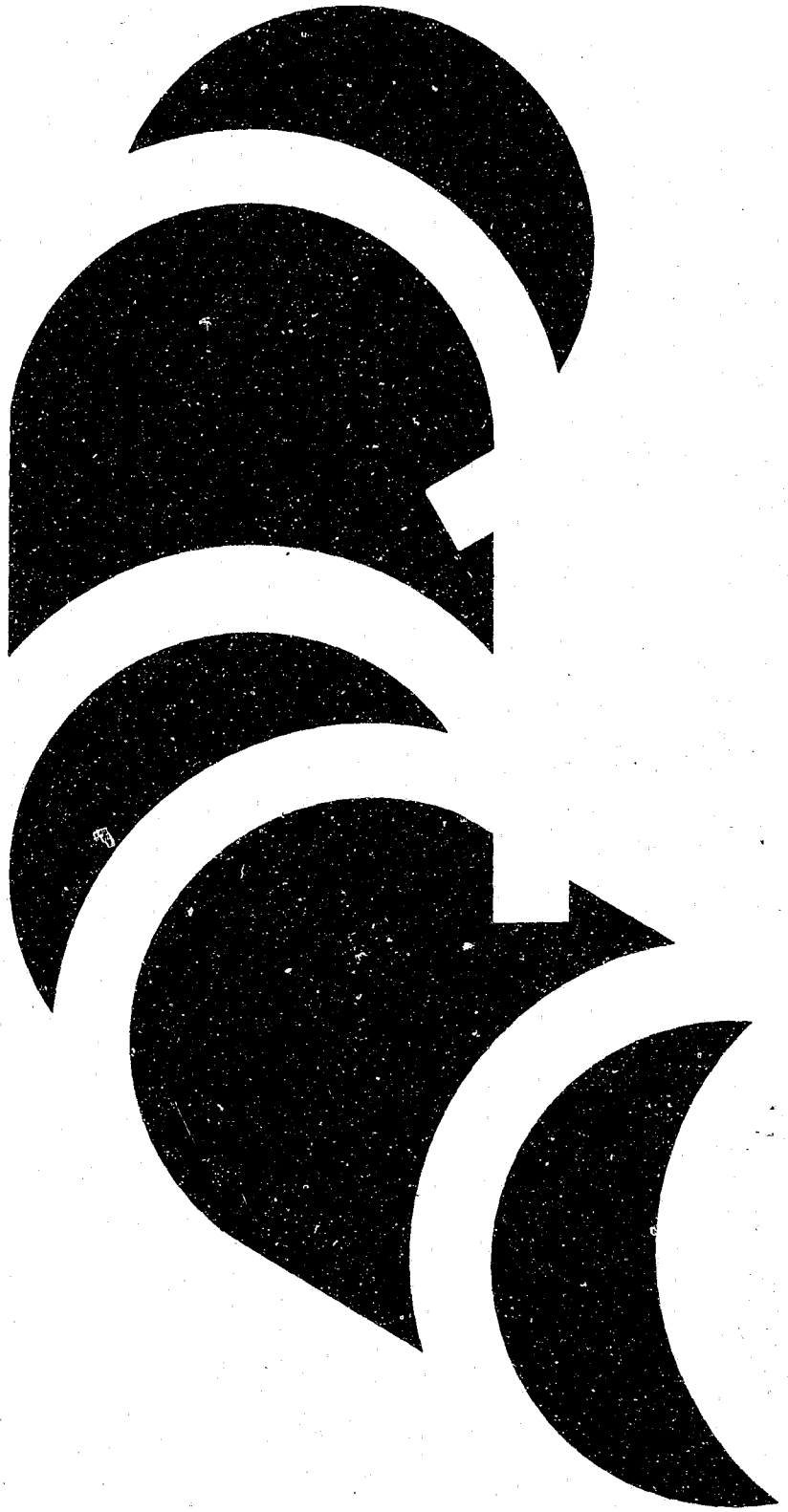
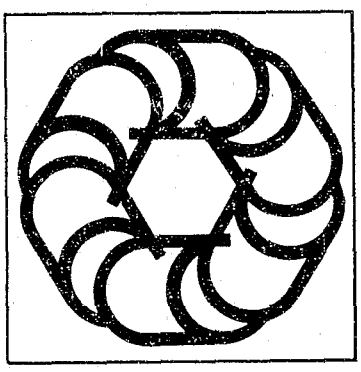
Law Enforcement Assistance Administration

Washington, D.C.
December 1976





The costs of crime in the United States have increased dramatically each year. The costs associated with law enforcement efforts to combat crime have similarly risen. In fact, in fiscal year 1975 criminal justice expenditures at the Federal, State, and local level totaled more than $16 billion. What has been the result of this massive public commitment to control crime?

The problems of crime have been with society since the beginning of time, and for that long society has been trying to find solutions thereto. But so often the "solutions" come too late and deal with results and not with causal factors. A primary objective of this report by the Research and Development Task Force is to offer recommendations for dealing with the problems from a more preventive posture.

It would be naive to suggest that research and development provides a panacea. That does not mean, however, that the Nation should ignore the potential benefit that comes from evaluating what has been done in the research and development area and for making proposals for more effective and meaningful use of such data. Criminal justice is a social science. Those involved in the field find that there is a continuing need to maintain an awareness of current knowledge and of innovations and proposals for change.

The Task Force has geared its report to the policymakers in the criminal justice area. The purpose is to develop ways and means by which research and development can be made relevant and the results utilized. It is not necessary either to reinvent the wheel or constantly to spin it. With that in mind, these recommendations deal with matters of current importance such as the management of data banks, the dissemination of information regarding techniques, and the implementation of such information. It is pointed out that the criminal justice system is really a composite of a number of interrelated systems. The Task Force offers one example by discussing the problems of sentencing and the judge's difficulties in deciding what sentences are appropriate. Any decisions in this area necessarily impact upon decisions made by prosecutors and correctional officials and the way they deal with the offender. It is important, therefore, that personnel associated with each aspect of the system be fully aware and apprised of developments in related areas.

The Task Force notes that during the past decade the Federal Government has spent more than $100 million each year for research and development. Most of this work is performed by grantees and contractors in universities, nonprofit institutions, and private industry. This report acknowledges that the details of research design and methods normally are beyond the interest or expertise of policymakers. The latter should, however, be in a position to determine whether researchers have addressed the correct questions in developing their research design. The Task Force offers recommendations for assuring that the proper and

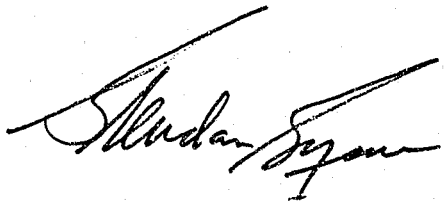
appropriate questions have been addressed. The Task Force poses some of those questions:

- If a study is proposed, have one or more hypotheses been proposed to be tested?
- Are the hypotheses trivial, or do they constitute the core of an issue whose importance is grounded in theory or practice?
- Have alternative methodologies been considered?
- If so, on what grounds were the proposed methods chosen over the others?

It is noted by the Task Force that for any of the foregoing questions, a research and development-support agency should be wary of proposed research that constitutes a methodology in search of a problem to be solved. The Task Force concludes that on balance different methods are appropriate for different research problems and research design must be tailored to meet various constraints and objectives. Before research is undertaken, however, the appropriateness and feasibility of the research design must be closely examined.

This report is probably unique in this field not only in terms of the subject matter but also the scope of the recommendations. In addition to the foregoing, suggestions are made for the development of procedures for planning new research programs, for utilizing advisory committees, for coordinating the efforts of the various research and development agencies, and for making research awards. Proposals are also made for improving research that is done on more technological topics, as well as for research on new criminal justice problems.

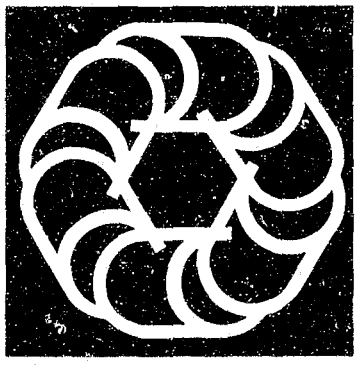
The Committee welcomes this report and commends it to all those involved in law enforcement. The Committee knows from experience that there is an urgent need in the United States for improvement in all facets of the criminal justice system including sentencing and corrections. The Nation has for too long proceeded on an *ad hoc* and non-coordinated basis in these areas. The results have not been satisfactory and there are now demands for improvement and change. Competent research and the development of ideas and methodology for studying criminal justice problems is likely to be productive and useful. The Committee is appreciative of the fine efforts of this Task Force in collecting existing information on research and development, analyzing it, and offering consequent recommendations.



BRENDAN T. BYRNE
Chairman
National Advisory Committee
on Criminal Justice Standards and Goals

Trenton, N.J.
December 1976

Preface



It is indeed gratifying and, I believe, very important for the cause of better crime control in this country, that the Task Force on Criminal Justice Research and Development, which was no more than an advisory task force in the first phase of standards and goals and was not called upon or staffed to prepare a report of its own, was revived as one of the five task forces of Phase II of the National Criminal Justice Standards and Goals effort. This time, the work of the Task Force was funded and staffed; although the time allotted to the mammoth undertaking was short, what we believe to be a very substantial report has been produced.

The general topic of research and development in criminal justice is vast. If this report were to deal with all aspects of the state-of-the-art, the result would be an encyclopedic treatise of many volumes. This, however, was not the plan in this case. Rather, the report deals with research and development in the United States only, and it highlights the contemporary conditions under which research is conducted. The general principles covered by the report may guide researchers in their work, but the report is primarily meant to be used by the planners, managers, and evaluators of current research activities, rather than to serve as elements of a system of research logic and methodology. This is clearly, above all, a *hic* and *nunc* report.

The report is obviously a child of the current circumstances in criminal justice research and development in this country. This is a period that started with the advent of Federal funding for research and development in criminal justice and is still dependent on and dominated by this type of funding. Hence, the methods of distributing Federal funds are a basic topic of this report; many recommendations are directed toward improving the process of distributing these funds. Although this is not the only topic, it is the central one, to which the first of the six chapters of the report addresses itself. This does not mean that references to State, local, and private funding are not present. But the report faithfully reflects current American reality—Federal funding and its management are the key issues.

The report also addresses quite extensively in Chapter 2 what one might term the ethical issues in criminal justice research. In that respect it again accurately reflects the current national preoccupation with the rights of the individual, protection of privacy, freedom of information, informed consent by human subjects, disclosure and publication of research results, etc.

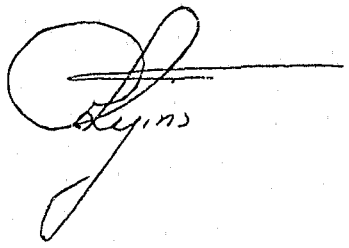
In a democracy, expenditure of public funds must be justified. In recent years, such justification has increasingly included the practical utility of R&D for society—hence the current emphasis on the proper utilization of research findings. Chapter 3 of the report is devoted to the utilization of research and development; the policies and strategies

in this area, again, concentrate primarily on analyzing the role of Federal funding agencies.

The attention of the reader should be called to the rather original approach used in Chapters 4, 5, and 6. This consists of the selection of three researchable issues that typify three kinds of frequently encountered problems. The general recommendations derived from the analysis of research and development methodologies that suggest themselves in each case are presented as guides for those policymakers and researchers who might tackle researchable problems of a similar type.

Another aspect of the Task Force's work that should be kept in mind is the position taken by the Task Force that its assignment did not consist of establishing current priorities for funding, but rather of analyzing the general process of criminal justice research and development and of suggesting improvements. The Task Force does suggest, however, how a capability for determining national priorities for criminal justice research should be developed in this country.

A preface to this report, written from the vantage point of the Chairman, would not be complete without an expression of appreciation to Task Force members for their interest and sincere devotion to the assignment. The same recognition is due The Rand Corporation, which staffed the project through its Washington, D.C. office, and to those of its staff members who were assigned to this task and who, under severe constraints of available time, were instrumental in producing this report. The purpose of the R&D portion of the standards and goals effort has been to contribute to progress by assessing the *status quo,* by calling attention to key issues, and by recommending standards for future activities. The purpose is not to produce permanent prescriptive packages, but rather to provide a base for further elaboration. Thus, the report of this Task Force, which, it is hoped, will be a landmark in this field, should lead to further improvement and refinement in criminal justice research and development.



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College Park, Md.
August 1976

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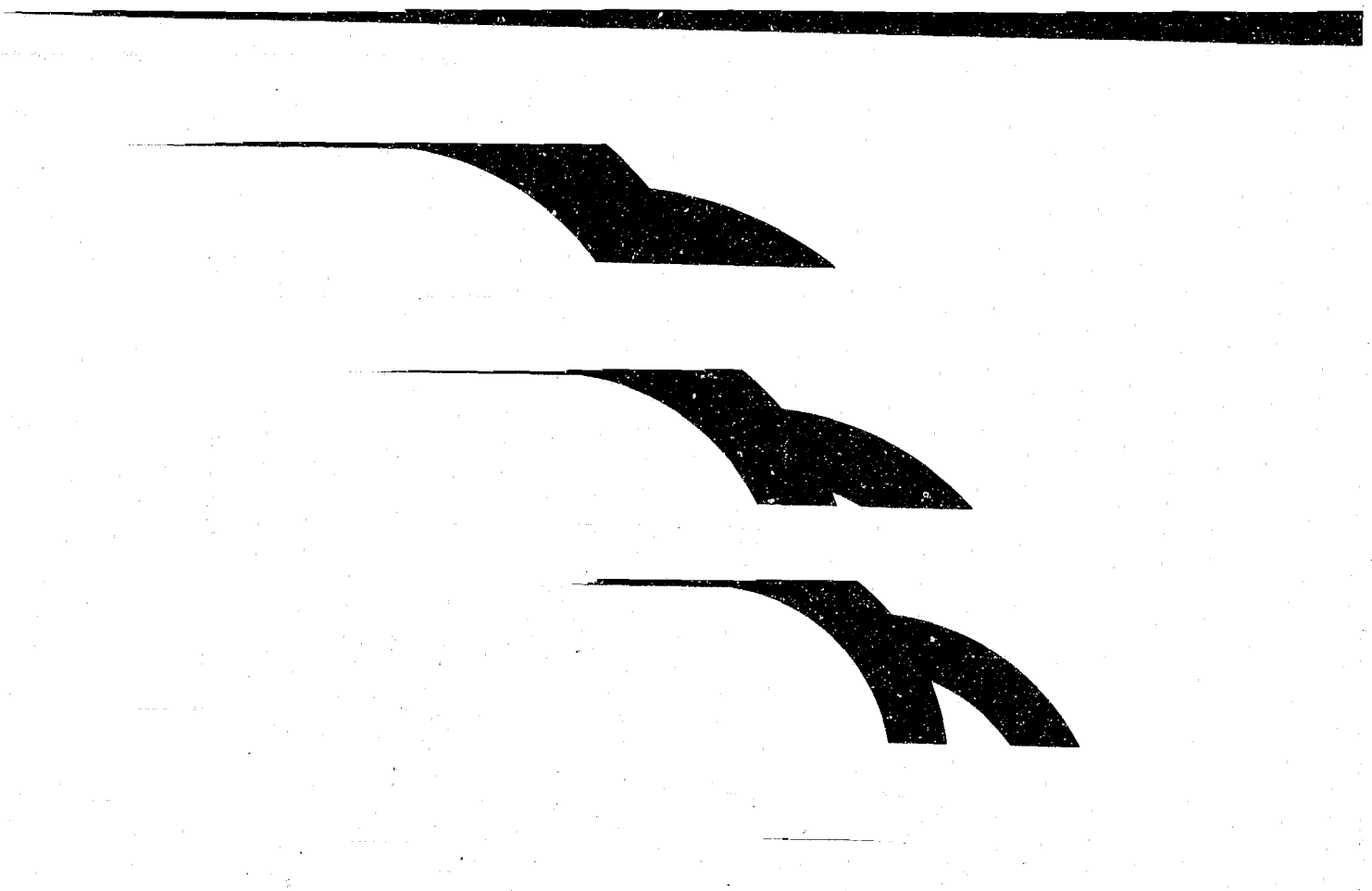

The organization, text, and recommendations of this report are the sole responsibility of the R&D Task Force and its staff. Major portions of this report reflect materials selected by the Task Force from papers written by the staff, who were mainly located in the Washington, D.C. office of The Rand Corporation. Chapter 1 was based on a staff paper prepared by Dr. Richard Rettig; Chapter 2 on a paper prepared by Dr. Jan Chaiken; Chapter 3 on a paper prepared by Dr. Robert Yin; Chapter 4 on a paper prepared by Dr. James Kakalik and Ms. Linda Prusoff; Chapter 5 on a paper prepared by Dr. Bernard Cohen (a faculty member of Queens College, C.U.N.Y., who served as a consultant to the project); and Chapter 6 on papers prepared by Dr. Sue Bobrow, Ms. Karen Heald, and Dr. Gail Zellman. The authors of the staff papers are, however, not necessarily responsible for the text of the final chapters, which was prepared by the Task Force under the general editorship of Dr. Robert Yin and Dr. Stanley Abraham.

Many other people assisted in the production and review of this report. The Task Force would like to acknowledge with thanks their contributions. Members of the National Advisory Committee on Criminal Justice Standards and Goals, and particularly Chief Jerry Wilson, Mr. Richard Wertz, and The Honorable Cal Ledbetter, Jr., Member, House of Representatives, State of Arkansas, served invaluably as reviewers and contributors throughout the arduous process of developing the report—from its initial conceptualization to the final draft. Persons consulted for informational purposes in relation to one or another chapter of the report, but who did not necessarily have the opportunity to comment on any of the drafts, include the following:

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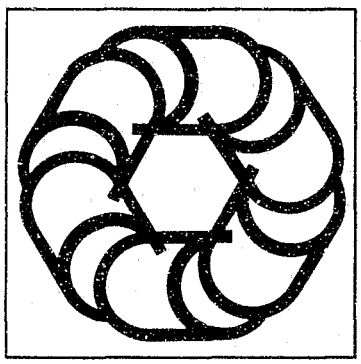
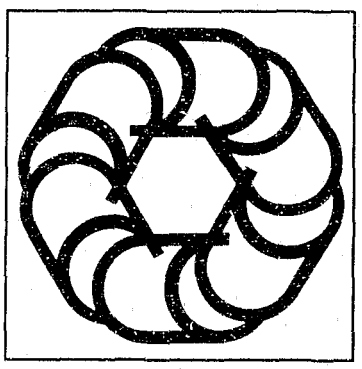
Table of Contents





Agency—see criminal justice agency.

Applied Research—studies that have direct relevance to current practice and are based on replicable scientific procedures. Cf. basic research.

Assessment—see R&D assessment.

Award—a contract or grant representing a decision by an R&D-funding agency to support a specific R&D project.

Basic Research—studies that attempt to increase understanding about a scientific or social phenomenon and are based on replicable scientific procedures. Cf. applied research.

Criminal Justice Agency—an agency at any level of government (Federal, State, local) with responsibility for some operational aspect of criminal justice, for example, police departments, correctional facilities, and Federal, State, and local courts (also referred to as criminal justice organizations, operating agencies, and practitioner agencies). Cf. R&D-funding agency.

Criminal Justice Organization—see criminal justice agency.

Criminal Justice Practice—the procedures and techniques used by criminal justice organizations in the performance of day-to-day tasks.

Criminal Justice Professional Association—a formal organization whose members are criminal justice practitioners (examples are the American Correctional Association and the International Association of Chiefs of Police).

Criminal Justice R&D—the body of knowledge (research and development) that attempts to provide understanding of and solutions to criminal justice problems and is based on replicable scientific procedures.

Criminal Justice System—the collection of public and private organizations that is charged with preventing and controlling crime, hearing and adjudicating criminal cases, or dealing with convicted offenders; the organizations include police, courts, correctional institutions, and community agencies.

Criminology—the scientific study of crime as a social phenomenon, of criminal behavior, and of the penal or other treatment of criminals.

Development—the translation of research results into new criminal justice practices or techniques (part of the phrase "research and development").

Evaluative Research—Research whose purpose is to assess the efficacy of some policy, program, or practice; the policy may involve a new way of deploying police, a new way of selecting jurors, a new rehabilitation program for treating offenders, or other practices conducted by criminal justice agencies.

Funding Agency—see R&D-funding agency.

Host Agency—a criminal justice organization that is part of a research study, acting in this sense as host to a researcher or research team.

Hypothesis—a tentative statement on the relation among two or more variables that can be empirically tested by a research study to determine its validity.

Implementation—the organizational activity of putting R&D knowledge, a new program, or other desired change into practice. Also see R&D utilization.

Investigator—a member of a research team, usually trained in a scientific discipline. Also see principal investigator.

Journal—a periodical containing reports of individual research studies in a given field (also referred to as a scientific journal).

Methodology—a specific scientific procedure used in the conduct of a research study. Also see research design.

Monitoring—see project monitoring and evaluation.

Operating Agency—see criminal justice agency.

Peer Review—a formal procedure by which several experts in a given research field review proposals or research reports. One purpose of these reviews may be to assist R&D-funding agencies in deciding whether to support a new research project; another purpose is to assist journals in deciding whether to publish a report.

Practitioner—a person who has an operational role (e.g., police officer, judge, or parole officer) in a Federal, State, or local criminal justice organization. Cf. researcher, research manager.

Practitioner Agency—see criminal justice agency.

Principal Investigator—the director, usually trained in a scientific discipline, of an R&D project. Also see investigator.

Priority Setting—the activity of deciding on the relative importance and desirability of R&D issues for the purpose of choosing which of several projects or programs vying for limited resources will be funded.

Private Sector—that part of the economy consisting of profitmaking or nonprofitmaking firms that are responsible to private owners (e.g., stockholders, partners, etc.) rather than governmental charters. Cf. public sector.

Professional Association—see criminal justice professional association.

Project Monitoring and Evaluation—progress checks or assessments made by an R&D-funding agency on technical, substantive, fiscal, scheduling, or other aspects of a research project that it is sponsoring.

Proposal—a formal document, usually submitted to an R&D-funding agency in order to obtain a research grant or contract. This document includes the purpose, scope, approach, costs, and other details pertaining to the conduct of a new research project.

Public Sector—that part of the economy consisting of government organizations at the Federal, State, and local levels. Cf. private sector.

Publication—usually the final step of an R&D project or study, when the research findings are made publicly available through appearance in a book, journal, newsletter, or other publicly accessible document.

R&D (Research And Development)—see criminal justice R&D.

R&D Assessment—an activity—in itself a type of research study—that evaluates the state-of-the-art of R&D on a particular topic by (1) synthesizing research that has been conducted, and (2) calling attention to findings on which there is substantial agreement, findings that may be in contention, and prominent issues that have not yet been addressed.

R&D Finding—the principal result or conclusion of a research or development study.

R&D-Funding Agency—a government agency, private foundation, professional association, or other organization that uses a portion of its resources to support R&D projects that are conducted by research investigators in other organizations. Cf. criminal justice agency.

R&D Knowledge—the accumulation of information about a topic resulting from research studies, one use of which is to improve criminal justice practice (also referred to as R&D-based knowledge).

R&D Management—the organizational activities in an R&D-funding agency, including needs assessment; program planning and development; grant or contract solicitation, review, and award; project monitoring and evaluation; and dissemination and research utilization.

R&D Managers—see R&D policymakers.

R&D Performer—a person or team that conducts research studies or R&D projects.

R&D Policymakers—persons who make decisions about the type or nature of research and development to be supported; these persons include (1) R&D-funding agency staff who administer a grant or contract award program (also referred to as R&D managers), and (2) Federal, State, and local legislators who decide what kind of R&D programs should be initiated.

R&D Program—(1) an organizational unit or subunit within an R&D-funding agency that administers a group of R&D projects that relate to a single broad theme; (2) such a group of R&D projects.

R&D Project—the basic unit of activity in conducting R&D that is typically directed by a principal investigator and includes research design, data collection and analysis, and preparation of a written report. Also referred to as a research study.

R&D Utilization—the process of converting R&D knowledge into improved criminal justice practices. Also see implementation.

Research—see criminal justice R&D.

Research Design—the formal logic underlying the conduct of a research study that relates the evidence to be collected to the main questions to be answered by the study. Also see methodology.

Research Investigator—see investigator.

Research Study—see R&D project.

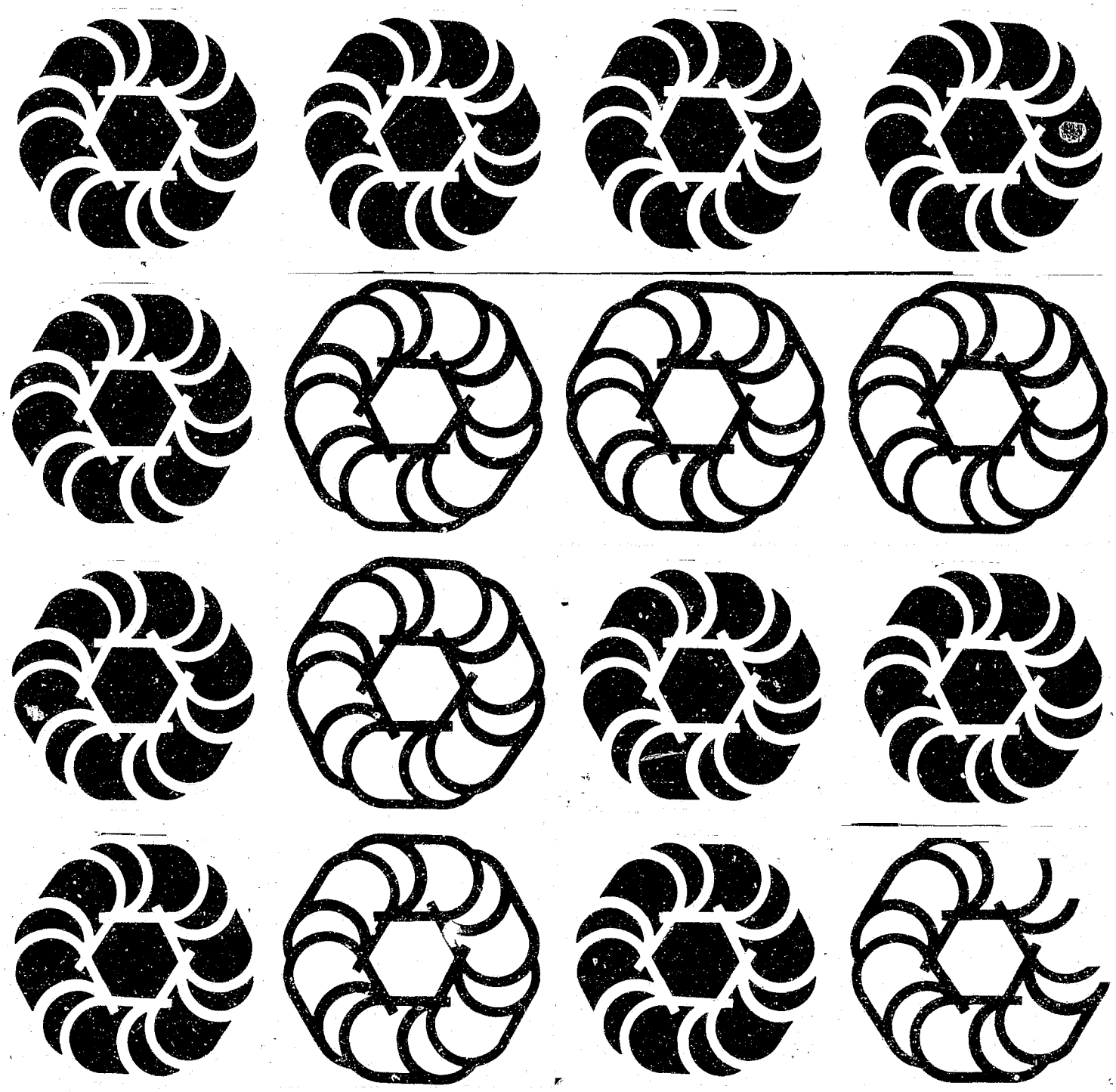
Researcher Community—the collection of researchers in a given field (here, criminal justice).

Technical Assistance—advice provided by outside experts to criminal justice agencies to deal with problems encountered by such agencies.

Theory—a set of interrelated concepts, definitions, and propositions used to explain and predict social and scientific phenomena.

Users—any groups or individuals who are potential beneficiaries of the products of R&D efforts; major users include practitioners in criminal justice agencies, other researchers, and R&D managers.

Part 1
Introduction



A. CRIMINAL JUSTICE R&D

What Criminal Justice R&D Is

This Task Force report is about criminal justice research and development (R&D). The report discusses the role of R&D in increasing knowledge about criminal behavior and improving the American criminal justice system. For the purposes of this report, *research* is defined as an activity that involves:

The generation of knowledge that will lead to significant solutions to criminal justice problems and is based on replicable scientific procedures.

Research may take place at a laboratory, at a computer center, or at the site of a criminal justice program—where for instance a youth services program may be evaluated. Whatever the site, research activities begin with clearly stated objectives, are conducted through the use of scientific procedures that are within the capabilities of a specially trained research investigator, and end with results that can be replicated—i.e., the procedures, if repeated, would produce substantially the same results.

The generation of new knowledge is not necessarily sufficient, however, to produce an impact or create changes in criminal justice practices. New ideas or materials may emerge from laboratory research, but they may not yet be designed for testing in a real-life situation. Similarly, evaluation results may not be successfully related back to the program that was evaluated or to other programs of the same type. Thus, for the purposes of this report, *development* is defined as an activity that involves:

The translation of new knowledge into improved criminal justice practices or techniques.

There are many ways of pursuing the development process. Sometimes a full field test, which serves to translate laboratory results into practical applications, must be arranged. In other cases, research results must be communicated—e.g., via a conference, workshop, or consultation—in a meaningful and timely manner to assist in decisions made by criminal justice agencies.

Simple definitions, of course, can be misleading. The R&D process is in actuality very complex. Invention, creativity, and serendipity cannot be planned and do not occur in entirely predictable ways. The complexities of the process may be appreciated further by observing that new knowledge may be uncovered in the developmental activity. The testing of a new police helmet, for instance, may represent the developmental phase for some new plastic fiber; however, the testing itself may produce some new ideas that will then have to be investigated and go through their own developmental phase. Nevertheless, research and development are two general types of activities that go hand in hand—the former to generate new knowledge and the latter to apply the knowledge for the betterment of society.

Why Criminal Justice R&D Is Important

Society's criminal justice problems and the system that has emerged to deal with these problems—the police, courts, and corrections institutions—have existed for a long time. Nineteenth century frontier communities, for instance, had to develop their own law enforcement practices; these often took the form of citizens' vigilante groups. Corrections or penal institutions also have existed throughout the history of the Republic. Given such a long history of criminal justice practice, why should R&D be considered important and what role should it fulfill?

On the one hand, it can be argued that criminal justice R&D has a very minor role. Social changes, such as society's shifting views on victimless crimes or expectations of what police officers, judges, prosecutors, and parole officers should do, usually define criminal justice problems and the best practices for dealing with them. R&D knowledge, according to this argument, appears to have little direct effect on social change, values, or customs. Viewed in this manner, R&D activities might be considered as

irrelevant to criminal justice as they are to religious activities, fashions in dress and home furnishings, or innovations in the performing arts. In each case, there may be ideas and belief systems that are based on political and social preferences, and not on R&D results.

On the other hand, one of the hallmarks of modern American society has been its ability to utilize the products and ideas of modern science for society's benefit. Technological and nontechnological R&D activities have helped to improve the quality of life and to resolve many major problems. Although the results of some R&D efforts may create new problems while solving the old ones, people are constantly striving to develop and apply new scientific knowledge because it is a potential source of improvements in society. In the words of Kenneth Boulding, "the kind of increased knowledge about social systems which is necessary . . . can only be achieved by applying organized intelligence and truth-seeking. . . ." [1]

In criminal justice, R&D thus may be important for several reasons:

- The phenomenon of crime may be as great now as at any other time in this Nation's history; the social costs of crime and its fear, especially in some of the larger urban areas in America, are unconscionably high;
- The existence of injustice, for individuals and specific social groups, has produced severe tensions and conflicts; and
- There is more uncertainty now than ever before about how to handle criminal justice problems. Society needs better ideas as to the best approaches for dealing with problems—or at least not aggravating them through naive actions. As a partial symptom of this state of flux, criminal justice practitioners often cannot separate good and worthwhile information from fads and the sensational.

Although researchers and politicians must be more careful now than ever before not to raise expectations regarding what R&D can deliver, the state of affairs suggests that all possibilities, including R&D, should be explored for assistance in dealing with criminal justice problems.

Why It Is Important Now

The main role of R&D in criminal justice is to generate and apply new knowledge to criminal justice practice. There is already considerable criminal justice R&D activity; why then should it be a focus of attention now?

The answer is several-fold. First, criminal justice R&D is at a critical stage in its own development. Until the time of the President's Crime Commission,[2] there had been no substantial Federal funding of criminal justice R&D. The passage of the Omnibus Crime Control and Safe Streets Act of 1968 marked the beginning of such funding, as rapid increases in R&D expenditures started in 1969. Funds administered directly by Federal agencies in Washington now total about $100 million. This figure is small in comparison with Federal outlays for education or health, but the figure nevertheless represents about 90 percent of the total funding for criminal justice R&D conducted throughout the country—including both public and private support.[3]

The first 7 years of major Federal support for criminal justice R&D have thus passed. There is now much more federally supported criminal justice R&D than ever before. There is no longer the luxury, as may have existed before the President's Crime Commission and other efforts that preceded the formation of the main Federal R&D agency in criminal justice, the National Institute of Law Enforcement and Criminal Justice,[4] of raising unbridled hopes about the promise of research. Most criminal justice practitioners have had a taste of research during the past 7 years and have become aware of its shortcomings and its promise. The present time, therefore, may be appropriate for taking a more critical look at criminal justice R&D. In this way, a more reasonable direction may be set for the fruitful use of R&D during the next 7 years.

Second, because of the continued pressure throughout the criminal justice system to provide answers, results, solutions, and the like—a milieu in which R&D certainly has been caught up—less attention has been given to the principles by which R&D is carried out and managed. The National Criminal Justice Standards and Goals effort, of which the

[1] Kenneth Boulding, "Toward a Theory of Research Grants?" *Technology Review*, Vol. 77, January 1975, p. 5.

[2] President's Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society*, Washington, D.C., 1967. The Commission had been established on July 28, 1965, through Executive Order 11236.

[3] No attempt is made here to assess the amount of R&D supported via the criminal justice State Planning Agencies. Such an amount is difficult to determine because of the unknown definitions of R&D applied by each State, and an accurate count would depend on specific reviews of individual projects. Nevertheless, the inclusion of such an amount in our discussion would only bolster the point made in the text—that federally supported R&D in criminal justice is beginning to be significant and represents over 90 percent of all criminal justice R&D.

[4] For instance, see Institute for Defense Analysis, *A National Program of Research, Development, Test and Evaluation on Law Enforcement and Criminal Justice*, Arlington, Va., November 1968. This report was mainly authored by Alfred Blumstein and was one of the initiatives that actually laid out the organizational functions of the newly proposed National Institute.

R&D Task Force is but one of several that have been operating over the past few years,[5] thus provides an excellent opportunity to set general guidelines for the conduct of criminal justice R&D.

This should not be taken to mean that this report presumes to tell researchers how to do their research. On the contrary, the most creative minds must be given maximum opportunity to pursue their inquiries freely in a stimulating environment. History has shown that society has benefited most from the fruits borne under such conditions of labor. However, there are many public policy issues that potentially affect all researchers—independent of their specific inquiries. These include:

- The review and monitoring of research awards;
- The establishment and use of data files in light of the privacy and freedom of information statutes;
- The publicity and public disclosure of research results; and
- The overall management of R&D programs to maximize the cumulative process of uncovering new knowledge.

These are the kinds of policy issues that can be important in the conduct of criminal justice R&D and to which this report is directed.

Third, criminal justice R&D, although satisfactory under the difficult conditions under which the research has had to take place, has not developed the strong tradition of high quality research that exists in the health field, for example.[6] This may thus be an appropriate time to begin building such a tradition for criminal justice R&D in as conscientious a manner as possible. In particular, the goals of this report are the furtherance of R&D that is: (1) of high *quality*, (2) on topics that are of direct *relevance* to criminal justice, and (3) likely to lead to the highest rates of *utilization* by criminal justice practitioners.[7]

Fourth, it must be noted that 1976, the predominant year of the R&D Task Force's activities, is not only the bicentennial year but also the last full year of a Presidential term. Unlike many other national commissions and task forces, which mainly worked at the beginning of new administrations, this Task Force has not operated under the pressure of producing a national program or extensive new legislation. Nor has it operated under the crisis conditions that marked a few of the earlier commissions and task forces, such as the Kerner Commission on Civil Disorders and the Warren Commission on the Assassination of President Kennedy. This report has, in fact, had no political agenda to follow. There may thus be no better circumstances or greater opportunity than now for elaborating the role and functions of R&D in criminal justice.

B. THE R&D TASK FORCE REPORT

Intended Audience

This report is addressed to *R&D policymakers*. These are the people at the Federal, State, and local levels, in legislatures and agencies, who must decide what kind of R&D should be supported and under what circumstances. The policymaker may be any one of a number of individuals, including:

- An official of the U.S. Department of Justice, concerned with initiating a new research program;
- An official in a State Planning Agency, concerned with making choices among the individual research projects to be supported;
- An official of a correctional institution or law enforcement agency, concerned with getting information from the agency's own research and analysis staff or from an outside consultant; or
- A legislator, concerned with new bills for supporting R&D.

The audience for this report is clearly quite diverse, even extending to the private sector—where decisions are made regarding foundation and corporate support for criminal justice R&D.

The audience for this report is not quite the same as the audiences for other standards and goals task force reports. In most of the other efforts, the promulgation of standards and goals has been aimed at practitioners—most often in criminal justice agencies (e.g., law enforcement courts, and corrections), but also in the wide variety of social service, educational, and private health and welfare agencies whose functions are related to the criminal justice system. Standards and goals have been set to assist these practitioners in their day-to-day activities and to assist the agencies in developing effective policies and procedures. In relation to R&D, however, not every practitioner agency contains substantial amounts of R&D activities. In fact, R&D activities in criminal justice are usually conducted by university groups,

[5] There have been two phases to this effort. Phase I culminated in 1973 with the publication of two general reports by the National Advisory Commission on Criminal Justice Standards and Goals and four reports by individual task forces. Phase II, of which the R&D Task Force is a component, will culminate with five task force reports.

[6] Reviews of policy-related research in criminal justice have revealed a general weakness in methodological rigor and the production of reliable results. For example, see Saul Gass and John M. Dawson, *An Evaluation of Policy-Related Research: Reviews and Critical Discussions of Policy-Related Research in the Field of Police Protection*, Mathematica, Bethesda, Md., 1974.

[7] Attainment of these three goals within the same research project may sometimes be in conflict. However, this report attempts to identify the general ways in which each goal may be pursued at a more programmatic level.

nonprofit organizations, and government laboratories; the key policy decisions regarding these activities are not made by practitioner agencies, but rather by the agencies that *sponsor* research via grants and contracts at the Federal, State, or local levels. Because criminal justice R&D has become relatively centralized, with a few Federal agencies supporting the bulk of the R&D in the country, R&D-sponsoring agencies and policymakers exercise more leverage over the potential scope and direction of criminal justice R&D.

In sum, there is a variety of R&D policymakers who influence the R&D to be supported and the conditions of support; and it is to this audience that this report is primarily addressed. Practitioners, researchers, and the public will all find portions of this report to be informative and helpful; but, necessarily, these audiences have been considered of secondary importance here.

Intended Scope

Because of the spirit of the standards and goals activity, this report focuses more on the ways that R&D is supported and conducted than on actual R&D topics. The main effort has been related to increasing the quality, relevance, and utilization of criminal justice R&D rather than to the promotion of new research on specific topics.

Issues in the support of R&D include how research programs are developed, research awards made, research projects monitored and evaluated, and capable R&D managers organized to carry out these and related tasks. Thus, the quality, relevance, and utilization of the research are likely to be increased if: (1) qualified research persons are attached to do criminal justice R&D in the first place; (2) the research addresses either important theoretical issues or serious problems faced by society; (3) the researchers are able to collect the relevant types of data; (4) the researchers are able to communicate the findings to other researchers or practitioners; and (5) the research findings are publicly disclosed so that they can be challenged or corroborated.

In order to cover these and related issues, Chapters 1, 2, and 3 of this report focus respectively on the needs of R&D policymakers who fund criminal justice R&D, researchers who conduct R&D, and practitioners who put R&D results into use. These three chapters propose guidelines and principles that should assist R&D policymakers at all levels of government. Some topics tend to be addressed more to the Federal level—where major R&D decisions are often made. But State and local R&D policymakers should find recommendations relevant to their needs on such topics as the awards process, the management of data banks to assure privacy, and the use of different information dissemination techniques to facilitate implementation.

Chapters 4, 5, and 6 discuss three general types of criminal justice R&D:[8] technology (e.g., hardware) research, research on problems of criminal justice organizations (e.g., arrest, prosecution, sentencing, and parole), and research on new criminal justice problems. For each type of R&D, the relevant issues and recommendations are discussed. Most of these, however, still relate to either the support or conduct of R&D. These three chapters also attempt to provide concrete illustrative examples by raising the relevant issues in the context of crime prevention at commercial and residential sites (technology research), sentencing (research on problems of criminal justice organizations), and problems of the victim (research on new criminal justice problems). The use of these illustrative examples may assist policymakers directly concerned with these examples. However, the overall goal of this report is to assist a broader audience by showing how lessons from these examples can be generalized to other pertinent topics.

The report also includes a separate glossary. The glossary covers terms that are used in more than one chapter in the report; terms used in only one chapter are defined in the chapter in which they appear.

Topics Omitted

In spite of the attempt to cover a wide range of topics, many critical areas have not been given intensive coverage—mainly because of a lack of time. Among such topics are:

- Issues regarding the training and qualifications of R&D personnel. These personnel and the education they receive may be regarded as the main resource of any R&D system. However, investigating this topic is a major undertaking, and given the rapid shifts in criminal justice training programs, any comprehensive coverage would have been difficult.
- Issues on priority setting among research topics. This is a difficult task unless a group has been organized specifically to carry it out. The membership of the Task Force and scope of the entire effort would have to have been much broader in order to cover this topic (for a related discussion, see Section C).
- Issues on evaluation research and technical aspects of research design and the use of statistics, topics only touched upon by this report. Exhaustive treatment was considered unnecessary because of the

[8] These three types are intended to cover many, but not all, of the varieties of criminal justice R&D.

numerous research handbooks and textbooks that already exist on the topic.

- Issues pertaining to specific State planning activities, such as the role of R&D in comprehensive planning. The problems of the State Planning Agencies (SPA's) and other State and local sponsors of R&D are treated in general fashion throughout this report. However, little effort was made to assess the state of the States or to develop specific guidelines for State activities such as comprehensive planning. This was because the diverse needs of each State and locale would have required extensive fieldwork—much beyond the scope of the resources available for this report—and because the support of R&D is not, in the overall picture, a very important activity of agencies such as SPA's. There are many other issues of importance to SPA's, including, for instance, their overall staffing and organizational patterns, their relationship to practitioner agencies, and their relationship to Federal agencies.
- Issues of evaluation and assessment of specific R&D-funding agencies. In dealing with the support of R&D, this report develops guidelines on topics such as the project review process, program coordination and development, and priority setting within R&D agencies. However, the report does not purport to evaluate or assess in any way the existing organization of R&D agencies. Such an evaluation was beyond the scope of this report and would have implied a much different approach. Typically, agency evaluation is cast in terms of an agency's ability to achieve its own objectives. In contrast, this report makes no effort to determine these objectives or to assess agency performance.

These are some of the topics that have received less emphasis in this report. Every reader will certainly find other such topics as well. Because the subject of criminal justice R&D is so broad and not necessarily well-defined, this report has been limited to the critical issues currently faced in criminal justice R&D.

Purpose of the Report

A summary of the major purposes of this report may help to place it in perspective. First, the report addresses issues of the support and conduct of R&D in criminal justice, rather than the topics that might be researched. The aim is to provide R&D policymakers with guidelines for the ways that criminal justice R&D can best be supported to increase its quality, relevance, and utilization. This emphasis has received only indirect attention in the past; the traditional focus has been, perhaps properly, on the development of specific innovative ideas to address critical criminal justice problems. The traditional focus, however, has created an unreasonably high set of expectations about what R&D can do, and has overlooked the problem that research, even on the most appealing topic, cannot be very helpful unless the fundamental quality of the research is sound. The main purpose of this report is therefore to focus directly on problems of how to develop sound research.

Second, this report is intended to serve the needs of criminal justice R&D policymakers over the middle range (e.g., 5 to 10 years). Existing organizational arrangements, public policies, and research fads are inevitably part of the context of what is to come in the future, but the report deliberately tries to avoid being trapped in that context. Instead, the report attempts to suggest guidelines that will be useful in the medium-term future—guidelines that are, for instance, less vulnerable to the passage of specific new legislation, such as the periodic reauthorization bills for the Law Enforcement Assistance Administration.

Third, the report attempts to draw together for the criminal justice community many issues on the conduct and management of R&D that have frequently been raised, but usually outside of the criminal justice field. These issues are pertinent to criminal justice R&D; the report therefore attempts to pull them together with their implications in one volume. In this respect alone, this report may serve as an important resource for criminal justice R&D policymakers.

C. TASK FORCE AND COMMISSION REPORTS AS INSTRUMENTS OF PUBLIC POLICY

An R&D Task Force report would be remiss if it did not say more than a few words about the role of task forces as instruments of public policy. This role has been much maligned in recent years, and there are inherent problems that must be squarely faced.

The Recent Historical Record

Task forces, national commissions, and national committees constitute bodies that are adjunct tools of government.[9] In theory, they provide two re-

[9] Perhaps the most famous and effective early examples were the English Royal Commissions of Inquiry of the nineteenth century, which examined, among other subjects, the exploitation of women and children, life in the factories, and the status of public health in the land. See Robert K. Merton, "Social Knowledge and Public Policy," in Mirra Komarovsky (ed.), *Sociology and Public Policy: The Case of Presidential Commissions,* Elsevier, New York, 1975, p. 154.

sources that are less available to government officials, who might otherwise be expected to perform the same functions. First, task forces and commissions are by definition collections of people who have skills and represent constituencies that cannot be found in the established civil service. Second, the task force or commission, again in theory, provides an opportunity for a greater degree of public participation (e.g., through public hearings) than an effort undertaken completely within a government agency; there is also presumably less concern for the immediate bureaucratic consequences of any new ideas or proposals. Task forces and commissions are therefore perceived to be a useful means for addressing critical issues, because of their expertise and external perspective. Daniel Bell has aptly categorized task forces, commissions, and committees into five types, which help to highlight the great diversity of these bodies:[10]

- Advisory bodies (e.g., the former Presidential Science Advisory Committee)—normally statutory bodies with fixed-term memberships;
- Evaluation study groups (e.g., the assessment of the National Institutes of Health under Dean Wooldridge, or the review of government science laboratories under Emanuel Piore of IBM);
- Fact-finding bodies (e.g., those formed to deal with national strikes);
- Public relations groups (e.g., the White House conference on education and on the world of business in 1990); and
- Policy-recommending groups (e.g., the Debakey Commission on Health or the Linowitz Commission on Foreign Aid).

However, there is another side to the role of task forces and commissions. This is tied to the recent administration of Presidents Lyndon B. Johnson and Richard M. Nixon. Both of these administrations made wide use of study commissions of one sort or another to deal with many pressing social problems and political issues. Some of the better known of these have included study groups on the assassination of President John F. Kennedy, on law enforcement and the administration of justice (the President's Crime Commission), on civil disorders, on the causes and prevention of violence, and on technology and automation, campus unrest, obscenity and pornography, and biomedical research and human experimentation.[11]

The overall pattern of outcomes of these recent study efforts suggests a deviation from the role of task forces and commissions as mere bodies of inquiry. In fact, these adjunct bodies of government have sometimes been used as devices for carrying out pre-established political agendas. According to one writer, "Presidents Johnson and Nixon used and abused study commissions with remarkable ingenuity. They played up those reports that fit their already-laid plans and blasted in advance or quietly shelved conclusions that were too controversial or too costly."[12] In some cases, the agenda may have called for substantive action, and a President has used commissions (as in the President's Crime Commission) to develop a consensus or support for such action.[13] In other cases, the agenda may have called for inaction, with the task force or commission helping to allay public fear and uncertainty about a crisis situation. The formation of the study group, in this case, allowed the government to postpone substantive actions while appearing to be responsive to the problem.[14] Riot commissions for instance, have been used throughout this century as such a device; questions have been raised about their actual intention to create substantive changes, because the main participants in riots—lower-class blacks and whites—have been mainly absent or vastly underrepresented in the composition of such commissions.[15]

The possible overuse of task forces and commissions—not to speak of potential misuses—has caused strong skepticism about the role of these study groups. Whether such groups actually try to reach the most well-informed and objective conclusions, whether anyone will listen to their recommendations, or whether the entire effort is a thinly-disguised political venture are all questions that must be answered. One critic of the President's Crime Commission drew a provocative analogy between commissioners and lions:

> A Presidential commission . . . is a pride of domesticated intellectuals and leading citizens willing to sacrifice disagreements in hope of drinking at the springs of power. This hope is a snare and a delusion: the commissarial lions jump to the whip of the politician. And it is the lion tamer whose reputation is enhanced by the lions, not vice versa.[16]

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[10] Daniel Bell, "Government by Commission," *The Public Interest*, No. 3, Spring 1966, pp. 3-4.

[11] See Frank Popper, *The President's Commissions*, Appendix 1, Twentieth Century Fund, New York, 1970. Popper compiled a list of commissions in recent administrations as follows: 11 for Truman, 4 for Eisenhower, 4 for Kennedy, 20 for Johnson, and 5 during Nixon's first 2 years in office.

[12] Alan L. Otten, "More on Studying," *The Wall Street Journal*, January 15, 1976.

[13] For an excellent discussion of the political context of the President's Crime Commission, including the early role of the Goldwater campaign, see Warren Lehman, "Crime, the Public, and the Crime Commission," *Michigan Law Review*, Vol. 66, May 1968, pp. 1487–1540.

[14] Ray C. Rist, "Polity, Politics, and Social Research: A Study in the Relationship of Federal Commissions and Social Science," *Social Problems*, Vol. 21, Summer 1973, pp. 114–128.

[15] Anthony M. Platt, *The Politics of Riot Commissions, 1917–1970*, Collier Books, New York, 1971, p. 20.

[16] Lehman, "Crime Commission," 1968.

The Role of the R&D Task Force

No task force can ever be sure that it has avoided some of these pitfalls, or that it has acted in an unbiased and responsive manner. For one thing, the very membership of a task force precludes full consideration of all possible positions. For instance, the members of the R&D Task Force were all selected by Department of Justice officials, with advice from outside experts and consultants. The general tenor of the views expressed in this report will likely be interpreted in some quarters as further assertion of an establishment posture in relation to the criminal justice system.[17] No doubt, too, this Task Force report will be open to the same reviews and criticisms that followed the work of the President's Crime Commission.[18] Given this general limitation, however, several steps have been taken to deal with R&D issues in as candid a manner as possible.

One means of accomplishing this has been by not ignoring conflict or debate. A major issue that divided the Task Force throughout its work, for instance was the distinction between setting an agenda for R&D (i.e., establishing priorities for specific topics) and setting some ground rules under which R&D might be fruitfully conducted. The report mainly concentrates on the latter. In contrast, an agenda-setting activity would have called for the review of many different research topics, with the Task Force deciding, perhaps presumptuously, which among these topics would be worthy of emphasis for future research. This course of action was decided against for two reasons. First, the effort would have required a much more comprehensive consultation with people concerned with all aspects of criminal justice R&D—and effort that would have been beyond the resources available and that would have duplicated much of the work of the other National Advisory Committee task forces (which consist of the appropriate area specialists and whose reports actually contain, either directly or indirectly, agenda items for topics where new knowledge may be most needed). Second, an agenda-setting effort might have given undue emphasis to short-term problems, and would not have been able to anticipate the new criminal justice problems that might arise, even in the coming year. A massive effort to set R&D priorities therefore might have risked an overinvestment of resources into a transient activity that could easily become outdated. The decision to omit the priority-setting task is not intended to imply that it is not important. In fact, subsequent sections of this report indicate where and how such priority setting can be done by those agencies that are supporting R&D. Nevertheless, there are some people, including some Task Force members, who will be disappointed by the absence of an R&D agenda.

Another means of dealing candidly with R&D issues has been to maintain an awareness of how the process of putting together this report may have influenced its conclusions. For instance, the press of time, which is a constant complaint among study groups such as this, was particularly severe on this occasion.[19] These circumstances, together with a desire to cover a wide range of topics, have potentially made the conclusions of this report more conservative than they might have been under different circumstances. Radically different approaches to R&D, such as recommendations concerning the establishment of new institutions for training in criminal justice R&D, would have demanded extensive analysis in order to establish their basic feasibility. When time is short, such analysis is difficult to undertake; major new policy departures cannot be easily suggested for fear that they may be irresponsible.

There are, to be sure, other shortcomings. Nevertheless, this report is the product of as objective and dedicated a reveiw as possible under the circumstances, and unanimity over the issues vastly outweighs any differences. In sum, the goal of the Task Force has been to set some guidelines for the conduct of R&D in criminal justice that may serve well during the next 5 to 10 years. The concern is to improve the quality, relevance, and utilization of R&D. It is up to the reader to decide to what degree this report will serve usefully in setting new public policies.

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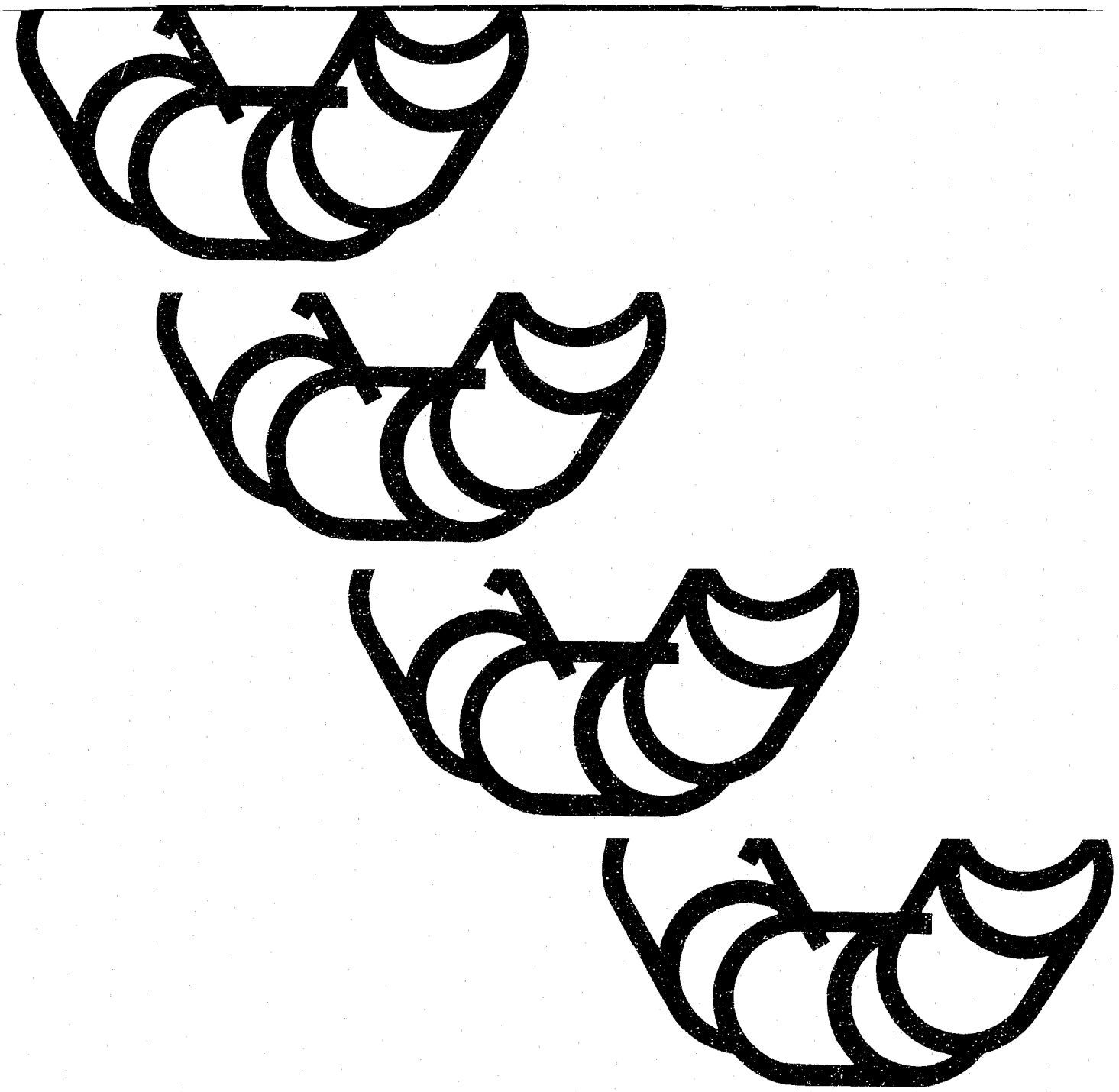
[17] For an example of a more radical critique, see Richard Quinney, *Critique of Legal Order*, Little, Brown, Boston, 1974.

[18] There have been many such writings on the President's Crime Commission. They include: James Q. Wilson, "A Reader's Guide to the Crime Commission Reports," *The Public Interest*, No. 9, Fall 1967, pp. 64–82; Lehman, "Crime Commission," 1968; Richard Harris, *Fear of Crime*, Praeger, New York, 1969; James Vorenberg, "The War on Crime: The First Five Years," *The Atlantic*, Vol. 229, May 1972, pp. 63–69; and Lloyd E. Ohlin, "Report on the President's Commission on Law Enforcement and Administration of Justice," in Komarovsky, *Sociology and Public Policy*, 1975, pp. 93–115.

[19] The Task Force and its staff operated within a 9-month period, with the need for constant collaboration with the National Advisory Committee on Criminal Justice Standards and Goals. This may be compared, for instance, to the 2-year life of the President's Crime Commission (1965–1967), and the 2-year life of the Phase I effort under the National Advisory Commission on Criminal Justice Standards and Goals (1971–1973). Certain fixed activities, such as calling together a study group, setting its agenda, and producing the final report, require the same amount of time, regardless of the length of an effort. Therefore, shorter efforts are severely hampered by the time remaining for the analysis and research that go into the report itself.



INTRODUCTION

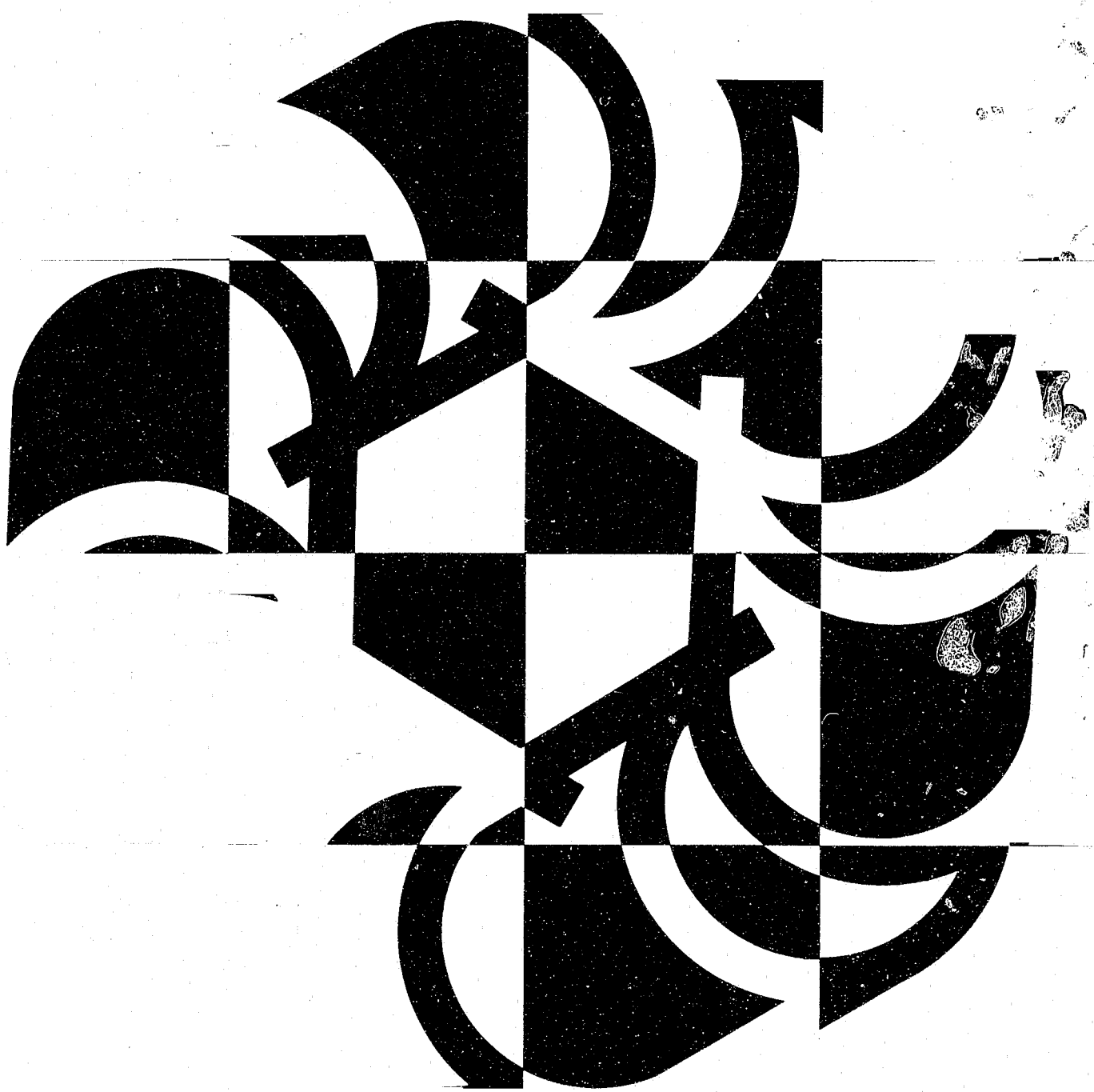
The three chapters constituting Part 2 discuss some of the important aspects of the criminal justice R&D process—from the decision to fund a project to the utilization of the results of the project. Although this report is intentionally addressed to the policymakers who play major roles in the support, conduct, and utilization of criminal justice R&D, the issues raised in each of the chapters should be of fundamental importance to all persons concerned with criminal justice R&D. Each chapter explores one aspect or stage of the research process, mainly focusing on the problems of one constituency: the funding agency in Chapter 1; the researcher in Chapter 2; and the practitioner in Chapter 3.

Chapter 1, which focuses on the *R&D-funding agency,* presents a detailed discussion of institutional support for criminal justice R&D. It describes the Federal role in supporting this kind of R&D, focusing on who the agencies are, the extent of their involvement, and how the principal ones are organized to manage their R&D programs. Where appropriate, the special circumstances governing the development and functioning of these agencies are noted. The chapter then makes a number of recommendations regarding the R&D management activities of criminal justice R&D-funding agencies.

Chapter 2 discusses several important issues in the conduct of criminal justice R&D. Although addressed to the R&D policymaker in a position to influence such conduct, the chapter essentially explores the world of the criminal justice *researcher.* Throughout the chapter, constraints that unwittingly impede or inhibit quality research are identified. Special attention is paid to some ethical issues that affect the conduct of R&D in criminal justice, but the chapter also covers such important topics as: research designs and methodologies, prerequisites for sound program planning and project selection, ways of maintaining the confidentiality of data, and ways of making data more easily available for research and statistical purposes. With respect to this last topic, for example, the relative advantages of a national data archive are explored. Finally, the chapter addresses the problems associated with the publication of research findings. Although many of the recommendations in this chapter are addressed to R&D-funding agencies, they apply, by inference, to the entire criminal justice researcher community.

No matter how generous and well-managed the support of criminal justice R&D, and no matter how well the research is conducted, some of the research must always be judged by the degree to which the appropriate findings and ideas are incorporated into the practices of local, State, and Federal practitioner agencies in their efforts to reduce and control crime and its adverse effects. Chapter 3 discusses R&D utilization practices and the assumptions underlying current policies in this area. The criticism of these policies and the recommendations for developing new strategies are derived by examining the world of the criminal justice *practitioner.* The evidence suggests that the outcomes of the traditional strategies have typically been disappointing. The desired response—the application of research findings in ways that improve agency or system performance in preventing or stemming crime—cannot occur if the corresponding stimulus is inappropriate. The result is the derivation of alternative utilization strategies from the practitioner's perspective—not from the traditional perspective of the researcher.

Each chapter has been written to stand alone. However, because each examines a slightly different constituent world, the discussions in other chapters are appreciably enriched. It will take a concerted and *collective* effort on the part of funding agency R&D managers and their staffs, the criminal justice R&D community, and practitioners at all levels of government—and in all aspects of criminal justice—to address these problems and to work toward their solution. Many of the recommendations are predicated on continued cooperation among these constituencies. If followed, the interests of each constituency should be enhanced, and the common and broader goals of criminal justice R&D more nearly achieved.



A. INTRODUCTION [1]

R&D-Funding Agencies in Criminal Justice R&D

Most R&D is conducted as a result of a grant or award from an *R&D-funding agency* to an *R&D performer*. The performer may be a researcher or team of researchers who are employed by a university, a university-affiliated institution, or a profit or nonprofit research organization. The research is typically conducted on a project basis, which includes the submission of a proposal from a research investigator, an award statement or contract, and a final report or publication.

An R&D-funding agency may be a Federal agency, a foundation, a professional association, or a State or local agency that sets aside some of its budget to support R&D projects. Since World War II, R&D has increasingly been funded by an agency of the Federal Government. The bulk of federally supported R&D has been for national security, atomic energy, outer space exploration, medical research, agricultural research, and basic science. In the 1960's however, Federal R&D dollars began to be allocated to other major domestic policy areas—poverty, education, transportation, housing, environmental quality, and criminal justice.[2]

R&D-funding agencies make many decisions that affect the nature of R&D.[3] For example:

- **Program development**—Within its legislative mandate, an agency organizes its activities into any number of programs representing priority areas. Individual R&D projects are usually part of a larger programmatic scheme.
- **Project selection**—Initial communications with researcher and subsequent review of R&D proposals determine the specific projects to be supported.
- **Project monitoring and evaluation**—During the lifetime of an R&D project, agency officials can suggest midcourse changes; the final evaluation of the project can suggest lessons for funding future projects.
- **R&D utilization**—The agency can take an assertive or passive posture in getting R&D results to be translated into new practices or policies.

The decisions within the agency are made by *R&D managers,*[4] who are agency staff that administer a grant or award program. The capability of the staff, their access to external technical advisers, and the agency's basic mission, all determine the agency's decisions.

As previously stated, the main goals of this report are to improve the *quality, relevance,* and *utilization* of criminal justice R&D. In achieving these goals, the research investigator obviously plays a prominent and direct role by having intimate control over the conduct of the R&D. The decisions and policies of R&D-funding agencies, however, also have a very important, if sometimes indirect, effect on R&D. Agencies can greatly influence the types of R&D projects and individual investigators to be supported. Through conscious policy decisions, the agencies can create major shifts in the overall nature of the R&D that is performed. Through unintended actions, such as unforeseen delays in the review and awards process, the agency can also affect the R&D.

The role of the R&D-funding agency is especially important where the R&D tends, as in criminal justice R&D, to be *problem-oriented.* Although the term "applied research" is imprecise, it nonetheless correctly connotes research that is conducted to solve a specific problem. Less problem-oriented

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[1] This chapter was developed by the R&D Task Force in part on the basis of a paper by Richard Rettig, The Rand Corporation, in preparation. Dr. Rettig is a political scientist located at Rand's Washington, D.C. office.

[2] See, for instance, Charles L. Schultze and others, *Setting National Priorities: The 1971 Budget,* The Brookings Institution, Washington, D.C., 1970, pp. 155–160.

[3] This topic has received only spotty attention as a subject of research. For two works, see Daniel R. Roman, *Research and Development Management,* Appleton-Century-Crofts, New York, 1968; and John Wirt and others, *R&D Management: Methods Used by Federal Agencies,* D. C. Heath, Lexington, 1975.

[4] This use of the term should be contrasted with a more familiar usage, in which an R&D manager is one who manages a laboratory or group of scientists doing research.

research has generally been regarded as basic research, where the questions deemed worthy of research emanate from an academic discipline—e.g., physics, biology, chemistry, or history.[5] Each discipline has its own key questions, methods, criteria for collecting evidence, and conducting rigorous thinking. Thus, an R&D-funding agency with a predominantly basic research mission can afford (and indeed, may be best advised) to limit its role to assuring that high quality investigators are supported. Program development, monitoring, evaluation, utilization, and other managerial concerns are less essential, as basic research is primarily guided by the invisible hand of the scientific disciplines.

The scientific disciplines cannot serve in the same manner in problem-oriented R&D. First, the problems of importance are defined by societal values as transmitted through elected officials at all levels of government, in executive branches and legislative bodies alike. Second, the problems often require a multidisciplinary approach, in which investigators from different disciplines work together on the same problem. Third, successful R&D must be judged as much by the utilization of the results as by publication in a discipline-related journal. For these reasons, the role of the scientific disciplines is lessened, and the influence of the R&D-funding agencies becomes commensurately more important.

In sum, the actions of an R&D-funding agency can have an important effect on the quality, relevance, and utilization of criminal justice R&D. Key management decisions occur before, during, and after the research is actually conducted. For this reason, Chapter 1 of this report covers R&D management issues. Chapter 2 raises some of the major issues regarding the role of the R&D performer in the actual conduct of the research, while Chapter 3 focuses specifically on improving R&D utilization.

Managing R&D-Funding Agencies

There are several problems in reviewing issues of R&D management, especially in the context of an effort to establish standards and goals. These problems include difficulties in developing sound principles of R&D management, and difficulties in appreciating fully the historical evolution of current practices in specific R&D-funding agencies.

Developing Sound Principles of R&D Management. The management of any activity is more an art than a science. Without scientific evidence, sound principles of management must either be stated at lofty, abstract levels (often referred to as motherhood statements) that may appear vacuous because they apply to all situations, or they must be stated at very specific levels (i.e., taking into account specific situations and the personalities of the relevant people) that may appear unique to a given situation. As with most generalities about human activities, there is little ground in the middle in which classes of situations—neither all-encompassing nor completely individualistic—can be reliably distinguished.[6]

In view of this dilemma, the main spirit of the recommendations in this chapter is: to identify a range of issues that concern R&D management, and, for each issue, to call attention to a generally desirable condition that avoids extremes. For example, effective leaders of R&D-funding agencies should possess acknowledged competence and status in the research performer community, as well as political and administrative skills (see Recommendation 1.9). The recommendation, however, does not consider it necessary that the *head* of the R&D agency be the person that must combine these skills. For many practical reasons, the head of the R&D-funding agency may have to be more skilled, for instance, in administrative matters. But the recommendation does call attention to the fact that, of the top two or three leaders of an R&D-funding agency, at least one should have significant research status and at least one should have strong administrative and political skills. The absence of these attributes would represent an extreme condition that should be avoided.

This attempt to develop a balanced approach to R&D management does risk presenting the reader with an obvious set of generalities. But because this report is intended to contribute to the improvement of criminal justice R&D—a process that can only occur over a period of several years—it was decided to take this risk rather than to assess the immediate needs of specific R&D-funding agencies. The latter approach would have had to have been geared to the circumstances of incumbents and their relationships and capabilities—a focus that would become obsolete as soon as such officials leave their current positions.

Current Practices by R&D-Funding Agencies. This report nevertheless does attempt to indicate, in an illustrative manner, how R&D management is cur-

[5] There has been much discussion over the term "applied" and "basic" research. For example, see Marvin Reagan, "Basic and Applied Research: A Meaningful Distinction," *Science*, Vol. 155, March 1967, pp. 1383–1386.

[6] The difficulty is similar with, for instance, personality theory. A sound principle may be vacuous—e.g., a healthy personality requires a stimulating but not stressful environment, a balanced diet, and normal family and peer relationships. As soon as classes of situations need to be distinguished—e.g., different categories of personality disorder—very individualistic factors need to be taken into account and few generalizations are possible.

rently conducted in two major criminal justice R&D-funding agencies: (1) the National Institute of Law Enforcement and Criminal Justice (NILECJ) in the Department of Justice; and (2) the Center for Studies of Crime and Delinquency in the Department of Health, Education, and Welfare (DHEW). These R&D-funding agencies, which are the main organizational units that have the support of criminal justice R&D as their primary mission, have dissimilar histories and objectives. The description of current practices in such diverse agencies is intended to provide the reader with some background for interpreting the implications of the general principles of R&D management. Wherever possible, recommendations indicate, as illustrative implementation measures, the steps that could be taken by these and other agencies to promote the general principles addressed by the recommendation.

The inclusion of these specific practices, even in a descriptive form, should not be misinterpreted. First, the descriptions are not intended as assessments of these agencies. There have been other efforts (and new ones are underway) that are of a more evaluative nature,[7] focusing on the performance of the agencies in relation to their objectives and constraints —a function that this report does not serve. Nor has there been a lack of awareness of the bureaucratic conflicts that have especially plagued NILECJ and that have strongly influenced its policymaking.[8] Such conflicts have been seen as a function of the relationship among specific incumbents and as topics that would divert attention from the more general institutional issues.

Second, the use of two illustrative examples does not imply that additional examples were eschewed lightly. The Police Foundation, the Federal Judicial Center, and the R&D activities supported by the Department of Justice other than through NILECJ would have added variety and depth to these examples. Because of time and resource limitations, however, this report could only cover a few agencies, and it was decided to focus on the two largest ones.

Third, the two illustrations are intended to give the reader a sense of the present diversity of R&D management in criminal justice. Even so, the inherent differences between these two agencies may remain vastly unappreciated. Although the NILECJ and the DHEW Center both exist within the context of a broader action agency (the Law Enforcement Assistance Administration and the National Institute of Mental Health (NIMH), respectively), their main objectives and traditions are very different. NILECJ was created in response to national pressures to reduce crime, is at a more youthful stage of development, is still sorting out basic administrative relationships to its parent organization as well as to Congress, attempts to fund R&D that will lead to immediately useful improvements in the criminal justice system, and is still actively exploring many different approaches to its R&D management practices. In contrast, the DHEW Center was formed as part of an overall tradition of health-related R&D (within the context of the National Institutes of Health). The Center is itself youthful as a discrete organizational component but has nevertheless been able to employ longstanding R&D management practices developed by the older National Institutes of Health, and it has tended to fund R&D oriented to the social sciences and to the development of a better understanding of crime as a social problem. Every Federal agency, in short, has its own unique authorization history, mission, and clientele, and these two illustrative cases are no exceptions.[9]

It should also be emphasized that R&D management practice, although generally an elusive matter, is in a state of rapid evolution with special regard to problem-oriented R&D. At the Federal level, most of the major R&D efforts aimed at domestic problems, such as poverty, low educational achievement, and crime, are all fairly new. The major R&D-funding agencies—e.g., NILECJ, the DHEW Center, the National Science Foundation's Research Applied to National Needs (RANN) program, the R&D program of the Energy Research and Development Administration (ERDA), and the DHEW's National Institute of Education—have mainly been established in

[7] For example, the National Academy of Sciences will issue a report on NILECJ after this report has been published. Other studies include: Comptroller General of the U.S., "The Program to Develop Improved Law Enforcement Equipment Needs to Be Better Managed," Washington, D.C., 1976; Raymond H. Milkman and others, "External Review Mechanisms," The Lazar Institute, Washington, D.C., March 1976; David T. Stanley, "Goals, Priorities, and Evaluation in the NILECJ," The Brookings Institution, Washington, D.C., October 1972; Arthur D. Little, "The LEAA Grants Manager's Job," Cambridge, May 1975; and Mitre Corporation, "History and Evaluation of Grants, Contracts, and Interagency Agreements of the NILECJ, 1968–1973," McLean, Va., June 1974, M–74–23. For an example of some of the congressional hearings related to the topic, see Committee on Science and Technology, U.S. House of Representatives, *Hearings: The Application of Science and Technology to Crime Control,* 94th Congress, 1st session, July 1975.

[8] See, for instance, John M. Goshko, "Strife Within Crime Agency," *The Washington Post,* Sept. 21, 1975, p. A–3.

[9] An interesting comparative analysis, for instance, would begin by comparing the *early* development of the National Institutes of Health with NILECJ's early development. See, for instance, Herbert H. Rosenberg, "Research Planning and Program Development in the National Institutes of Health: The Experience of a Relatively New and Growing Agency," *Annals of the American Academy of Political and Social Science,* Vol. 327, January 1960, pp. 103–113. For a cogent analysis of the important functional differences among Federal agencies, see Richard Fenno, *The Power of the Purse,* Little, Brown, Boston, 1966.

Table 1.1. U.S. Government Outlays for Crime Research and Statistics

Fiscal Years 1969-1976

($ in thousands)

Fiscal Year	Outlays		
	Statistics	Research	Total
1969	1,691	11,752	13,443
1970	1,866	12,636	14,502
1971	7,545	23,122	30,667
1972	12,878	27,878	40,756
1973	28,374	45,675	74,049
1974	31,509	64,611	96,120
1975*	37,988	72,401	110,389
1976*	37,342	72,881	110,223

* Estimate.

Source: *Special Analyses of the U.S. Government Budget,* fiscal years 1971–1976. (Dollars are unadjusted.)

the past 10 years and now represent sizable investments in problem-oriented R&D. Not surprisingly, research managers have encountered many unresolved issues, and the existing practices have been the subject of continual review in the hope of stimulating further improvements.[10] This state of rapid evolution necessarily makes this report an innovative effort, in which the notion of hard and fast standards may still be premature.

Guide to This Chapter

The following section reviews the overall organization of current R&D activities in criminal justice. This review describes the extent and type of activities being supported by public and private R&D-funding agencies. The succeeding four sections of the chapter cover four important functions of R&D management: planning R&D programs, coordinating R&D programs, developing personnel resources, and project management. Within all of these sections, specific management issues are addressed and are the subject of recommendations.

[10] For examples of management reviews of RANN, see Comptroller General of the U.S., "Opportunities for Improved Management of the RANN Program," Washington, D.C., 1975; and National Academy of Sciences, "Social and Behavioral Programs in the National Science Foundation," Washington, D.C., 1976.

B. THE OVERALL ORGANIZATION OF R&D SUPPORT IN CRIMINAL JUSTICE

Recent Trends in Federal Support

Large-scale support of criminal justice R&D by public agencies is a recent phenomenon.[11] Although some criminal justice R&D was supported before the 1960's, especially in criminology, the enactment of the Omnibus Crime Control and Safe Streets Act in 1968 marked the threshold to a significant scale of R&D effort.[12] The research program of the Law Enforcement Assistance Administration (LEAA) and particularly of its main R&D component, the National Institute of Law Enforcement and Criminal Justice (NILECJ), is a direct result of the 1968 legislation. Other efforts, both public and private,

[11] Available data on criminal justice R&D have limitations on both coverage and quality. The total amount of criminal justice R&D is not large enough to be separated by agency by the National Science Foundation's annual surveys of Federal Government research and development activity. Only the Office of Management and Budget prepares agency data on an annual basis. See National Science Foundation, *Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1972, 1973, and 1974,* Vol. XXII, Washington, D.C., 1974, in which Department of Justice R&D is lumped under "Other Agencies."

[12] An excellent summary of this development is Gerald M. Caplan, "Reflections on the Nationalization of Crime, 1964–68," *Law and the Social Order,* Vol. 1973, No. 2, 1973, pp. 583–635.

Table 1.2. Federal Criminal Justice R&D Expenditures in Relation to Total Expenditures for Criminal Justice Services

($ in thousands)

Fiscal Year	Total Criminal Justice Expenditures	Federal Criminal Justice R&D	
		Expenditures	Percent of Total
1969	$ 7,340,305	$11,752	0.16
1970	8,571,252	12,636	0.15
1971	10,513,358	23,122	0.22
1972	11,721,194	27,878	0.24
1973	12,985,155	45,675	0.35
1974*	14,200,000	64,611	0.46
1975*	15,400,000	72,401	0.47

* Estimate.

Source: The total criminal justice expenditure data are from U.S. Department of Justice, Law Enforcement Assistance Administration, *Expenditure and Employment Data for the Criminal Justice System,* 1968–69 through 1972–73; the Federal criminal justice R&D expenditure data are from *Special Analyses of the Budget of the United States Government,* fiscal years 1971 through 1976.

derive from the general social conditions that gave rise to the new law, and practically speaking, criminal justice R&D as it is known today is a phenomenon of the 1970's. Table 1.1 indicates that Federal outlays for crime research and statistics from fiscal years 1969 through 1976 have increased more than 8 times, from $13.4 million to $110.2 million.[13] The outlay for statistics (i.e., in support of new crime reporting and management information systems) has accounted for a significant portion of this increase, from $1.7 million in fiscal year 1969 to over $37 million in fiscal year 1976, while outlays for research have gone from $11.8 million to $72.9 million during the same period.

A frequently used index of *R&D intensity* in a given sector is the ratio of R&D expenditures to total expenditures. The computations in Table 1.2 indicate that Federal criminal justice R&D expenditures have increased in relation to the total expenditures for all criminal justice services, from .17 percent in fiscal year 1969 to nearly .5 percent in fiscal year 1974. By comparison, computations based on estimates of R&D activity in education, agriculture, and health in 1968 give intensity ratios of slightly more than .3 percent, just over 1 percent, and 4.6 percent, respectively.[14] Among manufacturing companies performing R&D, the ratio of R&D expenditures to net sales was 2.0 percent in 1972.[15]

Among Federal agencies, five executive branch departments and the Federal judiciary account for the bulk of federally supported criminal justice R&D (see Table 1.3).

The Department of Justice. The *Department of Justice* (DOJ), mainly through LEAA and its National Institute of Law Enforcement and Criminal Justice, plays the dominant role in criminal justice research. LEAA's mission, however, is one of technical assistance to State and local criminal justice systems, and NILECJ research supports this mission. There are several other R&D activities within DOJ that, unlike those of LEAA and NILECJ, are concerned with the Federal criminal justice system (e.g., the Federal courts and Federal correctional institutions):

- *The Federal Bureau of Investigation* (FBI), whose R&D funds are devoted to criminalistics and crime laboratory research at the Federal level and to

[13] The best available data on the magnitude of Federal support for criminal justice R&D are to be found in the special analysis on crime reduction which appears annually in the *Budget of the United States Government.* Admittedly, there are problems in relying too heavily upon the data from the budget analyses. These data include research expenditures by State Planning Agencies and very little is actually known about such activities. The data also do not include all Federal agency activities. Furthermore, the data exclude all research expenditures by private sources; as indicated below, these are difficult to estimate. However, although the precision of the figures can be easily challenged, the rough magnitudes represent a reasonable approximation to the current situation.

[14] Roger E. Levien, *National Institute of Education: Preliminary Plan for the Proposed Institute,* The Rand Corporation, Santa Monica, R–657–HEW, February 1971.

[15] National Science Foundation, *Research and Development in Industry, 1972,* Washington, D.C., 1974, pp. 59–60.

Table 1.3. U.S. Government Outlays by Federal Agency for Crime Research and Statistics

Fiscal Years 1969-1976

($ in thousands)

Agency	Fiscal Year 1969	1970	1971	1972	1973	1974	1975*	1976*
Justice	6,413	7,227	20,629	31,748	65,049	87,196	101,257	98,154
Judiciary	67	80	145	274	629	814	1,049	3,711
DOD-Civil	—	—	11	13	14	16	18	20
HEW	5,773	4,751	5,435	4,821	3,411	3,995	4,595	4,267
Transportation	519	485	660	931	2,061	3,309	2,630	3,231
Treasury	—	—	—	462	840	840	840	840
Executive Office President	—	—	—	1,503	648	—	—	—
OEO	—	—	1,600	—	—	—	—	—
USDA	—	—	—	—	1,285	—	—	—
AEC	243	116	104	—	—	—	—	—
NASA	272	1,000	1,342	722	—	—	—	—
Postal Service	196	843	741	—	—	—	—	—
Other	—	—	—	282	112	—	—	—
TOTAL	13,443	14,502	30,667	40,756	74,049	96,170	101,389	110,223

* Estimate.

Source: *Special Analyses of the Budget of the United States Government*, fiscal years 1971–1976.

Table 1.4. U.S. Department of Justice Outlays for Crime Research and Statistics by Division

Fiscal Years 1974-1976

($ in thousands)

Department of Justice Component	Fiscal Year 1974	1975	1976
Federal Bureau of Investigation			
Federal	2,374	2,828	3,021
State	1,387	725	942
Drug Enforcement Administration	5,608	5,318	4,296
Federal Prison System	2,175	2,949	3,481
Law Enforcement Assistance Administration	75,652	89,437	86,414
TOTAL	87,196	101,257	98,154

Source: *Special Analyses of the Budget of the United States Government*, fiscal years 1971–1976.

the provision of technical assistance to the States on these same matters;

- *The Drug Enforcement Administration* (DEA) R&D program, which consists of work that ranges from the control of the supply of narcotics and dangerous drugs to analysis of the efficacy of treatment programs;
- The research program of the *Bureau of Prisons* (BOP), which is now being consolidated in a newly established *National Institute of Corrections* (NIC),

addresses correctional problems and behavioral changes of persons in the Federal prison system;

- The *Board of Parole,* which has a small, internal research effort dealing with parole management; and
- The *Immigration and Naturalization Service* (INS), which initiated a research program in fiscal year 1976, with an annual expenditure level of about $300,000.

The outlays for the main DOJ components for fiscal years 1974, 1975, and 1976 are shown in Table 1.4. By far the largest share of DOJ research funds is administered by LEAA. The Omnibus Crime Control and Safe Streets Act of 1968 established LEAA and Federal responsibility for technical assistance to State and local criminal justice systems. The main activities of LEAA are indicated by the 1968 statute, as amended in 1971, 1973, and 1974:

- Part A established LEAA;
- Part B authorized planning grants to criminal justice State Planning Agencies (SPA's);
- Part C authorized law enforcement (1968) and criminal justice (1973) grants to the States, 85 percent of the funds to be allocated by formula (block grants) and 15 percent to be allocated by LEAA (discretionary funds);
- Part D established NILECJ and authorized grants for research, education, training, and demonstration; and
- Part E (1971) authorized grants for correctional institutions and facilities, 50 percent to be allocated to State Planning Agencies and 50 percent to be made available by LEAA to SPA's, units of local government, or combinations of such units.

LEAA Part D funds are thus mainly administered by NILECJ, and Part C State block grant funds are administered by the criminal justice SPA's.

Table 1.5. National Institute of Law Enforcement and Criminal Justice Allocation of Obligational Authority

Fiscal Years 1974-1976

($ in thousands)

Office and Activity	Fiscal Year 1974	1975	1976
Office of Research Programs			
Advanced Technology Division	8,700	7,552	7,958
Community Crime Prevention	3,300	1,750	2,800
Police	2,000	1,609	2,010
Courts	2,588	2,100	1,920
Corrections	2,572	1,700	1,400
Juvenile Delinquency	1,640	—	—
Special Programs Division	—	4,350	3,050
Education/Manpower	—	1,750	1,000
Miscellaneous	1,000	350	—
Subtotal	21,800	21,161	20,138
Office of Evaluation	4,337	5,566	4,235
Office of Technology Transfer			
Model Programs	—	1,000	1,160
Demonstration and Replication	—	1,987	2,000
Reference and Dissemination	—	2,720	2,130
Subtotal	2,751[a]	5,707	5,290
Miscellaneous[b]	11,210	10,339	2,737
Total Institute	40,098	42,773	32,400

[a] No breakdown of this allocation in the Office of Technology Transfer was available.
[b] The bulk of these funds was administered by NILECJ in support of DEA.

Source: National Institute of Law Enforcement and Criminal Justice.

Among the components of LEAA, NILECJ had a fiscal year 1976 budget of about $32 million (see Table 1.5). The organization consists of three offices —the Office of Research Programs, the Office of Evaluatuion, and the Office of Technology Transfer, with each office further organized into divisions where the research, evaluation, dissemination, and utilization programs are administered.[16] LEAA-funded R&D efforts administered by the SPA's totalled about $40 million in 1973, but little is known about the definition of R&D used by the various SPA's; thus, the nature of the projects being supported is difficult to assess. Also, within LEAA a new *Office of Juvenile Justice and Delinquency Prevention* has been created in which there is a *National Institute for Juvenile Justice and Delinquency Prevention* (NIJJDP). A major purpose of the latter agency is to support research on delinquency. The new Office and Institute were established by the Juvenile Justice and Delinquency Prevention Act of 1974.

The Federal Judiciary. The research support by the *Federal Judiciary* is sponsored by the Federal Judicial Center in Washington, D.C. The amount of research supported has increased from $67,000 in fiscal year 1969 to an estimated $3.7 million in fiscal year 1976. The Center, established by Public Law 90–219, December 20, 1967, has as its purposes research, development, and training directed to the "improved judicial administration in the courts of the United States." In its 1975 annual report, the Center indicated that, of its fiscal year 1975 appropriation of $3,450,000, approximately 61 percent was allocated to research and development, 25 percent to continuing education and training, 9 percent to general administration, and 5 percent to interjudicial affairs. The Center's largest research and development effort has been the COURTRAN project to develop a computerized local court management information system for U.S. district and appellate courts. COURTRAN I was operated experimentally in three district courts and under COURTRAN II the application of the system is now being expanded. Initial applications have been criminal and civil case management, thus helping district courts to meet their obligations under the Speedy Trial Act of 1974. Future applications will include jury selection and use, appellate case processing, financial accounting, attorney conflicts of engagement management, computer-aided transcription editing, and bankruptcy petition management.

Other Agencies. The amount reported for *Department of Defense-Civil Functions* in Table 1.3 is for U.S. Army expenditures on criminal statistics in the Panama Canal Zone. This reported information, however, does not adequately characterize the complex involvement of the Department of Defense (DOD) in criminal justice R&D.[17] First, the direct support of criminal justice R&D by DOD takes the form of studies and analyses of operational problems confronting the uniformed services. The Army, for example, has conducted studies dealing with its role in civil disturbances, the military justice system, handling the military prisoner, deviance and control of enlisted personnel, and use of technology for Army law enforcement purposes. Second, a strong cooperative relationship exists between the military services and the appropriate civilian agencies on matters dealing with drug abuse and narcotics control. Third, indirect application of defense technology comes as private defense contractors seek civilian markets for newly developed R&D products, and technology transfer takes place through a complex of activities by which DOD personnel seek to relate defense technology to civilian needs, including criminal justice. In general, though, there are no identifiable DOD R&D officials with the responsibility for applying R&D to the civilian criminal justice system.

The funds reported by the *Department of Health, Education, and Welfare* are administered mainly by the National Institute of Mental Health and its component Center for Studies of Crime and Delinquency. The Center's program includes both research and training activities, with an annual budget of about $5 million (see Table 1.6). The research program is concerned with the development of scientific knowledge on crime, delinquency, and related deviant and violent behavior. This broad concern encompasses research on sources and patterns of crime and delinquency, on the interaction between mental health and law, and on the role of public policies on crime, delinquency, and related social deviance. Beyond the generation of new scientific knowledge, the program also supports efforts to develop new community-based treatment models for delinquent, criminal, and violent behavior. Finally, the research program has an explicit concern with effective strategies for information dissemination and research use. The training program of the Center is directed to both research and practical application. Some of the funded training grants indicate an intention to combine these two purposes. Most of the training grants, however, can be distinguished by their commitment to training either future researchers or future practitioners, with both types being integrally

[16] U.S. Department of Justice, Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice, *Program Plan, FY 1976: Research, Evaluation, Technology Transfer,* Washington, D.C., n.d., p. 13.

[17] Additional information is available from the Office of the Director of Defense Research and Engineering, Office of the Secretary; and Office of the Chief of Staff, U.S. Army Headquarters.

Table 1.6. Center for Studies of Crime and Delinquency Program Expenditures

Fiscal Years 1974-1976

($ in thousands)

Program	Fiscal Year 1974	1975	1976
Research	3,339	3,627	3,100
Training	1,302	1,628	1,500
TOTAL	4,701	5,255	4,600

Source: National Institute of Mental Health.

related to the knowledge generation-dissemination-utilization strategy of the Center.

The *Department of Transportation* devotes a significant amount of resources to criminal justice R&D, now over $3 million on an annual basis. More than 80 percent of these resources has been spent by the U.S. Coast Guard, primarily for the purpose of detecting pollution law violations by cargo vessels. Approximately $400 million has been spent in each of the past 3 years by the Federal Aviation Administration on research directed to secure airports and aircraft from bomb threats and bomb attempts and to reduce and eliminate the problem of aircraft hijacking. This research has included work on the use of metal detectors at airports and the development of psychological profiles of aircraft hijackers.

Within the *Treasury Department,* an annual expenditure of $840,000 for R&D related to criminal justice has occurred in each of the past 4 fiscal years. This is administered by the Customs Bureau, whose research efforts are directed to the reduction of cargo theft at ports of entry to the United States, and to the detection and apprehension of heroin smugglers across the Nation's borders.

Other Federal agency activities are not reported in the analysis prepared by the Office of Management and Budget. One of these is the Bureau of Alcohol, Tobacco, and Firearms (ATF) within the Treasury Department, which conducts R&D on explosives and arson. Work in ATF has included national firearms tracing, explosives tagging, the early use of neutron activation analysis for gunshot residue analysis, and a program for tagging inks to facilitate document examination for proof of fraud in white collar crimes. Similarly unreported is the *National Science Foundation* (NSF), which does not have a program of criminal justice research. NSF supports occasional criminal justice R&D projects, however, such as a pilot test of the defensible space hypothesis in urban structures, an evaluation of the organization of police services, and an evaluation of the crime and causation literature from 1945 through 1970. There is also a law program within the NSF Social Sciences Division, and some of its projects over the years have dealt with aspects of the criminal justice system.

Recent Trends in Private Support

There have been three sources of private support for criminal justice R&D—private industry, philanthropy, and professional associations. *Private industry* support could be expected for the development of marketable products, such as police equipment. There is no estimate of private investment in R&D that is directly or generally related to criminal justice.

Philanthropic support for law and criminal justice historically has been rather limited. This has changed somewhat since the late 1960's. One stimulus to change was provided by the Tax Reform Act of 1969, which substantially revised the statutes affecting the activities of private foundations.[18] In the related congressional hearing, both Representatives Wright Patman and Wilbur D. Mills suggested that activities of deep concern to a broad segment of the public, such as criminal justice, might be an appropriate area for philanthropic endeavor.

The major private foundation supporting criminal justice R&D has been the Ford Foundation. Other foundations that have made important contributions include the Russell Sage Foundation and the Guggen-

[18] See McGeorge Bundy, "The President's Review," *The Ford Foundation Annual Report, 1969,* New York, 1970, pp. xv—xxiii for a discussion of the 1969 law.

heim Foundation.[19] The Ford Foundation has dominated philanthropic support for research and action programs in the field of law and the administration of criminal justice. The 1970 Annual Report indicated that 150 grants and appropriations had been made in the area since 1951 and that $70 million had been committed over the 2-decade period.[20] From 1969 to the present, the Ford Foundation has supported projects dealing with improved police-community relations; midcareer training for police, courts, and corrections officials; improvement of judicial administration; university-based centers of criminal justice research; drug abuse; the protection of victims of crimes; and problems of job discrimination confronting ex-convicts. Institutional recipients of Ford Foundation support have included the American Justice Institute, the Vera Institute of Justice, the Institue of Judicial Administration, and the Police Foundation.

The grants (obligations) and payments (expenditures) of the Ford Foundation in their Administration of Justice Program for the years 1969 through 1974 are indicated in Table 1.7. It should be noted that: (1) the Administration of Justice Program includes support for more than criminal justice, e.g., support for public interest law firms; (2) the program supports both research and action projects; and (3) grants are often paid out over several years.

The Police Foundation was established in 1970 with a commitment of $30 million from the Ford Foundation.[21] This represents the largest action ever taken by any private organization in the field of law and justice. The Ford Foundation was persuaded to undertake this effort because of the need for the improvement of both police effectiveness and the quality of American justice; the Police Foundation was envisioned as an independent institution to promote the self-renewal of the police profession.

The Russell Sage Foundation has had a relatively modest program in "Law and the Social Sciences" for a number of years.[22] The two purposes of this program have been to produce social science research on law and legal institutions as they function in our society and, second, to provide training for people teaching and doing research in law and social science. The emphasis within recent years has been shifting from training to research. Specific research programs have included the development of a research agenda on capital punishment, efforts to apply economic models to the problem of crime and its control, and studies of prosecutorial discretion. Research support is normally provided for individual scholars.

Table 1.7. The Ford Foundation Administration of Justice Program

1969-1974

($ in thousands)

Year	Grants	Payments
1969	$ 3,825	$ 7,046
1970	8,366	6,553
1971	7,256	3,611
1972	10,592	10,584
1973	11,188	10,424
1974	20,781	12,395

Source: *Ford Foundation Annual Reports,* 1969–1974.

Among the *professional associations,* the American Bar Foundation (ABF) is the research arm of the American Bar Association.[23] The ABF has a permanent staff of attorneys and social scientists who perform research, and it also supports research by university-based scholars. Resources for the program come from the American Bar Association (ABA) and from external sources such as Federal Government agencies and private philanthropy (e.g., the Ford Foundation). In 1974, ABF appropriations to research projects were $963,469, up from $474,440 in 1969–1970,[24] though not all the research has been directed to criminal justice. Research pertinent to criminal justice includes projects on the office of the prosecuting attorney, the impact of the Federal omnibus hearing and criminal pretrial conferences, the Federal sentencing process, and the State prison postconviction remedy process.

Private support for criminal justice R&D is thus concentrated in a rather few sources. With the exception of the Ford Foundation, such support as can be identified is of relatively modest magnitude. Furthermore, foundation support usually has a broader scope than criminal justice, frequently encompassing civil justice and the role of law and legal

[19] These data are not exhaustive, but existing sources of data on private foundations do not provide much further help. See, for example, Marianna Lewis (ed.), *The Foundation Directory,* 4th edition, Columbia University Press, New York, 1971.

[20] *Ford Foundation Annual Report,* 1970, New York, and subsequent reports for 1971 through 1974.

[21] See McGeorge Bundy, "The President's Review," *Ford Foundation Annual Report, 1970,* New York, 1971, pp. 9–10; and the Police Foundation, *Toward a New Potential: A Progress Report,* Washington, D.C., 1974.

[22] *Russell Sage Foundation Annual Reports,* New York, 1965 through 1974.

[23] *American Bar Association Annual Reports,* Chicago, 1971 through 1974.

[24] The breakdown of these numbers by source of support—internal versus external—was not available.

institutions in society. The overall contributions of private sources of support cannot be easily assessed. The ability to take advantage of gaps in publicly supported research, however, is a great advantage of private institutions and a fact of substantial social significance.

Importance of Multiplicity of Funding Sources

In any R&D field, the existence of a multiplicity of funding sources—Federal, State, local, and private agencies—is a desirable state of affairs. This is because research thrives when different ideas can be explored. The more funding agencies that support R&D, the more likely that an idea (e.g., a study of rioters versus a study of riot-suppressing agents) will be of interest to one of the funding agencies or that the R&D requirements (e.g., a longitudinal versus a cross-sectional study) can be accommodated by an agency's administrative policies.[25] When there is only a single or a few funding agencies involved, it is often the case that most of the research must fall within a narrow set of categories or orientations;[26] despite the best intentions of R&D managers, each funding agency nevertheless has its own dominant mission and clientele that constrain the type of R&D that is to be supported.

Our brief review of the existing sources of support for criminal justice R&D has indicated the increasing tendency for a single source—LEAA—to control most of the R&D funds. There are few sources of foundation support, especially if criminal justice is compared with other topics of social concern, such as health R&D and education R&D, where much of the R&D effort is supported by private foundations. LEAA has increasingly become the main source of Federal support for criminal justice R&D, with other Federal departments playing a proportionately declining role. Overall, the Department of Justice component was about 50 percent of all Federal funding in 1969, but the LEAA component alone represented about 80 percent (and Justice about 90 percent) of all Federal funding in 1976 (see Tables 3 and 4).

Within LEAA, there are several R&D-funding agencies, mainly NILECJ, but also the SPA's and the new National Institute of Juvenile Justice and Delinquency Prevention (NIJJDP). One potential problem is that the distribution of funds among these agencies is heavily influenced by arbitrary statutory formulas, such as the 85–15 percent split between block grants and discretionary funds, and not by any establishment of relative need or efficiency in conducting R&D. Another problem, however, is that, although each of these funding agencies has a somewhat different R&D mission, each is nevertheless part of LEAA and shares a basic LEAA mission that constrains the type of R&D that can be supported.

A major constraining factor is LEAA's orientation toward providing assistance to State and local criminal justice agencies, an orientation that in theory equally affects the R&D priorities of NILECJ, the SPA's, and the other component R&D agencies of LEAA.[27] Thus, only secondary emphasis can be given to national criminal justice priorities or to R&D that, although it may have a potentially high payoff in the future, does not necessarily deal with the immediate needs of a State or local agency. For instance, R&D to reduce terroristic attacks and assassination attempts on national leaders may not necessarily be given a high priority under LEAA's basic mission. Of course, there are other Federal agencies that have criminal justice missions that complement those of LEAA. For instance, the Drug Enforcement Agency (DEA) can give more priority to the nonlocal aspects of drug problems, such as research to develop effective measures for preventing the flow of drugs into the country. Similarly, the NIMH Center for Studies of Crime and Delinquency can give greater emphasis to research on crime-related social problems and the assumed relationship, for instance, between poverty and crime. Nevertheless, LEAA's prominence in supporting criminal justice may have drawn attention away from these other agencies.

One principle that can be used to maintain a multiplicity of funding sources is to provide adequate R&D funds wherever an agency already has a mission related to criminal justice. Thus, the Treasury Department's Bureau of Alcohol, Firearms, and Tobacco could support more R&D related to its programs, e.g., the development of tagging techniques to trace the source of explosives. Similarly, authorization of NIMH to establish a center for studies of rape preceded by some time the actual allocation of funds to operate the center. Finally, other types of criminal justice R&D could be given more support within the existing missions of other Federal agencies, such as the National Science Foundation or the Commerce Department's National Bureau of Standards. Overall, the distribution of R&D funds in criminal justice could

[25] For a related discussion, see Chapter 2, Section C.

[26] The multiplicity characteristic is of course different from the issue of the amount of R&D support funds, and our statements are not intended to address the issue of whether more funds are needed for criminal justice R&D.

[27] This problem is thus *not* alleviated by the common recommendations to reallocate the 85–15 percent split between block grants and discretionary funds (e.g., see Twentieth Century Fund Task Force on LEAA, *Law Enforcement: The Federal Role*, McGraw-Hill Book Co., New York, 1976).

better reflect the existing diversity of Federal agency missions.

Recommendation 1.1: Multiplicity of Support for Criminal Justice R&D.

Criminal justice R&D should be supported by a variety of sources—Federal, State, local, and private. R&D thrives when there are many different R&D-funding agencies, since a greater variety of research ideas is likely to be supported, and narrow orientations to criminal justice problems are more likely to be avoided.

1. The distribution of funds among different sources should be based on independent assessments of need and of efficient and effective management of R&D resources, not on arbitrary formulas.

2. A multiplicity of funding can also be maintained by distributing funds among Federal agencies that already have a variety of missions related to criminal justice. For example, any government agency (e.g., the Department of the Treasury) that has been given a legislative or executive mandate to support criminal justice programs should also be appropriated sufficient funds to support the necessary R&D to fulfill its mission.

C. PLANNING R&D PROGRAMS

An R&D-funding agency in criminal justice faces three tasks in planning and initiating its programs. First, it must *identify the likely audience* for each of its research programs—i.e., whether the audience is to be other researchers, legislators, and policy-makers concerned with criminal justice, or officials in criminal justice agencies—and ascertain the needs of the audiences to which R&D can be directed. Second, it must set some priorities and *develop programs* for the topics of R&D that will be given major support. Establishing such priorities will help to insure that the agency has a conscious plan of action (this does not preclude a resource allocation plan that deliberately permits a response to unplanned opportunities and contingencies). Third, it must *signal the research performers* regarding its objectives, priorities, and funding intentions.

Identifying the Audiences for the R&D Program

The successful performance of this task will normally increase the degree to which agency-supported R&D is relevant to existing needs. The R&D-funding agency may direct its program to the needs of researchers, practitioners, or other audiences. Whichever group is identified as the main audience(s), the R&D program will be more responsive and generate more solid support if the audiences are identified and if they can contribute early to the planning of the agency's R&D program.

Within LEAA, NILECJ, for example, confronts this identification problem in seeking to relate its R&D programs to the needs of several different constituents. One view is that NILECJ ought to consider the other components of LEAA, e.g., the Office of Regional Operations (ORO), as well as the SPA's, as its major audiences. This viewpoint is based on the notion that NILECJ is mainly a research—but not a development—arm of LEAA, whereas these other LEAA units serve more of the development or implementation function. Another view is that NILECJ's main audiences are the State and local government criminal justice practitioner agencies—police departments, courts, and correctional institutions. This second viewpoint would hold that neither the ORO nor the SPA's have *action* responsibilities for criminal justice, as both are only intermediate levels of organizational activity that do not directly provide criminal justice services. However, because: (1) the NILECJ research program has only existed for a few years, (2) channels between NILECJ and the State and local practitioner agencies are not yet strong and extensive, and (3) criminal justice agencies are not always receptive to research and researchers, the latter viewpoint in essence forces NILECJ to look upon the progressive or innovative criminal justice practitioner agencies in the country as the most probable user group for its R&D output.[28]

To take another organization that has faced the problem of identifying its audiences—but with yet another set of alternatives—NIMH's Center for Studies of Crime and Delinquency is primarily a mental health agency and not a criminal justice agency. As two officials of the Center stated in an interview:

> In contrast to other Federal crime and delinquency programs which have a law enforcement and criminal justice perspective, the Center's program places primary emphasis on the development of improved means for understanding and coping with problems of mental health as these are or may be reflected in various types of deviant, maladaptive, aggressive, and violent behaviors that frequently involve violations of the criminal or juvenile law.

The potential audience in the operational world,

[28] Brian C. Twiss, in *Managing Technological Innovation*, Longman, London, 1974, pp. 30–33, discusses R&D as a business serving two markets, one that primarily serves corporate objectives and a second that generates technological products unrelated to corporate objectives. By extension, this discussion suggests a third position for NILECJ, i.e., one oriented to serving both markets indicated above.

therefore, includes juvenile and criminal justice agencies, schools, social welfare agencies, and health and mental health agencies. Because the Center is part of an agency that is highly oriented to the research community, however, researchers tend to be the main constituents of the Center's program.

Other R&D-funding agencies must deal with the same problem. An SPA, for instance, may support most of its R&D with the notion that criminal justice practitioners will be the main audience. The SPA's have had to contend, however, with the problem of giving sufficient emphasis to the different practitioner agencies. It is well known that law enforcement agencies were the dominant practitioners to which the SPA's addressed their original programs; only more recently have courts and correctional agencies become more prominent audiences.[29]

In summary, there are many potential users of R&D knowledge—e.g., researchers, R&D policymakers, and practitioners. In some cases, an R&D program at the national level may be directed at State and local policymakers such as SPA officials; in other cases, it may be directed to the practitioners in the field. An R&D program is more likely to include relevant research when its audiences have been adequately identified and these audiences have participated in formulating program plans.

Recommendation 1.2: Identifying the Audiences for Various R&D Programs.

Criminal justice R&D-funding agencies should identify the main audiences for each of their programs.

1. For instance, NILECJ could show how the LEAA Office of Regional Operations, SPA's, researchers, and practitioners are to be regarded, if at all, as users of the research results of the component NILECJ programs.

2. Similarly, State and local R&D-funding agencies such as the SPA's could identify the main audiences for their R&D activities.

R&D Program Development

A second task concerns the development of the R&D program[30] itself. Such development involves a conscious attempt to:

- Establish R&D objectives;
- Allocate resources to the major components of the total research program;
- Plan R&D initiatives within these major components; and
- Assess the results of research in order to modify general plans and objectives.

The task calls for R&D management staff to allocate resources in relation to substantive research priorities and in relation to the presumed needs for basic, applied, short-term, and long-term efforts.[31] In conducting these activities, the staff may rely on external technical advisers, including formal advisory committees.

Two keys to successful program development are the establishment and maintenance of a fairly stable set of priorities and the acquisition of a relatively stable staff. If either changes too quickly, the relevance, quality, and utilization of the resulting re-

[29] Charles Rogovin, "The Genesis of the LEAA: A Personal Account," *Columbia Human Rights Law Review*, Vol. 5, Spring 1973, pp. 9–25. Unfortunately, little is known about the nature or extent of SPA support of R&D. Studies of the comprehensive plans of the SPA's indicate no necessarily direct relationship to actual expenditures (see Malcolm Feeley and others, "Implementation of the Safe Streets Act: The Role of State Planning in the Development of Criminal Justice Federalism," presented at the Midwest Political Science Association meeting, Chicago, May 1976). Furthermore, the SPA's are not required to report to LEAA on their research program accomplishments. Since LEAA has very limited R&D monitoring capability, little is done to keep track of SPA-funded R&D. An ACIR study (see U.S. Advisory Commission on Intergovernmental Relations, "Safe Streets Reconsidered: the Block Grant Experience, 1968–1975," Washington, D.C., 1976; Carl W. Stenberg, "The Safe Streets Act: Seven Years Later," *Intergovernmental Perspective*, Vol. 2, Winter 1976, pp. 6–11, contains a brief summary of the ACIR findings) was critical of a number of features of SPA's. These criticisms included: failure to become an integral part of the State-local criminal justice system; wide variation in quality of State plans; wide variation in implementation of plans; preoccupation with *procedural* guidelines from LEAA; and excessive turnover in the top management level of SPA's. For another review, see Committee on Government Operations, U.S. House of Representatives, *Block Grant Programs of the LEAA*, 92d Congress, 2d session, May 1972.

[30] John Wirt and others, *R&D Management: Methods Used by Federal Agencies*, D. C. Heath & Co., Lexington, 1975, p. xxiv, discuss this as "program planning," while P.A.F. White, *Effective Management of Research and Development*, John Wiley & Sons, New York, 1975, pp. 118–162, reviews this under the heading of "choosing an R&D portfolio." Brian Twiss, *Managing Technological Innovation*, 1974, also refers to portfolio planning (pp. 182–188).

[31] It is true, of course, that the public, the President, and the Congress all contribute to a general determination of the priorities of criminal justice R&D. They help to define those aspects of the criminal justice problems that are of highest social and political priority. The problem of relating the R&D investment to operational needs in the criminal justice system, though addressed within this framework of social and political priorities, typically involves a more detailed elaboration of these objectives by R&D managers within the appropriate Federal agencies. See Wirt and others, *R&D Management*, 1975, p. xxiii, for a discussion of practice-oriented R&D "where the base of solved scientific problems is small . . . (and where) there is often a need for federal agencies to take explicit managerial measures to focus R&D activities on selected problems."

search program are all likely to suffer. This is because research, which is cumulative by nature, requires a reasonable period of time to generate significant results. No single research project is likely to solve any major problems, because many lines of evidence—from many projects and investigations—must usually converge before satisfactory solutions are developed. Reasonable continuity of staff helps the process of cumulating results from several projects; such continuity also reduces the rapidity with which program priorities may change.

R&D program development at the NIMH Center for the Studies of Crime and Delinquency has a distinctive character with respect to priority setting, which occurs in relation to key events and internalized procedures developed by the center. In 1970, for instance, the director of the center wrote to a number of members of the research community soliciting their views on the role of DHEW and the center in crime and delinquency. Because of its greater orientation toward the academic community, however, the center did not attempt a similar solicitation from practitioner or other R&D user groups. The correspondence received was very extensive and, after the appropriate filtering and review by the staff of the center, was distilled into a set of purposes for center activities. Similarly, in 1972, the director again solicited the research community for their views on research priorities and directions. In 1974, a slightly different procedure was used, but it again involved the active solicitation of the research community for their views and a compilation of those responses for the benefit of the center's staff in program guidance.

In its program development activities, the center also has a distinct posture regarding the appropriate time frame for its research program. First, most grants are for a 3-year duration. Second, grants can be used and are often renewed beyond this 3-year period, after competitive re-review, to enable the research to be pursued as long as there is merit for doing so. Third, an explicit procedure exists within the center for moving research results through the stages of project evaluation, development and testing, user-oriented information dissemination, related practitioner training, and evaluation of innovations in service settings. The net effect of this posture is to emphasize long-term research efforts, rather than research hastefully generated to meet some new criminal justice need.

Within NILECJ, R&D program development occurs in a variety of ways. Some of it occurs as a result of external demands upon the agency. Various national initiatives in crime control—crime-specific planning, the Pilot Cities Program, and the High Impact Anticrime Program, for instance—have caused NILECJ to allocate funds for, and organize the evaluation of, various LEAA programs. LEAA, to take a different example, may also set aside a certain amount of research funds for allocation to special needs, such as airplane hijacking and airport security. At NILECJ, an advisory committee reviews suggestions raised by the research division staff. The committee does not routinely review the NILECJ budget in terms of establishing a research agenda or setting research priorities, though it is actively seeking to clarify its role.[32] NILECJ does, however, occasionally solicit the research or practitioner communities for their thinking on the most promising lines of research that might be undertaken.[33]

Internal to NILECJ, one concrete manifestation of program development consists of the preparation of the annual work plan, which became integrated with the management by objectives (MBO) system of LEAA for the first time in 1976.[34] The work plan, which is the end product of the MBO process, reflects actual commitments as well as intended expenditures, and the plan tends to be project-specific in character. Although the work plan emphasizes short-term projects of 1-year duration, it is gradually becoming the focus for longer-term priority setting and program review. Moreover, NILECJ has initiated other ways of offsetting its earlier short-term, single-project orientation. For instance, NILECJ has supported an effort by the National Academy of Sciences to establish a research agenda for testing the concept of deterrence. On another level, NILECJ has established a Research Agreements Program that provides 2-year support to four institutions on a programmatic basis that is broader and longer than the normal single project.

Among the SPA's, an implicit priority-setting activity is embodied in the development of their comprehensive plans. The section of the Omnibus Crime Control and Safe Streets Act of 1968 (section 303[6] of Part C of the act) that covers the comprehensive plans indicates that the plan shall provide for research and development. Proposed R&D activities are thus included on an annual basis by the SPA's, but each SPA may follow different procedures for developing its priorities. The plans are not closely reviewed by LEAA, nor is there any

[32] For a study of the general role of advisory bodies in LEAA, including a discussion of the Federal Advisory Committee Act (P.L. 92–463), see Raymond M. Milkman and others, "External Review Mechanisms," The Lazar Institute, Washington, D.C., March 1976.

[33] The research division staff of NILECJ have, for instance, made explicit efforts to establish user needs. The National Bureau of Standards, at the request of NILECJ, conducted a survey of equipment users in 1972 to help identify priorities for the equipment development program.

[34] This discussion is based upon an analysis of the "FY 76 National Institute MBO Workplan," a copy of which was made available to us by NILECJ officials.

followup to determine the extent to which the proposed R&D activities have been carried out. In general, because the R&D activities constitute only a small portion of overall SPA expenditures, little attention is given to this component.

In summary, program development by an R&D-funding agency is an important step in the implementation of its broad research objectives. This step is critical to the allocation of R&D resources in terms of time (e.g., annual or longer-range priorities), substantive area (e.g., police, courts, corrections, law, mental health), and stage of the R&D process (e.g., basic research, applied research, development). Because any statement of R&D program objectives or priorities may inadvertently omit worthy topics, however, it should be developed with sufficient flexibility and latitude to permit the support of unsolicited, promising new research approaches. Priority-setting and program development processes should involve participation by both the research community and the practitioner community. The active solicitation of the views of the research and practitioner communities, moreover, can often be effectively done through external advisory committees, although R&D agencies remain responsible for final decisionmaking.

Recommendation 1.3: Procedures for Setting Priorities in R&D Program Development.

R&D-funding agencies in criminal justice should periodically set R&D priorities. The priorities should be based on: (a) new research opportunities identified by the R&D performer community, (b) the R&D needs of criminal justice practitioner agencies, and (c) the assessment of previous accomplishments. The information should be incorporated into formal statements of new R&D plans and priorities.

1. For example, NILECJ could develop more formal procedures for determining the views of the research community on major research accomplishments, important gaps in knowledge, and promising future directions.

2. In planning their respective R&D programs, both NILECJ and NIMH Center for Studies of Crime and Delinquency could initiate more systematic procedures for determining practitioner needs.

3. In any priority-setting activity, the appropriate balance must be struck in the allocation of funds to basic and applied research in criminal justice R&D as well as for the achievement of short-, intermediate-, and long-range goals.

(For related recommendations concerning the actual selection of R&D topics, see 2.4, 4.4, 5.4, and 6.2.)

Recommendation 1.4: Using External Advisory Committees in R&D Program Development.

Advisory committees to criminal justice R&D-funding agencies should participate in the priority-setting process. The committees could recommend new R&D topics based on annual program and budget reviews, as well as special detailed reviews of particular research programs.

1. For instance, the functions of the NILECJ advisory committee could be clarified in accordance with the above general recommendation.

Signaling the Intentions of the R&D-Funding Agency

Given a set of priorities, an R&D-funding agency should establish procedures for communicating program objectives and priorities to R&D performers. The statement of priorities should be communicated openly to the research community through formal, public means before specific agency commitments are made to new research projects. The clearer the signal, the greater the ability of prospective performers to match their capabilities to the publicly stated research needs of the funding agency. The earlier the signal, the more time performers will have to develop relevant approaches. Signaling can be applied to research programs, training programs, and related capacity-building efforts and can be used for the initiation of new efforts as well as the iteration of continuing efforts. Common signaling devices are:

- Program solicitations for grant programs;
- Requests for Proposals (RFPs) for contract efforts;
- Publication of future work plans;
- Use of routine seminars and conferences among R&D managers and performers;
- Use of professional associations to disseminate information about new priorities; and
- Extensive preproposal interaction between R&D agency staff and prospective performers.

In general, open signaling is consistent with the value of competition embedded in procurement law and regulation, with the value of publicness in government procedure, and with nurturing a strong R&D performer capability in the long run.

In the Center for Studies of Crime and Delinquency, there is no extensive communication of intentions to the research community as an explicit or formal activity in itself. To the extent that signaling exists, it occurs indirectly through the process of agenda building and priority setting just described and in the pattern of grant awards over time, from which researchers must infer preferences of the

center's research program. Center personnel do communicate freely with prospective grantees who approach them with preliminary proposal ideas, both about work judged to be relevant to the program and methodological standards required by the review process.

In NILECJ, the annual work plan is presently the only comprehensive means for indicating intentions to the prospective research community. This document, however, tends to be strongly oriented to specific projects rather than to broader programs. A further limitation on its utility is that the work plan has yet to be issued before the beginning of a given fiscal year.[35] NILECJ staff also make presentations at meetings and write articles for practitioner journals to help fulfill the signaling function, but the basic signaling mechanism on which NILECJ staff rely is direct contact with a small set of prospective grantees and the solicitation of preproposal concept papers. Identification of prospective grantees is done by the staff on the basis of their knowledge of the research community. With some exceptions, such as NILECJ's National Evaluation Program, signaling is not a formal process.

In general, existing signaling procedures consist of informal and indirect communications between R&D-funding agencies and R&D performers. Such procedures do not create the degree of communication and competition that normally occurs under more formal procedures, e.g., the issuance of a solicitation for grant proposals or formal requests for contract proposals. Such formal procedures would improve the ability of R&D performers to match their capabilities to the research priorities of the R&D-funding agency.

Recommendation 1.5: Signaling the R&D Performer Community About Program Plans and Priorities.

R&D-funding agencies should widely announce their priorities to R&D performers. In particular, agencies should make greater use of techniques that reach the largest audience, including formal grant solicitations, RFP solicitations for contract proposals, and other public announcements of program priorities.

(For a related recommendation on announcements for project competitions, see 1.13.1.)

[35] The work plan for fiscal year 1973 was issued in March 1973, 3 months before the end of the fiscal year; the plan for fiscal year 1974 was issued in February 1974; the 1975 plan in February 1975; and the fiscal year 1976 work plan in late October 1975, 4 months into the new fiscal year.

D. COORDINATING R&D PROGRAMS

Coordination of government agencies or programs is warranted where the output of one agency or program is important to the performance of another. Coordination may occur through market mechanisms, as in the case when producers coordinate the activities of suppliers by their demands for basic inputs. Coordination may also occur through administrative means, as when a public agency seeks to coordinate its constituent units into a smoothly functioning whole or when two or more agencies with related programs seek to coordinate the activities in which they share a common interest. Administrative, or nonmarket, coordination is of interest here.

It is also useful to distinguish between coordination of an episodic character and that which is of continuing interest. Episodic problems can arise when a new agency or program is initially established or its mandate is revised in subsequent legislation (e.g., reauthorization bills). Jurisdictional relations and boundaries with established activities may require clarification. This problem of jurisdictional authority and scope is often resolved through some specification of the role and mission of the new authority. The coordination of NILECJ research programs with those of the new National Institute of Juvenile Justice and Delinquency Prevention is an instance where this type of coordination is necessary, with the role and mission statement of the latter being the instrument of coordination.

Of greater interest here is the issue of continuing coordination among R&D-funding agencies. Two types of coordination will be discussed—when the R&D-funding agencies are part of the same organization (e.g., NILECJ and the Drug Enforcement Agency in the Department of Justice), and when the agencies are in different organizations (e.g., among two or more Federal departments). Several points should be made, however, about the limits of coordination.

First, some of the most effective coordination occurs as a result of officials informally talking to each other or casually reviewing each other's reports. When this type of informal communication is absent, formal, administrative mechanisms may not be effective substitutes. Second, the costs of noncoordination are often assumed to be higher than the costs of coordination. This is not always the case. For example, duplication of effort by R&D-funding agencies is often assumed to be undesirable and something to be eliminated. This view, however, overlooks the value of independent replication of results and may actually be cost-ineffective overall. Furthermore, the costs of coordination can be high. Transaction costs alone, measured in time spent by

officials in a coordinating activity, can interrupt other agency work and should be weighed against the presumed benefits of coordination. Third, coordination is a poor substitute for the deficiencies of planning. Coordinating efforts can identify gaps, omissions, and oversights with respect to the adequacy of a given R&D program. There is no persuasive evidence, however, that the weakness of the planning and decisionmaking processes that gave rise to any inadequacies can be overcome by coordinating mechanisms. These inadequacies are better resolved in the context in which they arose.

Coordinating Several R&D-Funding Agencies Within the Same Organization

One type of coordination involves R&D-funding agencies that are part of the same organization. A single Federal department, for instance, can contain several R&D-funding agencies.

The recent increase in the magnitude of federally supported criminal justice R&D and in the number of Federal agencies providing this support has produced problems of a coordinative nature typically encountered by rapidly growing agencies. Workloads often outstrip an agency's efforts to obtain adequate staff and resources, with the result that little attention is paid to what related agencies are doing that might affect its work. The Department of Justice (DOJ), as noted, has become the main Federal department that supports criminal justice R&D. This responsibility, however, has reached its present proportions within only a few years, and DOJ has not had a rich tradition of R&D management upon which to build. The following observations characterize the background and present conditions at DOJ.

First, most Federal criminal justice activities beyond the work of the DOJ legal divisions are and have been secondary to the traditional concerns of the department. The main business of DOJ historically has resided in the work of its legal divisions—civil, criminal, antitrust, tax, land and natural resources, and civil rights—both in prosecuting violators of Federal law and in defending the Federal Government in litigation. Thus, LEAA, with a mission of technical assistance to States and local agencies, has had a high degree of autonomy from direct policy control and guidance by the Attorney General.

Second, within this context, criminal justice R&D is an activity that is basically unfamiliar to DOJ. Research in DOJ is understood primarily as legal research—library-based, oriented to specific cases, drawing justification for argument from precedent, and focused on marshalling evidence to support a clearly understood and desired outcome. By contrast, research and development, as understood in the scientific and technical communities, whether in criminal justice, education, health, or defense, is empirically-based through laboratory or field research. R&D is oriented to aggregations and distributions of phenomena, draws explanations from the relation of theory to data, and is committed to acquisition of evidence for purposes of validating or disproving theory and hypothesis. The search for generalizations, especially causal explanations for broad categories of phenomena, is a search that is not very appropriate to the development of legal cases and actions—DOJ's traditional role.

Third, although there has been substantial growth in size and organizational differentiation of criminal justice R&D, there has been little development within DOJ of an internal coordinating capability. The criminal justice R&D agencies within DOJ now include three national institutes—two within LEAA, and the National Institute of Corrections within the Bureau of Prisons. R&D activities also exist separately in other components of DOJ. Because R&D is characterized by its externalities, i.e., by the benefits it generates beyond the client for whom it is performed, there is a case to be made for coordination among DOJ criminal justice R&D agencies. Coordination between the NILECJ research program in corrections and the research program of the National Institute of Corrections is an example.[36]

Fourth, and finally, it should be noted that the growth of criminal justice R&D within DOJ has paralleled a period in which the Department has experienced more turnover in leadership than any other time in recent history. Since 1969, there have been five Attorneys General and two periods when leadership was provided by an Acting Attorney General.[37]

The consequence of these developments is that there are few established mechanisms within DOJ for coordinating the various criminal justice R&D

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[36] This is not meant to imply, however, any change in the authority relationship of the Attorney General over LEAA. Traditionally, this authority relationship is a general one and does not extend to LEAA's day-to-day operations. This results from the congressional intent to preclude the Attorney General, who has direct authority over the *Federal* criminal justice system (e.g., the FBI and Bureau of Prisons), from also having similar authority over State and local criminal justice agencies through LEAA.

[37] The Attorneys General have been: John Mitchell, January 21, 1969 to March 1, 1972; Richard G. Kleindienst, March 1, 1972 to June 12, 1972 (acting), June 12, 1972 to May 25, 1973; Elliot L. Richardson, May 24, 1973 to October 20, 1973; Robert Bork, October 20, 1973 to January 4, 1974 (acting); William B. Saxbe, January 4, 1974 to February 3, 1975; and Edward H. Levi, February 7, 1976 to the present.

activities. The lack of such mechanisms can lead to undesirable overlaps and gaps.

Recommendation 1.6: Coordinating R&D-Funding Agencies Within the Same Organization.

Organizations (e.g., Federal departments) containing more than one R&D-funding agency should coordinate the activities of such agencies. Coordination should help the agencies develop complementary program goals, be better informed about each other's activities, and reduce unplanned areas of overlap.

The communication between R&D-funding agencies and the parent organization should not, however, be limited merely to the coordination of the agencies by the parent organization. An important function is also fulfilled when the R&D-funding agency contributes to the general policy and program development of the parent.[38] The more an R&D-funding agency is engaged in the support of basic research, the more remote the research results from immediate application will be. In this case, there consequently will be less need for a close working relationship between the agency and the parent organization. The more an R&D-funding agency is engaged in applied research, as in criminal justice, however, the closer its interaction with its corporate leadership should be, which will in all probability result in better guidance to the R&D effort and more widespread application of R&D results. Sound working relationships can contribute substantially to the relevance and utilization of the R&D effort, just as an absence of high-level understanding of R&D in the organization can seriously diminish the quality of the R&D effort. In summary, there is a need to give R&D agencies a significant voice in the operating policies of their parent organization.

[38] This point is not always appreciated. But Edward Donley, when asked to explain the function of R&D managers to inject the research view into managerial problems and decisionmaking, said this: "In companies like ours it seems to me mandatory to have the research function at the top level and every other level of the corporation. The people involved in science are at the forward edge of the way things are likely to be. They have the insights that others in the corporation are not in a position to have. . . . Of course, we must be careful not to exalt the research function too much. We all know that research itself is fraught with uncertainty. But to fail to bring its approach and viewpoint to bear on the corporate enterprise is to increase the risk of failing to see where the obstacles and opportunities are." See, "A President Looks at R&D Management," *Research Management*, Vol. VXII, May 1974, p. 8. In this regard the director of Defense Research and Engineering provides this corporate input within the Department of Defense, as do the assistant secretaries for R&D in the three uniformed services.

Recommendation 1.7: R&D Representation in Policymaking by an R&D-Funding Agency's Parent Organization.

Each organization with an R&D-funding agency should maximize the use of its own R&D officials in developing its own operational policies, plans, and programs.

1. For example, within LEAA, NILECJ leaders (and those of other LEAA R&D-funding agencies) could be included as full participants in the development of LEAA policies and programs.

Coordinating R&D-Funding Agencies in Different Organizations

Coordination among R&D-funding agencies located in different organizations can take many forms. Federal departments may exchange information on the number and nature of R&D awards made or projects being supported. For example, the Science Information Exchange in Washington, D.C., was designed to carry out such a function. Such efforts emphasize the coordination of inputs—e.g., plans, awards made, or budget allocations. This emphasis does not allow R&D-funding agencies to learn about the results of each other's work.

As a second alternative, a cross-departmental board, such as existed with the President's Science Advisory Committee, can serve as an instrument for coordinating the overall policies that might affect various R&D agencies. Such boards tend to deal with very general R&D policies involving major science fields such as space or health R&D, however, and there is little to suggest that they would be effective in coordinating R&D within a narrower field such as criminal justice R&D.

A third alternative that has been absent in most attempts at interdepartmental coordination is the coordination of information about the *results* of R&D. Here, each R&D-funding agency could support activities such as conferences that focus on the most recent or significant R&D findings, which could be highly beneficial to the officials of each agency. This might add a valuable new dimension for developing future plans and programs of agencies, as well as for assessing the overall progress and direction of any R&D undertaken.

Recommendation 1.8: Coordinating R&D-Funding Agencies That Are Part of Different Organizations.

Coordination of R&D-funding agencies in different organizations should emphasize the exchange of information on research plans and research results.

1. For example, coordination among NILECJ,

NIMH, and the Police Foundation could consist of increased direct communication between their respective staffs, as well as joint sponsorship of professional and scientific meetings to report research results from agency-supported projects.

F. DEVELOPING PERSONNEL RESOURCES

There are two types of personnel that are important in the performance of any kind of R&D: R&D managers (administrators who *support* R&D) and R&D investigators (persons who *perform* R&D). The qualifications of these personnel directly affect the quality, relevance, and utility of criminal justice R&D. It is therefore important to focus directly on the development and maintenance of highly competent personnel of both types.

Developing R&D Management Capabilities

During the past decade, the Federal Government has spent more than $15 billion each year for R&D. The bulk of it is performed by grantees and contractors in universities, nonprofit institutions, and private industry.[39] Although a substantial portion—more than 25 percent—is performed in government laboratories, most of this R&D is carried out by the Department of Defense and by the National Institutes of Health. Thus, except for defense and health R&D, the vast majority of R&D activities is conducted outside of government laboratories.

The management of R&D-funding agencies is unlike operating an R&D laboratory, either in a government agency or in a private firm.[40] It is complicated by factors of geographic distance and contractual relationships between sponsor and performer.[41] Furthermore, there are differences attributable to the general type of R&D being supported. In basic research, or in fields such as medical research that are highly dependent upon basic research, the crucial determinants of management are essentially the existence of a high quality performer community and decision mechanisms for insuring that expert technical judgment is brought to bear upon recommendations to award research projects. In the older research and development fields—e.g., defense, space and aeronautics, and agriculture—the accumulated managerial knowledge shared by R&D managers and technically strong R&D performers is considerable.

In newer fields of applied research, such as criminal justice, however, where Federal support of R&D is fairly recent and the application of results is emphasized, there has been little time to concentrate on developing sound policies and procedures for R&D management. This is aggravated by the fact that R&D managers may have been drawn from a practitioner community that has had little prior experience with R&D or from a research community with limited R&D management experience. The demands on these R&D managers to initiate a program and establish some basis for working together are often so severe that they have little time to learn systematically about similar problems confronting R&D managers in different fields.

R&D Agency Leaders. One set of key positions involves the leaders of an R&D-funding agency. As with the leadership of any organization, R&D agency leaders must have administrative and managerial skills and be able to function in the political environment affecting their agency. In addition to these general abilities, however, there are special demands placed on R&D agency leadership that require that the leaders be trained and experienced in research. First, R&D agency leaders are called upon to give technical guidance and direction to the R&D program and even to related action programs. Second, they are responsible for recruiting the technically trained personnel to manage the R&D programs within their agency. Third, their own research reputation can be invaluable in attracting highly qualified researchers to make proposals for agency grants and contracts.

The basic principle underlying the need for research competence in R&D leadership is, of course, not unique to R&D. The basic principle is that expert leadership is required when the work of the organiza-

[39] The estimates by the National Science Foundation for fiscal year 1974 were that slightly less than 28 percent of total Federal government R&D would be spent in government laboratories, the rest by non-Federal government performers. See National Science Foundation, *Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1972, 1973, and 1974,* Vol. XXII, Washington, D.C., 1974, pp. 8–9.

[40] The massive Federal R&D management experience is available to us mainly through a substantial and remarkably diverse literature found in various studies, reports, congressional hearings, and in the fugitive literature of internal agency memoranda and studies. The secondary literature of books and articles dealing with the management of Federal R&D programs is not very extensive. Oftentimes, the inspiration for generating this R&D management literature has derived from the need of Federal Government policymakers to address some *immediate* policy question. There is consequently a short-term, problem-oriented quality to much of it. Furthermore, because many of the studies on R&D management are undertaken as part of policy development, there is frequently an advocacy quality to this literature. Surprisingly little effort has been made to step back from the immediacy of current problems and develop a more general literature for R&D management in government.

[41] For a pertinent analysis of various problems of contracting for R&D, see U.S. Bureau of the Budget, *Report to the President on Contracting for Research and Development,* Washington, D.C., 1962, also known as the *Bell Report.*

tion rests upon specialized bodies of knowledge. This is true in law and medicine, as well as in science and engineering. Of course, there are many competent researchers who lack the administrative and political skills needed for competent R&D agency leadership. This point only serves to underline the main argument that general administrative and political skills are required, as well as special skills derived from an intimate knowledge of research.

Recommendation 1.9: Selection Criteria for Leaders of R&D-Funding Agencies.

At least one of the top leaders of an R&D-funding agency in criminal justice should be selected on the basis of training, experience, and reputation as a contributor to criminal justice R&D, in addition to R&D management capabilities.

1. For example, an R&D-funding agency might seek such capabilities in its director, deputy director, or research director positions.

R&D Management Staff. In general, the acquisition of a competent R&D management staff is an essential development for an R&D-funding agency. Unfortunately, there are few available prescriptive criteria for determining desirable professional staffing practices.[42] The basic needs in professional staff are for individuals with both research and management experience. Needs are greater for broad substantive knowledge and methodological competence than for detailed substantial knowledge. It is also important that professional staff have sufficient training, experience, and competence so that they are granted status in the eyes of the research community, because both program development and project management responsibilities will involve strong interaction with the performer community. Moreover, in criminal justice it is essential that R&D personnel be able to communicate with and command respect from the practitioner communities.

The NIMH Center for Studies of Crime and Delinquency, for example, has a small professional staff of seven—two psychologists (one clinical), one political scientist, one social psychologist, one sociologist, one criminologist, and one social worker. The center and its staff are strongly oriented to the research performer community—seeking guidance on program development, helping in proposal development, attending professional meetings, commissioning monographs to synthesize research findings, and the like. The staff interacts in a strong, yet subtle manner with an external advisory body (study section) in a constant process of reviewing new proposals.

In another example, the professional staff of NILECJ (about 60 persons) come from diverse sources, partly reflecting the diversity of the program. A substantial proportion identify themselves primarily with the research community. Another large portion of the staff is drawn from practitioner careers in the criminal justice system. Finally, there are some staff in NILECJ who have had their main experience in R&D management outside of the criminal justice system. NILECJ staff are engaged mainly in the detailed administration of research grants, with little time for other research-related activities.

Despite the difficulty in establishing guidelines for the appropriate amount of training and/or experience for the professional staff, the acquisition of a competent R&D management capability is an essential objective for an R&D-funding agency, especially for those agencies supporting a more applied research area such as criminal justice. This is as true at State and local levels of R&D management as it is at the Federal level. Although there are few available prescriptive criteria for determining the desirable professional staffing practices of applied research agencies, a general pattern is that the more R&D projects and the larger the amount of R&D funds that are administered by an agency, the more personnel are required. Secondly, agency R&D is likely to be of higher quality the more the R&D managers themselves have had some research training or experience. Precisely how much staff, and of what sort, however, cannot be determined on the basis of existing knowledge of R&D management.

Recommendation 1.10: R&D Management Personnel.

R&D-funding agencies should have adequately sized staffs with appropriate technical skills. The optimal patterns of professional staffing should be based on an independent assessment that covers the relationship between: (a) the acquisition of high quality R&D staff, and (b) recruitment, retention, and workload policies. Such an assessment can be supported by R&D-funding agencies themselves or by agencies (or private organizations) concerned with personnel management.

[42] See Roger Levien, *National Institute of Education*, 1971, p. 151, for a brief discussion of initial staffing needs for the then-proposed National Institute of Education. The problem has not been analyzed with any precision, even in evaluations of programs. In reviewing law enforcement education programs, for instance, the General Accounting Office noted that some administrative problems were related to insufficient staff, but gave no guidance as to the desired levels or staff quality that would compensate for the insufficiency (see Comptroller General of the U.S., "Problems in Administering Programs to Improve Law Enforcement Education," Washington, D.C., June 1975).

Developing Highly Competent Researchers

In an area of public policy where a new R&D effort is being initiated or where there is a rapid increase of funds for R&D, various problems arise that stem directly from the breadth, depth, and competence of the research investigators who carry out R&D. Criminal justice R&D is no exception, and substantial stress has been imposed upon the research community by the rapid increase in funding for R&D during the past decade.

Researchers in criminal justice prior to the passage of the Omnibus Crime Control and Safe Streets Act of 1968 consisted largely of behavioral and social scientists, including sociologists identified with criminology. By and large, the criminal justice research community was small, generally tangential to the mainstream of social and behavioral science, widely scattered at different academic institutions, and of uneven quality. The stress imposed on the community of criminal justice researchers by the rapid infusion of R&D dollars has resulted in a sharp increase in the number and types of researchers who do criminal justice R&D. Today, the research community includes individuals from law, operations research, economics, political science, and engineering; the scope of the performer community has been considerably broadened.

The depth and competence of the enlarged community of researchers, however, has not been assessed systematically. Levels of competence may still be uneven because of the rapid growth in funding for R&D, the narrow base that previously existed in the performer community, and the absence of major theoretical breakthroughs that generally tend to attract high quality researchers into a field. Yet, little is currently known about possible compensatory trends. For instance, the extent to which high quality researchers have been attracted from or lost to other fields is unknown. Because the competence of the research community critically affects the quality, relevance, and usefulness of criminal justice R&D, a comprehensive assessment of current and future patterns is extremely important.

The results of such an assessment should be aimed primarily at R&D-funding agencies. The agencies directly influence the number and nature of new researchers in criminal justice R&D through a variety of training and fellowship programs. The Center for Studies of Crime and Delinquency, for instance, has in the past made both doctoral and postdoctoral fellowship awards. The agencies are also a strong indirect influence on the supply of researchers in criminal justice R&D, through the allocation of research funds among different subject areas. An increase in research funds for police patrol or courts processing studies, for instance, is likely to draw increased interest in criminal justice R&D on the part of persons in operations research. Because R&D-funding agencies already influence the number and nature of researchers in such direct and indirect manners, the results of the assessment could thus be used to develop more effective policies.

Recommendation 1.11: Assessing the Supply of Researchers in Criminal Justice R&D.

High quality R&D requires the availability of competent research investigators. There should be an independent assessment of the strengths and weaknesses of the present criminal justice R&D performer community, covering such fields as sociology, law, operations research, and forensic science. The assessment should also examine the characteristics of the next generation of performers.

1. Such an assessment could be supported by criminal justice R&D-funding agencies.

Recommendation 1.12: Development of New Criminal Justice Researchers.

R&D-funding agencies should continue to encourage the development of new researchers for criminal justice R&D. The agencies should continue educational programs and should attempt to attract researchers into criminal justice research from other fields.

1. The best mix of programs and policies could be based on the results of the independent assessment mentioned in the previous recommendation (1.11).

F. PROJECT MANAGEMENT [43]

The vehicle through which an R&D-funding agency fulfills its mission and accomplishes its other important purposes is the *R&D project.* The procedures an agency uses for managing research projects constitute the basic framework for making detailed resource allocation decisions and for assuring the quality and relevance of the research performed. Four important procedural considerations can be identified:

- The preproposal interaction between R&D agency staff and prospective R&D performers;
- The process by which research proposals are reviewed and grant and contract award decisions are made;
- The monitoring of funded projects; and
- The evaluation of results of completed research projects.

[43] For a related discussion, see Chapter 4, Section D.

Preproposal interaction with the research community can take many forms and has several purposes. One function is to screen preliminary ideas for their apparent merit and promise. Another function is for R&D agency staff to indicate research priorities to prospective researchers. A third function is to indicate the standards of methodological rigor and sophistication that are expected from prospective researchers. Activities at the preproposal stage thus can have direct bearing upon both the quality and relevance of subsequent research.

Proposal review and award procedures constitute one of the critical points at which quality control is exercised over the research supported by an agency. The three evaluative criteria for review and award decisions are usually the technical competence of the proposer, the technical merit of the proposal, and the policy relevance of the proposal. Procedures for proposal review vary substantially from agency to agency. In general, however, the more open, predictable, competitive, and formal the procedures, the higher the quality; and the more that the professional staff of the agency exercise discretion in the review and award process, the greater the relevance. Strong participation by expert researchers in the review process (peer review)[44] is widely regarded as contributing to sound technical (and higher quality) decisions, while strong participation by practitioners is thought to assist in decisions on the relevance of projects (and sometimes greater utilization of results).

The need for project monitoring varies substantially depending on whether the research is basic or applied. Basic research, by its very nature, requires that substantial autonomy be given to the researcher. The monitoring of R&D projects by agency professional staff, however, becomes closer and more frequent as one moves from basic research toward applied R&D. This movement is normally accompanied by reduced levels of technical uncertainty concerning the project outcome and clearer ideas of what the sponsoring agency wishes to accomplish through the given project. Adequate monitoring, however, requires staff with a strong technical background and the time to conduct the monitoring. In other words, monitoring activities can themselves vary greatly in quality, so that close but poor quality monitoring can often have a devastating effect on a research project. Indeed, there are some situations in which even the most applied research should not be closely monitored if the agency staff has insufficient technical training or time.

The evaluation of research project results is one of the final steps in the process of R&D project management. Such evaluation generates information to be fed back into the program development process and is thus of broad importance. The R&D-funding agency needs such information in order to learn from its own past experience and to avoid future commitments that are likely to be unfruitful. Sound evaluations require the use of stringent criteria for scientific performance as well as to assess the potential utility of the results.[45]

In summary, project management procedures are a critical determinant of R&D quality and relevance. Especially in applied R&D, quality and relevance are most affected when the agency lacks sufficient staff and open, formal review procedures. Where agency staffing resources are severely limited, the R&D program may have to be reduced in scope, or agencies may have to devise formal arrangements with nongovernmental individuals or institutions to assist in project management. Such arrangements include the use of outside technical consultants, the development of institutional ties with major contractors, or the formation of advisory panels. Whichever the case, R&D management practice must strike a balance between the need for external technical expertise and the need for internal administrative control by agency staff.[46] In other words, even where extensive use is made of outside experts, the basic R&D management remains an essential public function for which government employees are publicly accountable.[47]

Project Management at NIMH

R&D supported by NIMH's Center for the Study of Crime and Delinquency is based mainly on grants awarded after a dual review procedure:

- The first review is by an expert panel of nonfederally employed people,[48] which meets 3 times a year to review proposals and rank order them according to technical merit. Deadlines, published well in advance, indicate the final day for submission of proposals for each of these three rounds; there are

[44] A useful review of the merits of peer review is Thane Gustafson, "The Controversy over Peer Review," *Science*, Vol. 190, December 1975, pp. 1060–1066.

[45] Of course, it is also assumed that the criteria will be uniform. For instance, a review of evaluation projects supported by the SPA's found that such projects lacked uniform evaluation criteria and data, and hence did not facilitate "objective decisions regarding project success" (see Comptroller General of the U.S., "Difficulties in Assessing Results of LEAA Projects to Reduce Crime," Washington, D.C., March 1974).

[46] For a related discussion, see Chapter 4, Section D.

[47] U.S. Bureau of the Budget, *Report to the President on Contracting for Research and Development*, Washington, D.C., 1962, also known as the *Bell Report*.

[48] The expert panel is comprised of ten members, most of whom are drawn from the research community and who serve for multi-year periods of time.

associated dates for review of proposals by the expert panel and for the announcement of award and rejection decisions; and the initiation of work for an acceptable project can be planned with some assurance by agency staff and researchers.

- After the study section recommendations have been received by the center, they are reviewed by the second panel, the *National Advisory Mental Health Council*,[49] which recommends approval or disapproval to the parent agency (NIMH) based on programmatic criteria and priorities.

Project management, however, includes preproposal interaction between center staff and the prospective grantees. Although all of the proposals to the center are technically unsolicited, some are more unsolicited than others. Some proposals, for instance, are submitted to the center without any forewarning to center staff that a proposal is coming and often with no prior introduction of the proposers to the center staff. These are truly unsolicited and these proposals seldom are successful in receiving awards. More frequently, prospective grantees are encouraged to submit concept papers outlining their proposal. Some of these individuals are then referred to other, more relevant Federal agencies, e.g., LEAA-NILECJ or the National Science Foundation. Yet other researchers receive substantial assistance from center staff in developing their methodological approaches, with the staff using already-awarded research projects as illustrations of the standards that must be met.

Monitoring of funded projects varies a good deal from project to project, with staff manpower being the major limitation. The final evaluation of research project results is also an important function performed by the staff. Aside from judging research quality, the staff also assesses the possibilities for potential utilization. The center expects that (1) some completed projects will be of interest only to the research community and will not warrant proceeding to a development stage; (2) other projects will lead to a development stage but the work in that stage may not succeed; or (3) some projects that go into the development stage will lead to usable R&D products.

Project Management at NILECJ [50]

In this R&D-funded agency, project managers also engage in the four tasks previously mentioned: preproposal interaction between R&D agency staff and prospective grantees; receipt and review of proposals and award of grants; monitoring; and evaluation of project results. The preapplication phase, as found by one study of the LEAA grants management process, consists of the submission of *concept papers* and "is most nearly a decision phase, being the point at which projects likely to be funded, and those likely not to be funded, are screened and separated." [51]

Following the initial submission, the concept papers are reviewed by the staff and a few external readers,[52] and a determination is made as to which one (of the several that have been solicited) is the most attractive paper. The grants manager then writes a justification for the intention to make a proposal award, which is sent to the head of the appropriate NILECJ office (e.g., research, evaluation, or technology transfer) and to the Director of NILECJ. If they accept the staff recommendations, the writer of the concept paper is asked to submit a formal proposal. When the proposal is submitted, a 90-day period begins,[53] and the proposal

[49] The national advisory panel is composed of experts and prominent officials and citizens in the mental health field who generally serve overlapping multi-year terms, and it also meets 3 times a year.

[50] Again, it should be emphasized that many administrative changes within NILECJ have been occurring during the last few years, and the agency has been trying many different approaches in order to improve R&D management practice.

[51] Arthur D. Little, "The LEAA Grants Manager's Job," Cambridge, May 1975, p. i. The present discussion draws heavily from the findings of this study, as well as from other management documents: Department of Justice, Office of Management and Finance, Internal Audit Staff, "Follow-Up on Three Prior Internal Audit Reports Relating to Contracts and Grants, Law Enforcement Assistance Administration," Washington, D.C., October 1975; and National Institute of Law Enforcement and Criminal Justice, Washington, D.C., "Project Manager's Deskbook," January 1976.

[52] NILECJ also receives a relatively large number of unsolicited research proposals each year. Few of these are ever funded, either because they are not of adequate quality or because they do not accord with actual priorities. Although almost all the funded research grants have been solicited, relatively little of the research has traditionally been funded on the basis of open, competitive solicitations. There have been few requests for proposals issued, because the contract mechanisms is seldom used; there have been few program solicitations issued for a focused grant research effort; and only occasionally have there been formal announcements released that indicate NILECJ research objectives. More recently, however, NILECJ has made increasing use of formal competitions, as in the National Evaluation Program and the New Directions in Environmental Design.

[53] The 90-day rule stipulates that any proposal formally received by LEAA that has *not* been disposed of within 90 days after receipt, either through an award or a declination, will automatically be funded. Though a proposal can be "suspended," thus stopping the clock, this practice is not generally approved of within LEAA and the list of suspended proposals is cleared from time to time by the simple expedient of rejecting these proposals. The main effect of the "90-day rule" on the review of formal grant proposals to NILECJ is to artificially constrain the review process and effectively deny the possibility of an external peer review of competing proposals. One other feature of the review and award stage of project management militates against external peer review of research proposals and against examining proposals in competitive relation to each other: proposals

is reviewed through a mail review procedure in which outside experts individually review and comment on the proposal.

Project monitoring practices vary widely within NILECJ In some instances, staff resources are simply so thin that regular monitoring of research projects does not occur to any significant degree. The police, corrections, and forensics research programs, on the other hand, establish advisory groups for each grant. In the case of the police research program, one objective is to offset any potential narrowness in the composition of the research team by the composition of the advisory group. If, for instance, the research project team is part of a local police department, the advisory group will have a high proportion of academicians on it; conversely, an academic research group might have an advisory committee dominated by police chiefs. Another pattern of monitoring is found in NILECJ's advanced technology program. Here, the R&D project monitoring responsibility has essentially been transferred to another Federal agency and contracted to a private organization.[54]

Similarly, there are several ways by which research results are evaluated. The main evaluation activity is done in connection with the process of priority formulation, which occurs each year. In some cases, literature reviews and state-of-the-art surveys are used to secure appraisals of a body of research from an external source. In other cases, the evaluation is limited mainly to administrative and contractual assessments and is not an overview of the quality of the research performed.

Summary Discussion

In summary, the basic unit of activity in an R&D-funding program is the R&D project. The sequence of activities from proposal review through project award, monitoring, and evaluation provides numerous important opportunities to the R&D-funding agency to assert *quality control* over its R&D program. Thus, heavy project management responsibilities fall upon the R&D agency staff and upon external advisers asked to review research at various stages of the process. The more effective the management procedures, the greater the quality relevance of the R&D projects.

Recommendation 1.13: Procedures for R&D Project Management.

R&D-funding agencies should develop open, competitive, and timely procedures for proposal review and project award, monitoring, and evaluation.

1. Competitive review of proposals for grant and contract awards, whether solicited or unsolicited, should be publicly announced to insure the widest knowledge of such competition within the research community.

2. Proposals should be reviewed *periodically* (e.g., 3 times a year) for unsolicited proposals or *collectively* in relation to major solicitations, making the use of peer review panels possible and the dates of project awards predictable. Peer review panels should evaluate proposals for technical merit and *rank order* them in relation to other proposals being reviewed.

3. All research projects of multi-year duration should be subjected to periodic review for indications of technical progress.

4. Completed projects should be evaluated to determine: (a) the significance of the findings for use by criminal justice practitioners or further research, and (b) the utility of such findings for the R&D-funding agency's future program development.

The conduct of all these functions requires a technically competent and sufficiently sized staff in the R&D-funding agency. Where staff resources are not available, agencies may rely on the use of external advisers and experts as long as the ultimate control over R&D programs remains clearly in the hands of publicly accountable government employees—i.e., the agency's own staff.

(For a related recommendation on technology R&D, see 4.6.)

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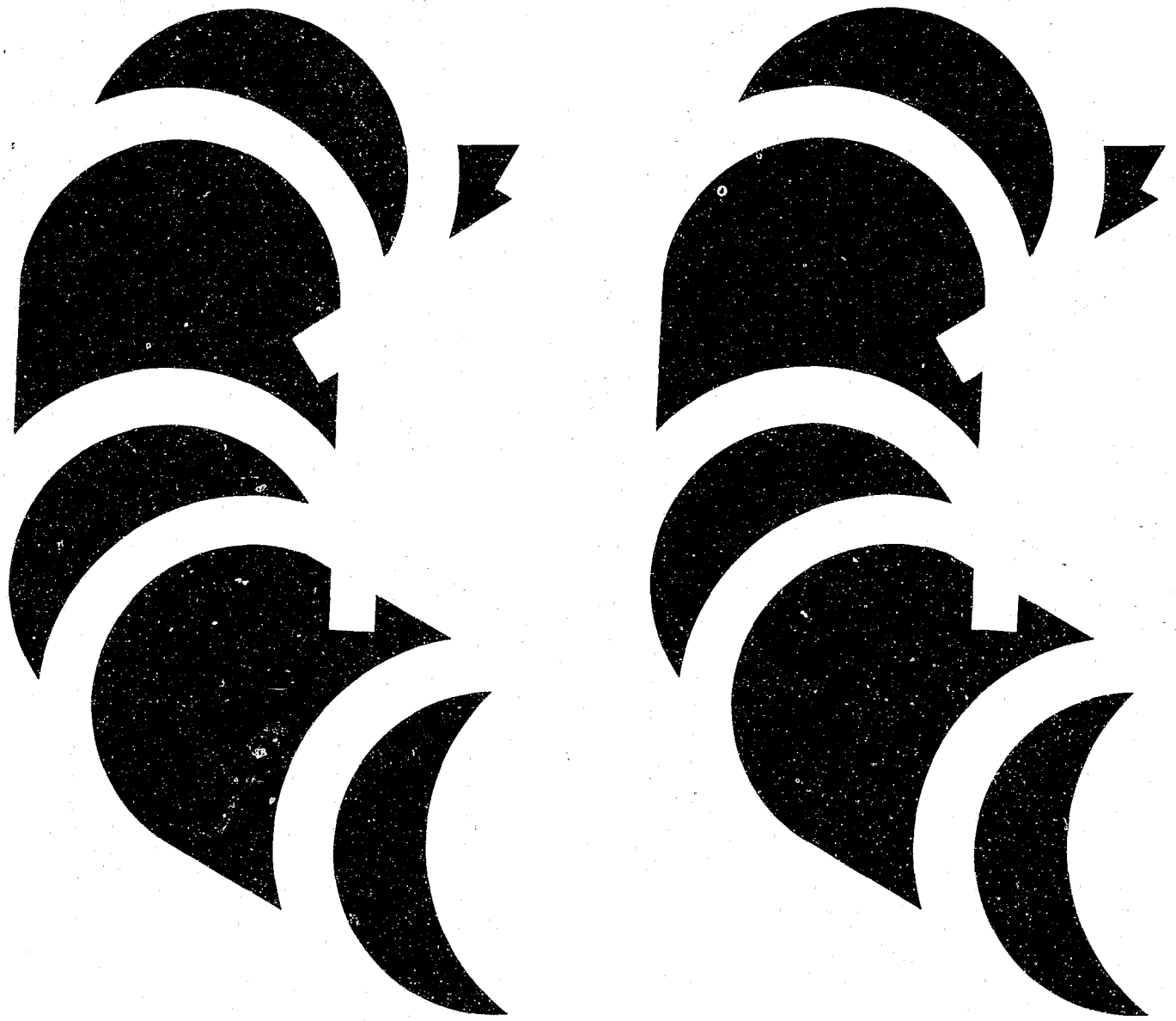
and awards are processed continuously throughout the year, not on periodic occasions specified in advance. This means that it is very difficult to convene a peer review group in a face-to-face situation.

[54] For a related discussion, see Chapter 4.

Chapter 2
Conducting Criminal Justice R&D



A. THE ROLE OF RESEARCHERS IN THE CONDUCT OF R&D [1]

Chapter 1 described the role that R&D-funding agencies can play to improve the quality, relevance, and utilization of criminal justice R&D. Much of the nature of R&D, however, will always be influenced by the way that researchers design and conduct their research. Although the administration of grants and awards by R&D-funding agencies can provide the appropriate opportunities and incentives for good research, the direct supervision of a research project is wholly in the hands of the researcher. Research traditionally has been viewed as a creative process whose quality has been highest when maximum latitude has been given to the researcher.

The strongest proponents of freedom for researchers claim that the most efficient form of organization is to leave them free to conduct their work as they see fit. For example, Michael Polanyi draws an analogy between research activities and the process of piecing together a large jigsaw puzzle.[2] If several people are working on the jigsaw puzzle, each must be free to communicate with the others to determine his or her next course of action. No conceivable means of central administration—for example, parceling out one-tenth of the puzzle pieces to each of 10 workers—is likely to be more efficient or productive than simply selecting workers who are skilled and motivated to solve the puzzle and then leaving them alone. This analogy, although imperfect, is intended to show that the skills of research investigators are fundamental to the successful progress of research. The argument suggests that R&D managers should minimize their involvement in the actual conduct of R&D.

An opposing view places greater emphasis on the possibility that researchers may be incompetent or that communications among them may not be adequate and timely. Moreover, freedom for researchers does not imply that public funds should be expended on wasteful or incompetent activities simply because they are labeled research. Some duplicated efforts, false starts, and alternative approaches to problems are inevitable, and even desirable, in most research endeavors; competition among research groups is to be encouraged. However, R&D-funding agencies can guard against unnecessary duplication (as when a researcher is unaware of earlier work), faulty research design, and similar errors that can be wasteful.

Thus, a balanced view of the roles of legislatures and criminal justice R&D-funding agencies is that they should regulate the conduct of research at a broad level, but carefully weigh any managerial intrusions into the conduct of specific projects against the presumption that research progresses best when unfettered. The fundamental problem for R&D-funding agencies is to devise procedures that nurture the self-direction and creativity of R&D performers, while simultaneously assuring that funded research conforms to broad agency goals and priorities.

Distinctions are often made among types of R&D in order to reflect the amount of acceptable intrusion by R&D managers into the conduct of R&D projects. For example, in comparing basic research, applied research, and development, basic research is ordinarily considered to benefit the least from attempts by R&D managers to influence the conduct of a project. Similar distinctions are often made depending on the institutional relationship between the R&D performers and the funding agency—with grant and contract recipients presumably having greater independence than researchers who are employees of the agency. Even inhouse research teams in criminal justice agencies should be permitted as much freedom as is consistent with the agency's mission. In regard to grants and contract research, the roles of an R&D-funding agency should be primarily limited to:

- Selecting projects to be funded;
- Assuring that expenditures are made for their intended purposes and for research that has a reasonable chance of success;

[1] This chapter was developed by the R&D Task Force in part on the basis of a draft by Jan Chaiken, The Rand Corporation. Dr. Chaiken is a mathematics-trained criminal justice researcher, located at Rand's Santa Monica office.

[2] Michael Polanyi, *The Logic of Liberty: Reflections and Rejoinders*, University of Chicago Press, Chicago, 1951.

• Protecting members of society who could be injured by research activities;

• Providing support services that permit more economical and productive research; and

• Enhancing the utilization of research findings.

When no public funds are involved—in cases of R&D conducted by the private sector—the conduct of the work should be immune from all but the most essential government regulation.

In line with this perspective, the intent of this chapter is not to propose a rigid set of guidelines for each researcher to follow. Rather, the principles and recommendations call attention to contemporary issues that neither policymakers nor researchers may have considered in a systematic manner. The application of these principles and recommendations must be tailored to the needs of each individual research project according to the unique conditions that surround it.

B. PROTECTION OF HUMAN SUBJECTS

A problem that has received wide attention over the past decade—not just in criminal justice R&D—is the use of humans as research subjects in R&D projects. Many projects call for people to participate in experiments and tests; the thrust of current thinking is that, in such cases, the participants should give their formal consent to serve as subjects, based on full knowledge of the experiment, and that the data collected about them should be kept confidential. Applying the general principles to particular research projects, however, may be difficult. Potential problems can arise if subjects wish to remain anonymous, or if they belong to a category of people to whom the notion of consent is difficult to apply. Prisoners, for instance, may be viewed as incapable of giving consent of their own free will because of their situation. Their decision might be influenced by a belief that participation in research will favorably influence their parole board, even in cases where the researchers have tried to make clear that no such conditions exist. As a result of these and other problems, the use of human subjects has been a topic of broad and intensive policy and research concern.[3]

This broad concern has led to the formation of a National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, the passage of new statutes and regulations, and continued modifications of existing guidelines. Because of the rapid rate of change, this report endorses the principle of strengthening the protection of human subjects, but it has not attempted to specify precise procedures by which this is to be accomplished. As regulations, case law, and new practices evolve, researchers and criminal justice R&D-funding agencies should be aware of the latest developments so that they can know what is expected of them. The discussion that follows is intended to highlight the most pertinent issues.

Informed Consent

The purpose of informed consent is to insure that human subjects have knowingly and voluntarily agreed to participate in the research. The basic elements of information that must be conveyed to a subject in order for his or her consent to be considered informed have been described in various ways. The following wording, by the U.S. Department of Health, Education, and Welfare, is illustrative.[4]

Human subjects must be given:

• A fair explanation of the procedures to be followed, and their purposes—including identification of any experimental procedures;

• A description of any attendant discomforts and risks that can be expected;

• A description of any benefits reasonably to be expected;

• A disclosure of any appropriate alternative procedures that might be advantageous for the subject;

• An offer to answer any inquiries concerning the procedures; and

• An instruction that the person is free to withdraw consent and discontinue participation at any time without prejudice to him or her.

[3] See, for example, *American Behavioral Scientist* (special issue), "New Technologies and Strategies for Social Control: Ethical and Practical Limits," Vol. 18, May/June 1975; Hubert Clements and others, *The Emerging Rights of the Confined,* National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, D.C., 1972; Paul Freund (ed.), *Experimentation with Human Beings,* Braziller, New York, 1970; Jay Katz, *Experimentation with Human Subjects,* Russell Sage Foundation, New York, 1972; Eugene Michels, "Research and Human Rights," *Journal of the American Physical Therapy Association,* Vol. 56, April 1976; New York Academy of Sciences, "New Dimensions in Legal and Ethical Concepts for Human Research," *Annals of the New York Academy of Sciences,* Vol. 169, January 1970, pp. 293–593; Alice Rivlin and others, *Protecting Individual Privacy in Evaluation Research,* Committee on Federal Agency Evaluation Research, Assembly of Behavioral and Social Sciences, National Research Council, National Academy of Sciences, Washington, D.C., 1975; Alice Rivlin and Michael Timpane, *Ethical and Legal Issues of Social Experimentation,* Brookings Institution, Washington, D.C., 1975.

[4] Code of Federal Regulations, Title 45, Subtitle A, *Department of Health, Education, and Welfare, General Administration,* Part 46, *Protection of Human Subjects,* published in the *Federal Register,* Vol. 40, March 13, 1975, pp. 11854–11858.

The precise means by which a researcher can demonstrate that these basic elements have been conveyd may vary from one research project to another. Current practice in many R&D-funding agencies is to have the procedures outlined by an appropriately constituted review board of the university or other institution to which the researcher belongs. Because the concern with protection of human subjects first arose in the context of biomedical experimentation, these practices are well established in most health-related R&D, but they have not yet been fully adopted by criminal justice R&D-funding agencies.

The assignment of responsibility for the protection of research subjects to an institutional review board is in most cases a practical approach to assure that proper procedures for obtaining informed consent are followed. The members of these boards can be expected to be aware of the latest guidelines established by professional associations, as well as by State and Federal legislatures and the courts. The current composition of some of these boards may be appropriate for health-related R&D but not for criminal justice R&D; therefore, agencies funding criminal justice R&D projects should require augmentation of the institution's board to include at least one representative concerned with criminal justice R&D.

Providing for voluntary consent poses problems primarily in instances where the subjects include children, the mentally handicapped, or prisoners, because the intent is that the subject "be so situated as to be able to exercise free power of choice." Of these categories of subjects, criminal justice research is primarily concerned with prisoners. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research is devoting special attention to research on prisoners and will develop guidelines for their protection. The guidelines, when adopted, may specify that prisoners serving certain types of sentences should never be used as subjects of experimental biomedical research. For research on prison conditions or on prisoners as incarcerated persons, less restrictive provisions will apply—such as that payments to human subjects should not exceed specified limits, that the research should be open to public scrutiny, and that inmates should participate in the decisionmaking process that concerns the procedures to be used in obtaining consent. The recommendations of this commission will apply to all federally funded R&D; this report believes that non-Federal criminal justice R&D-funding agencies might also be advised to adopt the recommendations.

As the example concerning prisoners illustrates, adherence to the requirement for informed consent may prevent some types of R&D from being undertaken. In addition to this, the validity of some research designs may be threatened if the subjects know they are being studied.[5] This report believes, however, that the criminal justice R&D community should willingly accept such limitations on behalf of the principle of protecting human subjects.

Recommendation 2.1: Protection of Human Subjects in Criminal Justice R&D.

Criminal justice R&D that may violate the rights to privacy of individuals or may expose them to physical, psychological, social, or legal risks should be conducted only: (a) with the informed consent of each subject, and (b) according to guidelines established by government agencies and professional associations concerning the protection of human subjects.

1. Evidence that the organization to which the researcher belongs has established an appropriately constituted board that includes protection of human subjects among its functions should be accepted by R&D-funding agencies as fulfillment of the requirement for informed consent.

(Recommendation 2.3 describes a potential additional function of the board mentioned in this recommendation.)

Confidentiality of Data About Individuals

Many research projects result in the collection of information about individuals. This information may be obtained from records maintained primarily for nonresearch purposes or as a product of an interview, in which a person may be asked about his or her background, activities, and attitudes on different topics. The person may be a resident—as in a household survey—or an official—as in a survey of law enforcement agencies. Although the researcher intends to use the information solely for the purpose of his or her project, and has received consent for such use, the same information may be relevant to the needs of third parties, including other researchers and law enforcement agencies. In some circumstances, human subjects may have a legal right to inspect the records pertaining to them and to correct erroneous data. Thus, subtle legal and ethical judgments must sometimes be made when balancing the privacy of individuals against legitimate needs for access to research data.[6]

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[5] For an excellent discussion, see Robert Rosenthal and Lenore Jacobson, *Pygmalion in the Classroom*, Holt, Rinehart, and Winston, New York, 1968.

[6] For detailed discussion, the reader is referred to Ralph L. Bisco (ed.), *Data Bases, Computers, and the Social Sciences*, Wiley-Interscience, New York, 1970; Robert F. Boruch, "Maintaining Confidentiality of Data in Educational Research: A Systemic Analysis," *American Psychologist*, 1971;

R&D performers are obligated to protect data about individuals under certain circumstances specified by State and Federal legislation. For ethical reasons, they often protect data even when it is not mandatory for them to do so. However, some controversy concerning the obligations of researchers under privacy legislation arises from legislative provisions that appear to have conflicting interpretations. The discussion that follows briefly summarizes the important provisions of Federal legislation that apply to data collected by R&D performers and indicates some of the sources of controversy. Parallel legislation has also been enacted in some States.

The Federal Reports Act of 1942, 44 U.S.C. Sec. 3509, states that a Federal agency may not conduct or sponsor the collection of information on identical items from 10 or more persons [7] unless it obtains approval in advance from the director of the U.S. Office of Management and Budget (OMB). The OMB guidelines for implementing this act [8] indicate that data collection would be considered "sponsored" by an agency if it is conducted under a contract, or if it is conducted under a grant and the agency will receive copies of the data on individual respondents or in the form of prespecified tabulations.[9]

This provision was intended to promote economy and efficiency in government and to minimize the burden imposed on the public. It is related, however, to data confidentiality because the clearance process provides an opportunity for OMB to check that provisions of other legislation have been followed. OMB map also withhold approval if the information sought appears too intrusive or if the proposed procedures for handling the information appear inadequate for maintaining confidentiality. The requirement for submission of forms or plans under this act is imposed upon the Federal agency, not on the R&D performer. Under this act, researchers generally have not been required to obtain approval before assembling information *about* persons from existing sources, but only with respect to gathering data *from* persons.

With certain exceptions, the Federal Reports Act provides separate penalties for transfer of information collected under the act from one Federal agency to another. In addition, 18 U.S.C. Sec. 1905 provides penalties for Federal employees who disclose confidential information to anyone who is not authorized to receive it. R&D performers who are not employees of the sponsoring Federal agency do not appear to be subject to these provisions.

More recent legislation, the Privacy Act of 1974, 5 U.S.C. Sec. 552a, contains provisions to safeguard individual privacy from the misuse of Federal records. This act requires that records about individuals collected in certain types of research activities (e.g., those conducted by Federal employees), be protected against disclosure; it also recognizes researchers as legitimate recipients of otherwise protected information. For example, information that is protected from disclosure under the act may be released under 11 conditions, one of which is "to a recipient who has provided the agency with advance adequate written assurance that the record will be used solely as a statistical research or reporting record, and the record is to be transferred in a form that is not individually identifiable." To the extent that R&D performers are exempted from disclosure restrictions, a special trust has been placed in them to recognize that even unidentified records may be sensitive in some cases,[10] and to protect whatever data they receive under such conditions. Some proposed legislation makes even stronger assertions about the rights of R&D performers to obtain copies of otherwise protected data. For example, a bill for the enactment of a Criminal Justice Information Control and Protection of Privacy Act [11] would provide that agencies must release criminal justice information to qualified researchers who will agree to appropriate nondisclosure conditions, even if the information identifies the subject.

Other provisions of the Privacy Act specify that individuals about whom records are maintained have the right to gain access to their records and request amendments of erroneous information. These follow the spirit of the Freedom of Information Act, 5 U.S.C. Sec. 552, which provides for making Federal records and reports available to the public. Under either of these acts, R&D performers who are Federal employees may in some instances be required to re-

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Robert F. Boruch, "Strategies for Eliciting and Merging Confidential Social Research Data," *Policy Sciences*, Vol. 3, 1972, pp. 275–297; Michael D. Maltz, "Privacy, Criminal Records, and Information Systems," in Sidney H. Brounstein and Murray Kamrass (eds.), *Operations Research in Law Enforcement, Justice, and Societal Security*, Lexington Books, Lexington, 1976; and Paul Nejelski and Lindsey M. Lerman, "A Researcher-Subject Testimonial Privilege: What to Do Before the Subpoena Arrives," *Wisconsin Law Review*, 1971, pp. 1085–1148.

[7] The term "person" is defined to include corporations, organized groups of persons, branches of government, and the like.

[8] Office of Management and Budget, "Clearance of Public Reporting and Recordkeeping Requirements under the Federal Reports Act," Circular No. A–40, Washington, D.C., as revised February 10, 1976.

[9] OMB clearance is required if the *agency* prespecifies the data tabulation it will receive. This does not apply if the R&D *performer* specifies the results to be provided, as in an unsolicited proposal. If data for individual respondents are to be provided to the agency, this should be understood prior to data collection, so that OMB clearance can be requested.

[10] See the subsection, "Protecting Sensitive Data Files," below.

[11] Senate bill S.1427, 94th Congress.

lease data records or preliminary findings from their work—a circumstance that could conflict with prior agreements to keep information confidential. There is also a possibility that information provided to a Federal agency by an R&D performer who is not a Federal employee may subsequently be subject to disclosure under the Privacy Act or the Freedom of Information Act.

The Privacy Act has been implemented according to guidelines established by OMB [12] and by regulations separately established by each Federal agency. Some confusion concerning researchers' access to information, and their obligations to keep information confidential once they obtain access, arises from the multiplicity of the regulations. For example, the act permits agencies to release certain information to researchers, but it does not require them to develop procedures for doing so. Thus, regulations of different Federal agencies may differ on this issue.

Other confusion arises in relation to specific provisions of the Privacy Act. For example, subsection (m) expands the applicability of the act to contractors of a Federal agency:

> (m) Government Contractors. When an agency provides by a contract for the operation by or on behalf of the agency of a system of records to accomplish an agency function, the agency shall, consistent with its authority, cause the requirements of this section to be applied to such system. For purposes of [the provisions concerning criminal penalties for disclosure] any such contractor and any employee of such contractor . . . shall be considered to be an employee of an agency.

On its face, this provision does not appear to apply to R&D contracts. The OMB guidelines, in affirming this view, state that the "agency function" language is ". . . intended to limit the scope of the coverage to those systems actually taking the place of a Federal system which, but for the contract, would have been performed by an agency and covered by the Privacy Act." [13]

A Federal agency that conducts R&D as one of its functions, however, may potentially view this subsection as requiring that extramural R&D performers (who work under an agency award) handle the data they collect as if they were agency employees. This interpretation would raise the question of whether *grants* should be treated as if they were *contracts* for the purpose of this subsection—and thereby multiplies the uncertainties about what is required of federally funded R&D performers.

In limited circumstances, a quasi-employment relationship between a researcher and the funding agency can be useful. It may permit the agency to transmit a file having personal identifiers to the researcher when he needs to match agency records to other data he has collected.[14] Such a relationship imposes upon the researcher the penalty provisions of applicable law if the data are disclosed. In most cases, however, a quasi-employment relationship is neither necessary nor desirable, because it undermines the presumed independence of the researcher; therefore, it should not be required.

This report believes that the potential for future unintended deleterious restrictions on researchers in connection with the Privacy Act, the Freedom of Information Act, proposed legislation concerning privacy of data, and related State legislation, arises from the fact that research has been only a peripheral concern of those who draft such legislation and related regulations. Explicit attention to the needs of research in the future may obviate these problems.

Recommendation 2.2: Research-Related Provisions in Privacy Legislation and Regulations.

Legislation and regulations related to freedom of information or privacy of data about individuals should be clear about the provisions that do and do not apply to researchers. Appropriately labelled sections should specify all provisions applicable to: (a) information collected by researchers funded by the government, (b) information provided by agencies to qualified recipients for research purposes, and (c) any procedures to be followed by researchers.

(Recommendation 2.3 discusses procedures for protecting sensitive files. Recommendation 2.12 discusses prior agreements concerning publication of findings based on data provided by agencies. Recommendation 5.5 discusses prior agreements between researchers and agencies concerning collection of information from agency personnel.)

Protecting Sensitive Data Files

Data obtained by criminal justice researchers under explicit or implicit pledges of confidentiality require protection against improper or unauthorized use. In particular, when researchers assemble a data file that would be subject to the provisions of the Privacy Act if held by a Federal agency, they incur an implicit obligation to protect its confidentiality. When confidentiality of such data is unlikely to be protected, as in research conducted on behalf of a

[12] Office of Management and Budget, *Responsibilities for the Maintenance of Records About Individuals by Federal Agencies*, Circular No. A–108, published in the *Federal Register*, Vol. 40, July 9, 1975, pp. 28948–28978.

[13] Office of Management and Budget, *Ibid.*, p. 28976.

[14] Alternative techniques for matching files will be discussed in Section F.

party in litigation, informed consent should include acknowledgment of the circumstances under which the data will be released.[15]

A variety of techniques is available for protecting data files; detailed procedures for accomplishing this are best devised in light of the circumstances prevailing within the organization with which the researcher is affiliated. As mentioned above, the U.S. Department of Health, Education, and Welfare requires that organizations conducting sponsored research establish an institutional review board that will specify the procedures for the protection of human subjects. These procedures ordinarily cover the protection of data files as well. In organizations that have established such boards, the procedures should be extended to cover criminal justice R&D; researchers should follow the practices adopted by their institution to protect any type of confidential data file.

Generally, the sensitivity of a record about an individual, whether the individual is a private citizen or an official in an organization (e.g., a law enforcement agency), depends on how easily the person's identity can be determined and on the quantity and nature of the information contained in the record.[16] A record containing a direct personal *identifier,* such as the individual's full name and address, is more sensitive than the same record after it has been stripped of direct identifiers. A record so stripped may nonetheless contain some other unique identifier —such as an arrest number, a driver's license number, or the researcher's code for the name and address. Determining the individual's identity from such a record requires some effort, such as consulting a second file; therefore, its sensitivity is assumed to be less. Even when a record is totally devoid of any personal identifier, the information in the record (e.g., the census tract of residence, age, sex, employment category, and income) may collectively be adequate to identify the individual. This is particularly true if the file contains data about a small group with known membership (for example, all detective supervisors in a specified city).

The possibility of identifying an individual is one factor that makes records with large quantities of information about an individual more sensitive than records with less information. For example, a 25-year history of arrests and prosecutions is inherently more sensitive than a similar 6-month history. Coupled with a 25-year employment history, the record is still more sensitive. However, records with even a small amount of data can be sensitive, depending on the nature of the data.

The National Bureau of Standards (NBS) has published guidelines for Federal agencies to use in protecting computer-readable files.[17] Some or all of these guidelines may be applicable to criminal justice researchers, depending on the types of data they hold and whether the researchers are employed by government agencies. In general, the application of any protective procedure results in increased costs and possibly degradation of performance of the computer system; yet no safeguard is absolutely foolproof.[18] Thus, a reasonable mixture of procedures must be selected to conform to the nature of the data and the risks of disclosure. When there is no research need for sensitive items, the best protection is to destroy the items or not to collect them in the first place.

Some of the NBS guidelines refer to elementary safeguards that should be used by any researcher who handles sensitive data. Others refer to protective procedures that may not currently be available at universities or other research organizations, but are worthy of consideration for inclusion in future systems. Among the topics covered by the guidelines, the following may be pertinent to some criminal justice researchers.

Handling of Data. Researchers rarely require records containing the direct identification of individuals or organizations—except during the initial stages of a project when data are being collected and verified. Data collection instruments can be designed so that

[15] Although recent concern about data privacy has focused on information about individuals, researchers may also collect data about organizations under conditions of confidentiality. These may be organizations about which law enforcement agencies would like to have information or, conversely, they may be governmental agencies whose operations would be of interest to criminal offenders. Since, in the latter case, the agency would clearly understand the risks involved in releasing operational details, and would specify confidentiality conditions before doing so, it should be able to recognize the legitimate need for confidentiality in the opposite case.

[16] Alan F. Westin has suggested that a classification system is needed to identify types of records about individuals needing different levels of control in *Privacy and Freedom,* Atheneum, New York, 1967. *The Report on the Criminal Justice System* of the National Advisory Commission on Criminal Justice Standards and Goals (1973) proposes a data sensitivity classification for criminal justice agencies (Standard 8.5), but this classification is not directly applicable to data typically held by researchers. A summary of more recent classifications systems is given by Rein Turn, "Classification of Personal Information for Privacy Protection Purposes," paper presented at the 1976 National Computer Conference, New York, June 7–10, 1976.

[17] U.S. Department of Commerce, National Bureau of Standards, "Computer Security Guidelines for Implementing the Privacy Act of 1974," Federal Information Processing Standards Publication No. 41, Washington, D.C., 1975. Standards for criminal justice practitioner agencies have been established by the National Advisory Commission on Criminal Justice Standards and Goals, Chapter 8, "Privacy and Security," in *Report on the Criminal Justice System,* Washington, D.C., 1973.

[18] For more detailed information, see Dennis R. Chastain, "Security vs. Performance," *Datamation,* November 1973, pp. 110–116; and Willis Ware, "Records, Computers and the Rights of Citizens," *Datamation,* September 1973, pp. 112–114.

direct personal identifiers are never present or are concentrated in an easily removed section of the instrument. Whenever possible, personal identifiers should be deleted from materials that contain sensitive information if the materials are to be handled by researchers, editors, keypunchers, or clerical personnel. Records containing identifiers should be destroyed as soon as the need for them has passed.

In the few instances where researchers need to retain the ability to match sensitive records to particular individuals or organizations, direct personal identifiers can be replaced by coded identifiers, and the link file (which matches coded identifiers to personal identifiers) can be stored in a secure place or a remote location.

Maintenance of Records to Trace the Disposition of Sensitive Data With Identifiers. Logbooks or similar files can be used to record access to a link file or to records with direct personal identifiers, and to verify the destruction of these records.

Controlling Access. Unplanned access to sensitive research data can occur as a result of: (1) unauthorized but purposeful searches, (2) inadvertent access, or (3) compulsory legal process (e.g., a subpena). Resistance to the first two categories can and should be achieved by suitable access controls.

Nearly all computer systems require the user to identify himself with a password; once admitted to the system, however, the user may be able to access any data file in the system. Moreover, a list of the names of all the files stored in the system may be readily available to any user. In this case, protecting a sensitive data file may be possible by requiring that the user provide a second password or other evidence that he is authorized to access the file, or by the encryption of the stored data—a process that transforms the characters in the file into code so that the unauthorized person cannot interpret them.

In some computer installations, a mountable data storage device (such as a magnetic tape) that is no longer needed by one user may be released to another without being erased. This practice may lead to the inadvertent disclosure of sensitive files. A researcher who may believe he has destroyed a sensitive file actually may have released it to unknown other persons. Such disclosure can be avoided by destroying or degaussing a magnetic tape, or by overwriting a data file with meaningless characters before releasing it.

Storage Protection. Unauthorized persons should not be able to remove sensitive files from the computer facility or any other storage location.

Recommendation 2.3: Protecting Sensitive Data Files.

Criminal justice R&D funding agencies should require that funded researchers who collect or receive sensitive data will use suitable procedures for protecting those data. Sensitive data include all records containing direct personal identifiers together with information about the identified individual. They may also, at the researcher's option, include other types of records, including those obtained after an explicit promise of confidentiality. If a researcher plans to retain either records with direct personal identifiers or link files for more than a limited period of time, the agency should require written explanation of the intended or potential research needs underlying such retention.

1. Evidence that the organization to which the researcher belongs has established an appropriately constituted board that includes data protection among its functions should be accepted by R&D-funding agencies as fulfillment of the requirements for data protection.

(Recommendation 2.1 describes a potential additional function of the board mentioned in this recommendation. Recommendation 5.5 discussses prior agreements with agencies providing sensitive data to researchers.)

C. SELECTING TOPICS FOR R&D

Chapter 1 discussed procedures that should be used in setting priorities for R&D topics. Once these procedures are in operation, R&D-funding agencies must be alert to the potential sources of ideas concerning suitable topics for R&D and to the variety of criteria that should be used in the priority-setting process. This section describes general considerations that are relevant for many different types of criminal justice R&D. Subsequent chapters will discuss the specific considerations that arise in connection with technology R&D (Chapter 4), research on criminal justice organizations (Chapter 5), and research on new criminal justice problems (Chapter 6).

Avoiding Inappropriate Considerations

Most ideas for new R&D topics come from R&D performers, officials in R&D-funding agencies, and criminal justice practitioners. The selection of topics by these three sources ordinarily reflects not only their considered judgment as to what research most needs to be done, but also their inherent value structure and world view.[19] Although the latter type of

[19] For a discussion of the risks of bias, see Howard E. Freeman and Clarence C. Sherwood, *Social Research and Social Policy*, Prentice-Hall, Inc., Englewood Cliffs, 1970; and Herbert Blumer, "Threats from Agency-Determined Research: The Case of Camelot," in Irving L. Horowitz (ed.), *The Rise and Fall of Project Camelot*, MIT Press, Cambridge, 1967, pp. 153–174.

influences on topic selection will always exist, R&D-funding agencies should attempt to minimize their effects.

A researcher, for example, may wish to reinforce a particular political or ideological position and may therefore select a research topic to call attention to that situation or problem.[20] Without in any way distorting the data, the researcher can have a good idea of what the findings will be. An obvious case of this might be a study to determine the nature of assaults on prisoners by prison guards.

In other cases, an R&D-funding agency may actively encourage research projects that are perceived to reflect the political priorities of elected officials. In some situations, discrimination between research projects to be funded over the long run can help an agency to tip the weight of evidence in favor of a given argument, even though no influence over the objectivity of any of the funded projects has been exerted. More directly, an agency might sponsor R&D projects whose stated objectives are to demonstrate the validity of a predetermined policy decision.

Even when no clear ideological or policy considerations are present, researchers and R&D-funded agencies often have implicit value structures that predispose them against selecting certain topics. For example, it would be difficult to find a criminal justice agency that subscribes to the notion that an inefficient court system—where defendants must wait a long time for disposition of their cases—serves a useful function in society, even though defense attorneys more often than not use delays as a means of obtaining a more favorable outcome for their clients.

Just as subtle are the improper influences that can be introduced by the participants in a research study. Respondents may steer the researcher away from topics or methodologies that are likely to uncover something they would rather the researcher not know anything about. For example, a skillful administrator might persuade a researcher that certain units of the organization do not collect the type of data he is looking for, or that it would consume an inordinate amount of time or expense to collect the data, or that the unit to be studied will soon be disbanded. In such cases, the researcher may select his topic of study based on what he believes to be feasibility considerations, but in fact his choice has been biased.

Finally, some forms of bias in selecting R&D topics arise entirely within the performer community, without any political, bureaucratic, or ideological overtones. These might more properly be termed R&D *fads*. A consensus forms around a new concept, methodological approach, or potential solution, and many researchers simultaneously propose similar work. For the R&D-funding agency, it is quite difficult to distinguish between a fad and a genuine breakthrough, because only the passage of time can determine the durability and fruitfulness of a new idea.

Often a fad is generated by one or a small number of eminent researchers, whose writings are closely argued and widely read. Their ideas are quoted by others, discussed at numerous conferences, and serve as springboards for other ideas. Soon, researchers find that their work is most likely to gain attention in the research community if it follows the fad. Such widespread acceptance of a new approach among diverse groups of researchers appears to be proof of an idea's persuasiveness, although, of course the idea may not necessarily be valid. More important, even if a new approach is proven valid, this does not mean that alternative ideas will not be fruitful and should not be pursued. Established approaches should continue to be funded unless there is clear evidence that they are mistaken.

One of the arguments in favor of R&D-funding agencies' maintaining a balanced portfolio of studies (as discussed in Recommendation 1.1) is that, by doing so, agencies can minimize the risk of overreacting to any of these influences. This is accomplished by supporting researchers with various ideological persuasions and supporting projects that use different methodologies, located at various points on the spectrum from basic to applied. A pluralistic approach to research permits the best ideas to prove themselves and endure, through processes of assessment and validation; these processes are discussed in Sections D and E of this chapter.

Realistically, however, no single R&D-funding agency can achieve a completely balanced portfolio of studies. Whether through bias, judgment, or interpretation of its legislative mandate, every agency will view certain topics as unsuitable for funding, quite independent of the inherent quality of any proposal that might be received. Recommendation 1.1 of this report, which supports the continuation and strengthening of the existing *multiplicity of funding sources* for criminal justice R&D, is intended to minimize the possibility that such influences will prevent meritorious research from being funded.

Appropriate Considerations in Selecting Topics

Within an R&D-funding agency, there are three basic approaches to topic selection: (1) in *proactive* topic selection, the agency initiates support for R&D on identified topics that might otherwise receive inadequate attention; (2) in *reactive* topic selection,

[20] See Howard Becker, "Whose Side Are We On?" *Social Problems*, Winter 1967, Vol. 14, pp. 239–247, for a thoughtful discussion of researchers' biases in selecting topics for study.

the agency identifies topics that show good progress and deserve future support; and (3) in *receptive* topic selection, the agency responds to unsolicited proposals, submitted by academicians, researchers, or others outside the agency, on heretofore unidentified topics. Similar considerations apply to all three activities, although the relative importance of each may vary. The agency should, however, endeavor to insure that multiple criteria are used in each instance, so that no topic is funded solely because it is relevant to current policy or solely because researchers find it conceptually interesting.

Policy Relevance. An often-applied criterion is the potential policy impact that research on a topic will have. Will progress be made toward accomplishing or understanding the objectives of the criminal justice system by research on this topic? Are major Federal policy decisions dependent on resolving questions of fact or feasibility in this field? Will the operations of a large number of criminal justice agencies be affected by findings in this field? Can research on the topic help to identify future policy issues before they emerge, so that appropriate planning can take place?

Although policy relevance can in some instances be a useful guide, taken alone it is generally a poor criterion for setting *research* priorities. The effect of focusing on policy relevance can be that funds are expended in an area where data resources, methodology, or theory development are inadequate to support quality research. Or, because of the inherent time delays in research, the policy issue may have to be resolved, or interest in it may wane, before the research results become known.

State of Theory Development. Another guide to the importance of a topic is the state of its conceptual underpinnings. On the whole, the most valuable research is research that provides new insights or formulations of problems. Excellent research is often at a level of abstraction such that its value could not be anticipated in advance, and its ramifications are not immediately apparent when it is first completed.

When a field has progressed to the point such that theory is well developed and the research issues needing resolution are clearly identified, a major funding effort involving many simultaneous projects, can lead to rapid progress. Such a field is said to be ripe for research. However, when theory is immature or uncertain, and only *sequential* progress is possible, expending large amounts of funds in the field is likely to be wasteful and will not necessarily hasten progress.

State of Knowledge. In many types of R&D, *facts,* not theory, are needed. When practically nothing is known on a topic, even a small amount of information can be useful—despite possible uncertainties about its validity. Later, when conflicting findings or hypotheses abound, only validation or research with rigorous designs can clarify the matter. Further progress may have to await the collection of appropriate data or the conduct of a large-scale experiment. Even when facts are firmly established, for example, if a certain type of program or equipment has proved to be effective, certain questions may remain concerning its feasibility, acceptability, or cost. The state of knowledge in such topics is then appropriate for developmental or demonstration projects.

Relationships Within a System of Studies. The relationships among different pieces of research should be considered in selecting topics for funding. Research is both a cumulative process, where current work confirms or builds upon earlier work, and a dialectic process, where current work refutes or modifies prior theory. Accordingly, priorities can and should change in response to recent findings. Indeed, such changes can be anticipated: a given topic might be assigned a low funding priority for this year but a much higher funding priority for the next. One reason for such a plan would be that work in progress is expected to show which of two potential approaches to a problem area is more fruitful. Only when the answer is known should the better approach be explored in more detail.

In order for R&D-funding agencies to pursue such a plan, more explicit identification of the relationships among projects must be made than is now typically the case. One approach is to prepare a chart or graphic display showing a system of related studies as a *decision sequence.*[21] A decision sequence depicts the questions to be answered through research in terms of their logical relationship to each other. One advantage of this sequence is that it is possible to see which questions must be answered before others become relevant. A display of a decision sequence might show, for example, that the desirability of funding a proposed project is dependent on the results from two ongoing projects. If the outcomes of the ongoing projects are the opposite of the presumed outcomes, then the later project may not be needed at all. For example, research on methods for encouraging citizens to report crimes is premature if two ongoing projects are determining whether increased crime reporting serves any useful purpose.

When an explicit decision sequence is used, topics are selected for research according to the likelihood that they will help determine which of several proposed approaches to a research problem should be funded in the future. Chapter 6 discusses the importance of establishing such a decision sequence when planning research on new problems. In mature subject areas it is equally important that the results

[21] For further discussion of this idea, see Chapter 6, Section B.

from recently completed research be inspected, relative to the previously established decision sequence, to determine their significance for future research priorities. Ordinarily this is not a simple matter of comparing findings with a checklist; a special assessment project, as described in Section D of this chapter, may have to be funded for this purpose.

Relationships Among Hypotheses. One of the key activities of research, although not necessarily of every research project, is the testing of hypotheses. A hypothesis is a statement, usually about causal relationships, that can be tested to determine whether it is true or false. If a proposed project is intended to test one or more hypotheses, it is extremely important that they be stated clearly enough so that the R&D-funding agency can ascertain their significance.[22]

In selecting topics for research, the agency should also consider the relationships among hypotheses being tested at one time. In some instances, there may be several alternative explanations for a finding from a previous study. Testing only one of these hypotheses is unsatisfactory. Whether the hypothesis proves to be true or false, no one will know which, if any, of the alternatives may be true. Thus, a firm foundation for future work has not been laid. Instead, related hypotheses should be tested at the same time. Such considerations may reveal that several apparently distinct research topics, such as the role of citizens in reporting crimes and the effectiveness of foot patrol by uniformed police officers, are actually intertwined and should be funded simultaneously.

Timing. When research is desired for a policy decision, the question must be asked—will the time that elapses before the results are needed be adequate to perform the research competently? Many instances of uncompleted or unsatisfactory research projects have arisen from circumstances where both the researcher and funding agency realized at the start that the deadlines were too short. In many instances it is better not to conduct a study project at all than to assign it a high priority with unreasonable deadlines.

Feasibility and Researchability. Some issues may be matters of national interest and concern; yet, there may be no reason to believe that they can be resolved by *research*. Or, the issue may be likely to resolve itself through external developments or political processes that will not be affected by research. In some cases, no suitable methods are known for resolving the issue, so that research on methodology may be appropriate, but not research on the topic itself. In other cases, appropriate methods may be known, but they are not methods used by researchers. For example, the issue may be best resolved by litigation, or by investigation or journalistic techniques. Determining the extent to which prosecutors in a given city are involved in selling illegal drugs is not a topic for research, whatever its importance. Finally, research on a certain topic may not be feasible because its cost is much greater than its likely benefits or because the required methodology would bring about an unacceptable invasion of privacy or disruption of normal life of the human subjects involved.

Recommendation 2.4: Selecting Topics for Research.

Criminal justice R&D-funding agencies should incorporate at least the following considerations in their procedures for selecting topics to be funded:

- **Policy relevance;**
- **State of theory development;**
- **State of knowledge;**
- **Relationships within a system of studies as part of a decision sequence;**
- **Relationships among hypotheses being tested, if any; and**
- **Researchability and feasibility.**

(Recommendation 1.3 specifies procedures for setting priorities. Recommendation 4.4 describes additional considerations for selecting topics in technology R&D. Recommendation 5.2 discusses the importance of hypothesis development. Recommendation 6.1 describes additional considerations when the topic concerns an emerging problem. Recommendation 6.2 describes design of a system of studies according to a decision sequence.)

D. ASSESSMENT OF WHAT IS KNOWN

Before beginning any particular research project an accepted practice is to review earlier work to identify strong and weak methodologies, to determine what is already known, and to establish foundations for hypotheses to be tested or factors to be documented. In recent years, a substantial proportion of criminal justice research projects have begun without adequately covering this preliminary step of *assessment*. As a result, there has been much "reinventing of the wheel," repetition of mistakes that had already been made and criticized in the past, and rejection of hypotheses that were already untenable.

In fields of any complexity, performing a good, comprehensive assessment should involve more than the common practice of reviewing the literature as part of a research proposal. An assessment is not simply a catalog of publications and their findings (which often passes for a literature review), or even a review of the quality of each of a collection of publications (although such a review may be useful). Rather, an assessment is the name given to an activ-

[22] This is discussed in detail in Chapter 5.

ity that describes in detail the state-of-the-art of R&D on a particular topic. As assessment consists of synthesizing what has been accomplished on a topic and identifying findings on which there is substantial agreement, findings that are in contention, and questions that have not yet been addressed.

Assessments help researchers and R&D-funding agencies to determine what research needs to be done next. They also help the practitioner community to distinguish between findings of sufficient validity, so that they can be acted upon, and findings that have been reported, but are either uncertain or false. (Assessments directed to practitioner needs, however, are not the subject of this section; they will be discussed in Chapter 3.)

Problems Pointing to a Need for Assessments

The academic disciplines to which criminal justice R&D performers belong are extraordinarily varied; they include sociology, law, political science, psychology, engineering, operations research, forensic science, economics, and computer science. As a result, criminal justice researchers do not form a coherent community, but rather a diverse collection of people, each communicating with selected subgroups.

Keeping abreast of the latest developments in one's own discipline is difficult enough. Many researchers attempt to do this, as well as to read the literature in selected interdisciplinary publications. Very few researchers, however, succeed in becoming even mildly familiar with several disciplines. Thus, it is entirely possible for two researchers to be working on the same problem from different perspectives and not be aware of each other's work—occasionally, even when both work at the same institution. In these cases, the communication needed for cumulative progress is not present, and both may discover the same finding. Although this is not necessarily an unfortunate development, because the validity of any finding is strengthened by independent confirmation, no one may even realize that confirmation has occurred until an assessment has been undertaken.

Differences in terminology among disciplines also cause communication gaps that can be bridged by assessments. Although criminologists might have trouble believing that anyone who considers himself a criminal justice researcher might be unfamiliar with basic terms, such as "deviance," this is sometimes the case. Thus, reports and papers indexed under the heading "deviance" might escape the attention of an otherwise conscientious researcher who is attempting to determine what is known about prostitution. A good assessment should reveal instances where different researchers are studying the same topic, but are using different terms.[23]

The enormous increase in criminal justice research during the past decade has also meant that there are many newcomers to the field. For them to master the existing literature would be a formidable task—amounting to a complete reeducation. Many of them therefore leap into a topic with the misguided but optimistic hope that nothing is known. When officials of R&D-funding agencies are equally uninformed, or rely on the researcher to perform a competent literature review before submitting a proposal, projects having little value for the progress of research unfortunately can be funded and completed. If a suitable assessment report had been available, the researcher and the agency staff could have learned the relevant material without a major expenditure of effort.

Even in the absence of assessments, some research studies are subjected to careful review by funding agencies and researchers alike. These tend to be the studies of highest quality—often hotly debated because of their importance. The most unfortunate aspect of this practice is that, although the record shows that some of the best studies have been criticized, and possibly discredited, deplorable and methodologically inadequate studies are judged unworthy even of comment, thereby leaving the impression that they remain unchallenged.

Obstacles to Assessments

Some fields of criminal justice research are so new that the body of available knowledge is not large enough to warrant an assessment project. If numerous assessments were conducted, each covering a small subject area, it would then become difficult to locate the appropriate assessment papers related to a particular researcher's interests. The purpose of assessments is to coalesce knowledge, not to add to the publications explosion. Thus, careful planning of funding for assessment projects will omit fields where assessments are not warranted.

Obtaining a suitable principal investigator for an assessment project may also be sufficiently difficult as to present an obstacle to conducting the assessment. It goes without saying that he or she should be experienced and knowledgeable in the field to be assessed. However, a researcher who has already made major contributions to the field will have difficulty in making an unbiased comparison of his or her own work with that of others. Moreover, competition among researchers for available funds, which is otherwise desirable, may prevent some researchers from candidly sharing their current thoughts, plans, and future priorities with the members of an assess-

[23] For a related discussion, see Chapter 5.

ment project. Finally, some researchers may not be familiar with the appropriate methodology for assessments—including techniques of content analysis, ranking studies by analysis of citations, case survey technique, and the like.[24]

Assessment projects are also avoided because they are difficult and thankless tasks that may embarrass or make enemies of certain people or agencies. The assessment may identify some studies as having been meaningless, improperly designed, or otherwise inadequate. The authors of those studies doubtlessly will disagree and believe they have been judged wrongly. As a result, reports of assessment studies tend to be among the most controversial of all research publications. In some instances, attempts have been made to suppress the findings of an assessment project; in nearly all cases, rebuttals are published.[25] The issues addressed by the assessment, thus, may remain unclarified.

Possible Solutions

Additional assessments are needed in the field of criminal justice research. However, new procedures must be developed to overcome the obstacles noted above. One possible procedure would involve assembling a panel that would sponsor two independent assessments of the same topic. The panel could have its own research staff assemble appropriate portions of both drafts, where there is substantive agreement, and arrange for publication of sections still in contention as separately authored chapters or appendices to the panel's report.

The practice of assessing what is already known in a field also can be encouraged by means other than supporting projects specifically for that purpose. R&D-funding agencies can require that proposals show evidence of familiarity with previous work or indicate that the initial stage of the project will consist of such an assessment. In the latter case, the agency should require a full description of the assessment and subject it to external review. If the review indicates that the assessment is especially meritorious, independent of the other aspects of the project, the agency can urge its publication as a separate paper—perhaps in a series of monographs established specifically for that purpose. In all cases, the review of proposals should include consideration of whether the researchers appear to be adequately familiar with prior work. Proposals indicating that the planned research will be the first to address a certain topic should be automatically suspect.

Panels could also be assembled to award cash prizes in each of several fields of criminal justice research. The first such panels might consider papers published during the past 5 or 10 years; succeeding panels would award prizes for work completed in the previous year. Nominations of papers to be considered would be welcomed from any source, and the results of the deliberations of each panel would be published as an assessment paper. Such a procedure would help to draw attention to the best research and implicitly help identify standards to which researchers should adhere if they aspire to recognition by the prize. Awarding prizes, however, does not help to isolate and discredit inferior research.

Recommednation 2.5: Assessment of Previous Criminal Justice R&D.

Projects to assess research on various topics in criminal justice should be supported in larger numbers than in the past as a desirable step to precede the conduct of new research. R&D-funding agencies should recognize that research assessments can and should themselves follow rigorous research designs.

1. The practice of assessing research also can be encouraged by means other than supporting projects specifically for assessment purposes. In particular, research proposals could be required to include a thorough description of how the research will add to whatever is already known.

(Recommendation 3.2 describes practice-oriented assessments. Recommendation 5.3 illustrates how future research designs can be improved from the results of assessments.)

E. RESEARCH METHODS

Types of R&D

Once a topic has been selected for funding, there is often a choice of many different methods that could be used in conducting the study. Although R&D-funding agencies are frequently called upon to decide which methods will be funded, there are few general principles that can help in making this decision. The methodological requirements of a

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[24] For an example of the application of assessment methodologies, see Robert K. Yin, Karen A. Heald, and Eveleen Bingham, "The Difference That Quality Makes," *Sociological Methods and Research*, November 1976, Vol. 5 in press.

[25] One such assessment was conducted by Douglas Lipton, Robert Martinson, and Judith Wilks, *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*, Praeger Press, New York, 1975. (Chapter 5 contains a review of this study.) In this case, the client refused to give one of the authors a copy of his own work until it was subpoenaed; see Robert Martinson, "What Works? Questions and Answers About Prison Reform," *Public Interest*, No. 35, Spring 1974, pp. 22–53.

study can only be determined in relation to the type of R&D being proposed and the purpose of the project.

Some endeavors can rightly be viewed as being arts rather than sciences, making it practically impossible to specify the procedures that are used. The development of *concepts* or *theories* falls in this category.[26] Theory development may be part of a project having other components or it may constitute a separate piece of research. In this type of work, the researcher attempts to state propositions concerning the logical or causal relationships among facts or concepts. Some people are clearly more adept at theory development than others. However, the methods they use cannot be so codified as to allow R&D-funding agencies to check whether or not the methods are being followed.

Connecting causal relationships into an operational form that can be tested is called *hypothesis generation.* This, too, does not involve any formal methodology, but certain steps should be taken when generating hypotheses. First, hypotheses should be firmly grounded in theory. A hypothesis that is not the product of a body of knowledge, but simply appears to be interesting or plausible, tends not to help in adding to the cumulative progress of research. Second, hypotheses must be stated in such a way that a means for determining whether they are true or false can be devised. A vaguely worded statement that can be accepted or rejected according to personal beliefs or aspirations, independent of any facts, is not a hypothesis. Third, some thought should be given to the techniques that can be used to test the hypothesis. If no suitable techniques are available or readily conceived, the hypothesis will not be useful in the short term.

Empirical studies are procedures for testing hypotheses. A large proportion of criminal justice research projects consists of empirical studies or combined cycles of hypothesis generation and empirical studies. The methodologies available for performing empirical studies are numerous;[27] some of them will be discussed below. Such studies range from the use of *experiments,* in which some aspects of the real world are manipulated and measured, to the use of *models,* which are conceptual or mathematical representations of the real world.

Designing an empirical study involves determining what data are to be collected and how they are to be analyzed to test the hypotheses in question. A vast array of techniques can be used in *data collection.* These include physical measurement, field work, interviews, written surveys, and assembling information from existing records.[28] Each of these techniques is supported by its own methodologies, such as data base management, ethnography, participant-observation, and instrumentation. Indeed, there is a substantial need for research devoted strictly to data collection and its associated methodologies. For example, research on measures of performance and social indicators helps identify the types of data that should be collected and tabulated as baseline statistics for use by operating agency personnel and other researchers—who may later need appropriate data for their empirical studies.

Similarly, *data analysis* may be conducted in accordance with the design of a study to test hypotheses, or by itself. When changes due to economic, technological, social, political, or any other processes external to research occur, data analysis can reveal what is happening, even in the absence of any hypotheses. In support of data analysis, research is conducted on statistics, graphic methods for assembling information into comprehensible form, prediction of time series, computer modeling, and similar methodologies.

Once hypotheses have been proven correct (usually this requires several empirical studies that confirm each other), the R&D process continues into the development stage. Here, too, many methods, such as *demonstration projects* or construction of small-scale prototypes, can be used. In addition, various methods have been tried for transferring technology to practitioner groups and improving the utilization of research findings. These topics are treated more fully in Chapter 3.

Experimental and Quasi-Experimental Designs

Questions concerning the details of research design and methods to be used in an empirical study are ordinarily beyond the interest or expertise of policymakers. Even researchers will often disagree about such matters; judgments about the relative

[26] For further details concerning theory development and the other aspects of research work discussed in this section, see William J. Goode and Paul K. Hatt, *Methods in Social Research,* McGraw-Hill, New York, 1952.

[27] See, for example, Virgil L. Anderson and Robert A. McLean, *Design of Experiments,* Marcel Dekker, Inc., New York, 1974; Donald T. Campbell and Julian C. Stanley, *Experimental and Quasi-Experimental Designs for Research,* Rand McNally and Company, Chicago, 1966; William G. Cochran and Gertrude H. Cox, *Experimental Design,* John Wiley and Sons, New York, 1957; D.J. Finney, *Theory of Experimental Design,* University of Chicago Press, Chicago, 1960; and Marie Jahoda, Morton Deutsch, and Stewart W. Cook, *Research Methods in Social Relations,* Vols. 1 and 2, The Dryden Press, New York, 1951. Also see references cited in the subsection "Evaluative Research," below.

[28] See, for example, George J. McCall, "Observing the Law: Applications of Field Methods to the Study of the Criminal Justice System," National Institute of Mental Health, Rockville, Maryland, 1975.

quality or likely fruitfulness of different proposals can be made through the processes of peer review described in Chapter 1.

Policymakers should, however, be able to ascertain whether researchers have addressed the right questions in developing their research design. In order to do that, they must ask the following questions: (1) If an experiment is proposed, have one or more hypotheses been proposed for test? (2) Are the hypotheses proposed trivial, or do they constitute the core of an issue whose importance is grounded in theory or practice? (3) Have alternative methodologies been considered? If so, on what grounds were the proposed methods chosen over the others? (4) Will a substantially less expensive method produce nearly as credible results? (5) Has the proposed research staff demonstrated competence in the methods to be used? For any of these questions, the R&D-funding agency should also beware of proposed research that constitutes a methodology in search of a problem to be solved. When researchers are well-versed in a particular methodology, they may tend to perceive all research questions as answerable by the methods they know,[29] quite independent of the possible advantages of other methods.

Techniques for conducting rigorous experiments are well known but rarely applied in nontechnological[30] criminal justice research. In addition to their cost, they encounter a variety of practical obstacles. In the *classical* design, the subjects of study (which could be people, organizational units, or geographical areas, for instance) are divided randomly[31] into at least two groups. Before any experimental intervention is introduced, measures of all outcomes that will be of interest are collected for all the subjects. Then the intervention is applied to one of the groups, while another, the control group, receives no special treatment. Finally, outcomes are measured again for all groups.

The purpose of the control group in the classical design is to estimate what would have happened to the experimental group in the absence of intervention. External influences, wholly independent of the experiment, may have an impact on outcomes and are assumed to apply equally to both groups. Further elaborations of the design may be needed if there is reason to believe that either the process of measuring performance or the subject's mere knowledge of being part of an experiment can affect the outcomes.[32]

Many factors prevent classical designs from being applied with any frequency to social policy problems. The initiator of the program may not be willing to wait for appropriate assignment and testing before beginning operation, or it may be impossible or impractical to assign subjects to groups randomly —as in the case where the activity to be evaluated is undertaken voluntarily. Individuals cannot be told to begin a voluntary activity, for if they are, the activity is no longer voluntary. There may be legal or moral objections to providing unequal levels of service or punishment to individuals selected randomly, or certain organizations may have sufficient political power to insist that all their members receive (or do not receive) the indicated treatment.[33]

As a result, numerous research designs[34] have been developed to achieve some, but not all, of the benefits of classical designs. Such designs contain inherent *threats to validity*—meaning that an effect can be found but not attributed to the presumed causal factor, or that no effect can be found and yet the experiment actually had the intended impact. The rigor of these designs can be judged by the degree to which they approximate the features of the classical design: control group, random assignment, and pretests and posttests.

Some designs, such as the analysis of an inter-

[29] Some incursions of new methods into established fields are desirable. Indeed, many of the most innovative and useful research findings have resulted from applying successful techniques from one discipline in an unexpected area.

[30] Nontechnological R&D refers to R&D projects that do not focus on hardware elements, such as blood staining techniques, body armor, and explosives tracing. For a fuller discussion, see Chapter 4.

[31] The purpose of random assignment is to assure that any characteristics of the subjects that might be related to outcomes in some unknown way are more or less evenly distributed between the groups. If some characteristics are known to be related to outcomes, it is preferable not to use complete random selection, but rather to divide the subjects into subgroups according to those characteristics. Such approaches, which are variants on the classical design and are called factorial designs, also permit determining differential effects of the experimental intervention on the subgroups.

[32] The effects to be controlled for include the possibility that the subjects of the study become more proficient at taking the tests used in the experiment even though their performance does not change, that the subjects become sensitized to the occurrence of events that are being measured (such as crimes) by being asked about them, and that the subjects change their behavior as a result of being observed. See Campbell and Stanley, *Experimental and Quasi-Experimental Designs,* 1966.

[33] For a general discussion, see Howard E. Freeman and Clarence C. Sherwood, *Social Research and Social Policy,* Prentice-Hall, Englewood Cliffs, 1970. For examples of the difficulties of evaluating voluntary programs, see Hans W. Mattick and Broderick Reischl, "Some Problems in the Evaluation of Criminal Justice Programs," Center for Research in Criminal Justice, University of Illinois at Chicago Circle, Chicago, 1975; and Robert K. Yin, Jan Chaiken, Mary Vogel, and Deborah Both, *Patrolling the Neighborhood Beat: Residents and Residential Security,* The Rand Corporation, Santa Monica, R–1912–DOJ, March 1976.

[34] These are the quasi-experimental designs; see Campbell and Stanley, *Experimental and Quasi-Experimental Designs,* 1966.

rupted time series, can be applied after the phenomenon to be studied has already occurred, if suitable data are available. These *ex post facto* designs permit research on natural experiments—changes that take place without being under the experimental control of a researcher. Examples of natural experiments are major reallocations of manpower by a practitioner agency or unanticipated events outside the criminal justice system, such as riots.

Nonexperimental Designs

In many circumstances experimental or quasi-experimental designs are either inappropriate or impractical. Often a nonexperimental design can be implemented more easily, inexpensively, and quickly, and is therefore more useful when changes are occurring rapidly or results are needed rapidly. R&D-funding agencies should be aware, however, that nonexperimental designs can rarely be used to validate a hypothesis. At best, they can give a strong indication that one hypothesis is probably better than another one. More likely, they serve to *generate* data or hypotheses. The *conclusions* of a study with a nonexperimental design should always be viewed as *hypotheses,* not as proven facts. This circumstance, however, is likely to trouble R&D performers more than administrators of criminal justice agencies, who are accustomed to making decisions based on even less reliable and relevant information than is provided by nonexperimental designs. Some typical examples of nonexperimental designs follow.

Case Studies. A case study consists of an intensive examination of a single organization, group of people, event, procedure, or experience. The purpose of such a study is to learn as much as possible about a single case in the hope of gaining insights that may have general applicability. In a field where the state of knowledge is poor, a case study can provide valuable information. Later, when more knowledge has been accumulated, several case studies can together serve as raw data for hypothesis development.[35] Although case studies can never prove hypotheses to be true, in many instances they can prove hypotheses to be false, thereby serving as valuable guidance for future research.[36]

Surveys. Surveys are procedures for eliciting similar types of information from many sources, rather than from a single individual or organization. Usually they provide less detailed but more generalizable data than a case study. Although surveys can be used as data collection devices in a formal experiment, they are also used for exploratory information gathering—in which case they constitute a nonexperimental research design. Many techniques are used for conducting surveys, including interviews, conducted in person or by telephone, and administration of a written instrument.[37] The discussion of a major survey concerning criminal victimization appears in Chapter 6.

Cohort Analysis. A cohort consists of a group of people who have experienced the same event at the same point in time. For example, the members of a *birth* cohort were all born in the same year. A cohort could also consist of a group of ex-convicts, all of whom were released from prison the same year or month, or of a group of police officers, all of whom were members of a single recruit class.[38] The advantage of using a cohort design is that it automatically standardizes certain experiences of the study group, such as the political climate in which they lived, the administrative practices they followed, or the membership of the parole board that decided when they would be released.

Cost-Benefit Analysis. Cost-benefit analysis is a formal procedure for comparing the costs of a proposed or existing program with its economic or other—usually more intangible—benefits. Each action, service, or program component is assigned both a cost, by accounting procedures, and a benefit, by some quantitative estimation technique that permits comparisons. This type of analysis facilitates comparisons among proposed programs in a way that is useful for making and justifying policy decisions. Its major limitation is the difficulty or uncertainty of estimating the costs and benefits of social programs.

Operations Research and Systems Analysis. These methods focus on operating systems that produce an identifiable output or product. By breaking the system down into its component parts and analyzing the details of operations individually and together, it is possible to estimate the consequences of alter-

[35] For an example of research that aggregated case studies, see Robert K. Yin and Douglas Yates, *Street-Level Governments: Assessing Decentralization and Urban Services,* D.C. Heath, Lexington, 1975.

[36] See, for example, Donald T. Campbell, "'Degrees of Freedom' and the Case Study," *Comparative Political Studies,* Vol. 8, July 1975, pp. 178–193.

[37] For a discussion of various techniques, see Leon Festinger and Daniel Katz (eds.), *Research Methods in the Behavioral Sciences,* Holt, Rinehart and Winston, New York, 1953; M. H. Hansen and others, *Sample Survey Methods and Theory,* Vol. 1, John Wiley and Sons, New York, 1953; Jahoda, Deutsch, and Cook, *Research Methods,* Vol. 2, 1951; and Donald Tull and Gerald S. Albaum, *Survey Research: A Decisional Approach,* Intext Educational Publishers, New York, 1973.

[38] An excellent description of cohort designs and justification of their value has been given by Marvin E. Wolfgang, Robert Figlio, and Thorsten Sellin, who developed the technique, in *Delinquency in a Birth Cohort,* The University of Chicago Press, Chicago, 1972.

native forms of operation on resources and outcomes.[39] Systems analysis emphasizes careful explication of the problem being addressed, the objectives to be accomplished by any proposed change, the criteria to be used in determining whether one policy is better or worse than another, and the details of the alternative policies being considered.

To perform the analysis, *models* of the operating system are often constructed. These are conceptual or mathematical representations of the real world that can be manipulated to determine the likely outcome if a certain change is implemented.[40] Exact experimental designs can be applied to models in many circumstances where a real-world experiment would be impractical, costly, or time consuming. The results found by using models, however, must be validated in the real world before they can be applied with any confidence.

Evaluative Research

Nearly any experimental or nonexperimental design can be used in a study intended to determine whether a public program is accomplishing its objectives. Evaluative research for social policy is generally controversial, but it is especially so in criminal justice because of the difficulty of measuring the degree to which crime is affected by a public program.[41] A discussion of evaluative research on the effectiveness of sentencing alternatives appears in Chapter 5, Section D.

One serious problem in criminal justice research is that a large number of evaluations of public programs has been conducted without actually ascertaining whether the programs were effective or which components were most beneficial. For instance, many of the evaluations suffered from such evident methodological faults that one could be certain in advance that they would fail to test the relevant hypothesis. A common fault is the failure to collect *process* information—information that describes what the program did. If a program is not found to have had the intended effects, one potential interpretation is that there was no operational change that could have possibly affected outcomes. Another common fault is the failure to make any effort, by the use of control groups, prediction, or other means, to determine what a reasonably expectable range of outcomes would be in the absence of the program to be evaluated.

A high quality evaluation is expensive and time consuming. Indeed, it may be many times more expensive than the operational program it is designed to test. Viewed in the context of that single program, such an expenditure may appear absurd. But in the context of advancement of knowledge, this type of concentration of funds is more likely to be fruitful than the same expenditure on a large number of inadequate evaluations would be. Progress does not depend on *every* program being evaluated; in fact, with limited resources for evaluation, it may be retarded by such a practice.

Research Designs: Summary

On balance, different methods are appropriate for different research problems; research designs must be tailored to meet these various constraints and objectives. It is essential, however, that before research is undertaken, the appropriateness and feasibility of the research design be closely examined. The design should not be so rigorous or inflexible that the realities of working with subjects and criminal jus-

[39] For descriptions of these techniques, see Brounstein and Kamrass (eds.), *Operations Research in Law Enforcement*, 1976; Alvin W. Drake and others (eds.), *Analysis of Public Systems*, MIT Press, Cambridge, 1972; Edward S. Quade, *Analysis for Public Decisions*, American Elsevier Publishing Co., New York, 1975; and Richard C. Larson, *Urban Police Patrol Analysis*, MIT Press, Cambridge, 1972.

[40] For reviews of the use of models in criminal justice research, see Jan Chaiken and others, *Criminal Justice Models: An Overview*, National Institute of Law Enforcement and Criminal Justice, U.S. Department of Justice, Washington, D.C., 1976; Saul I. Gass, "Models in Law Enforcement and Criminal Justice," in *A Guide to Models in Governmental Planning and Operations*, Mathematica, Inc., October 1974; and Don Gottfredson and others, "The Utilization of Experience in Parole Decision-Making, A Progress Report," National Council on Crime and Delinquency Research Center, Davis, Calif., 1973.

[41] See, for example, Alfred Blumstein, *A National Program of Research, Development, Test, and Evaluation of Law Enforcement and Criminal Justice*, Institute for Defense Analyses, Arlington, 1968; G. B. Greenberg, "Evaluation of Social Programs," in Frances G. Caro (ed.), *Readings in Evaluative Research*, Russell Sage Foundation, New York, 1970; H. H. Hyman and C. R. Wright, "Evaluating Social Action Programs," in Caro, *Readings*, 1970; Donald T. Campbell, "Reforms as Experiments," *American Psychologist*, Vol. 24, 1969, pp. 409–429; Comptroller General of the United States, *Difficulties of Assessing Results of Law Enforcement Assistance Administration Projects to Reduce Crime*, Washington, D.C., 1974; Marcia Guttentag and Elmer L. Streuning, *Handbook of Evaluation Research*, Vols. 1 and 2, Sage Publications, Beverly Hills, 1975; Peter P. Lejins and Thomas F. Courtless, *Justification and Evaluation of Projects in Corrections*, Institute of Criminal Justice and Criminology, University of Maryland, 1973; Michael Maltz, *Evaluation of Crime Control Programs*, National Institute of Law Enforcement and Criminal Justice, Washington, D.C., 1972; Peter Rossi and Walter Williams (eds.), *Evaluating Social Programs*, Seminar Press, New York, 1972; Edward A. Suchman, *Evaluative Research: Principles and Practices in Public Service and Social Action Programs*, Russell Sage Foundation, New York, 1967; Joseph Wholey, *Federal Evaluation Policy*, The Urban Institute, Washington, D.C., 1970; and Joseph Wholey and others, *Analyzing the Effects of Public Programs*, The Urban Institute, Washington, D.C., 1971.

tice organizations are ignored or underestimated, nor should practical obstacles result in essential scientific procedures being omitted.

Recommendation 2.6: Research Designs for Criminal Justice R&D Projects.

Research designs for criminal justice R&D projects should be justified with respect to their practical and methodological appropriateness. If there is a choice among alternative designs that are approximately equivalent in their feasibility, cost, and length of time required for completion, the most rigorous design should be chosen.

1. R&D-funding agencies should commission a separate feasibility study before funding any lengthy research project for which selecting an appropriate design is a complex question.

2. R&D-funding agencies should assure that the funds budgeted and time allocated for R&D projects are adequate to support an appropriate research design. The funding level and completion date of an R&D project should not be set by a fixed formula related to the size and duration of a nonresearch award, such as an action or demonstration project.

(Recommendation 5.3 discusses designs for research on criminal justice organizations.)

Recommendation 2.7: Justification of Research Designs.

Descriptions of proposed research designs should include, in at least rudimentary form, a comparison of the selected design with possible alternatives and, where applicable, an indication of the methods to be used to overcome the inherent weaknesses of the selected design. R&D-funding agencies should require such information about research designs in all proposals for new research projects.

(Recommendation 5.3 discusses justification of designs for research on criminal justice organizations.)

Validation

Validation is the process of demonstrating convincingly that a hypothesis is correct, or of refining a hypothesis so that it states the circumstances under which it is correct. Rarely, if ever, can this be accomplished by a single research project. Once a particular study has indicated that a hypothesis is correct, later work can validate that conclusion. Accepted methods of validation include: (1) reanalysis of the data, using the same or different techniques, (2) repetition of the research at another location (*replication*), and (3) testing the same hypothesis using a different or improved research design.

Even in the physical and biological sciences, where a "fact" discovered in one laboratory is presumably true anywhere in the world, research findings are never fully accepted until they are replicated. Instrumentation errors, statistical fluctuations, purposeful distortion of results, or failure to control for external influences may lead to findings that will be invalidated by later studies. The possibilities for erroneous data or incorrect interpretation are even greater in criminal justice research; validation studies, therefore, can be considered even more desirable.

In addition, however, criminal justice agencies and jurisdictions are so widely varied in their legal, administrative, socioeconomic, and other characteristics, that a study based on data from one site, even if correct, may not be applicable elsewhere. Thus, repeating approximately the same study at another time or place can help to determine which of the original findings have general validity.

Despite the compelling need for validation studies, few are ever conducted in nontechnological fields of criminal justice R&D. This is partly because the obstacles to validations are even stronger than the arguments in favor of them. The primary obstacles are:

- **Professional Development.** Little professional esteem is attached to the process of repeating someone else's study. Indeed, the author of a paper that validates a previous study may experience difficulty in finding a journal that will publish the results. Well-established, reputable researchers are not likely to advance their careers by conducting a replication, and there is no recognized stage in the early training of criminal justice researchers when validation studies are supposed to be conducted.
- **Lack of Complexity in Technique.** In the physical and biological sciences, researchers may conduct exact replications of previous studies to master various research techniques and calibrate instruments before proceeding to new research. These advantages seldom exist in nontechnological criminal justice research.
- **Design Faults.** Few, if any, criminal justice studies are so well-designed and conducted that no improvements could be made. Even the original researcher will readily admit that aspects of the study should have been conducted differently. In such circumstances, it is folly to repeat the errors of the past, and therefore an exact replication is not recommended. However, introducing changes in the research design may result in the findings of the validation study being different from those of the original study, and yet both may be correct. A modified

replication may thus fail to answer the question that it was originally intended to answer.

- **Unfavorable Climate.** If the conclusions of the original study are negative, they may effectively prevent establishing a favorable climate for repeating the study in any other location. For example, the study might have been facilitated by the desire of a district attorney to institute a reform in plea bargaining practices that he believed would save money and expedite cases. If, however, the study showed that the reform was too expensive, increased congestion in the courts, and resulted in a larger number of prosecutions of innocent persons, it would probably be impossible to persuade another prosecutor to institute a similar reform for the purpose of validating the original study, even if the study was believed to have suffered from errors in data collection.
- **Interjurisdictional Differences.** Differences among agencies and jurisdictions are in fact so large that similar findings in a small number of studies may not be considered any more generally valid than the findings of a single study. Indeed, it is presumably possible to analyze certain characteristics of the prison population in three States and still have corrections officials in the other 47 States deny that the results are applicable to their own inmates.
- **Tradition.** The lack of a tradition of validations in criminal justice research is in many ways self-reinforcing because researchers do not perceive any need to document their methodology in sufficient detail to permit later validations.

In spite of these obstacles, renewed attempts to encourage validation studies should be made. For instance, some studies can be replicated at low cost by newcomers to criminal justice research, such as students in master's degree programs and inhouse planners in criminal justice agencies, or by established researchers at the start of larger projects. R&D-funding agencies should make provisions to support these inexpensive validation studies, encouraging unsolicited proposals that require a minimum of paperwork. Whenever feasible, these proposals should be reviewed by the author(s) of the study being validated. Such review will assure that funded proposals are faithful validations and permit the original author(s) to suggest changes or corrections and to provide additional documentation—such as survey instruments or computer programs. In addition, informing the original author(s) that a validation is to be conducted is useful in itself, because inquiries concerning whether a study has been replicated are ordinarily directed to him. At present, the original author(s) are often unaware of validations.

Research journals could also recognize the value of validation studies and provide space for brief articles describing the results of such studies. Grant awards for validation research should require that a written description of the results be submitted for publication in a research journal or in a series of monographs, which the R&D-funding agency might establish specifically for validations.

Recommendation 2.8: Validation Studies.

Research projects intended to validate previous research play an important role in the advancement of knowledge. Validation studies should be encouraged as initial steps of larger studies and should be funded as separate projects in greater numbers than in the past. Validations should be carefully designed and reviewed, however, to determine whether there are serious obstacles to successful completion. When few obstacles are present, as in small-scale validations, procedures should be available for funding and publishing such studies expeditiously.

1. In order to facilitate validation studies, R&D-funding agencies could require that R&D projects be documented in a form that permits validation.

2. Data used in a research project could be made available to other researchers, within existing confidentiality constraints.

(Recommendation 2.9 discusses comparative research, which provides some of the same benefits as validation studies. Recommendation 2.11 describes a data archive that could store data collected by one researcher so that they are readily available to others.)

Comparative Research

The two major types of comparative research are cross-program analysis and cross-cultural comparisons.[42] The latter often involves international studies or groups of studies, but many of the reasons for favoring such research apply equally well to studies that cut across States and local jurisdictions within the United States. As previously described in the discussions of validation studies, there are obstacles to repeating prior research for the purpose of determining its applicability to other jurisdictions. Comparative research avoids many of these obstacles because all of the selected sites can be studied simultaneously. More important, however, is the explicit focus of comparative research on identifying and

[42] See Benedict Alper and Jerry Boren, *Crime: International Agenda*, Lexington Books, Lexington, 1972; Marshall Clinard and Daniel Abbott, *Crime in Developing Countries: A Comparative Perspective*, Wiley-Interscience, New York, 1973; J. C. Meyer, "Methodological Issues in Comparative Criminal Justice Research," *Criminology*, Vol. 10, 1972, pp. 295–313; and Carol H. Weiss, *Evaluation Research*, Prentice-Hall, Englewood Cliffs, 1972.

explaining differences among selected sites. This aids in the development of theory that permits anticipating the circumstances under which findings or programs in one jurisdiction will or will not be applicable elsewhere. When comparative research focuses on criminal justice organizations, it helps to identify practices that have been tested and found successful in one legal or cultural context and that may provide workable solutions to problems elsewhere.

Recommendation 2.9: Comparative Research.

R&D-funding agencies should place greater emphasis on comparative research among local jurisdictions, States, and countries than they have in the past. Restrictions on funds for foreign travel should be waived in the case of comparative studies whose research design includes a persuasive justification for selection of sites in several countries rather than in several jurisdictions within the United States.

(Recommendation 2.8 discusses validation research, which in some instances is an alternative to comparative research.)

F. DATA RESOURCES

Complaints about the quality and quantity of data concerning criminal justice research topics have been voiced for many decades—at least since the 1931 National Commission on Law Observance and Enforcement (the Wickersham Commission).[43] Although many of these complaints are still valid, in recent years the reverse problem has begun to arise. Criminal justice agencies have been overwhelmed with data collection efforts, and much of the information already collected remains unused by researchers. The difficulty of knowing what data exist, the geographical dispersion of resources, problems of access, and questions of validity and suitability for research all lead to a continued preference by researchers to collect new data for each project.

Ralph Bisco has estimated that collecting new data typically costs 15,000 times as much as obtaining a copy of appropriate, preexisting data.[44] A rapid and inexpensive means for determining whether suitable data exist, however, is rarely possible. The researcher who is preparing a research proposal ordinarily does not have adequate resources to conduct a comprehensive search for available data and cannot be certain that such a search would prove fruitful later. Therefore, the researcher must either plan to collect the required data or avoid addressing those research questions for which data collection will be too complex or costly.

Primary data collection provides many advantages to the researcher. He or she can personally exercise control over the sampling design, the quality of the data, and their interpretation. In many instances, practitioner agencies with the most advanced information systems may not be typical of other agencies lacking such systems. Therefore, using data simply because they are available may lead to nonrepresentative conclusions. In other instances, researchers may believe that current data will reveal different patterns from those present in older data. For these and many other reasons, data collection by researchers will continue, whatever the improvements in criminal justice data resources.

For the many research projects that require or can properly use previously available data, a distinction can be made according to the level of aggregation of the data. The difficulties in obtaining summarized and aggregated statistics, especially at the national level, are substantially different from those in obtaining previously collected individual records.

Summarized Data and Statistical Abstracts

The National Criminal Justice Statistics and Information Service (NCJSIS) engages in a major effort to compile and disseminate statistics and other information related to criminal justice. One of its annual publications, *Sourcebook of Criminal Justice Statistics,* reproduces tabulations of data from many

[43] See, for example, Albert D. Biderman and Albert J. Reiss, Jr., "On Exploring the 'Dark Figure' of Crime," *The Annals of The American Academy of Political and Social Science,* Vol. 374, November 1967, pp. 1-15; Donald R. Cressey, "The State of Criminal Statistics," *National Probation and Parole Association Journal,* Vol. 3, 1957, pp. 230-241; Gloria Countvan Manen, "Use of Official Data in the Evaluation of Crime Control Policies and Programs," in Emilio Viano (ed.), *Criminal Justice Research,* D. C. Heath, Lexington, 1975; Peter Lejins, "Uniform Crime Reports," in Simon Dinitz and Walter Reckless, *Critical Issues in the Study of Crime,* Little Brown and Company, Boston, 1968; Peter Lejins, "National Crime Data Reporting System: Proposal for a Model," Appendix C in *Task Force Report: Crime and Its Impact—An Assessment,* President's Commission on Law Enforcement and Administration of Justice, Washington, D.C., 1967; Michael D. Maltz, "Crime Statistics: A Mathematical Perspective," *Journal of Criminal Justice,* Vol. 3, 1975, pp. 177-194; Elinor Ostrom, "The Need for Multiple Indicators in Measuring the Output of Public Agencies," in Frank Scioli, Jr., and Thomas Cook (eds.), *Methodologies for Analyzing Public Policies,* Lexington Books, Lexington, 1975; Wesley G. Skogan, "Measurement Problems in Official and Survey Crime Rates," *Journal of Criminal Justice,* Vol. 3, 1975, pp. 17-32; and Marvin E. Wolfgang, "Uniform Crime Reports: A Critical Appraisal," *University of Pennsylvania Law Review,* Vol. 11, 1963, pp. 708-738.

[44] Ralph L. Bisco (ed.), *Data Bases, Computers, and the Social Sciences,* Wiley-Interscience, New York, 1970.

diverse sources and directs the reader to the original publications.[45] An indication of the diversity of baseline statistics needed by criminal justice R&D performers and by practitioner agency personnel is given by the categories presented in the *Sourcebook:*

- Characteristics of the Criminal Justice System;
- Public Attitudes Toward Crime and Criminal Justice-Related Topics;
- Nature and Distribution of Known Offenses;
- Characteristics and Distribution of Persons Arrested;
- Judicial Processing of Defendants; and
- Persons Under Correctional Supervision.[46]

For many of the topics, the most complete and reliable data are collected by the Federal Government; the data, however, only cover persons charged with Federal offenses and processed by Federal judicial and correctional agencies. These persons constitute a small, nonrepresentative group of offenders.

The difficulties in obtaining aggregate national statistics are not so simple that supporting new compilation efforts will solve the problem. The data may not be collected at the State or local level in the first instance, and, if they are, reporting to some central agency must in general be voluntary. Even the National Prisoner Statistics Program, which has been operational since 1926, had achieved participation from only 33 States by 1970. In addition, as will be discussed in Chapter 5, differences among States in legislation and in definitions of sentencing terms make aggregations and cross-comparisons a risky, if not meaningless, activity.

For topics where suitable data have been collected, the data may not cover a sufficiently detailed time series or may simply not be up to date. In addition, much data are not available in a computer-readable form. As a result, many different researchers end up keypunching the same data—a process that is subject to error and wasteful of resources. LEAA is cognizant of most of these problems and appears to be taking the appropriate steps to resolve them. This report endorses those efforts.

Recommendation 2.10: Compilation of National Baseline Data.

The compilation and dissemination of baseline criminal justice statistics play an important role in the progress of research. Current efforts by Federal criminal justice agencies to make such statistics more generally available, and in more useful form, should continue. State and local agencies should cooperate with programs to collect and compile national baseline statistics.

(Recommendation 2.11 describes a data archive that could compile and publish baseline statistics.)

Data Collected by Criminal Justice Agencies and Researchers

Data collected by criminal justice agencies for operational purposes can often be useful for research. In addition, data collected by one researcher can be useful to another researcher for purposes of replicating the original work, testing mutual consistency among several sources of data, or conducting analyses not intended by the original researcher. Currently, there are substantial obstacles to researchers' obtaining the data from either of these sources.

Locating Data. Data files of possible value to criminal justice researchers are held in thousands of locations. Researchers have considerable difficulty in identifying organizations that might have relevant data.

Access. Once a suitable data file has been located, the researcher may be denied access or may have to engage in lengthy negotiations to obtain a copy. The holder of the file may consider it too sensitive to be released in any form, or legal restrictions may prevent its release. In other cases, the holder may plan to conduct his or her own further analysis with the file and, having invested resources in its collection, is unwilling for competitive reasons to share it with others. Requests by researchers to obtain copies of these files may be rejected as potentially leading to unnecessary duplication of efforts, or they may be discouraged by requiring payment of an exorbitant fee.

Validity and Reliability. The holder of the file may be unable to document the conditions under which the data were collected—including the instructions given to those who filled out the data forms, the procedures used to audit the data's accuracy, or the editing performed on the file. Alternatively, these practices may have been documented but appear inadequate for the researcher to trust the quality of the data or to know how each record in the file should be weighted to estimate statistics for the group from which the sample was taken. As Angus Campbell noted, "The techniques of probability sampling

[45] Michael J. Hindelang and others, *Sourcebook of Criminal Justice Statistics: 1974*, National Criminal Justice Information and Statistics Service, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, D.C., 1975. A limitation of this work, acknowledged by its authors, is that its aim is not to compile and aggregate data from individual States and localities, but rather to present data that have already been compiled by coordinating agencies. However, in so doing, gaps in available data are noted and identified, so that future compilation efforts can be directed where most needed.

[46] Hindelang and others, *Sourcebook*, 1975.

have been known for nearly 20 years, but they are rarely applied." [47]

Interpretation. The definitions of ambiguous terms used during data collection, such as "previous criminal offender," may, upon close inspection, turn out not to be what the researcher needed, or may have been left undefined so that the researcher cannot interpret the responses.[48] Researchers and operating agencies commonly fail to document the specific meaning of missing-value codes and other special notations that a secondary user may find in the file. (The preparation of a complete codebook that explains all the possible entries in a file, in a form that an outsider can understand, is ordinarily time consuming and for the most part unnecessary for the original user.) In addition, the meanings of codes used in data files may change from time to time, as for example geographic boundaries, administrative divisions, or the definitions of crimes. The holder of a data file may have retained only the latest version of codes, having himself completed whatever processing of older files had been needed.

Completeness. Aside from problems of missing items, data files may fail to indicate information they once contained. In particular, files maintained by operating agencies are typically useful to them only if they are kept up to date. During the updating process, information on the current status of a case may replace outdated information; the outdated information is then irretrievably lost. A researcher who is interested in tracking the sequence of events in a case may be unable to do so, even though the coding manuals suggest to him that the data were once recorded.

Form of the Data. Large quantities of data are collected but never converted into a computer-readable form. Even fairly elaborate tabulations of records are sometimes performed by collating manual records. For a researcher to obtain such records can be approximately equivalent, in terms of cost and difficulty, to primary data collection and can never be as satisfactory in terms of quality control.

When data are keypunched, the codes may obscure distinctions that were present in the original record. For example, the age of an arrestee may be coded as juvenile or adult. The open-ended textual response may be coded as favorable, unfavorable, or neutral on the computer-readable file. The original data instrument may no longer be available, having been destroyed to save storage costs or to protect confidentiality. Primary users may also destroy computer-readable files, because they cannot be expected to incur costs on behalf of unknown potential secondary users. Finally, concern for the privacy of individuals prevents the transfer of records having personal identifiers. Such restrictions cause the matching of two files having information about the same individual to be a complex and potentially costly operation.[49]

Techniques for Matching Files. There are several techniques for matching two or more files without violating confidentiality conditions. Using one technique,[50] data on one file are encyphered—except for identifiers—and are then sent to the holder of the second file, who matches the files, strips the identifiers, and returns the unidentified matched records to the originator. Such a procedure relies on a trust between the two parties, because the originator could encode personal identifiers along with the rest of the data, or the data themselves may be sufficiently differentiated to permit unique identification of each individual from the decoded data.

In a variant less subject to corruption, the data on the first file are encoded in a consistent manner for all individuals, or the individuals are coded as belonging to subgroups whose meaning is not specified. The recipient of the coded file not only matches the two files but also performs all the tabulations and statistical analyses desired by the originator. The originator then receives only aggregate information for subgroups.[51] This method is suitable only for fairly simple statistical analyses. For example, a multivariate linear regression is difficult if not impossible unless the data are encoded by linear transformation—which may be inadequate to disguise its interpretation. The method also requires a degree of trust because sufficiently detailed statistical summaries (especially in combination with other published reports using the same data base) can be processed to reveal the characteristics of individuals.[52]

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[47] Angus Campbell, "Some Questions About the New Jerusalem," in Bisco (ed.), *Data Bases*, 1970.

[48] Other problems associated with inadequately defined terminology are discussed in Chapter 5.

[49] See, for example, Robert F. Boruch, "Maintaining Confidentiality of Data in Educational Research: A Systematic Analysis," *American Psychologist*, Vol. 26, 1971, pp. 413-430; Robert F. Boruch, "Strategies for Eliciting and Merging Confidential Social Research Data," *Policy Sciences*, Vol. 3, 1972, pp. 275-297; D. Campbell and others, "Confidentiality-Preserving Modes of Access to Files and to Interfile Exchange for Useful Statistical Analysis," Appendix A of Rivlin and others, *Protecting Individual Privacy in Evaluation Research*, Committee on Federal Agency Evaluation Research, National Research Council, National Academy of Sciences, Washington, D.C., 1975.

[50] R. D. Schwartz and S. Orleans, "On Legal Sanctions," *University of Chicago Law Review*, Vol. 34, Winter 1967, pp. 274–300.

[51] For a higher degree of confidentiality protection, the recipient may randomly omit one individual in each subgroup.

[52] See, for example, Morris H. Hansen, "Insuring Confidentiality of Individual Records in Data Storage and Retrieval for Statistical Purposes," American Federation of Information Processing Societies (AFIPS) Conference Pro-

A difficulty with both of the techniques mentioned above is that the agency holding the confidential file may not have the technical expertise or computer software required either to match and merge files or to perform statistical analyses. Or, the agency might not consider it proper to perform services for researchers, whether reimbursed for its expenses or not.

For these reasons, techniques that Robert Boruch calls *brokerage models*—in which an independent third agency performs the necessary processing—can be used.[53] A secondary benefit of brokerage models is that the broker may be able to work with unencyphered data, thereby relieving the originator of the need to decode statistical summaries sent to him. If both parties believe that the broker has no interest in the information in the files, they can agree to a common code for personal identifiers and leave the data unmodified. The broker then receives records from both parties; these contain no personal identifiers but can nonetheless be matched by the common code. The broker then provides either the stripped merged file or statistical summaries from the merged file to the researcher.

Data Archive

As partial response to some of the difficulties noted in the previous subsection, the development of a data archive for criminal justice R&D is under active consideration by LEAA.[54] The following is a list of primary functions that could be served by a data archive—most of which are already under consideration by LEAA:

1. **Storing Files.** The archive can store files of potential or known research value for use by researchers. This not only relieves the original holder of storage expenses, but also assures that data are secure from destruction or loss, and are thus available when needed by others.

2. **Receiving Codes and Formats.** Files not held at the data archive can nonetheless be made available to researchers if the archive stores information about the content and location of the file. Computer-readable files containing descriptions of formats and codes can be searched to determine what organizations hold files containing data of potential value to the researcher. For example, a researcher who wishes to know which police departments code their crime incident reports according to the census tract of occurrence and race of victim could search a format/code file to provide this information. Determining the location of a suitable file does not necessarily eliminate access problems for the researcher, because many agencies may still have to be contacted individually.[55]

3. **Cleaning and Updating.** This activity has been described by the editor of *Social Sciences Information* as follows:

> Data and documentation come to an archive in varying degrees of 'cleanness.' Archive staffs ordinarily check information they acquire to determine whether data, codebooks, and ancillary information agree. One basic reason is simple self-protection: to prepare in advance, and one time only, answers to questions that users inevitably raise about discrepancies. When an archive staff has access to original source records, it may examine data for codes not described in codebooks, and inconsistencies and illogical relations among variables. . . . Cleaning is usually complex, and often involves extended communication by mail and telephone with the data collection organization. Clearly, the data supplier does not want to provide the same kinds of information to hundreds or thousands of individual users of a given data set. Similarly, it is wasteful for hundreds of individual users of a data set to duplicate operations that a central organization, such as a data archive, can perform.[56]

Even after cleaning, users may discover errors that lead to the updating of the file. More recent information about the individuals or organizations described in the file may also be added from time to time. This possibility argues for an arrangement

[52] Continued
ceedings, Fall Joint Computer Conference, 1971; L. J. Hoffman and W. F. Miller, "Getting a Personal Dossier From a Statistical Data Bank," *Datamation*, May 1970, pp. 74–75.

[53] Boruch, "Strategies for Eliciting and Merging Confidential Social Research Data," 1972.

[54] Richard C. Roistacher, "Concept Paper for a Research Support Activity and Data Archive for Criminal Justice Research and Planning," University of Illinois, 1976. The idea of a national data archive is not new and has been discussed in the context of a Federal statistical data center by Raymond T. Bowman, "The Idea of a Federal Statistical Data Center: Its Purpose and Structure," in Bisco, *Data Bases*, 1970, pp. 63–69 and in the context of law enforcement in *Federal Statistics: Report of the President's Commission*, Washington, D.C., 1971.

[55] As an example, Search Group, Inc., operates a multi-State network of criminal justice offender records that integrates police, prosecution, court, and correctional offender data. The records are maintained according to a common format and code structure. The totality of information available through the Search system about a sample of individuals might be of interest to researchers studying recidivism or interstate travel of criminal offenders. However, custody and control of the information in the file remains with the originating criminal justice agency, which has the right to decide whether access to the file will be permitted for a specified research purpose; see Project Search, *Model Administrative Regulations for Criminal Offender Record Information*, Section 11, "Research Use of Criminal Offender Record Information," Technical Memorandum No. 4, Search Group, Inc., Sacramento, 1972. Because no central organization can authorize access to the file for research purposes, and the decisions of one agency are not binding on any of the others, a lengthy process of negotiation would be required if a researcher wanted to analyze multi-State data from this single system.

[56] Quoted by Bisco, *Data Bases*, 1970, pp. 5–6.

whereby users can have access to the file at the data archive, rather than have their own copy, so that the latest version is readily available.

4. **Combining Files.** The archive could merge files from several sources if such a merger has advantages for many users. Performing this function requires that the archive acquire, at least temporarily, possibly sensitive records with direct personal identifiers. The archive also can provide the technical expertise to advise users on methods for merging files with sensitive information, or it can itself serve the brokerage function described above. It can assemble files from all the States and generate, in computer-readable form, summary national statistics needed as baseline data.

5. **Providing User Services.** The archive can perform statistical analysis or provide access to software packages that process the data held in files at the archive. It can provide consulting services for users having difficulty with either the data or the analysis packages. It can also provide copies of data sets in a form that can be read by the user's computer system.

6. **Establishing Standards.** The archive could help to develop uniform data collection and coding practices by establishing standards for files that would be accepted by the archive. Simple matters such as fixed codes to be used for male and female, recording age and/or year of birth rather than age categories when the information is available, and so forth, can greatly aid the interchange of information among researchers. Standardized definitions of terminology can be established for files to be maintained at the archive. For data that appear potentially sensitive, the archive can establish standards for handling the data that must be met before the file will be released to a user.

Even with all the potential benefits of a data archive, there are ample reasons to be concerned about invasion of privacy when a central archive is devoted to criminal justice information.[57] Indeed, most proposals for a Federal statistical archive have suggested that it not contain any data of the very types that would be especially useful for criminal justice researchers, e.g., offender-based transaction files, investigatory information, and the like. If at any time the archive receives files having personal identifiers, there is a possible threat to privacy. Although there are no plans for the archive now being contemplated by LEAA to contain records with personal identifiers, some of the potential functions noted above could not be performed by an archive thus restricted.

One method that can be used to discourage nonresearch interrogation of archive files is for the archive to retain and update only small samples from the sensitive files it receives. The Social Security Administration has successfully used this method to provide researchers with access to continuously updated work histories of a sample of the population. In general, the increased threat to privacy from centralized, as opposed to decentralized, data archives arises from the fact that a record on a particular individual could be located at a central archive with much less effort than would be required to interrogate many files.[58] Retaining only samples of files, however, reduces the probability of finding any information at all about a selected individual at a central archive and therefore decreases this threat.

Under the sampling concept, organizations holding offender-based transaction files might be willing to arrange for a continuously updatable subfile to be maintained at the data archive. Such a file could then be made available to researchers without requiring them to negotiate for access with each of the custodians of the original data.

On balance, this report believes that a data archive, solely for purposes of aiding criminal justice research and preparing statistical reports, can be established under conditions adequate to safeguard the rights of individuals. This report endorses the present exploration of the feasibility of such a data archive.

Recommendation 2.11: National Criminal Justice Data Archive.

A national criminal justice data archive should be established to serve research and statistical needs. In establishing the archive, appropriate consideration should be given to the types of data that should be maintained and to legal safeguards for individual privacy along the lines provided to other data centers, such as those of the U.S. Internal Revenue Service, the Social Security Administration, and the Census Bureau.

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[57] See, for example, V. Countryman, "The Diminishing Right of Privacy: The Personal Dossier and the Computer," *Texas Law Review*, Vol. 49, 1971, pp. 837–871; A. R. Miller, *The Assault on Privacy, Computers, Data Banks, and Dossiers*, University of Michigan Press, Ann Arbor, 1971; Project Search, Committee on Security and Privacy, *Security and Privacy Considerations in Criminal History Information Systems*, Technical Report No. 2, California Crime Technological Research Foundation, Sacramento, 1970; Rivlin and others, *Protecting Individual Privacy*, 1975; U.S. Senate, Judiciary Committee, Subcommittee on Constitutional Rights, *Criminal Justice Data Banks*, Washington, D.C., 1974; and Alan F. Westin, *Privacy and Freedom*, Atheneum, New York, 1967.

[58] This presumption has been challenged by Rein Turn and others, "Privacy and Security in Centralized vs. Decentralized Databank Systems," *Policy Sciences*, Vol. 7, 1976, pp. 17–29.

1. Current efforts by LEAA to develop and to test potential functions of such a data archive should be encouraged.

(The data archive should specify procedures for protecting sensitive data files it provides to researchers in accordance with Recommendation 2.3.)

G. PUBLISHING, PUBLICITY, AND DISCLOSING R&D RESULTS

Publication

The final step in most R&D projects is to describe in writing the nature of the work and its findings. Although written communication may not be an effective means of conveying research findings to influence changes in criminal justice practice (a problem that is discussed in the next chapter), it is an essential component of research. Indeed, completed R&D that has not been described in writing can be viewed, for many purposes, as not existing at all. It cannot be subjected to critique or tested against alternative explanations, subsequent R&D cannot build upon it, and no one can take action based on its purported findings with any degree of confidence.

In most instances there are only two parties concerned with the process of publishing the findings of an R&D project—the R&D performer and the R&D-funding agency. When the project involves cooperation with criminal justice practitioner agencies, these host agencies also will be interested in the disclosure of results, whether or not they also funded the work.[59] The interaction between R&D performers and practitioner agencies in matters concerning publication of findings involves subtle ethical and practical issues that occasionally lead to conflicts. These conflicts can be minimized if each party understands the point of view of the others and makes explicit agreements specifying the guidelines that each intends to follow, before work begins.

Publication of Findings Concerning Organizations. An ethical problem common to all social science research on organizations is the possibility that findings will be embarrassing to the organization studied, or will have political overtones. The future careers of individuals who hosted, funded, or cooperated with a researcher may be threatened by the study's conclusions. Here the dilemma of publishing findings is particularly acute, because disguising the identity of agencies and individuals may be a practical impossibility if the locale of the study is common knowledge or can be easily inferred.

As Howard Becker has commented, a certain amount of whistle-blowing is inherent in publishing any study of organizations. First, organizations "are inherently differentiated and the interests of subgroups differ. The scientific report that pleases one faction and serves its interests will offend another faction. . . ." Second, "trouble occurs . . . because what the social scientist reports is what the people studied would prefer not to know, no matter how obvious or easy it is to discover."[60]

The *first* organization studied in a given context is especially susceptible to criticism. Almost inevitably, the organization will be found to deviate from common expectations of propriety, effectiveness, or other qualities. There is a tendency to challenge the findings by imputing that the particular organization studied has a greater degree of deviance than is the norm, when it may actually be average or better than average in this regard. One method for avoiding this outcome, and at the same time enhancing the opportunity to disguise the identity of individuals involved in a specific observation, is for the researcher to study several organizations simultaneously. Such a methodology, however, is not always practical.

Availability of Publications. The process of publishing transcends merely preparing a written description of the research. A published study can be located through a bibliographic search; the researcher does not have to rely on personal contacts or word of mouth. All too many criminal justice research studies, however, are only made available to selected individuals. Others may be available to anyone who requests (or purchases) a copy, but they are not published. In addition, publication in certain media, notably research journals, indicates that a research article has been subjected to a process of refereeing. This provides the reader, especially one who is not knowledgeable in the field, with at least a rudimentary guarantee of quality, because the paper has been reviewed by an independent expert and found to be worthy of publication. For the most part, refereed papers can be assumed to be of higher quality than privately circulated manuscripts. Many researchers

[59] A criminal justice agency may be the subject of a research study and thereby acts as a "host agency" for the study. Such a study may be sponsored by an external R&D-funding agency (e.g., a Federal agency), or by the criminal justice agency itself, in which case the host agency and the R&D-funding agency are synonymous. For related discussions of the relationship between researchers and host agencies, see Chapter 5, Section F.

[60] Howard S. Becker, "Problems in the Publication of Field Studies," in Arthur J. Vidich and others (eds.), *Reflections On Community Studies*, John Wiley and Sons, New York, 1964. Also see J. Baines, "Some Ethical Problems in Modern Fieldwork," in William Filstead (ed.), *Qualitative Methodology: Firsthand Involvement with the Social World*, Markham Publishing Company, Chicago, 1970.

have been compelled to rework their data or make major revisions to a manuscript in response to referees' comments.

Publication and Confidentiality. One dilemma that can easily produce conflict if not resolved in time is deciding whether the findings of the research should be published or whether the sources of information should be kept confidential. Some practitioner agencies may not be informed about the central role played by publication in the advancement of knowledge; in particular, they may not realize that many R&D performers consider a decision not to make findings publicly available a matter of unethical conduct. For criminal justice personnel, who are accustomed to handling sensitive information protected from public disclosure by law, the practice of keeping analyses, plans, and data tabulations confidential may seem entirely natural. To them, a researcher's desire to publish his or her results may appear anomalous, and the time and money spent preparing publications may seem wasteful.

Agency officials who work with researchers must understand the distinction between sensitive data on the one hand, which ethical researchers will protect from disclosure, and the findings from analysis of such data on the other, which the researcher will wish to publish in the interest of society as a whole. Indeed, the researcher's desire to protect data about individuals is often very strongly self-motivated.

For example, a researcher may have interviewed or observed a sample of criminal offenders or agency employees, thereby obtaining information that, if provided to the agency, would lead to legal or administrative action against certain individuals. If the researcher released such information, he would violate the assurance of confidentiality given to the subjects of the study and also threaten access by all researchers to similar information in the future. Researchers primarily view the maintenance of confidentiality as an ethical matter, but in addition, as Paul Nejelski and Lindsey Lerman point out, "if he does reveal the identity of individual informants, the research will soon be out of business." [61]

When research is funded by a criminal justice agency, the researcher may have considerable difficulty in persuading subjects of the research that their confidences will be respected. The agency should be sensitive to the circumstances under which this problem may arise and avoid funding research when its interest in the sensitive data exceeds the value of any general findings that may be produced. For example, a prison administrator who sponsors or cooperates with a study of assaults among inmates in his institution must be convinced in advance that understanding the general patterns and circumstances of assault is more important than reporting on the behavior of particular inmates sampled by the researcher.

Individual Accountability. All reports are written by a person or group of persons—not by an organization. The practice of omitting or obscuring the names of those who conducted the R&D on written reports is deleterious to the advancement of research and should be avoided under all circumstances. Similarly, administrators should not claim authorship of publications written by their employees. Quality research is obtained by assigning the responsibility and the recognition for research to those who did the work.

Whenever R&D reports appear under the name of an organization, rather than under the names of authors, there are many negative ramifications. R&D-funding agencies may believe that they enhance the reputation of a piece of research when they publish it as if it were the product of the agency, but the exact opposite is true. The possibility that the agency may have revised or rewritten the report dilutes the presumed validity of the findings and may cause some researchers to be reluctant to read it, cite it, or base further work on it. In addition, it is difficult for anyone to ask questions of an unauthored work or to obtain further details about it. This is particularly true several years after its publication. If a report appears to have been "written" by an agency, there may be no one at the agency who knows anything about the study several years after its publication.

Finally, the author of the improperly attributed study has no way of updating or correcting the findings. If he or she publishes a report that disagrees with the earlier one in certain particulars, it is impossible for the reader to determine whether the second report is a correction of the earlier publication, or whether it indicates that two researchers disagree with each other. Few occurrences are more frustrating to researchers than to have their old, incorrect findings cited in an argument against their latest work. Although this can happen inadvertently, even when reports are attributed, it is much more likely to occur in the case of unattributed reports.

Recommendation 2.12: Citations of Authorship for Research Reports.

All reports of criminal justice research should indicate the name(s) of the author(s) and, when applicable, their institutional affiliation.

[61] Paul Nejelski and Lindsey Miller Lerman, "A Researcher-Subject Testimonial Privilege: What to Do Before the Subpoena Arrives," *Wisconsin Law Review*, 1971, pp. 1085–1148.

Avoiding Restrictions on Publication

A research study that is incompetent or does not add to knowledge should not be published; other arguments against publication, even if they appear compelling, should be avoided whenever possible. In particular, R&D-funding agencies should not exercise restraints on publication for reasons other than quality control and assuring compliance with legislation concerning copyrights and privacy.

Practitioner agencies, by contrast, may have legitimate cause to be concerned with the form, content, or timing of publications. One common concern is that the data or observations are sensitive, and public disclosure presents unacceptable risks to the criminal justice agency. Researchers may have difficulty believing that criminals read research reports to learn the details of police operations, but police officers can describe personal experiences where this has happened. In such situations, the data can often be desensitized by disguising descriptors, such as exact locations or times of day, or by presenting summary statistics rather than complete tabulations. In these cases, the form of documentation that is most useful for the agency (e.g., containing operational details) differs from the form suitable for publication, and some rewriting is required. R&D-funding agencies should recognize the value of rewriting and subsequent publication to other researchers, and they should allow funds for this purpose. Federal R&D-funding agencies, in particular, should make appropriate provision to insure that the research they sponsor is not restricted in circulation to one or a small number of local agencies.

Another reason for not publishing occasionally comes from the fact that some researchers and agencies value implementation and policy impact highly. They argue, often correctly, that the chances of impact are enhanced if the findings are not published.[62] Agency administrators may be able to accept and act upon critical advice when it is presented in private, but if the same information were presented in public, they would be forced to deny its validity and resist any changes. These problems can sometimes be resolved by delaying publication rather than by suppressing it. Once an agency has taken action or determined its plan of action, publication may not pose difficulties. Such publications are of value to researchers interested in the implementation process, as well as to those interested in the findings.

An entirely separate reason for not publishing the policy implications of a study is that the researcher does not wish to make the implications explicit. Some research journals, because of conservatism or space considerations, also will not publish the policy implications of research. One purpose in avoiding policy statements is to maintain the objectivity of the researcher and prevent him from being viewed as an advocate of either side of a controversial issue. Advocacy carries the danger that future access to information will be denied by those opposed to the researcher's stated position. However, an argument in favor of the author's stating the policy implications of his work is that, if he doesn't, *someone else* will draw such implications from the research. Those who conducted the work are in a better position than anyone else to know the limitations of their data and research design; they are the best judges of the types of implications that are unsupported by their findings.

No general rules can be specified concerning the appropriate content and timing of research publications. These are matters for the researcher's judgment or for agreement between the researchers and host agencies, funding agencies, and subjects of the research. However, when all parties concerned have agreed to release research findings, governmental regulations should not prevent publication or restrict the form of the publication.

Recommendation 2.13: Publication of Research.

Open and timely publication of findings is desirable for the progress of research. No governmental regulations, other than those regulations related to applicable copyright and privacy legislation, should restrict the form, content, or timing of research publications. Researchers studying criminal justice organizations should make explicit arrangements with the host agencies concerning publication of findings. These agreements should be clearly understood before the onset of any study.

(Recommendation 2.14 discusses publicity associated with public release of research findings. Recommendation 5.5 discusses items other than publication that should be subject to prior agreements between researchers and criminal justice organizations they study.)

Roles of Researchers and Funding Agencies in Publicity

Researchers occasionally find that members of the mass media are interested in a study before the

[62] See, for example, Stuart Adams, "Correctional Agency Perceptions of the Impact of Research," *American Journal of Corrections*, Vol. 37, July/August 1975, pp. 24–31; and Stuart Adams, "Sources of Useful Policy Research: The Criminal Justice Experience," paper presented at the annual meeting of the American Sociological Association, New York, September 1976.

findings are ready for publication. This can easily happen, for instance, when the conduct of a field study—often involving site visits, the presence of large interviewing teams, and overt changes within an operating agency—itself attracts public attention. Although no researcher wants to appear secretive, premature disclosure of research results can damage the credibility of all researchers and their working relationships with criminal justice agencies. A particularly perplexing problem of media relations arises when interim findings of a study have been reported to news reporters by a source other than the researcher. The reporter may then make inquiries of the researcher in a way that suggests the findings have been distorted or even reported as their exact opposite. Researchers and funding agencies should anticipate these situations and agree in advance on their responsibilities to each other and to the public.

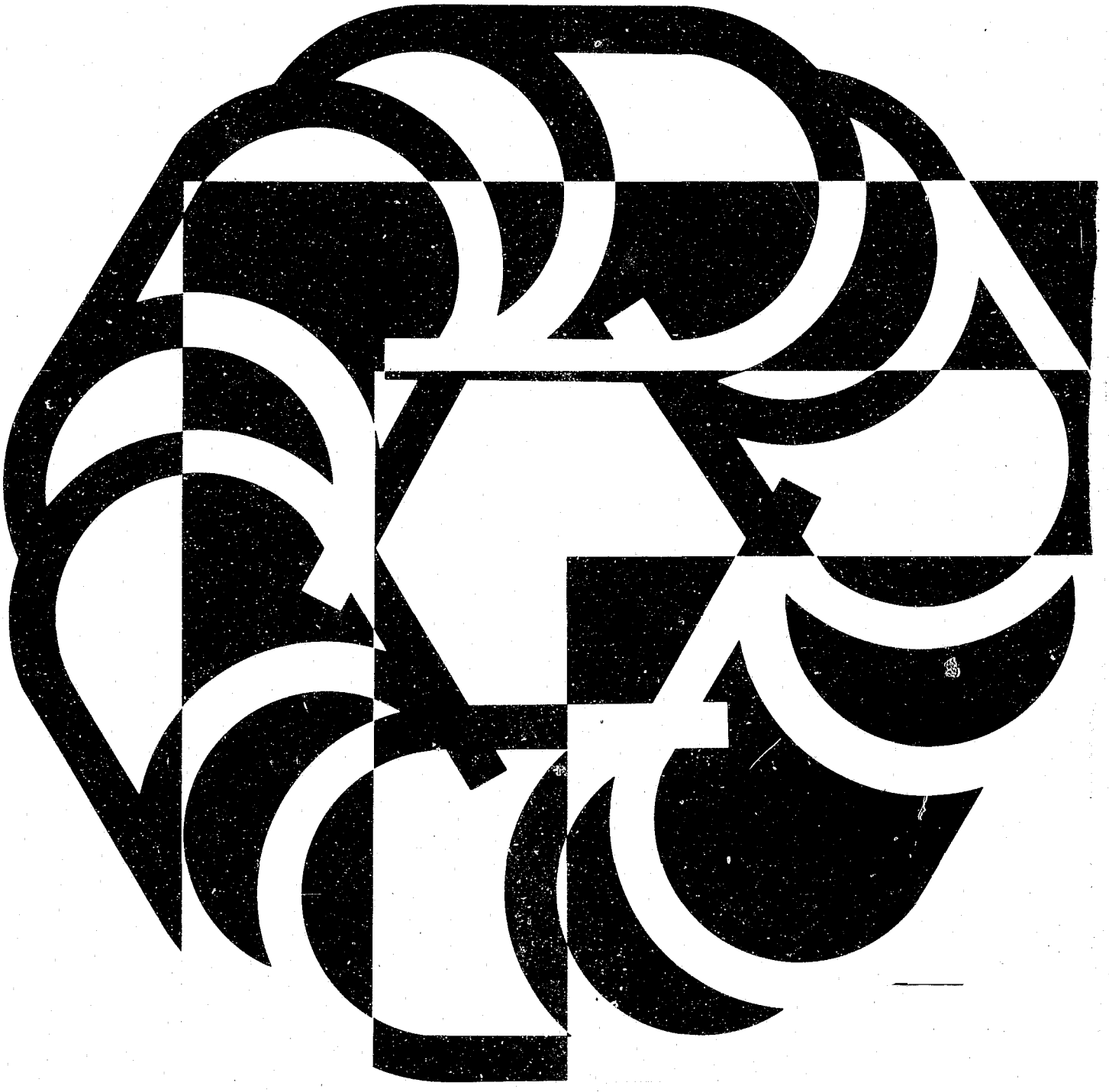
News Releases. News releases about research studies are often prepared by agencies or staff who are not familiar with the research. The researcher himself may have no control over the timing and content of the news release—which may have been arranged to serve the political purposes of the releasing agency. Many researchers have no access to professional advice concerning press relations; they must therefore rely on the good faith of the releasing agency. Fairness to the researcher requires that interested parties should read the original publication, rather than descriptions of the findings in the news media, before drawing any conclusions about the nature or quality of the work.

When a study has been conducted with the cooperation of a large number of host agencies, it is impractical, if not impossible, for the authors to distribute drafts of news releases and publications to all of them prior to the release date. Indeed, merely undertaking such a major mailing effectively makes the material available to the public and precludes orderly release of information at a later date. The host agency personnel, however, may rightly believe that they have been inadequately consulted if they first hear about findings concerning their agency through news media or if they are asked by reporters to comment on materials they have not had an opportunity to inspect. The only realistic solution to such dilemmas is for R&D performers and funding agencies to alert host agencies to anticipated release dates and for host agency personnel to recognize that the appearance of stories in news media indicates that copies of the study are available and, in all likelihood, are being mailed to them on the same day.

Recommendation 2.14: Agreements About Publicity.

Prior to initiating a research study, the researcher and R&D-funding agency should prepare written agreements concerning publicity. This agreement should specify that each party will be permitted to review the content and timing of any news release related to the study made by the other party. The agreement should also provide that one party notify the other party if the first becomes aware of an unanticipated news release.

(Recommendation 2.13 discusses publication of research findings. Recommendation 5.5 discusses items other than publicity that should be subject to prior arrangements between researchers and criminal justice agencies they study.)



A. THE UTILIZATION PROBLEM [1]

Knowledge into Practice [2]

Public support for most criminal justice research is based primarily on the assumptions that:

- The research will produce *new knowledge;*
- The new knowledge will lead to *improved criminal justice practices;* and
- The improved practices wil ultimately result in *greater safety* for society.

For example, criminological research could lead to new insights for reducing recidivism among criminal offenders (*new knowledge*); these insights could be used to develop new correctional programs for treating offenders (*improved practices*); and these programs might be successful in reducing recidivism (hence *increasing public safety*). Some research, such as studies of the XYY chromosomal abnormality as a possible genetic basis for criminal behavior,[3] may be supported that does not lead to new practices and greater safety or justice. By and large, however, researchers and R&D-funding agencies both hope that most criminal justice research will result in improved practices within a reasonable period of time (e.g., 5 to 10 years).

The topic of R&D utilization deals with any factor that will increase the probability of new knowledge being converted into improved practice. Such factors are varied and may include:

- Improved feedback from practitioners (e.g., police and corrections officers, judges, and prosecutors) to research investigators, so that relevant problems are investigated;
- Appropriate dissemination of research results, so that practitioners will know about the new practices that are possible; and
- Routinization of new practices into agency operations, thereby making the practices an integral part of everyday activity.

These examples suggest that the utilization problem is not only limited to the transformation of knowledge into practice, but that the problem also involves the type of knowledge that is generated. To this extent, the previous chapters of this report, which have emphasized improvements in research quality and relevance, have begun to cover part of the utilization problem. This chapter deals directly with the utilization issue—*transforming new knowledge into criminal justice practice.* Because such practice is considered primarily to be a public sector activity, the chapter directs itself to public and not private sector problems, and to organizational implementation and not product development.[4]

Assessing Improved Practice

To determine whether new knowledge has been successfully transformed into improved practice requires some way of assessing criminal justice practice. In private industry, improved business practices are generally assessed in terms of two criteria; increased *efficiency* and improved *effectiveness.* Increased efficiency, as in the case of an assembly line, occurs when production costs or time can be reduced without any change in the product. Improved effec-

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[1] This chapter was developed by the Task Force in part on the basis of a report by Robert K. Yin, *R&D Utilization by Local Services: Problems and Proposed Research,* The Rand Corporation, R–2020–DOJ, in preparation. Dr. Yin is located in Rand's Washington, D.C., office. Although the discussion is intended to cover all types of criminal justice agencies (police, prosecution, courts, and corrections), for brevity's sake most of the examples concern law enforcement agencies.

[2] For an excellent discussion of the theoretical issues in transforming knowledge into practice, see Chris Argyris and Donald Schon, *Theory in Practice,* Jossey-Bass, San Francisco, 1974.

[3] This has been a controversial topic of research. For a summary of some of the principal findings, see Herman A. Witkin and others, "Criminality in XYY and XXY Men," *Science,* Vol. 193, Aug. 13, 1976, pp. 547–555.

[4] For instance, the chapter does not address the problem of increasing either the acceptance of new devices for production by private sector manufacturers, or the adoption of innovations by privately operated criminal justice agencies, e.g., private security companies.

tiveness occurs when the quality of a product is changed, and is a somewhat more complex issue. The desired quality of a product may depend upon consumer preferences, governmental regulations, and other external factors that can change over time. For instance, until 10 years ago, increasing the horsepower of an automobile might have been considered a quality improvement. On the other hand, today, the development of effective antipollution devices might be considered a quality improvement.

Unfortunately, the outcomes of service practices are more difficult to assess in the public sector than in private industry.[5] In some public services, as in sanitation collection, efficiency (e.g., tons of garbage collected per truck-mile) and effectiveness (e.g., percentage of recyclable garbage that is retrieved) may be easily defined. For most criminal justice services, however, neither concept is easy to define.[6] For instance, a measure of the effectiveness of police intervention might be the response time to a citizen call. A less clearcut example is in the context of preventive patrol.[7] According to one assumption, a measure of effectiveness might be the patrol's passing frequency—an indication of how often officers on patrol pass various locations. The use of this measure is based on the belief that mere visibility or presence of police officers deters crime. However, this belief has not been verified by empirical test.[8] An alternative assumption might be that the effectiveness of patrol is improved by assuring that officers have detailed knowledge of what locations are likely to be crime hazards, understand the types of behavior that residents of various neighborhoods consider suspicious, and encourage local residents and businessmen to report crimes to the police or engage in their own anticrime activities. The distinction between these two assumptions is hardly trivial. The first encourages police departments to field motor patrol units rather than foot patrols, because vehicles can cover a larger area in a given period of time than officers on foot can. It also suggests that police officers should keep moving while on patrol, rather than stopping to talk with members of the community. The second assumption favors foot patrol and other types of actions designed to build a rapport between officers and residents of the communities they serve.

As an alternative to the development of new measures for improved practices, it may be desirable to judge whether implementation has been successful by using service standards that have been set through efforts such as those of the National Advisory Commission on Criminal Justice Standards and Goals. The Commission reports provided standards and criteria for assessing service practices throughout the criminal justice system.[9] In other words, it may be foolhardy to continue searching for measures whereby criminal justice practices can be assessed for all time. Because our society's values are constantly shifting, the standards for criminal justice practice are also likely to shift. A change that brings a criminal justice agency closer to some performance standard set by expert consensus (as in the Commission effort) thus might be considered an improvement in practice. The important point is that, in order to determine whether new knowledge has been transformed successfully into improved practice, there must be some measure, no matter how arbitrarily chosen, of service practice.

R&D- Versus Non-R&D-Based Knowledge

Improvements in service practices need not stem from laboratory or university research. On the contrary, many improvements in practice in one agency can result from improvements discovered in other agencies. For instance, the State prosecutor's office in New York suffered from severe stenographic and typing backlogs.[10] Internal examination of the problem suggested that installation of a computerized word processing system could help to deal with this backlog. Service improvement occurred as a result of this change, and the agency personnel were invited by prosecutors' offices in other States to describe the innovation so that it could be tried elsewhere. For the purpose of this report, these *practice-to-practice* innovations are defined as non-

[5] For some possible public service measures, see the Urban Institute and International City Management Association, *Measuring the Effectiveness of Basic Municipal Services,* Washington, D.C., February 1974.

[6] For discussions of measures in police services, see National Commission on Productivity, *Opportunities for Improving Productivity in Police Services,* Washington, D.C., 1973. A slightly different approach to the problem of measuring quality is to base the measure entirely on subjective criteria—e.g., the public's perceived satisfaction with services. For a review of the resulting measures and survey results, see Albert J. Reiss, Jr., "Monitoring the Quality of Criminal Justice Systems," in Angus Campbell and Phillip Converse (eds.), *The Human Meaning of Social Change,* Russell Sage, New York, 1972, pp. 391–439.

[7] For a brief discussion, see Gerald Caplan, "Concern and Choice," *Journal of Criminal Justice,* Vol. 1, Winter 1973, pp. 289–298; and Michael Maltz, "Measures of Effectiveness for Crime Reduction Programs," *Operations Research,* Vol. 23, May-June 1975, pp. 452–474.

[8] For instance, see George Kelling and others, *The Kansas City Preventive Patrol Equipment: A Summary Report,* Police Foundation, Washington, D.C., October 1974.

[9] There are five main reports, covering the courts, correctional institutions, law enforcement agencies, the criminal justice system, and community crime prevention.

[10] Robert A. Morse, "Word Processing System Helps U.S. Attorney Handle Workload Explosion in New York's Eastern District," *Prosecutor,* Vol. 9, 1974, pp. 389–391.

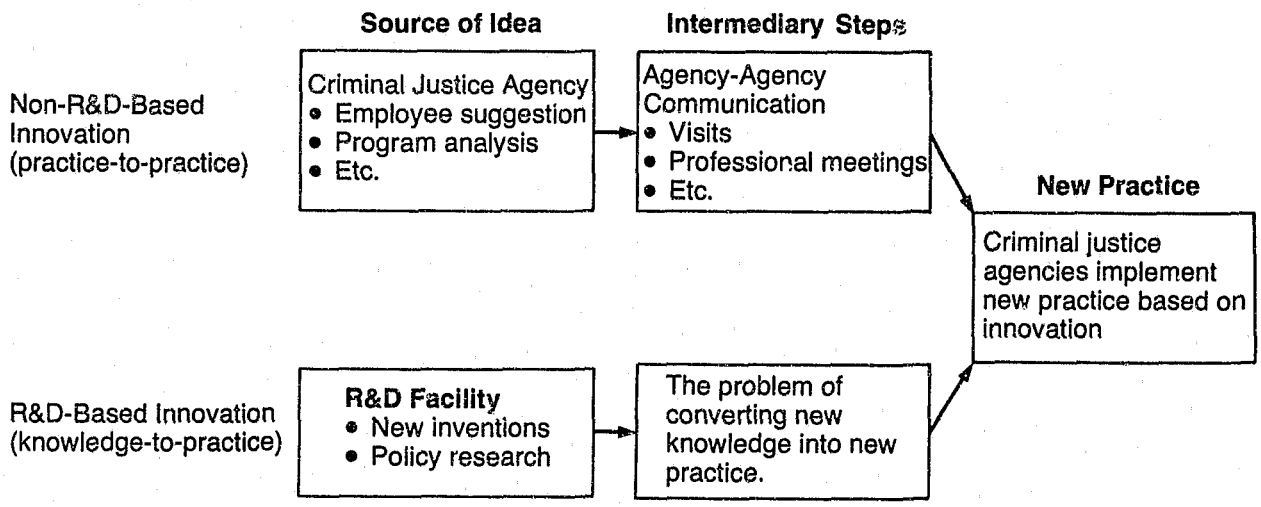

Figure 3.1—R&D-Versus Non-R&D-Based Innovations (streamlined for illustrative purposes)

R&D-based, because the initial improvement did not come from a formal research effort. Typically, the improvements result from employee suggestions, ideas from sensitive and insightful supervisors, and other initiatives within an agency (see Figure 3.1 for a much oversimplified schematic configuration).

There appears to be no known comparison of the relative frequency or importance of R&D- versus non-R&D-based innovations; it may be that the latter have had greater impact than the former. Nevertheless, because the main concern of this report is with criminal justice R&D and its utilization, the remainder of this discussion will focus mainly on R&D-based innovation. The goal here is to try to improve the methods of transforming new R&D knowledge into criminal justice practice. Therefore, practice-to-practice innovations, although they may play an important role, will receive much less attention.

Why We Need to Know About Utilization

These basic ground rules help to narrow the definition of utilization. However, they do not really suggest the many reasons for examining the utilization problem. Basically, the problem is that, in spite of substantial R&D efforts, dramatic improvements in criminal justice practices have not occurred. This is not to say that there have not been many discrete innovations. For instance, in law enforcement,

> Police methods have changed greatly during the past hundred years. The police today use almost every conceivable means of transportation and communication. The horse patrol and nightstick on-the-pavement have given way to automobiles containing teleprinters, helicopters with television, and jet flying belts. Modern communication centers tape-record telephone messages and complaints as well as radio dispatches. . . . Police dispatchers now have access to computer-based visual-display terminals giving identification data, records of wanted property, and other information of great tactical value. Telephonic devices can automatically record on dictating machines reports made by officers from any telephone, and these reports can be transcribed onto a *master* from which any desired number of copies of the report may be reproduced. These systems are gradually replacing the typing of reports by the officers themselves as well as eliminating the frequently illegible copies of reports that resulted from the use of carbon paper. Television-based filing and retrieval systems now permit nearly instantaneous capture, storage, and random-access retrieval of documents with resolution high enough to permit classification of fingerprints transmitted by the system.[11]

Successful innovations in other parts of the criminal justice system have included the identification of a processing bottleneck of persons arrested for felonies—through a court system simulation in the District of Columbia, and the reduction in new or serious offenses by high-risk probationers participating in a volunteer probation counselor program in Lincoln, Neb.[12]

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[11] O. W. Wilson and R. C. McLaren, *Police Administration*, McGraw-Hill, New York, 1972, pp. 8–9.

[12] See Joseph A. Navarro and Jean G. Taylor, "Data Analyses and Simulation of the Court System in the District of Columbia for the Processing of Felony Defendants," in

It is fair to say, however, that dramatic improvement will only follow a reduction in the number of failures to innovate. In some cases, the failure has been one of omission—relevant R&D has not been performed that has significantly reduced, for instance, the frequency of injuries or deaths to police officers. In other cases, the failure has been one of design. Data information systems that were intended to meet the needs of police, prosecutors, judges, or corrections personnel have been installed only to suffer from disuse because the wrong set of information was collected or the system did not provide information on a timely basis. In other cases, the failure has been one of diffusion or adoption. Quantitative models for assessing the flow of persons through arrest, adjudication, and corrections, for instance, have been developed and proved successful as planning tools,[13] yet few criminal justice planning agencies have actually used these models in their decisionmaking.

It is hoped that improvements in the R&D utilization process will reduce these failures and thus increase the impact of criminal justice R&D. However, it should be made clear that change is not being advocated just for the sake of change. Shifts in the nature of the need for urban services during the past 2 decades, as well as the recent search for alternatives to traditional corrections policies, have left many police and corrections agencies pursuing norms and practices that may be anachronistic. In the courts, too, administrative procedures still fail to cope with overcrowded schedules and unnecessary delays in court proceedings. For these reasons, more effective utilization procedures—together with a better understanding of the utilization process—may be helpful.

As past experience has repeatedly shown, these procedures will not be developed easily, because of the organizational complexity and inertia of criminal justice systems. However, researchers and R&D-funding agencies are both finally beginning to realize that R&D utilization and the implementation of new practices are indeed an essential aspect of organizational change. Far too frequently in the past, textbooks and reports have described potential innovations, but omitted any discussions of how such innovations could be implemented.[14] In fact, until recently, most of the major works in criminal justice have failed to discuss the utilization or implementation process at all.[15]

B. TRADITIONAL UTILIZATION STRATEGIES

This section describes four traditional approaches to R&D utilization. Federal policies have played an important part in the development of these approaches. In fact, the problems of Federal R&D utilization policies—not just in the criminal justice area—have been the subject of increased attention during the past decade.[16] The rapid increase of Federal programs in education, health, social services, and urban development (e.g., Model Cities), as well as in criminal justice, has called new attention to the problems of intergovernmental relations. In almost all of these programs, Federal initiatives eventually have to be integrated into the activities of local agencies, and there has to be at least an implicit implementation strategy for affecting local agency practices.

The Innovations Approach

The predominant view has been to consider R&D utilization as the process of installing specific inno-

[13] —Continued
President's Commission on Law Enforcement and Administration of Justice, *Task Force Report: Science and Technology*, Washington, D.C., 1967, on the District of Columbia project; and Richard Ku, *The Volunteer Probation Counselor Program, Lincoln, Nebraska,* U.S. Department of Justice, Washington, D.C., 1975.

[13] Jacqueline Cohen and others, "Implementation of the JUSSIM Model in a Criminal Justice Planning Agency," in S. L. Messinger and others (eds.), *The Aldine Crime and Justice Annual: 1973,* Aldine Publishing Company, Chicago, 1974, pp. 501–517.

[14] This is unfortunately true of both blue ribbon as well as academic efforts. See, for instance, President's Commission on Law Enforcement and Administration of Justice, *Task Force Report: Science and Technology,* Washington, D.C., 1967; and Saul I. Gass and Roger Sisson, *A Guide to Models in Governmental Planning and Operations,* Sauger Books, Potomac, 1975.

[15] The best-known text in police administration, for instance, suffers from this deficiency. See Wilson and McLaren, *Police Administration,* 1972. Recent handbooks, however, are beginning to overcome this deficiency. Jean L. Wolfe and John F. Heaphy (eds.), *Readings on Productivity in Policing,* Police Foundation, Washington, D.C., 1975, for instance, review new police productivity programs, devoting an extensive chapter to the planning and implementation of such programs.

[16] For discussions of Federal utilization policies, see Jeffrey L. Pressman and Aaron Wildavsky, *Implementation,* University of California, Berkeley, 1973; Paul Berman and Milbrey McLaughlin, *Federal Programs Supporting Educational Change,* Vol. 1, The Rand Corporation, Santa Monica, R–1589/1-HEW, September 1974; Walter Williams, "Implementation Analysis and Assessment," *Policy Analysis,* Vol. 1, Summer 1975, pp. 531–566; and Erwin C. Hargrove, "The Missing Link: The Study of Implementation of Social Policy," The Urban Institute, Washington, D.C., 1975.

vations (e.g., new programs or new devices.)[17] Whether the innovation involves new technology, such as a computer information system for the courts, or an organizational change, such as the development of a police-community relations unit, the implementation process has been thought of by many researchers as a sequential or staged process in which the innovation is:[18]

- Discovered or tested in the laboratory or an academic research setting;
- Tested and further demonstrated in the field at one or more sample sites;
- Communicated or diffused to potential users or adopters (i.e., other service agencies);
- Tested by the users; and
- Adopted or rejected by the users on the basis of their testing.

The process is not necessarily a simple one, because the new information that emerges at each of the steps may feed back and influence the activities at prior steps. Nevertheless, according to this view of implementation, the more successfully a specific innovation passes through each step, the more pervasive the ultimate adoption by local agencies will be. This view of implementation is related to what the literature has called the research, development, and diffusion perspective.[19]

In criminal justice, the focus on specific innovations has been the major, and often implicit, approach to the problem of improving criminal justice practice. Typically, a specific problem and its analysis lead to a discrete solution. The solution is then implemented as a new project or policy, which can vary in the ease with which it can be tested. For instance, among innovations in police deployment, team policing, which has been tried in many cities, is one that can be tested on a limited basis in a city.[20] In implementing this innovation, a police department can install the innovation in one or two neighborhoods without affecting the deployment practices for the rest of the city. Such an innovation is therefore more easily evaluated and isolated from other police practices. In contrast, the notion of a fourth platoon is also a deployment innovation, but it may have to be applied throughout a city—as in the case where new legislation is required.[21] Thus, the implementation of this innovation frequently raises complex collective bargaining issues. Other innovations that change discrete procedures may be readily tested. In the courts process, for instance, there have been innovations in jury selection procedures, preparation and recording of documents, and witness notification procedures.[22] Each innovation can be attempted separately and is presumed to affect only a specific procedure, with less direct effects on the other aspects of the process.

The focus on specific innovations has led to several new types of policy initiatives, which have been pursued by public and private funding agencies. Because the transformation from knowledge to practice is perceived to occur in the context of a specific project or innovation, specific mechanisms have been

[17] The prevalent implementation models for various organizational settings, for instance, all happen to use specific innovations as the main unit of analysis. See Randall L. Schultz and Dennis P. Slevin, "Implementation and Management Innovation," in Randall L. Schultz and Dennis P. Slevin (eds.), *Implementing Operations Research/Management Science*, American Elsevier, New York, 1975, pp. 3–20.

[18] For a fuller discussion of the role of innovations in State and local governments, see Robert K. Yin, Karen Heald, Mary Vogel, Patricia Fleischauer, and Bruce Vladeck, *A Review of Case Studies of Technological Innovations in State and Local Services*, The Rand Corporation, Santa Monica, R–1870–NSF, February 1976.

[19] This perspective is fully described in Ronald C. Havelock, *Planning for Innovation Through Dissemination and Utilization of Knowledge*, Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, the University of Michigan, Ann Arbor, July 1969. There is a rich literature on organizational innovation that mainly covers experiences outside of the criminal justice system. For a recent discussion of this literature, see Yin and others, *Technological Innovations*, 1976.

[20] Team policing is a deviation from the existing deployment practice for most cities in that it involves: (1) the permanent assignment of teams of police to small neighborhoods; (2) close internal communication (on a 24-hours-a-day, 7-days-a-week basis) among the officers assigned to the area; and (3) maximum communication between team members and the residents of the neighborhood. For general descriptions of team policing principles and experiences, see Lawrence W. Sherman and others, *Team Policing: Seven Case Studies*, Police Foundation, Washington, D.C., August 1973; William Gay and others, *Issues in Team Policing*, National Sheriff's Association, Washington, D.C., 1974; and Peter B. Bloch and David Specht, *Neighborhood Team Policing*, U.S. Department of Justice, Washington, D.C., December 1973.

[21] For instance, in New York City the development of a fourth platoon required changes in existing State laws. See Mark M. Moore and others, "The Case of the Fourth Platoon," *Urban Analysis*, Vol. 3, 1974, pp. 207–258. The fourth platoon is designed to reallocate work shifts so that more patrol officers are available during the hours of high-crime incidence. Although the police officers continued to average working 40 hours per week, the implementation of this innovation affected the specific working hours of many police officers (e.g., some shifts required officers to work six consecutive 8-hour days as well as 10 nonconsecutive hours within the same 24-hour period, instead of five simple 8-hour shifts). Other cities have attempted to develop work shifts consisting of a 4-day, 40-hour week to serve the same purpose; see Paul M. Whisenand and others, "The Four-Day-Forty-Hour Week," in Institute of Criminal Justice and Criminology, University of Maryland, *Innovation in Law Enforcement*, U.S. Department of Justice, Washington, D.C., 1973, pp. 143–163.

[22] See National College of District Attorneys, *Guidebook of Projects for Prosecution and Defense Planning*, U.S. Department of Justice, Washington, D.C., March 1973.

designed to facilitate this transformation. The use of *demonstration projects,* for instance, is premised on the belief that an innovation is more likely to be adopted by many users if the innovation is first demonstrated at *one exemplary site*.[23] Oftentimes, a Federal agency or a foundation will support a demonstration program for several years with the hope that the results will be disseminated to many local agencies, and that some will adopt some version of the innovation.[24] A review of eight well-known police service demonstration projects, however, showed that none had satisfied all three criteria necessary to success: the innovation resulted in greater efficiency or effectiveness; it became part of the everyday operations of the local law enforcement agency that was the site of the demonstration; or it was copied by other departments.[25] Even in those cases where the innovation had merit, it had nevertheless not become part of routine operations. The review pointed to several barriers in the implementation process. First, the innovation did not necessarily have the full commitment of the police leader—who failed to identify the innovation as one of his own, but rather identified it as one being promoted by someone else (especially his predecessor). Second, the innovation did not satisfy the needs of the rank and file, giving individual police officers little incentive for using the innovation. Third, the main initiative for an innovation did not usually come from inside the police department, which reduced the department's continuing commitment to the innovation.[26]

The innovations approach thus appears to encounter at least one major problem. The innovative idea is typically based on R&D conducted by a group that is external to the practitioner agency. Utilization of the idea therefore requires an institutional transfer from outside to within the agency. Although the outside institution frequently has an expertise that is lacking in the agency,[27] the link between knowledge and practice is made tenuous because of the institutional transfer. Criminal justice agencies, like other local service agencies, may be particularly resistant to any ideas or initiatives from outside the agency. It is frequently asserted that in fire departments, for instance, the personnel policy of promoting only from within the department produces leaders who are especially loyal to internal relationships and hence less responsive to new ideas from outside.[28] If the same situation holds in criminal justice agencies, the lack of lateral entry means that the top and middle managers of police or corrections departments will also be people who have few outside loyalties. As described by one ex-police chief,

> The closed police sub-culture, the closed personnel system, the ambiguous nature of the community demands, and the pressure of the members of the police bureaucracy are eventually sufficient to convince a police manager of the wisdom of following the party line.[29]

Obstacles to lateral entry also prevent the infusion of people with specialized skills and training—even into staff positions. The presence of such skills might also make agencies more responsive to new research ideas.

The difficulties of institutional transfers lead to a condition that has been observed with increasing frequency: as long as funds for a special project are available, a specific innovation will continue to be tested and implemented by the local agency. However, the cessation of funds often means the cessation of the innovation, even if the project had been meritorious and had resulted in service improvements.[30] In other words, a local criminal justice agency may fail to incorporate an innovative practice into its normal routine, with the result that business is carried out as usual—as if the innovation project had never existed.

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[23] This discussion is not intended to apply to another use of the term demonstration project, in which a single intervention is attempted simultaneously at *several* sites.

[24] For a recent study on the role of Federal demonstration projects, see Walter S. Baer, Leland Johnson, and Edward Merrow, *Analysis of Federally Funded Demonstration Projects: Final Report,* The Rand Corporation, Santa Monica, R–1926–DOC, April 1976.

[25] The eight projects were: a detoxification center, a family crisis intervention unit, a police fleet program, a police juvenile attitude program, a police receptionist program, a psychological assessment of patrolman qualifications, use of helicopters as patrol vehicles, and team policing. See Catherine Milton, "Demonstration Projects as a Strategy for Change," in Institute of Criminal Justice and Criminology, University of Maryland, *Innovation in Law Enforcement,* Department of Justice, Washington, D.C., 1973, pp. 115–133.

[26] Similar experiences have been found in reviews of the use of quantitative models in criminal justice. For example, see Jan Chaiken and others, *Criminal Justice Models: An Overview,* The Rand Corporation, Santa Monica, R–1859–DOJ, October 1975.

[27] See Daniel Glaser, *Routinizing Evaluation,* National Institute of Mental Health, Center for Studies of Crime and Delinquency, Rockville, Md., 1973, pp. 160–166.

[28] For discussions of the fire service, see R. W. Archibald and R. B. Hoffman, "Introducing Technological Change in a Bureaucratic Structure," The Rand Corporation, Santa Monica, P–4025, February 1969; and Alan Frohman and others, *Factors Affecting Innovation in the Fire Service,* Pugh-Roberts Associates, Cambridge, Mass., March 1972.

[29] Robert M. Igleburger and others, "Changing Urban Police: Practitioners' View," in Institute of Criminal Justice and Criminology, University of Maryland, *Innovation in Law Enforcement,* U.S. Department of Justice, Washington, D.C., 1973, p. 91.

[30] Increasingly, this has been a finding for many types of Federal programs, not just in criminal justice. See Yin and others, *Technological Innovations,* 1976; and Berman and McLaughlin, *Federal Programs,* 1974.

In general, project-specific approaches have not successfully overcome the difficulty of transforming knowledge into practice while transferring support for the innovation from external to internal sources. Partially as a result of this difficulty, two other strategies for R&D utilization have been pursued. If the source of the problem is that the R&D work is conducted outside of the agency and that there are few effective means of influencing agency practice from this external vantage point, then one approach is to develop intermediary institutions and another approach is to develop inhouse agency R&D teams. Experiences with these two approaches are reviewed next.

The Intermediary Institutions Approach

Intermediary institutions are organizations designed specifically to: (a) deal with both the research and practitioner worlds; and (b) focus on R&D utilization and technical assistance.[31] These institutions are usually independently based, nonprofit research centers or university groups who work closely with (but are not part of) local agencies. In the past, research centers such as The Urban Institute, The New York City-Rand Institute, the State University of New York at Stony Brook, and Public Technology, Inc., have worked on a wide variety of research problems—many directed at criminal justice.[32] Institutions focusing mainly on criminal justice have been the Vera Institute, the Police Foundation, the National Center for Prosecution Management, and the American Justice Institute. The main assumed virtues of these institutions are that they can:

1. Gather or contract for the appropriate set of skills needed to conduct criminal justice R&D;
2. Work closely with local agencies so that relevant problems are investigated;
3. Collaborate in the R&D process with service practitioners so that solutions are usable and more likely to be implemented;
4. Follow up individual projects to the point at which agency operations have incorporated the appropriate changes on a routine basis; and
5. Develop a continuing relationship with local agencies so that R&D flows into agency practice on an almost everyday basis, and not simply around discrete, innovative projects.

These institutions may be regarded as being intermediaries in the sense that they are neither based solely in an academic or laboratory environment nor linked directly to a service agency. The persons working in these institutions are supposedly capable, in fact, of dealing easily with both environments. On the surface, the intermediary institution thus appears to be a potential answer to the utilization problem, since knowledge may be transformed into practice more effectively with the assistance of such institutions. One example of a change in practice instigated under these conditions is a procedure the Vera Institute helped to develop whereby police officers, under certain prescribed conditions, could issue a summons in lieu of arrest.[33]

In the long run, successful relations between an intermediary institution and an agency can lead to positive outcomes beyond the simple aggregation of individual projects. Agency personnel, continually exposed to new analytic techniques, may themselves become more analytic in their daily thinking. Research investigators, continually exposed to the politics and administration of agency operations, may themselves become more relevant in their thinking and in the problems they investigate. The intermediary institution may even become a place where academic visitors or agency officials spend a period of time outside of their normal milieu and become better acquainted with each other's worlds. The intermediary institution can therefore be instrumental in changing institutional attitudes in such a way that more innovations may occur in the future.

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[31] An example of technical assistance is Federal support for staff in the State Criminal Justice Planning Agencies (SPA's) and the local Criminal Justice Coordinating Councils in many cities, which has been partly justified on the basis that such personnel can assist local agencies in dealing with specific problems. As another variation, technical assistance grants by the SPA's have been made to support consultants to assist in the processing of cases in State courts (for instance, see National College of District Attorneys, *Guidebook of Projects for Prosecution and Defense Planning*, U.S. Department of Justice, Washington, D.C., March 1973).

[32] For a review of some of these institutions, see Frederick O'R. Hayes and John E. Rasmussen, *Centers for Innovation in the Cities and States*, San Francisco Press, San Francisco, 1972; and Federal Council for Science and Technology, *Public Technology: A Tool for Solving National Problems*, Executive Office of the President, Washington, D.C., May 1972.

[33] Vera Institute, *Ten Year Report: 1961–1971*, New York, September 1971. Such a change had been considered by the local agency because the arrest procedures required the arresting officers to leave their normal duties for booking, complaint, and arraignment proceedings; the arrestee was often unnecessarily detained even though he/she could be counted on to appear in 5 to 10 days for such proceedings; and the scheduling of such cases could not be controlled to avoid major fluctuations and overloads. Vera researchers successfully developed the new procedures for the substitution, including (and most importantly) the provision of adequate and immediate information on the accused to determine whether a summons or arrest was appropriate. The changes were first tried in a few precincts, were expanded to include the whole city, and eventually led to new statutes in the States of New York and California.

At the same time, there is unfortunately a serious flaw with this strategy of using intermediary institutions. The institutions themselves are vulnerable organizations, dependent on: (1) solicited funds that may be only sporadically available; (2) managerial leaders for whom there are few career rewards—i.e., the intermediary institutions are by definition not part of any large, formal organizational system (such as a university or public service agency) that can offer substantial career advancement; and (3) the work of researchers who must often operate under the extremely difficult condition of having to convince both colleague and practitioner that new ideas are both creative and relevant.

Sometimes the intermediary institution simply fails to get off the ground. The Pilot Cities program funded by LEAA, for instance, involved eight handpicked sites at which intensive research and demonstration projects could be conducted in relation to the needs of local criminal justice agencies. The most successful research team, located in San Jose, Santa Clara County, Calif., began its work in 1970 and was supported for 5 years at a cost of about $200,000 per year.[34] During the 5-year period, this team produced 37 pilot research projects, 26 demonstration projects, and over 100 reports and publications. Yet, there was little evidence of significant change having occurred. At six of the other seven sites, the results were more disappointing: three sites did not follow the original design, one never became operational, one withdrew after 3 years, and one made unclear progress. The program was so unsatisfactory that LEAA terminated it even while the final evaluation was still in progress, and after an expenditure of almost $30 million.[35] The final evaluation confirmed these actions, concluding that, although the concepts underlying the program were sound, they were poorly translated into an actual program.[36]

Even when an intermediary institution has operated successfully for a period of time, its long-term survival cannot be assured. Because these institutions generally rely on solicited funds, a particular institution may have to cease operations if sufficient funds are not forthcoming. Alternatively, as happens quite frequently, the institution will enter new fields as funding priorities shift to those fields. Very few intermediary institutions have been able to maintain close relations with local agencies for long periods of time (defined mainly as periods in which the relations have survived in spite of changes in the institutions' leadership and the local agencies' leadership). In most cases the relationship has diminished with promotions or turnover in local agency personnel, shifts in funding priorities, or shifts in interests among researchers. The New York City-Rand Institute, for instance, conducted many valuable research projects on the problems of New York City's agencies, such as the fire and police departments, from 1967 to 1975.[37] The Institute's work was mainly supported by the New York City government, but such support ended, partly as a result of the City's financial crisis, and the Institute was disbanded. A younger institution of a different sort may have to cope with a similar problem. The Police Foundation, established in 1970 to promote change and innovation in law enforcement agencies, also has conducted many important demonstration and research projects. However, the Foundation has been mainly supported with funds from the Ford Foundation. As such support declines, the Police Foundation must face the alternatives of reducing its activities or seeking financial support from other sources.[38]

One potentially more viable model for an intermediary institution is the Federal Judicial Center.[39] This Center is part of the Federal judiciary branch and was initiated in 1968 to conduct research and study the operations of the courts, recommend improvements, and develop and conduct training programs for courts personnel.[40] The Chief Justice of the United States is the permanent chairman of the board of the Center. With Federal commitment to its functions, the long-term stability of the Center is probably greater than that of other intermediary institutions. Until now, however, the Center has concentrated on the *Federal* courts system, developing, for instance, a computerized court management information system for district and appellate courts in response to the Speedy Trial Act of 1974. Whether the Federal Judicial Center can serve as a model

[34] See American Justice Institute, *Santa Clara Criminal Justice Pilot Program*, Sacramento, July 1975; Robert C. Cushman, "LEAA's Pilot Cities," *San Diego Law Review*, Vol. 9, June 1972, pp. 753–784; and Robert C. Cushman, "The Pilot Cities Experience," in Institute of Criminal Justice and Criminology, University of Maryland, *The Change Process in Criminal Justice*, U.S. Department of Justice, Washington, D.C., pp. 36–66.

[35] See Comptroller General of the United States, *The Pilot Cities Program: Phaseout Needed Due to Limited National Benefits*, Washington, D.C., February 1975.

[36] Charles A. Murray and Robert E. Krug, *The National Evaluation of the Pilot Cities Program*, American Institute for Research, Washington, D.C., August 1975.

[37] See Peter Szanton, "Analysis and Urban Government," in Alvin W. Drake and others (eds.), *Analysis of Public Systems*, MIT Press, Cambridge, 1972, pp. 19–30.

[38] During the past year, the Police Foundation has already reduced its range of activities, partially in relation to funding reductions.

[39] See the description in Ernest C. Friessen and others, *Managing the Courts*, Bobbs-Merrill Co., Inc., Indianapolis, Ind., 1971, pp. 67–82.

[40] Federal Judicial Center, *Annual Reports: 1970–1975*, Washington, D.C.

for intermediary institutions dealing with local agencies is still unclear, especially because a Federal institution might be more likely to pursue Federal priorities even if it worked closely with local agencies.

The Agency R&D Approach

A third utilization strategy has been to promote the development of R&D capabilities within the local practitioner agencies.[41] A nationwide survey of all 74 State correctional agencies (53 adult and 21 youth) showed that, by 1974, 66 percent of these agencies had chiefs of research—the comparable figures being 42 percent in 1968 and 38 percent in 1965.[42] This trend is indicative of the general increase in research units or research and planning activities in these agencies. Similar increases have occurred during the past 25 years in court administrations and police departments.[43] The aspirations underlying these increases in inhouse research teams are primarily of an implementation nature. The inhouse team is assumed to be more likely to:[44]

1. Investigate a problem of high priority in the agency;
2. Attempt to solve the problem in its agency context and not necessarily be concerned with external generalization;
3. Develop a solution that is more sensitive to local personnel, budgetary, and administrative factors; and
4. Assist in the application and operation of the solution well beyond any initial testing phase.

Thus, the inhouse team may provide more relevance and continuity and therefore increase R&D utilization. Moreover, the team also is assumed to be less expensive than an external consultant group.

Federal programs have directly or indirectly led to the support of agency R&D units (which may also be called planning and analysis units). Much of the direct support in criminal justice flows through the State Criminal Justice Planning Agencies (SPA's) and is difficult to trace. However, one example of an LEAA-funded demonstration project is the support to the Planning and Research Unit of the Los Angeles County Municipal Courts.[45] An example of indirect support is NILECJ's High Impact Anticrime Program, which emphasized coordinated planning, testing, and evaluation of innovations in eight high-crime cities.[46] This effort called for coordinated activity among local criminal justice agencies. The recipients of funds included: departments of human resources (youth services), mayors' offices, police departments, and bureaus of traffic and signals.[47] The overall goal of the program was not so much to implement specific projects but to develop, in the long run, an improved capability for innovation and analysis within local criminal justice agencies.

Having research capabilities within the agency may improve the R&D utilization process, but the nature and quality of the research conducted may be different. Most of the research problems to be dealt with will focus on management analysis and short-term, operational issues.[48] Agency R&D teams, except in very large cities, are not likely to have the level of expertise and training that will allow them to utilize research ideas that may have been produced outside the agency. Secondly, the inhouse team, by its very nature, may be susceptible to internal pressures from others within the agency's bureaucracy, the mayor's or governor's offices, or other officials within the administrative hierarchy. Such a milieu may produce an inconsistent environment—where priorities or necessary resources are constantly shifting—for conducting research.

One exception to this agency R&D problem may be where the agency itself is research-oriented. This may occur, for instance, in large States, where agencies such as the California Youth Authority can support a diverse and stable set of research projects. It can also occur in forensic laboratories, where internal initiatives can lead to the testing and implementation of new techniques.[49] Most criminal

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[41] On the organization of such R&D teams in law enforcement agencies, see Wilson and McLaren, *Police Administration*, 1972, pp. 156–161.

[42] Stuart Adams, "Correctional Agency Perceptions of the Impact of Research," *American Journal of Corrections*, Vol. 37, July/August 1975, pp. 24–31.

[43] Stuart Adams, "Sources of Useful Policy Research: The Criminal Justice Experience," paper presented at the annual meeting of the American Sociological Association, New York City, September 1976.

[44] For example, see the contrast between inhouse and external efforts in Glaser, *Routinizing Evaluation*, 1972, pp. 160–166.

[45] Helaine Wachs, "Planning and Research for the Courts," *Judicature*, Vol. 59, August/September 1974, pp. 81–85.

[46] See Eleanor Chelimsky, *A Primary Source Examination of the LEAA and Some Reflections on Crime Control Policy*. The Mitre Corporation, McLean, Va., May 1974; and Eleanor Chelimsky, *High Impact Anticrime Program: National Evaluation*, The Mitre Corporation, McLean, Va., January 1976.

[47] G. Kupersmith, *High Impact Anticrime Program*, U.S. Department of Justice, Washington, D.C., July 1974.

[48] Stuart Adams, "Police Department Perceptions of the Usefulness of Research," National Institute of Law Enforcement and Criminal Justice, Washington, D.C., unpublished paper, July 1975.

[49] For example, in New York State, the criminalistic research bureau arranged for a pilot test of an on-line computer program for analyzing chemical compounds. The analysis was based on infrared (IR) spectrophotometry, which allows for highly accurate identification of substances because no two compounds produce the same IR spectrum. However, the specific identification requires a very tedious

justice agencies, however, do not operate in a research environment. They, rightfully, attend to the problems of keeping communities safe, prosecuting, sentencing, and processing offenders through the courts system, and rehabilitating or confining those convicted. These agencies therefore devote most of their resources to operational problems. In this milieu even simple questions, such as how many offenders entered and exited an institution in the most recent year, can be difficult to document and therefore become the subject of inhouse research.[50] In short, although agency R&D teams may provide some essential management or program analysis capability to the agency, the type of research that can be carried out under such circumstances will be limited to very short-term and operational problems. Even if the inhouse team had high quality research skills, internal efforts would be subject to time and administrative pressures, which would probably not allow for more than abbreviated research projects.[51]

The agency R&D approach has the additional problem of not having the resources to mount major research efforts. In technological research, no single agency team is likely to be able to work on projects such as the revampment of an entire patrol car, the development of a courts information system (e.g., COURTRAN), or the development of new monitoring devices for prisons. This type of research is more effectively carried out at the national level—either by research institutions or private industry—where the necessary financial resources and technical skills can be amalgamated.[52] Thus, although agency R&D teams may serve the specific operational needs of a local agency (and might be promoted on this basis), such teams do not fulfill the needs of an overall R&D utilization strategy.

Dissemination Approaches

A fourth utilization strategy cuts across all of the first three. Its aim is to improve the communication of research ideas to practitioners. Thus, the past decade has seen the rapid spawning of a variety of new journals, magazines, and newsletters. In addition, centralized clearinghouses have been established to store and retrieve research information. In general, the emphasis has been on written media.

One of the most common forms of written communication is *the final report.* Such reports result from the fact that most research is organized around a project, and at its culmination each project usually produces a final report. The National Institute of Mental Health (NIMH) and National Institute of Law Enforcement and Criminal Justice (NILECJ) have placed increasing emphasis on the dissemination of these reports as the final step in the conduct of individual research projects.[53] Among the research projects supported by NILECJ, for instance, one with the widest dissemination involved Oscar Newman's work on public safety and architectural design. Newman's final report was published by a private publishing house and the U.S. Government Printing Office.[54] Many local practitioners in public housing and law enforcement have presumably become aware of the importance of architectural factors in reducing residential crime because of this report. NILECJ also promotes the results of other exemplary projects in a similar way, with the hope that criminal justice practice will improve because of them.[55]

comparison of the sample spectrum with over 100,000 other possible curves, a procedure that is easily facilitated with the use of a computer. The research bureau had the appropriate computer system, data file, and program installed. This system was accessed by three terminals, one located in the research bureau and the others located in the State police and State medical examiner's offices. The availability of the computer system meant that all three laboratories could use IR spectrophotometry; the success of the system suggested that a similar time-sharing arrangement could facilitate the use of other laboratory techniques (e.g., ultraviolet spectrophotometry or gas-liquid and thin layer chromatography) where the main problem consisted of the storage, retrieval, and comparison of many samples. (See Frank G. Madrazo, *Pilot Computerized Infrared Data File,* Division of Criminal Justice Series, New York State, Albany, November 1972.)

[50] The state-of-the-art has been such that the President's Commission on Law Enforcement and Administration of Justice (*Task Force Report: Corrections,* 1967, p. 107), for instance, had to call for a process of constant analysis of data on these and other seemingly straightforward questions in corrections agencies.

[51] Large agencies, such as the California Youth Authority, do not necessarily suffer from these problems. However, these agencies are much the exception rather than the rule.

[52] See Recommendation 4.1 on a similar issue.

[53] NILECJ has actually considered a requirement for a 40-page executive summary to be submitted 90 days prior to the end of a research project. At NIMH, information dissemination involves the publication of scientific articles and reports by grantees, publication of a special monograph series, and papers prepared by center staff for presentation at conferences and workshops. The monographs are essentially of two types. Some, ranging between 20 and 30 pages, are developed to provide brief literature reviews and research reports on special problem areas of wide public interest. Others, of 100 pages and more, are developed in order to stimulate indepth discussions of important crime and delinquency issues by policymakers, agency personnel professionals, and students.

[54] See Oscar Newman, *Defensible Space,* Macmillan, New York, 1972; the Government Printing Office version is *Architectural Design for Crime Prevention,* Washington, D.C., March 1973.

[55] For instance, see the exemplary projects described in Andrew Halper and Richard Ku, *New York City Police Department Street Crime Unit,* U.S. Department of Justice, Washington, D.C., 1975; and Ku, *Probation Counselor Program,* 1975. Seventeen criminal justice programs have earned the Institute's exemplary label through a demonstration of overall effectiveness, adaptability, and cost-effectiveness.

A second type of communication activity is the development of information storage and retrieval systems, of which the National Criminal Justice Reference Service is a prime example.[56] This facility gathers references to many research articles and reports, abstracts each publication, and then makes the abstracts available upon request. The nature of the citations can be tailored to specific key words and topics, so that a requester can be provided with an up-to-date, complete listing of abstracts. Because the Reference Service was only established in 1973, as yet there has been little evaluation of the utilization patterns of the service; for instance, it is not known whether researchers or practitioners make greater use of the service, or how useful the service has been to either.[57]

Yet another communication activity is the preparation of summaries and handbooks. NIMH monographs, for instance, are intended to provide practitioners with reviews of the literature on different topics. In NILECJ, considerable effort has been made to develop prescriptive packages, which not only review the research but also attempt to pinpoint the most salient policy implications and lessons for practitioners. Such reports include step-by-step procedures for the law enforcement agency that wants to initiate, for example, a team policing unit or a community relations program.

Most of these dissemination activities have not yet proved to be entirely effective. For instance, a pilot evaluation of the prescriptive package program found that the majority of persons on the mailing lists for two reports had either not read or not received the report.[58] In general, few practitioners, such as police, corrections, or courts officers, may have time to read the final reports of most research projects. Some reports are also published only after long delays. This is sometimes attributable to the researcher's inability to produce on time, but is also attributable to frequent prepublication intervention by the agency that supported the project. In spite of the best of intentions, the usefulness of final reports has yet to be evaluated in terms of their overall readership or impact on criminal justice practices—especially when there is a large number of different reports on the same topic. Rather, it is suspected that the prevalence of remarks like "another study to collect dust on the shelves" reflects considerable frustration over the ineffectiveness of written reports for transforming knowledge into practice.[59]

Summary of Traditional Strategies

This section identified four traditional R&D utilization strategies. Each of these has been tried in order to improve the transformation of R&D knowledge into criminal justice practice.

The first has been most common and involves the promotion of a specific innovation (a new program or technical device). This approach has tended to assume that local agencies are interested in changing their practices and that they have the incentives and willingness to change. The transformation from knowledge to practice is assumed to be a *congenial* process, in which Federal funds typically act as a catalyst for otherwise compatible interests. Yet, from what is known about bureaucratic and professional resistance to change, implementation might very well be seen as an *adversary* process involving all the trappings of overt conflict—e.g., the use of informants, propaganda, and even coercion. Particularly where the transformation also calls for a transfer of initiatives from outside to within the agency, local resistance to change may be very strong.[60]

As a result, few innovations may continue beyond the life of a special project, even if the innovation had been meritorious in the first place. Project personnel may be hired or specially assigned only for the duration of external or Federal support; after the additional funding ceases, the project may end and the project team may be disbanded. This can occur even when the team is composed of agency personnel, who may have to return to the assignments that they had before the innovation was initiated, or who may even turn to new assignments that are part of another new project. In short, the day-to-day routine of the agency's work may have changed little, even though many specific projects or innovations have been tried.

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[56] Another example is the National Council on Crime and Delinquency Information Center.

[57] There is currently an evaluation of the Reference Service being undertaken by the National Academy of Sciences, but at the time of publication of this report no findings were available.

[58] Richard Zamoff and others, "Improving Technology Transfer: Evaluating the Usefulness of the Prescriptive Package Program," The Urban Institute, Washington, D.C., December 1974.

[59] This is not intended to challenge a report's rightful role as a vehicle for establishing accountability between a research project and its sponsor. Final reports enable a researcher to convey the methods, findings, and conclusions to the sponsor on an individual project basis. The point is that, such reports may not be effective in communicating R&D knowledge to the practitioner in order to suggest the adoption of new practices.

[60] For an interesting description of the adversary approach, see J. V. Baldridge, "Rules for a Machiavellian Change Agent: Transforming the Entrenched Professional Organization," in J. V. Baldridge and Terrence E. Deal (eds.), *Managing Change in Educational Organizations*, McCutchan Books, Berkeley, 1975, pp. 378–388.

The second and third R&D utilization strategies involve the development of intermediary institutions and agency R&D teams. Both approaches strive for a longer-lasting institutional effect that goes beyond simple projects or innovations. Both strategies, however, also pose certain problems. With intermediary institutions, the institutions themselves are vulnerable to personnel turnover and decreases in funding support. Nevertheless, because of the wide variety of institutions, it is very difficult to identify any general guidelines that are likely to improve the effectiveness of this approach. With agency R&D teams, the nature of the R&D that is conducted is likely to be very operations-oriented, subject to shifting short-term priorities, and not reflect the full scale or specialization of R&D that is possible at the national level. At a minimum, agency R&D teams should be encouraged to resist rapid changes in priorities and to maintain a continuity of effort, in which existing projects are completed before new projects are undertaken.

The fourth approach to R&D utilization is mainly based on the use of written materials—reports, articles, handbooks, and the like. There is very little evidence about the work-related reading habits of even the highest caliber police or corrections officers, whose talents may rightfully focus on interpersonal skills. Good officers certainly need not have a strong propensity for reading reports to do their jobs effectively. To expect that officers will read materials based on research findings, no matter how well packaged, assumes a faith in the usefulness and merit of research that may only really be shared within the research community. Most practitioners may rightfully believe that the most useful information for performing their jobs comes from the on-the-job experiences of their peers and not from research. To the extent that this is true, increased emphasis should be put on word-of-mouth communications— as might occur at a professional association meeting—rather than on written reports.

Recommendation 3.1: Traditional R&D Utilization Strategies.

To enhance utilization of R&D findings that have been established as useful to some practitioner groups, R&D-funding agencies should improve the effectiveness of utilization strategies now in use. In particular:

1. Project-specific innovations should be undertaken when it is likely that the innovation, if shown to be meritorious, will be continued beyond the expiration date of the project.

2. Inhouse R&D teams in operating agencies could be funded under conditions designed to encourage continuity of effort.

3. R&D-funding agencies could give more emphasis to activities other than the distribution of written materials. Alternative dissemination activities include: conferences, workshops, meetings of professional organizations, and establishment of repositories for information about ongoing R&D projects and their results. Excessive reliance on the use of final reports from individual R&D projects should be avoided as an R&D utilization strategy.[61]

(See also Recommendations 3.3 and 3.4 for alternative R&D utilization strategies.)

C. THE DEVELOPMENT OF ALTERNATIVE R&D UTILIZATION STRATEGIES

Traditional R&D utilization strategies are not the only approaches to R&D utilization. There is a whole range of alternative utilization strategies that ought to be given greater emphasis. These strategies are based on two principles: the development of soundly based R&D knowledge and the use of natural points of entry into criminal justice practice.

A Major Prerequisite: Soundly Based R&D Knowledge

One of the most overlooked aspects of the utilization process concerns the nature of the R&D knowledge to be implemented. Typically, a research effort is thought to be one that produces *a finding or set of findings* that should be transformed into practice. Discussions of the implementation problem usually begin without necessarily questioning the definitiveness of these findings. For instance, if a research investigation was well-designed and conducted, if it recommended that police departments could improve services by installing new street crime analysis procedures, and if it further included a test of these procedures in a specific police department, then it usually has been assumed that this knowledge should be brought to the attention of other departments so that they may consider it for implementation.

The nature of R&D knowledge, however, is that the findings of a single study rarely provide a sufficient basis for establishing *scientific facts*. Findings, in other words, are not facts; to become accepted as facts requires replication—testing at other sites—and possibly further research to investigate related problems or second-order consequences, which the origi-

[61] This does not mean such reports should not be used to establish accountability between an R&D performer and the R&D-funding agency.

nal study may not have had the time to cover.[62] The knowledge derived from R&D is based on the cumulative findings of many studies, and the utilization process should begin with an attempt to assess and aggregate findings from individual studies.

A major requisite at the beginning of the utilization process therefore is the verification of the findings or ideas that are to be implemented. Given the uncertain nature of R&D, the dominant expectation would indeed be that many findings of single studies would *not* lead to implementation. On the contrary, a much greater effort must be made to aggregate, analyze, and even replicate individual studies before implementation is considered. Certainly, the findings from well-known individual studies, such as the Kansas City Prevention Patrol Experiment,[63] no matter how well designed and executed, should not automatically be considered as bearing immediate lessons for new preventive patrol practices.[64] However, a review or reanalysis that purports to critically analyze a whole host of studies on patrol research should provide R&D knowledge that ought to be considered for implementation.[65] Similarly, a multisite demonstration effort, in which the same idea is tested at many sites simultaneously, could also fulfill part of the assessment need.[66]

In the future, there should be more support for studies that screen, aggregate, or replicate the findings of other studies. Furthermore, individual researchers should be encouraged to relate their study findings to those of previous studies. This is a basic procedure in the accumulation of R&D knowledge. Research assessments should cover topics that are important from a practice-oriented point of view.[67] According to this point of view, a *practice-oriented assessment of R&D* is:

- A rigorous analysis of existing R&D on topics that will provide specific suggestions for new practice, no matter how meager the existing body of studies.

Naturally, topics to be covered should be determined with the advice of practitioner groups; the aggregation process should be seen as a continual one, as practices may continually be improved as new R&D findings are made known. However, although the topics to be assessed should be mainly chosen on the basis of practitioner needs, the assessments should be done as formal research projects. This means that the conduct of an assessment has its own problem of identifying evidence, selecting the appropriate data, using an appropriate research design, and following replicable scientific procedures.

Recommendation 3.2: R&D Assessments Oriented to the Needs of Criminal Justice Practice.

R&D-funding agencies should support more practice-oriented assessments of R&D. Such assessments should identify new or improved criminal justice practices from existing R&D knowledge. Professional associations, as well as other representatives of practitioners in criminal justice, should collaborate with R&D-funding agencies when deciding on topics to be assessed. Conduct of the assessments should be similar in scientific rigor to that of assessments used for other purposes.

(For a recommendation on other types of assessments, see Chapter 2, Recommendation 2.5.)

An Overall Objective: Seeking Natural Points of Entry for Changes in Practice

The development of soundly based R&D knowledge is only the first step for developing new utilization strategies. Further development requires a different way of thinking about R&D utilization—one that emphasizes the world of the practitioner and local agency and understands how changes normally occur in this world. The goal is to identify natural points—i.e., points that are part of the traditional

[62] For a related discussion, see Chapter 2.

[63] Kelling and others, *Preventive Patrol Experiment*, 1974.

[64] In a subsequent article—Tony Pate and others, "A Response to 'What Happened to Patrol Operations in Kansas City?' (by Richard Larson)," *Journal of Criminal Justice*, Vol. 3, Winter 1975, pp. 299–320—the authors clearly state:

> As authors and representatives of the Police Foundation, we want to make it clear that neither we nor the Foundation have 'marketed' the study as a 'definitive work' and certainly have never claimed it to be. It is not. The entire tone of the technical and summary reports is conservative and understated. Weaknesses of the study are candidly discussed and readers are encouraged to draw their own conclusions cautiously. We have consistently emphasized the need for caution in interpretation and have objected to overstated claims made for the implications of the findings. Procedures announcing the publication of the report were written in the same cautious tone. Nevertheless, we cannot control, nor be responsible for, the claims of others.

[65] An example of such an aggregative study is Saul I. Gass and John M. Dawson, *An Evaluation of Policy-Related Research: Reviews and Critical Discussions of Policy-Related Research in the Field of Police Protection*, Mathematica, Bethesda, Md., 1974. Others are Robert Martinson, "What Works? Questions and Answers About Prison Reform," *Public Interest*, No. 35, Spring 1974, pp. 22–53; and Stuart Adams, *Evaluative Research in Corrections*, U.S. Department of Justice, Washington, D.C., 1975.

[66] NII ECJ (Office of Technology Transfer) currently supports such multisite demonstrations, testing the basic transferability of different interventions.

[67] This is to be contrasted with other assessments that are conducted on topics of importance to research issues (see Chapter 2, Recommendation 2.5).

incentive structure in local practice—for changing the local system and to consider utilization strategies that can take advantage of these natural points. This shift in orientation is not necessarily the only different way of thinking about implementation. However, it is one approach that deserves further attention.

The potential importance of this shift in thinking about utilization should not be underestimated. Until now, most implementation strategies have been heavily dominated by a Federal approach to local affairs that reflects a concern with federally designed and mandated programs. One team of analysts, for instance, has suggested that local implementation is only the microlevel phase of the macrolevel problem of implementing Federal programs.[68] Another group describes the implementation problem as one mainly consisting of guidelines development (based on new congressional legislation), resource allocation by a support agency, monitoring of a local performer by the support agency, auditing, and evaluation.[69] This approach also reflects the implementation problem as seen from a Federal perspective. The dominance of these views can also be seen in the way many Federal officials in criminal justice interpret the role of the SPA's. Such officials see the SPA's as having to forge local political pathways so that innovations, often developed at the Federal level, can be implemented by local criminal justice agencies. It is this type of thinking—from the Federal perspective—that has led to many of the current Federal policies that emphasize specific projects, technical assistance, demonstration projects, and intermediary institutions.

In contrast, it might be more helpful to consider the characteristic world of a person in criminal justice practice—whether that person is a police officer, a judge, a corrections officer, or another type of practitioner.[70] First, such a person receives highly specialized, formal training, which takes place in law schools, police academies, university programs for students interested in criminal justice,[71] and the like. Second, even with this training, the person usually cannot become a practitioner without some certification procedure that may call for a formal examination (e.g., a bar exam or a civil service entrance exam). Third, many of the rules governing the scope and substance of the certified person's criminal justice practice are set by statute, most often by State legislatures. Fourth, the person generally advances his or her career through on-the-job performance, political and personal ties,[72] and further testing and certification—as in promotion examinations for police officers. Fifth, a practitioner usually belongs to two important groups: a professional peer group organized around a professional association (local and national) and, in some cases, a public service union; and a bureaucratic organization or local agency, which is part of a State or local government.

From the point of view of this characteristic world, how is traditional practice as well as new practice learned? The hypothesis is as follows: The initial training and subsequent certification, in addition to study for civil service promotions, certainly provide formal tools and skills. The requirements and constraints of legal statutes, as well as early on-the-job experience,[73] serve as critical socialization processes that are probably most important in determining the nature of subsequent practice. Finally, the information communicated through formal and informal channels, as part of the professional or bureaucratic organization, will also influence the nature of criminal justice practice. Outside of these major sources of influence, most other new information may have little effect on practice.

To the extent that this scenario is valid it can be seen that the traditional R&D utilization strategies have relied on the less important aspects of the practitioner's world. The formation of special project teams and intermediary institutions, interactions with researchers, and the reading of research reports are all relatively peripheral to the work of the practitioner. Not surprisingly, these approaches to implementation may have few long-term effects in transforming knowledge into practice. An alternative approach is, therefore, to identify and utilize the important or natural points for changing practices. Five such entry points ought to be considered for additional approaches to utilization. These points are: training, certification, development of new legis-

[68] Milbrey W. McLaughlin and Paul Berman, "Macro and Micro Implementation," The Rand Corporation, Santa Monica, P–5431, May 1975.

[69] Martin Rein and Francine Rabinowitz, "Implementation: A Theoretical Perspective," Department of Urban Studies and Planning, Massachusetts Institute of Technology, Cambridge, May 1974.

[70] For simplicity's sake, this discussion does not attempt to identify the key differences among these professions.

[71] It is especially important to note such university programs in law enforcement and criminal justice because these programs have increased rapidly—from about 200 a decade ago to more than 1,200 as of 1973–1974 (Center for the Administration of Justice, *New Directions and Initiatives in Criminal Justice Education*, Temple University, Philadelphia, Pa., 1975).

[72] This should not be taken as a pejorative point. Many positions are filled on the basis of appointments by chief executives and approval by legislatures. In addition, opportunities for advancement (in any employment) are often communicated through collegial and friendship networks.

[73] Job experience as a socialization process has been repeatedly documented by studies of the police—for example, Gene Radano, *Walking the Beat*, World, Cleveland, Ohio, 1968; and Jonathan Rubinstein, *City Police*, Farrar, Strauss and Giroux, New York, 1973.

lation, professional activities, and the organizational functions of the local bureaucracy.[74]

Illustrative Points of Entry

Training. It should be quite clear that what is meant by training is *not* the compensatory or remedial training program related to a specific topic such as human relations training, computer training, or training in the use of new equipment.[75] The training discussed here is the basic training in the field—i.e., police academy curricula in the case of police officers, law schools in the case of judges, and perhaps change agent programs [76] in the case of other criminal justice personnel. The textbooks, lectures, and other aspects of the curriculum in this basic training collectively serve as an important opportunity (or points of entry) for transforming R&D knowledge into practice. This is because potential practitioners have great incentives for learning about new types of practices at this point in their careers.

At the present time, there have been few innovative uses of the curriculum development process in basic training. For instance, the trainees or degree candidates may not have been exposed to the wide range of computer technology applications in information systems or to useful statistical analyses. Similarly, the training may not include internships or apprenticeships in a variety of criminal justice agencies —epecially agencies other than the ones that will probably employ the candidate. If only in relation to the R&D utilization problem,[77] further attention should be given to the curriculum development process in basic training institutions for criminal justice practitioners. The current state of R&D knowledge should be directly reflected in what is taught in these institutions, the design of internships and practicums, and the development of new textbooks. This means that soundly based R&D knowledge should be directed to the teachers, governing boards, publishers, and other educational or professional bodies that are responsible for the design and development of the curriculum in the basic training institutions.

Not to be overlooked in this curriculum development process is the role of professional associations or boards in setting training standards. In these basic training institutions, if the teachers cover the most up-to-date developments in the field—and attempt to instill an analytic attitude that enables candidates to keep abreast of new developments even after the formal training period has ended—there is likely to be greater receptivity to innovative practices.

Certification. Most criminal justice practitioners must pass an examination and be licensed before they are allowed to practice. This includes the civil service entrance examination for prospective police or corrections officers (where relevant) and the bar examination for lawyers. (For civil service exams, this discussion of the certification issue is intended to include the tests that are administered to determine the ratings for promotion.) As in their basic training, individual candidates have a high incentive to perform well on these tests and will therefore give close attention to the materials to be studied. The certification process thus appears to be another excellent opportunity to convey R&D-based knowledge to potential practitioners. The candidates may learn about specific innovations or innovative experiences as well as the innovation process itself. Once again, little attention has been given—for R&D utilization purposes—to curriculum development in the certification process—i.e., the directing of new R&D knowledge to those who design and update certification tests.

Development of New Legislation. Statutory mandates set many of the basic rules for criminal justice practice. This is true for the imposition of sentences as well as for issues such as police department working hours and shifts. The relevant statutes are often revised by new legislation, and criminal justice practices thus are subsequently affected.

The consideration or passage of new legislation is therefore a third potential point of entry into the practitioner's world. In this case, the entry point is through legislators and their staffs. Soundly based R&D knowledge could have considerable impact if the relevant topics were easily accessible to such an audience. Many times, legislators and their staffs must currently initiate calls to researchers on an indi-

[74] A sixth point, the relation to clients, can also serve as a potent opportunity for change. The political importance of client groups as allies in the battle to change local bureaucracies is described in an excellent article by Herbert Kaufman, "Bureaucrats and Organized Civil Servants," in Robert H. Connery and D. Caraley (eds.), *Governing the City*, Praeger, New York, 1969, pp. 41–54. See also, Robert K. Yin and Douglas Yates, *Street-Level Governments: Assessing Decentralization and Urban Services*, D. C. Heath, Lexington, 1975.

[75] As one author has pointed out in relation to such remedial training programs in corrections, the type of program that really may be needed is one that emphasizes all of the learning that goes on at boot camp or college but outside the lecture hall; the training need often calls for a reorientation of attitudes (which does occur frequently at boot camp or college) and not just the learning of specific skills. See David Duffee, "The Correction Officer Subculture and Organizational Change," *Journal of Research in Crime and Delinquency*, Vol. 11, July 1974, pp. 155–172.

[76] Change agent programs exist at both the undergraduate and graduate levels. The curriculum is intended to train students to work effectively in bureaucratic organizations and especially to create an environment for change and innovation. Such programs now exist in many universities across the country.

[77] It should be pointed out that the concern here is only with R&D knowledge. There may be other strong reasons for examining the curriculum development process in law schools or police academies.

vidual and unsystematic basis to find out what R&D results may be relevant to a new bill that is being developed. In the future, this type of communication should be facilitated, and new utilization processes should produce relevant materials directed to legislators.

Professional Activities. As previously indicated, there is already some Federal support for professional activities such as conferences, newsletters, and meetings. These communication channels can play an important role in disseminating information to practitioners, because the information comes from a credible source (i.e., other practitioners) and because it may be communicated by other than written modes (e.g., discussions, demonstrations, and convention displays by private manufacturers).

The role of professional organizations in implementing new R&D knowledge is just now being realized for public services other than criminal justice.[78] For criminal justice professions, there should be greater emphasis on the use of national organizations —such as the American Bar Association, the International Association of Chiefs of Police, and the American Correctional Association—in effectively transmitting new knowledge of developments in their respective fields. Many of these organizations are influential, for instance, in setting standards for the field—as in the American Correctional Association and its *Manual of Correctional Standards.* The standard-setting activity could easily incorporate new R&D knowledge, as in the example of the establishment of evaluation standards to assess operating programs.[79] Overall, the analytic capability as well as the communication function of the professional association might be enhanced in the future.

The role of local professional organizations should also be increased. One local bar association, for example, attempted to draw attention to the need for systemwide improvements in local criminal justice agencies.[80] Local professional organizations thus could be encouraged to conduct more frequent meetings, arrange for other informal occasions for their membership to learn about new practices, and use other information dissemination techniques to reach the membership.

Organizational Functions. This last point of entry is perhaps the most complex. Service organizations (e.g., police departments, court administrations, or corrections departments) can control the behavior of individual practitioners and by doing so can influence service practice. In order to consider the implementation of new practices by these organizations, the basic self-interest of these organizations must be taken into account.

These organizations are primarily bureaucratic; their self-interest primarily concerns their growth, which has been hypothesized to be related to organizational survival.[81] This is because rapid growth in an organization tends to attract more capable personnel because of the likely high rates of promotions. Growth also reduces internal conflict by creating new opportunities within the organization rather than competition for scarce resources. Finally, very large bureaucracies can even begin to "impose a certain degree of stability upon their external environment.[82] All of these conditions make a service organization less vulnerable to external reorganization and abolishment.

Any R&D utilization strategy that attempts to take advantage of organizational functions and procedures must be developed with these bureaucratic self-interests in mind.[83] Given such an orientation, one may look for more specific opportunities for changing practices. Two illustrative opportunities (especially for law enforcement agencies and corrections agencies) are union negotiations or other employee agreements, and the acquisition of new supplies and equipment.

After firefighters, police officers are the most organized municipal employees: 82 percent of all firefighters and 72 percent of all police officers are members of an employee organization.[84] Most but not all of these employee organizations act as labor unions that negotiate working conditions with the respective law enforcement agencies.[85] The negotia-

[78] For example, see Irwin Feller and others, *Diffusion of Technology in State Mission-Oriented Agencies,* Institute for Research on Human Resources, Pennsylvania State University, University Park, October 1974.

[79] Peter P. Lejins and Thomas F. Courtless, *Justification and Evaluation of Projects in Corrections,* Institute of Criminal Justice and Criminology, University of Maryland, College Park, 1973.

[80] Howard B. Morris and Gordon Van Kessel, "San Francisco Criminal Justice Project," *American Bar Association Journal,* Vol. 58, March 1972, pp. 263–266.

[81] This is the main hypothesis of Anthony Downs, *Inside Bureaucracy,* Little, Brown and Company, Boston, 1967. The hypothesis can also be stated in economic terms and account for the service organization's desire to maximize its annual budget. See William A. Niskanen, *Bureaucracy and Representative Government,* Aldine Publishing Company, Chicago, 1971.

[82] See Downs, *Inside Bureaucracy,* 1967, p. 17.

[83] For a description of the political processes at stake, see Timothy W. Costello, "Change in Municipal Government: A View from the Inside," *Journal of Applied Behavioral Science,* Vol. 7, March/April 1971, pp. 131–134.

[84] Stephen C. Halpern, *Police-Association and Department Leaders,* D. C. Heath, Lexington, 1974, p. 107.

[85] There has been very little research in general on the role of employment organizations in criminal justice. For two exceptions, see Harvey Juris and Peter Feuille, *Police Unionism,* D. C. Heath, Lexington, 1973; and International Association of Chiefs of Police, *National Symposium on Police Labor Relations,* Gaithersburg, Md., June 1974. Most research to date has focused on the individual officer and his

tion process during the past few years has gradually become more concerned with all aspects of employment, including those that traditionally would have been considered management prerogatives. Therefore, the negotiation process can now play an important role in determining police practice and has become a potential (although obviously highly volatile) point for installing new practices.

Although collective bargaining is always politically delicate, recent experiences suggest that contract negotiations can provide a potential opportunity for implementing new service practices.[86] Certain labor-saving innovations are naturally likely to draw union opposition; however, with the increased pressures on State and municipal budgets, unions are more likely to consider these innovations as possible alternatives to more drastic job cutbacks. Other modifications in practice are less threatening and could certainly become the subject of productive negotiations. These topics could include some of the other natural points of entry—e.g., there could be agreement over new training or certification standards.

The acquisition of new supplies and equipment is another organizational process that takes place regularly; it can serve as another potential point of entry. The entire patrol car fleet of a police department, for instance, may be replaced during a 5-year period. This means that, if improved practices are developed for either the cars or their use, the practices could be installed over the period of time without having to advocate a special project or deviation from standard organizational procedures. In fact, some police departments routinely adopt new patrol cars that have been tested by large departments, such as the Los Angeles Police Department. Again, the possibility of using the purchasing procedure as an opportunity for innovation needs to be expanded.

Implications of Additional R&D Utilization Strategies

The overall approach of identifying and using natural points of entry is only one of the alternative approaches to R&D utilization that deserves further consideration. For purposes of precise comparison, evaluative research should be designed to compare this type of approach with some if not all of the traditional utilization strategies. The implications of such additional approaches, however, are already evident, but should be clarified.

First, the natural points of entry deemphasize any direct link between a specific research project culminating in a specific innovative practice. The use of natural points of entry implies that new R&D knowledge will be translated into new practices only through a series of intermediate steps. These steps include: the sufficient replication of results, the publication of the results in practitioner textbooks, and the use of results in organizational procedures such as the purchasing process. This may be contrasted with traditional utilization strategies, which have assumed that a specific problem can be addressed by a specific research project that leads to policy-relevant conclusions worthy of immediate field testing or implementation. The traditional approach may be appropriate in dealing with the highly operational and day-to-day problems faced by a criminal justice agency, but in the long run such an approach is more likely to resemble management analysis rather than actual R&D—which places greater weight on the development of scientific facts based on replicable scientific methods.

Second, the alternative approach implies a much longer timelag between R&D activity and the eventual installation of new practices. This will mean a reduction in expectations, at least at the outset, concerning the ability of R&D to address crises such as the urban disorders of the 1960's or a sudden crime-wave in a given city. Indeed, such a reduction in expectations may be a major lesson to be derived from the events of the past decade. In retrospect, in instances where R&D has been most successful in providing guidelines for new practices, e.g., national defense, agriculture, highways, and medical care, the successes appear to have resulted from: (a) long-standing investments in R&D; and (b) utilization strategies that have been nurtured for a period of at least several decades. The exceptions, such as the effort to land a man on the moon, seem to occur when there is a specific, concrete, and possibly non-social mission, or when the required R&D activity is largely an engineering effort that can take advantage of a reservoir of existing research.[87] Thus, for the criminal justice area, R&D utilization must be con-

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or her behavior and not on the collective efforts to influence agency policies; as one writer has aptly summed the situation (see Halpern, *Police-Association*, 1974, p. 2):

> If political scientists and sociologists have failed to investigate the nature and significance of police employee organizations, so have the police science students as well. An examination of fourteen police textbooks, manuals, and guidebooks written within the last ten years turned up a meager five references to police unions, independent associations, or fraternal groups.

[86] Margaret A. Levi, "And the Beat Goes On: Patrolmen's Unionism in New York City," Operations Research Center, Massachusetts Institute of Technology, Cambridge, August 1974.

[87] For a discussion by one writer who disagrees that the space effort was necessarily unique, see Paul R. Schulman, "Nonincremental Policy Making: Notes Toward an Alternative Paradigm," *American Political Science Review*, Vol. 69, December 1975, pp. 1354–1370.

sidered to be a process that will *only* occur incrementally, over a long period of time.

Third, the alternative approach places increased demands on the aggregation of research results. As already pointed out, soundly based R&D knowledge is the outcome of a cumulative process. Steps such as the encouragement of research assessments and inventories can and should be taken to facilitate this process. This means that research investigators must adequately communicate with each other (and be given the time to consider the relation of their findings to those of other studies), that data collection procedures and measures must be standardized so that different studies can be compared, and that new or existing third-party institutions, such as the National Bureau of Standards, must play a stronger role in deciding the new R&D knowledge that should be incorporated at the natural points of entry—e.g., new curricula, certification procedures, or purchasing standards. Most individual research projects probably will not lead to implementation—and should not necessarily be judged heavily in terms of their utilization. Those projects that lead to implementation will do so only after an intervening period of time for replication and reanalysis.

Finally, the use of natural points of entry is in no way intended to preclude attempts to improve traditional strategies. Large-scale field tests or multisite demonstration projects, selected and organized in close collaboration with local agencies such as SPA's, are, for instance, a necessary step to show the worthiness of new ideas in real-life settings.

Recommendation 3.3: Additional Utilization Strategies.

To improve utilization, R&D-funding agencies should identify and take advantage of natural points of entry into the practitioner's world.

1. For instance, research assessments containing new R&D knowledge could be prepared and communicated directly to decisionmakers who control these points of entry.

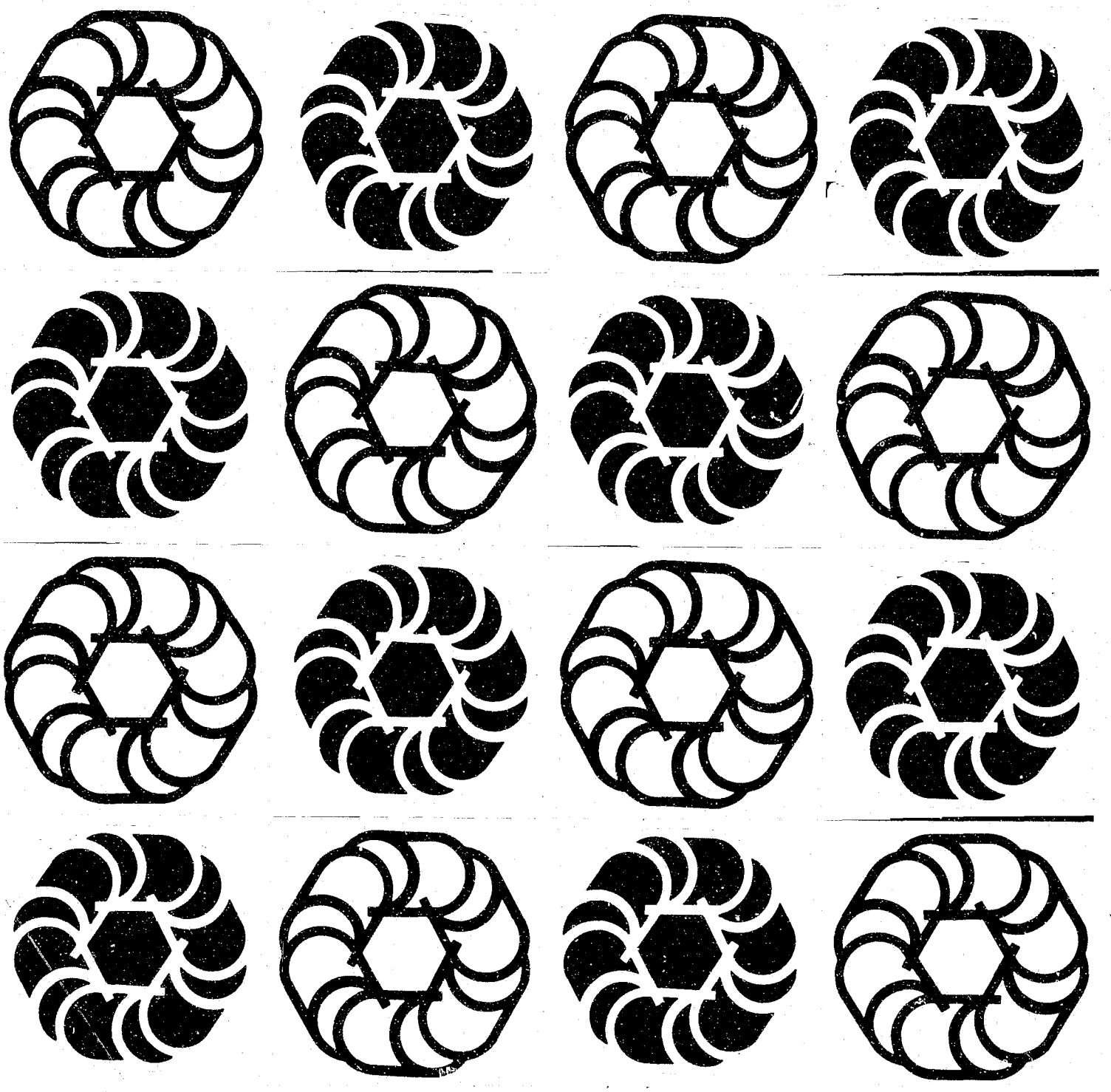
Recommendation 3.4: Use of Training, Certification, New Legislation, Professional Association Activities, and Organizational Functions as Opportunities for Additional R&D Utilization Strategies.

R&D-funding agencies should direct R&D results to decisionmakers who influence and control at least five natural points of entry into the practictioner's world: training, certification procedures, new legislation, professional association activities, and organizational functions.

1. For instance, accreditation boards and teachers may usefully incorporate new R&D knowledge into the curriculum of training institutions (e.g., professional schools, university programs in criminal justice, and police academies).

2. Similarly, R&D results could be made available to certification boards, legislative staffs, professional associations, collective bargaining officials, and procurement officers, so that each group can incorporate such results into its decisions.

Part 3
Three Types of Criminal Justice Research



INTRODUCTION

To complement the detailed treatment of the support, conduct, and utilization of criminal justice R&D presented in Part 2, the three chapters of Part 3 explore the unique features of doing special kinds of research. Rather than apply the principles of the research process to specific and narrowly defined topics, this report considers broad *classes* of problems that confront the criminal justice community. Three were chosen from amongst many, and a chapter is devoted to each one. The topics include criminal justice technology R&D, research on criminal justice organizations, and research on new criminal justice problems.

Each class of problems is illustrated with a major example that is documented in enough detail to provide the necessary context and depth for the more general recommendations being proposed. The illustrative topics are: crime prevention at commercial and residential sites (for technology R&D), sentencing (for organizational research), and victim research (for new problems). The inclusion of these topics should not be construed as representing research priorities. The recommendations focus on policy guidelines for conducting an entire class of research rather than on the illustrative topic.

Chapter 4 discusses criminal justice *technology R&D*. Many distinguishing characteristics make this a worthy topic for consideration in a separate chapter. For instance, the chapter gives explicit attention to many key characteristics of criminal justice R&D —e.g., the role of physical science and engineering research, the role of private sector firms in supporting R&D, and the special tradeoffs between technological, nontechnological, and mixed solutions to a problem. Moreover, the setting of performance standards and certification of technological products are important functions in criminal justice and are not covered elsewhere in this report. The illustrative topic discusses crime prevention at two types of sites —retail businesses and residential locations. Although the illustrative topic provides an appropriate context, the recommendations apply to criminal justice technology R&D in general.

Chapter 5 examines *R&D on criminal justice organizations*. The chapter emphasizes such topics as: the ways in which this kind of research differs from laboratory research; the additional burdens that are placed on researchers and on criminal justice organizations in conducting this kind of R&D; and the problems of defining terms, developing research designs, and developing different research approaches to deal with problems such as decisionmaking within the criminal justice system (e.g., arresting, prosecuting, sentencing, or paroling). These and other issues are discussed using several illustrative topics relating to research on sentencing. Although sentencing is in one way a narrowly defined topic, the coverage is intended to allow for broader inferences. Because sentencing is, for example, one form of discretionary decision, the discussion is intended to apply equally well to other procedures within the criminal justice system that also involve discretionary powers—such as arrest and prosecutorial decisions.

Chapter 6 addresses the third class of problem—*R&D on new criminal justice problems*. The chapter covers topics such as: the factors involved in determining whether research on a problem is needed; the development of research strategies for planning and supporting a new program of studies on the problem; and the review of available information to determine its usefulness in doing empirical research on the problem. These issues cut across all specific topics of R&D and are intended to suggest ways that R&D policymakers can develop a rationale for supporting research on a new and, hence, frequently unstructured problem. The illustrative topic, victim research, raises issues of victim protection, the use of victimization surveys, and the treatment of victims by the criminal justice system.

The chapters in this part of the report can only hint at the enormous complexity of carrying out criminal justice R&D. For each special class of problem, such as the three presented in this report, a host of different requirements and circumstances may be brought into play and must be considered. It is hoped that this report has demonstrated that such problems are tractable; that with diligence, intelligence, and perseverance, progress is possible; and that R&D, properly managed, can play a more vital role in responding to current and emerging social problems

Chapter 4
Technology R&D in Criminal Justice

A. INTRODUCTION

In one sense, technology R&D can be defined very broadly to encompass almost any R&D activity. The focus of this chapter, however, is primarily on the *hard technology* [1] related to the physical or biological sciences—including, but not limited to, engineering, physics, chemistry, physiology, medicine, and biology.

In criminal justice, R&D on hard technology involves many diverse activities. For instance, it includes many different research fields and specialties, ranging from architecture (e.g., environmental design for security), to physiology (e.g., blood-typing techniques), to electrical engineering (e.g., new alarm systems). Moreover, although technology R&D is usually associated with the activities of criminal justice agencies (as in the development of new weapons, communications, equipment, or correctional facilities), there are many types of hard technology that are used both in the public *and* private sectors to protect against crime (e.g., high-intensity lights, locks, alarms, and surveillance equipment). Thus, citizens and private businesses are often the direct consumers of technology R&D. Finally, technology R&D covers a full spectrum of activities—from the generation of new knowledge to its translation into improved criminal justice practices and techniques, i.e., the evaluation of products and the dissemination of the results to potential purchasers.

There are several reasons for examining this type of R&D in criminal justice apart from other kinds of R&D. First, R&D on hard technology is different because the role of the private sector is different. Technological innovations have usually emanated from private businesses; this type of technology R&D typically leads to a specific product or service that is then manufactured and marketed by private businesses. Because the private sector stands to profit from sales once R&D is completed, much of the needed R&D is privately financed. Second, the dissemination of information about new technology to potential purchasers in the public and private sectors may require special attention different from that given to the results of other types of criminal justice R&D. Here again, the greater role of the private sector means that economic market mechanisms may be much more applicable to the dissemination processes than in cases of nontechnological R&D. Third, in recent decades Americans have looked increasingly toward technology R&D for solutions to many social problems. This has led to some dissillusionment, because many of the problems remain unresolved, and, therefore, there has been a call for a more critical examination of the role of new technology.

This chapter explores a number of important issues in managing and performing technology R&D in criminal justice. These include:

- The role of the public sector in criminal justice technology R&D;
- The selection of technology R&D projects;
- The management of technology R&D; and
- The evaluation and dissemination of technology R&D.

The Importance of Technology R&D

A general appreciation of the potential role of technology in criminal justice can be derived from the 1973 task force reports of the National Advisory Commission on Criminal Justice Standards and Goals. One technological development covered throughout these reports and now considered important in police, courts, or corrections operations was

[1] This chapter was developed by the Task Force in part on the basis of a draft by Dr. James Kakalik and Ms. Linda Prusoff, The Rand Corporation, Santa Monica, Calif. Hard and soft technologies are labels commonly used in the applied sciences. Hard technologies refer to tangible materials, though the term also encompasses the physical embodiment of any idea. Soft technologies are more conceptual and analytical, though they can have profound effects on people's lives when implemented. Often, innovations contain a mix of both hard and soft technologies (e.g., an information system, where the computer programs and data constitute the soft portion, and the main processor, peripheral equipment, terminals, disks, secured facilities, air conditioned environment, etc., constitute the hard portion). The use of these terms should not be interpreted in the same sense as in hard and soft science, or technology R&D that is analytically hard (rigorous) or analytically soft (nonrigorous). The terms do not connote the same values, and care should be exercised in their use.

a *computer-based information system.* For instance, one standard called for the further testing of automated legal research services;[2] another called for correctional information systems for planning, operational control, offender tracking, and program analysis and review;[3] and a third called for the establishment of cost-effective, compatible information systems to collect and store criminal information for retrieval by police personnel in the field.[4]

Another technological theme in the reports dealt with *the design and construction of facilities.* This covered the establishment of minimum security standards for residential and commercial structures,[5] standards for the design of correctional facilities,[6] and standards for the development of facilities in public areas (e.g., high-intensity street lights).[7]

The task force reports also dealt with numerous other uses of technology, such as:

- Improved police apparel and equipment;
- Improved ground and air vehicles;
- Improved communications systems, including the use of video communications in court proceedings;
- Certification of crime laboratories to insure procedurally sound and scientifically valid tests and analyses;
- Improved alarm and detection systems; and
- Improved field command and control techniques, such as automated vehicle locator devices, real-time unit status reporting devices, and vehicular visual display devices with hard copy capability.

This simple enumeration of the applications of technology R&D that are possible in criminal justice gives some idea of its potential importance. New techniques for analyzing evidence (e.g., gunshot residue analysis) are strengthening the investigative and prosecutorial functions of law enforcement.

Illustrative Issues in Managing Technology R&D

The 1973 task force reports also have provided good examples of some of the managerial issues in technology R&D. Among them are the need to define the roles of different levels of government, the need for evaluating technology, the need for setting performance standards, and the need for disseminating information on available technology.

For instance, one recommendation of the task force report on police dealt with the testing of new equipment. This recommendation suggested that, before submitting its annual budget, every police agency should evaluate the potential usefulness and limitations of each type of transportation equipment —new and old. This type of recommendation raises managerial questions about whether it is feasible or even desirable for each local criminal justice agency to have the capability to conduct such tests. It makes little sense, for example, for each police department to conduct extensive and detailed performance tests on police vehicles. The local evaluation of equipment by many different police departments could result in a lower quality assessment of the technology, because local officials may not have the funds, personnel, or expertise to conduct extensive evaluations. This is not to say that evaluations of technology should not include local field tests; rather, it may be more efficient and effective for a central agency to test and evaluate numerous types of hard technology, and to engage some local agencies in the testing process, and then to provide the resulting information to all local agencies for their decisions in view of their specific needs.

A second example can be found in the report by the community crime prevention task force—which called for State and local units of government to develop new security standards within existing building codes.[8] The task force stressed that security standards in building codes should be stated in terms of effectiveness rather than in terms of specific physical design. Unfortunately, there was not enough information to determine fully which of the specific security standards should have been written into building codes to reduce crime, or which of the specific building designs and security equipment should have been implemented to meet these requirements.[9] The degree to which various building design features are effective in crime reduction has not been well researched, and considerable R&D would be needed to establish basic standards. (This is not to say that certain design features, whose efficacy and cost-

[2] For further discussion, see Standard 11.2, National Advisory Commission on Criminal Justice Standards and Goals, *Courts* (Washington, D.C., 1973), pp. 222–225.

[3] For further discussion, see Standard 15.1, National Advisory Commission on Criminal Justice Standards and Goals, *Corrections* (Washington, D.C., 1973), pp. 519–520.

[4] For further discussion, see Standard 24.3, National Advisory Commission on Criminal Justice Standards and Goals, *Police* (Washington, D.C., 1973) pp. 578–580.

[5] For further discussion, see Recommendation 9.1, National Advisory Commission on Criminal Justice Standards and Goals, *Community Crime Prevention* (Washington, D.C., 1973), pp. 194–197.

[6] For further discussion, see Standard 11.1, *Corrections,* pp. 357–359.

[7] For further discussion, see Recommendation 9.3, *Community Crime Prevention,* pp. 198–200.

[8] To set standards, information on the cost-effectiveness and necessity of specific security features as a function of the type and location of a building, and the tradeoffs between fire safety, crime prevention, and consumer preference factors, is needed.

[9] For further discussion, see Recommendation 9.2, *Community Crime Prevention,* pp. 197–198.

effectiveness have been well established, cannot be incorporated at the present time.) One management issue that has been raised, therefore, concerns the formulation, adoption, and enforcement of a detailed set of standards for technology.

A third example of management issues in technology R&D is the dissemination of information on available technology. The 1973 task force on community crime prevention recommended the establishment of a centralized procurement operation on a statewide basis, with such an operation developing equipment specifications.[10] The recommendation pointed to the desirability of obtaining information and assistance from such sources as the U.S. General Services Administration, the American Society of Mechanical Engineers, and the U.S. National Bureau of Standards. Each of these organizations has some useful information, but there are still large gaps and a potential unfulfilled national role in the evaluation and development of standards for many types of criminal justice technology. This raises the managerial issues of how local agency procurement (and other) standards should be established, and how any guidelines that might be developed could be disseminated effectively and put into practice.

B. PUBLIC SECTOR ROLES AND INSTITUTIONS

Much technology R&D is supported by private sector institutions. This means that when there is a need for better alarm systems, new police equipment, or new architectural designs for security, it is the private business sector that develops and markets the necessary product. Even when public agencies (e.g., corrections departments) are the main purchasers of these products, the R&D may be conducted by the private sector.

Given this context, the appropriate role of the public sector in supporting technology R&D is not as obvious as it is in nontechnology R&D, such as the analysis of crime, the study of delinquency, or the development of effective police deployment patterns. To the extent that there is a public sector role in technology R&D, that role must be more carefully examined and justified, rather than assumed. Moreover, the roles of the public agencies at various levels of government—Federal, State, and local—must be differentiated.

The purpose of this section is to show the appropriateness of a public sector role in technology R&D and to indicate the suitable functions to be carried out by Federal, State, and local agencies.

[10] For further discussion, see Standard 12.1, *Community Crime Prevention,* pp. 249–252.

Table 4.1. Estimated Losses From "Ordinary" Crime by Sector of Business in 1971 and 1975

($ in billions)

Business Sectors	Cost 1971	1975
Retailing	4.8	6.5
Manufacturing	1.8	3.2
Wholesaling	1.4	2.4
Services	2.7	4.3
Transportation	1.5	2.3

Source: *The Cost of Crimes Against Business,* Bureau of Domestic Commerce, U.S. Department of Commerce, Washington, D.C., January 1976. The figures are not adjusted for changes in the value of the dollar.

Illustration: Retail Business Security[11]

In order to illustrate the role of technology R&D in crime prevention and detection, as well as the variety of other technologies that are in use or in development, this section uses *retail business security* as an illustrative topic. It was deliberately selected to demonstrate the appropriateness of a public sector role in technology R&D, even where the private sector is the main purchaser of the relevant products. It is assumed that if a case for public sector involvement can be made in these instances, it will be easier to affirm the appropriateness of a public sector role in instances where law enforcement or other public agencies are the main purchasers of the relevant products.

The selection of retail business security as an illustrative topic is apt first, because it depicts examples of the public-private issues that are of concern in this section, and second, because of the magnitude of crime in retail establishments relative to other areas in the commercial sector. In 1975, crimes against business amounted to almost $24 billion, with retail business suffering the greatest loss— approximately $6.5 billion (see Table 4.1). Total costs in 1975, for specific crime prevention measures in the business sector amounted to $4.5 billion, up from the $3.3 billion figure from 1971 (unadjusted for changes in the value of the dollar).

[11] The selection of retail business security as an illustrative topic in this section and residential security in the next overlaps to some degree with issues covered by the private security task force of the National Advisory Committee on Criminal Justice Standards and Goals. The reader is referred to that task force's report for further information.

Table 4.2. Typical Retail Crimes

Type	Percent
Shoplifting	28
Burglary	23
Vandalism	20
Bad checks	13
Employee theft	13
Robbery	3
All Retail Crime	100

Source: Cited in *The Cost of Crimes Against Business,* 1976.

Retail stores suffer the greatest losses of all commercial targets; they also have higher victimization rates for burglary and robbery than other types of businesses.[12] They are good targets, partially because their merchandise typically has buyer appeal (e.g., clothes, records, cosmetics, jewelry) and is easily resalable, but also because there are multiple opportunities for crime to occur. Merchandise is openly and attractively displayed, which invites shoplifting, and there is also ample opportunity for employee theft.[13] Table 4.2 lists the types of crime affecting retail stores. Each of these retail crime problems and the associated preventive measures is briefly discussed below.[14]

Shoplifting. Shoplifting, although not a sensational crime, is nevertheless a very serious problem in the United States. About 4 million shoplifters are apprehended each year, and it has been estimated that in only one out of every 35 shoplifting incidents is a suspect apprehended.[15] The National Retail Merchants Association estimates that retailers' losses from inventory shortages, due to such factors as shoplifting and employee theft, amount to more than 2 percent of total sales in the case of department and apparel stores.[16] The importance of these losses is realized when it is noted that the profit margin in these types of businesses is often of the same order of magnitude.

Although attentive sales personnel[17] and the use of plainclothes or uniformed security personnel may be effective in detecting and deterring shoplifting, certain technologies are playing an increasingly important role. Among the various devices that have been installed are:

- Closed-circuit television, which is used both as a monitoring device and as a deterrent, giving customers the visible impression of extensive coverage;
- Concealed observation posts, equipped with peepholes or two-way mirrors as well as some means of communicating with security personnel on the floor;
- Fasteners that can secure valuable garments on a hanger and to a rack;
- Mirrors that can be mounted to allow observation of blind spots;
- Alarm mechanisms that can be attached to every emergency and unused main floor door to remove potential exits for shoplifters;
- Fixturing, which can also help to eliminate opportunity—for example, such details as metal retaining clips at each of the corners of glass top showcases and heavy quality doors across the rear of showcases to replace the easily flexed fiberboard door can make shoplifting more difficult;
- Audible alarms that can be used to attach very expensive merchandise, e.g., furs, to some store fixture, e.g., mannequins;
- Packaging that makes objects difficult to conceal or that makes it obvious when a package has been opened;[18] and
- Price tags that are difficult to switch or modify.

Burglary. Burglary is the unlawful entry into a premise to commit a felony or theft. Retail stores are the major commercial targets of burglars. Although

[12] U.S. Department of Justice, *Criminal Victimization Surveys in the Nation's Five Largest Cities,* Washington, D.C., 1975.

[13] Employee theft can take on subtle forms, e.g., employees on the floor may undercharge their friends or accomplices, or may underring on the register and pocket the difference. Other stealing may occur in the receiving, shipping, delivery, and mail order departments.

[14] Because of the variety of devices on the market, these descriptions should be regarded as illustrative rather than exhaustive. The scope of this retail security illustration does *not* include the spectacular but less prevalent crimes such as arson, sabotage, kidnaping of executives, and embezzlement. Security measures are discussed in detail in various texts; see, for example, A. J. Mandelbaum, *Fundamentals of Protective Systems,* Charles C. Thomas, Springfield, 1973.

[15] U.S. Department of Commerce, *The Cost of Crimes Against Business,* Bureau of Domestic Commerce, Washington, D.C., January 1976. A 1974 study about theft from discount department stores and large self-service general merchandise stores reported that 148,525 people were apprehended in the 1188 stores studied, or an average of 125 people per store in fiscal year 1974. Also, 3 percent of the stores' employees were apprehended for dishonest acts. (See Mass Retailing Institute, *Store Thieves and Their Impact,* New York, 1974.)

[16] U.S. Department of Commerce, *The Cost of Crimes Against Business,* 1976.

[17] For example, see M. M. Hughes (ed.), *Successful Retail Security,* Security World Publishing Co., Inc., Los Angeles, 1974 pp. 170–196. Also, *On the Alert—How to Protect Your Business and Property,* Law Enforcement Assistance Administration, Washington, D.C., 1973, pp. 5–8.

[18] Switching more expensive merchandise into a lower-priced container is a common theft practice though the solution of this problem lies more logically with the manufacturer of the product than with the retail store.

security and retail marketing considerations may conflict, a number of technical factors may serve to reduce the attractiveness of a store to a burglar. These include building placement, perimeter access controls, lighting, alarms, traffic flow and parking, and site selection.

Burglary and other types of theft are, to some extent, crimes of opportunity. A 1963 survey of Oakland by the Security Section of the Oakland Police Department found that 70 percent of all the burglaries occurred in insecure premises, and that 29 percent of the premises burglarized accounted for 52 percent of all commercial burglaries.[19] The installation of adequate locks, doors, secured roof openings, fences, locked and barred rear windows, lighting, watchmen, and alarm systems were recommended. In 1964, the City of Oakland passed an ordinance requiring minimum standards of physical security for certain types of commercial structures. The Oakland Police Department reports:

> The long range effect of the ordinance has had a favorable impact on commercial burglaries in Oakland. Commercial burglary has additionally decreased by nearly 8 percent in 1969, 5 percent in 1970, almost 3 percent in 1971 and nearly 17 percent in 1972.[20]

One of the most well-known devices for protecting a store against unauthorized entry is the burglar alarm, which is supposed to activate as soon as a site is illegally entered or attacked. There are several types, e.g., local and central station alarm systems. Local alarms are designed to ring only in the immediate local area, rely on the mobilization of police or public response from people in the immediate area, and, in addition, potentially frighten away the intruder. Central station alarm systems depend on police or other security force response to an alarm that is sounded at a remote point. Alarms can be effective aids to the apprehension of a criminal if the response force can arrive before the criminal has time to complete his or her work and depart. Also, if the alarm's presence is advertised (by a decal on the window, for example), then it may also have a deterrent effect. Alarms have their share of problems—e.g., often a 95 or higher percent false alarm rate. In fact, false alarms account for a significant amount of consumption of law enforcement resources.

Because insuring a retail business against crime is another way in which the businessman can be protected against losses, the insurance industry has the potential and leverage to encourage more widespread and effective use of retail security technology. Insurers currently may offer very substantial rate discounts for use of security measures, require high deductibles before insuring, or even refuse to insure—depending on the quality and use of security systems at a premise. In addition to the requirements of private insurers, minimum protective standards are prescribed by the Federal Crime Insurance Program (established, in part, because of the general unavailability of insurance in high-crime areas and for high-risk businesses), which covers items such as the types of locks, door fittings, safes, and alarm systems to be used.

Vandalism. Vandalism involves the destruction of property—typically acts such as defacing surfaces with graffiti or breaking windows. Precautions such as burglar-resistant glass, adequate lighting, and better surveillance may help to deter this type of crime.

Bad Checks. According to one study, bad checks accounted for 13 percent of crime-related losses to retail businesses in 1967–1968.[21] To counteract this problem, some stores use photographic and fingerprinting equipment before cashing a check. Some also use telecommunication to a central computerized information system to detect bad check passers.

Employee Theft. It has been estimated that over $4 billion a year is lost through shoplifting (external threat) and employee thefts (internal threat).[22] Some security experts feel that theft by employees accounts for more losses than shoplifting, although shoplifters get more of the blame.[23] Preventive measures typically recommended include: running reference checks on each new employee, administering periodic polygraph tests to employees (the ethical implications of which have been questioned),[24] keeping an active inventory control, and having periodic security checks or investigations (e.g., hiring a professional shopping service to check that personnel handle sales properly).

Design features can also be used to limit this type of crime. For example, some opportunities for theft can be eliminated by having employee entrances placed so that employees will not need to walk across the selling floor or stock areas with purses, lunch boxes, or coats. Another example would be to use employee lockers with open-mesh fronts.

Robbery. Robbery takes place in the presence of the victim; it is the unlawful obtaining of property or item of value from a person by force or threat of force. Thus, although robbery has the lowest

[19] Hughes, *Successful Retail Security*, 1974, p. 264.
[20] Hughes, *Successful Retail Security*, 1974, p. 269.
[21] U.S. Department of Commerce, *The Cost of Crimes Against Business*, 1976.
[22] U.S. Department of Commerce, *The Cost of Crimes Against Business*, 1976.
[23] For example, see Hughes, *Successful Retail Security*, 1974, p. 3.
[24] In Washington, D.C., and some other jurisdictions, this practice is against the law.

incidence of ordinary retail crimes, it is a serious problem in terms of danger to a store's customers and employees. The FBI reported a rise in the robbery rate in retail chain stores amounting to 184 percent between 1969 and 1974.[25]

A variety of methods can be used to either deter robbers or reduce their take. These include using more than one safe in the same store, using time-lock safes, having money regularly picked up by an armored car, and having cash registers in full view of people outside the store. Robberies by employees might be prevented by changing the combination on safes and changing locks when an employee with access to combinations or keys terminates his or her employment.

Unlike burglar alarms, which are activated by the intruder, robbery alarms are generally activated by the victim. Detection times vary with these types of alarms because there may be no opportunity to sound an alarm when the robber is present. One variation of a robbery alarm is to install a silent alarm that is connected to a nearby store; pressing the alarm button then becomes a signal for the proprietor of the neighboring establishment to call the police.[26]

Public Sector Role in Technology R&D

Increased retail business security, as described, is primarily a function of private technology firms investing R&D funds and producing cost-effective methods for preventing crime. As new methods are developed, private retail business firms make the appropriate purchases. The marketplace should, in theory, serve its time-honored role as the main device for sorting out the cost-effective methods from those that are not. Unlike other private sector activities, the public sector nevertheless has a vested interest in assuring that the marketplace for these products functions effectively. There are several reasons for this.

First, if crime in retail business goes unabated, members of the public—shoppers and store personnel alike—will continue to be victimized; a primary role of law enforcement agencies is to minimize these victimizations and their effects. Second, although retail firms may pay the main costs of any failure to implement adequate security measures (some even by being driven out of business), the public sector nevertheless incurs a substantial portion of these costs. There are, for instance, costs incurred by police departments in investigating crimes, apprehending suspected offenders, and repeatedly responding to false alarms. Third, longer-term social changes due to high crime rates may be reflected by decreases in shopping activity and property values, and, hence, in local government income. Fourth, the ability to control crime in a retail business district might be an inextricable component of a broader crime control campaign in a neighborhood or city.

For all these reasons, some public sector involvement in technology R&D—as a supplement to private sector activities—is warranted. In cases other than retail business security, where the public sector purchases the bulk of R&D products (e.g., police body armor), public sector involvement would seem to be even more warranted.

There are reasons to believe that the marketplace may not always operate efficiently for criminal justice technology R&D. For example, preliminary analysis may indicate that significant potential benefits could be derived from a particular technology, but the private sector might not be conducting sufficient R&D on that technology. Disincentives to investing or imperfections in the working of the marketplace may be the cause of the private sector's lack of interest in some technology R&D. Examples of this may include:

- Necessary technological skills may be in firms that do not deal with criminal justice agencies and view marketing criminal justice agencies as too difficult;
- Firms may see other noncriminal justice technologies as potentially more profitable or less risky products to develop;
- Implementation of the technology may require public action, which private R&D decisionmakers are not sure will be forthcoming (e.g., citizen alarms);
- Costs and benefits may accrue to people other than the technology purchaser and not be reflected in the price at which the producer can sell the product (e.g., the public bears a significant cost due to false alarms);
- Potential consumers may not have effectively communicated their needs to potential producers; and
- Short-term time horizons, high risks, or the high current cost of R&D on a particular technology may be prohibitive.

Because public sector involvement is desirable and because natural market mechanisms may not always be operating adequately, it is not surprising that Federal R&D-funding agencies are already actively involved in technology R&D. The extent of this involvement is described below.

[25] U.S. Department of Commerce, *The Cost of Crimes Against Business*, 1976, p. 10.

[26] For a discussion of the prevention of robbery and other major retail business crimes, see the section on retail security in G. Green and R. Farber, *Introduction to Security*, Security World Publishing Co., Los Angeles, 1975.

Major Public Sector Efforts in Technology R&D

In 1967, the President's Commission on Law Enforcement and Administration of Justice stated that, "the Federal Government should support a major science and technology research and development program relating to all areas of criminal justice." [27] In addition, the Commission recommended that, "a Federal agency should be assigned to coordinate the establishment of standards for equipment to be used by criminal justice agencies, and to provide those agencies technical assistance." [28] In 1971, partly in response to these recommendations, the National Institute of Law Enforcement and Criminal Justice (NILECJ) conceptualized a tripartite program to develop, demonstrate, and evaluate new or improved criminal justice procedures and equipment. This Equipment Systems Improvement Program (ESIP) originally consisted of analysis, development, and standards groups. The analysis and development work was awarded to two private nonprofit research organizations; development of standards became the responsibility of the National Bureau of Standards (NBS). NILECJ's Advanced Technology Division (ATD), with a fiscal year 1976 budget of approximately $8 million and a staff of six professionals, is responsible for ESIP.

Analysis Group. This group is no longer active as a separate effort. Its original mandate was to interact with users to identify technology needs and problems that might benefit from R&D. These functions have been combined, in part, with those of the development group.

Development Group. As originally defined, the role of this group was to perform R&D on problems identified by the analysis group, and to develop and evaluate prototype equipment. The activities of the development group were later expanded to include identification of high-priority problems and special technical support and grant monitoring for NILECJ.

During fiscal year 1976, a private nonprofit corporation had a contract budget of about $6 million to carry out the following analysis, development, evaluation, technical support, and grant monitoring activities:

- For the analysis effort: listing of problem areas for survey and assessment; determining the utility of an advanced forensic science capability; examining areas of technology that show potential for criminal justice application; and determining the relationship between citizen alarm system cost and effectiveness in terms of the system's operational parameters;
- For the development effort: developing reliable low-cost burglar alarm systems for use in residences and small businesses; developing a personal and portable citizen alarm that identifies where and when an attack occurs; developing lightweight protective armor that can withstand handgun assaults; developing and testing a computer-aided system for speaker identification; developing a system for cargo security, with emphasis on local pickup and delivery operations; improving current techniques for blood and bloodstain analyses so that specific individuals can be identified; developing hardware for explosives detection and identification; police patrol car system improvements; detection and analysis of gunshot residue; and conducting field evaluations for body armor and citizen alarms; and
- For special technical support and grant monitoring: technical review, evaluation, and monitoring of various NILECJ grants; evaluation of proposals submitted to NILECJ: and review of certain technical reports submitted to the NILECJ.

Standards Group. The Law Enforcement Standards Laboratory (LESL) within NBS is a central management group that conducts projects for NBS and other government facilities. In fiscal year 1976, this group had a budget of $1.8 million, as a result of an interdepartmental transfer of funds from NILECJ.

The activities of this group include: "(1) the laboratory testing and evaluation of the performance of existing law enforcement equipment, (2) the development of methods for measuring the performance of this equipment, (3) the preparation of performance standards, user guidelines and a variety of reports on the equipment, and (4) service as a quick-response laboratory facility and panel of expert consultants." [29]

LESL tests and evaluates existing law enforcement equipment; the results are published in the form of voluntary performance standards (a technical description) and user guidelines (a nontechnical description), but specific products are not certified or listed as meeting the established standards. Fourteen standards and two guidelines were drafted and submitted to NILECJ in fiscal year 1975; 73 projects were still in progress at the end of fiscal year 1975. The projects include standards for the following kinds of technologies: ballistic resistance of police body armor, hearing protectors for use on firing ranges, portable ballistic shields, riot helmets, switches for

[27] President's Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society*, Washington, D.C., February 1967, p. 269.

[28] President's Commission, *The Challenge of Crime in a Free Society*, 1967, p. 270.

[29] U.S. Department of Commerce, *Advanced Technology Division Standards and Guidelines Program, Fiscal Year 1975 Annual Report*, National Bureau of Standards, Law Enforcement Laboratory, Washington, D.C., 1975, p. 1.

burglar alarm systems, FM transmitters and receivers, antennas, handcuffs, weapons detectors, breath alcohol testers, physical security of door assemblies and components, and X-ray systems for use in bomb disarmament.

Other Activities. Other public sector funding, from NILECJ's Community Crime Prevention Program and the U.S. Department of Housing and Urban Development (HUD), is being used to develop and evaluate architectural-environmental design concepts of protecting sites against crime. The Community Crime Prevention Program includes a project being conducted to examine residential neighborhood crime control, and a 2-year, $2 million grant to look at "Crime Prevention Through Environmental Design" in residential, school, commercial, and transportation settings. A small portion of technology R&D is also funded and conducted by State and local government agencies; no data are available on the exact magnitude of these efforts.[30]

Summary

Although the private sector plays a major role in technology R&D, public sector involvement in crime prevention and criminal justice technology is well accepted as being in the public interest. When criminal justice-related technological products are to be purchased primarily by the public sector, there is a clear public interest in obtaining good products. It is, therefore, in the public interest for the government to provide the manufacturer with information, such as on product evaluation and user needs, that may affect the R&D process. Public sponsorship of the R&D is one way of enhancing the efficacy and cost-effectiveness of such technological products.[31]

The reasons for public sector involvement remain in instance where the public and private sectors are the major purchasers of a technology once developed, or where the technology will be primarily privately purchased—as in the case of retail business security. The government's role in crime prevention is well established, and the support of technology R&D is one way of furthering this goal. In terms of allocating resources, this kind of support could be viewed as an alternative to providing more police. Improving privately purchased technology may also have a direct impact on public law enforcement. For example, R&D to create better alarms for residential or commercial sites should enhance the ability of the police to capture criminals; R&D to reduce false alarms would result in a savings in responding to false alarms at private sites. Nonetheless, much criminal justice technology R&D can probably be conducted with private funding. Public funding for each program area should be justified by establishing that private funding may not be forthcoming, and that public funding is needed if the R&D is to be undertaken or continued. Each technology situation should be considered separately for the desirability of public sector involvement. Surveys to determine the interest and commitment of potential producers and consumers of technology R&D would be of great assistance in making this decision.

Recommendation 4.1: Appropriate Public Sector Role in Criminal Justice Technology R&D.

Public sector funding of technology R&D is desirable and appropriate especially when: (a) there is need for R&D on a certain type of technology; and (b) the incentives appear insufficient for private industry to support that R&D.

Roles of Different Levels of Government

If the public sector is to be involved in technology R&D, what roles should be played by Federal, State and local levels of government?

The benefits of new or improved criminal justice-related technology may accrue nationwide. If a single State or locality were to fund R&D on a particular technology, it would tend to fund only projects for which the benefits to itself justified the cost and to ignore benefits to other jurisdictions in its funding decision. This could lead to a socially undesirable underinvestment in a particular type of R&D by a State or local jurisdiction. By having the

[30] This discussion does not cover the activities of the newly formed National Fire Prevention and Control Administration, established in 1975 as part of the U.S. Department of Commerce.

[31] The private sector, however, may not always welcome public sector funding, especially if acceptance of such funding may jeopardize potential profits by requiring public disclosure of proprietary information or by jeopardizing patent rights.

Patents constitute a 17-year monopoly; in return for exclusive rights for a specified time, the inventor makes his idea public. Current NILECJ policy may discourage rather than encourage private firms from using public R&D funds. The award statements of NILECJ contain the following provision:

> If any discovery or invention arises or is developed in the course of or as a result of work performed under this grant, the grantee shall refer the discovery or invention to the Institute (NILECJ), which will determine whether or not patent protection will be sought, how many rights therein, including patent rights, will be disposed of and administered, and whether other action is required to protect the public interest in work supported with Federal funds, all in accordance with "Government Patent Policy" (language used in LEAA grant award from *General Conditions of a Grant from LEAA*, August 24, 1975).

Federal Government fund this type of R&D, benefits that are external to a single State or locality are internalized from the viewpoint of the Federal decisionmaker. This would lead to a higher, more socially desirable, and effective level of R&D investment in technology. Also, although redundancy of R&D effort is sometimes planned and desirable, unplanned and uncoordinated duplication by several States and localities may lead to inefficient use of limited R&D funds; coordinated R&D should result in savings of time and money.

The effective management of technology R&D also seems to require a critical mass of scarce and specialized management and research skills. One large-scale project funded at the Federal level may result in more efficient technological improvement, whereas several smaller State or locally sponsored projects may not only involve inefficient use of R&D resources, but also have insufficient resources for any single project to achieve the desired results. In general, few State and local jurisdictions have a cost-effective justification for conducting technology R&D projects. Economies of scale can best be realized at the national level. This is not to say that research should only be done in Federal laboratories or that other organizations cannot play a useful role. It does suggest, however, that public sector support should come primarily from the Federal level.

Even though the Federal Government is the most appropriate level of government to fund criminal justice technology R&D, State and local criminal justice agencies must play a major role in defining problem areas, setting priorities, and field testing new technologies. This is because local criminal justice agencies will continue to be the major public purchasers of technology R&D products and, therefore, should have a strong voice in the kinds of products that are developed and in the evaluation of such products. Thus, although Federal funding agencies may be the main sponsors of technology R&D, State and local governments can help to assure that practical and effective products are created.

Recommendation 4.2: Roles of Different Levels of Government in Technology R&D Related to Criminal Justice.

The most appropriate level of government for *funding* technology R&D is the Federal level—although State and local agencies will be among the major consumers of the products developed. State and local agencies should therefore continue to assist Federal agencies in: (a) determining technology R&D needs and priorities; and (b) evaluating products in the field.

1. For example, a Federal R&D-funding agency, such as the National Institute of Law Enforcement and Criminal Justice, has an appropriate role in supporting technology R&D. At the same time, representatives of State and local agencies should continue to participate meaningfully in the policy decisions involving such programs, especially in priority setting and evaluating.

A National Laboratory for Criminal Justice Technology R&D

The idea of creating a national laboratory for criminal justice technology R&D is not a new one. For instance, for the past few years LEAA has requested funds to establish a similar laboratory. Although every request has been turned down, the most recent LEAA proposed budget contains another request for the laboratory. In addition, a review of NILECJ's Equipment Systems Improvement Program also raised the issue of such a national institution.[32]

The main purpose of this institution would be to conduct and support technology R&D, including:

- The initiation of laboratory and field evaluations;
- The setting of standards for and certification of technological products;
- The dissemination of information; and
- The training of personnel to conduct technology R&D.

The institution can be justified on several grounds. It could provide talented personnel with the facilities and stable climate to carry out interdisciplinary technology R&D programs. It could attract and assemble a critical mass of researchers in one place and improve the coordination of numerous activities, ranging from basic research to the implementation and evaluation of a particular technology. Such a national laboratory would also enable a long-term, cohesive criminal justice technology R&D program to be undertaken. This is particularly important, because knowledge is cumulative and depends upon the disciplined inquiries of many investigators over an extended period.

The national laboratory could be staffed mainly by scientists, engineers, and other specialists doing research within the laboratory. However, this staff could also be complemented by visiting staff drawn from other organizations for a specified term. In addition, a potential extramural function could be performed by the laboratory by its providing R&D

[32] Michael Radnor, "Studies and Action Programs on the Law Enforcement Equipment R&D System: Evaluative Study of the Equipment Systems Improvement Program," Graduate School of Management, Northwestern University, Evanston, January 31, 1975.

funds to support research related to national law enforcement and criminal justice efforts. This could be accomplished either by awarding grants and contracts to nongovernmental organizations or by supporting work related to the needs of departments such as the Department of the Treasury or HUD.

A centralized, national laboratory would complement the diverse range of R&D projects now being conducted in many different locales. For instance, a large enough program could contain a wide diversity of professional interests and skills; multidisciplinary research could be carried out by teams of engineers, architects, statisticians, psychologists, forensic scientists, and perons from other technical fields where appropriate.

A single institution also could act as a central collection and distribution point for technology R&D information, and thus provide the necessary focal point and continuity for the coordination of technology R&D efforts—ranging from basic research to actual implementation of technology. Such a national laboratory could also play an effective role in evaluating technology R&D products and setting standards—functions that are covered in the last section of this chapter.

A national laboratory for criminal justice technology R&D could be realized by creating a separate laboratory for this purpose within the Department of Justice or some Federal science agency, or by providing long-term Federal funding for a new institution in the private, nonprofit sector.[33] The matter of primary importance, however, is that such an institution be created, whether it be in the public or private sector.

Recommendation 4.3: National Laboratory for Technology R&D in Criminal Justice.

The Federal Government should establish a national laboratory for technology R&D in criminal justice. The purpose of this laboratory would be to conduct and support technology R&D, including:

- **Conducting laboratory and field evaluations;**
- **Setting standards for and certifying technological products;**
- **Disseminating information; and**
- **Training technology R&D personnel.**

Such a laboratory could be operated as part of a Federal agency or in the private (nonprofit) sector.

[33] A third alternative, establishing the laboratory within the existing NILECJ, would require recognition of a broader mandate than is now the case at NILECJ. NILECJ is part of LEAA, which is viewed as an "assistance" agency, providing support to State and local governments. A national laboratory, in contrast, would be seen as serving national R&D needs as well as those of State and local governments.

(For a further description of the standards and certification functions, see Recommendation 4.8.)

C. SETTING TECHNOLOGY R&D PRIORITIES

Given the desirability of public sector involvement in criminal justice technology R&D, the next step is to establish R&D priorities and choose the R&D programs or projects to be undertaken. The selection process is in some ways more complex for technology than for other types of criminal justice R&D, because it requires careful evaluations of current and proposed private sector technology R&D, and also because choices must take into account alternative technological, nontechnological, and mixed approaches to criminal justice problems.

The Range of Choices: Residential Security as an Illustrative Topic

In order to show the wide array of technologies that can be relevant to any priority-setting activity, this section presents another illustrative topic—the problem of *residential security*.[34] The illustration describes the crime problem and then identifies three types of solutions from which choices must be made. These solutions involve: technological approaches, architectural design approaches, and nontechnological approaches.

This illustrative topic is similar to the problem of protecting retail business establishments, because similar kinds of hardware (e.g., alarm systems) may be used in certain instances. However, the problem of residential security differs from the problem of retail business security in two important ways. First, because individual losses are far less from residential than from retail crime, residents are generally unwilling to pay as much as retail businesses for protection technology. Most of the security technology must be paid for directly or indirectly by the homeowner or landlord; hence, keeping costs low becomes a more important factor. Second, free public access into a home is not permitted in the same way that it is in a retail store; the requirements of the technology, for this reason, are again somewhat different.

The Crime Problem. Crime and widespread fear of crime has led the technology of business and industrial security to be applied to the protection of residents. According to a Cleveland-based business research firm, no fewer than 5,000 business establishments are manufacturing, selling, or installing anti-

[34] The term "residential" covers a wide range of different types of premises, from single-family dwellings to massive high-rise complexes with hundreds of families, most of which are privately owned.

burglary devices; home protection industries are expected to produce some $400 million in revenues by 1980.[35]

The owner or tenant of a residence purchases security measures mainly to protect against the most frequently occurring residential crimes—burglary and robbery.[36] The potential motivation for using residential security technology may be reflected by data from the *Uniform Crime Reports*. Between 1969 and 1974 there was a 53-percent rise in the number of burglaries. Of all reported burglaries in 1974, 62 percent were of residential premises and 38 percent were nonresidential. The estimated 1,873,000 reported residential burglaries in 1974 amounted to losses of $758 million. Between 1969 and 1974, residential robbery increased 63 percent. During 1974, the total loss from robbery was reported as $142 million.[37] This rising crime rate has brought with it a more intense and widespread fear of crime. A 1973 Gallup Poll reported that, even in the relatively low-crime areas of small towns and suburbs, one out of every six Americans does not feel safe from crime—even in his own home.

The main characteristics of residential crime were summarized in a study that examined the three major elements that interact when a residential crime occurs—the offender, the environment, and the victim.[38] According to offenders interviewed in the study, windows and doors were the most vulnerable points of entry; the offenders said that they would spend no more than 10 minutes trying to open a door and no more than 5 minutes on a window. Typically, the method of entry did not involve sophisticated techniques such as lockpicking.

In examining environmental factors, the study did not have the resources to test specific design recommendations. It did, however, test the hypothesis that large, impersonal residential buildings have higher crime rates than smaller buildings. No clear relationship or lack of relationship between the design of a residential area and its residential burglary rate could be found. Only in luxury high-rise apartment areas did physical characteristics consistently correlate with burglary and robbery rates, i.e., those buildings that displayed elaborate security precautions had low crime rates.[39]

In examining victimized structures,[40] the study found that burglary was inversely related to standard door security, and that, in high-crime areas, the accessibility of a building strongly affected its likelihood of being victimized. This corresponded with findings in the offender data that showed that young, unskilled burglars value accessibility of a structure over all other characteristics.

Possible Technological Approaches to the Problem. There are various classes of protective measures that can be taken to prevent or lessen the effects of crime at residential sites, e.g., physical protection measures and detection and alarm systems.

Physical protection systems,[41] including all types of devices, materials, and construction (walls, fences, gates, locks, grills, doors, and windows), are designed to deny or delay access of unauthorized persons to protected premises. For instance, doors and windows are the most frequent points of entry to a victimized structure. The longer that entry by the burglar can be delayed, the greater the likelihood that the culprit will either abandon his attempt or be caught.[42] Based on this logic, in 1976 the Private Security Task Force of the National Advisory Committee on Criminal Justice Standards and Goals established a standard for doors and windows such that those with "the most economical level of effective protection and deterrence . . . be considered for incorporation into building codes" (Standard 5.1). However, the effective implementation of this standard requires a considerable effort; a number of factors need to be considered before such standards can be incorporated into building codes.[43] These include:

- The types of units to which these codes should apply (i.e., new housing, existing rental, or existing owner-occupied units);

[35] As reported in C. N. Barnard, "The Fortification of Suburbia . . .," *Saturday Review of the Society*, Vol. 1, May 1973, pp. 34–40.

[36] Whereas burglary is the unlawful entry of a premise to commit a felony or theft, robbery is the unlawful obtaining of property or a thing of value from a person by force or threat of force. Robbery is thus a crime that frequently results in injury to the victim, and its costs must be measured in terms of physical and psychological harm as well as economic loss.

[37] Federal Bureau of Investigation, *Crime in the United States: 1974, Uniform Crime Reports*, Washington, D.C., 1975. There is no way of definitively showing, however, whether these rises in rates are due to actual rises or whether they are due to an increased rate of reporting by victims. See Chapter 6 for a related discussion.

[38] Thomas Reppetto, *Residential Crime*, Ballinger Publishing Company, Cambridge, 1974. The study included the analysis of criminal justice records, a summary of households, a comparison of security features, and an analysis of residential criminal offender behavior.

[39] Reppetto, *Residential Crime*, 1974, p. 67.

[40] Reppetto, *Residential Crime*, 1974, pp. 64–69.

[41] Physical protection systems, as well as most other types of security measures, are discussed in detail in Mandelbaum, *Fundamentals of Protective Systems*, Charles C. Thomas, Springfield, 1973.

[42] Research has indicated that if entry can be delayed by only 4 minutes, a burglar will generally give up on that entry (Texas Municipal League, "A Building Security Code for Texas Cities," Austin, 1975).

[43] The following discussion is based on the work of Arnold Sagalyn and others, "Compulsory Residential Security Measures: State and Local Codes," in *Residential Security*, U.S. Department of Justice, Washington, D.C., December 1973, pp. 78–82.

- The ownership of the residence. Although strong arguments can be made for builders and landlords to bear the costs of upgraded security, a State requirement that an owner-resident bear extra security costs for his own good would raise important constitutional questions;
- The form of the security standard (i.e., whether it should be based on performance or design criteria); and
- The tradeoffs among fire safety, crime prevention, and consumer preferences (an issue that the Private Security Task Force Standard 5.9 partially addresses).[44]

Perimeter detection systems[45] sense movement across a boundary and guard points of entry into a residence, whereas *area detection and alarm systems*[46] watch over the interior of a residence and detect motion. Although they do provide some degree of security, there are cost, convenience, false alarm, and, in some instances, privacy problems associated with alarms systems.[47] For instance, certain audio and closed-circuit television systems that require someone to monitor them may threaten personal privacy and can be very expensive.

No matter what type of detection system is used, it must sound an alarm. Alarms can also have several disadvantages, including:

- The batteries in wireless alarm systems may wear out before they are changed;
- The alarm may be disconnected if turning it on and off becomes too much of a nuisance;
- The alarm may fail to operate; or
- The alarm may be false.

False alarms have in fact become a major problem. One study on private security found that "alarm systems today have very high false-alarm rates, usually over 95 percent and sometimes over 99 percent."[48] Some false alarms may be set off unintentionally by a member of the family. Others are caused by equipment breakdown or detection of something other than an intruder (e.g., the family dog or vibrations caused by a truck passing on the street). The false alarm rate has numerous repercussions: families may turn off their alarms; neighbors may not respond very quickly to a frequently sounded alarm; police may expend valuable resources responding; and police may lower their priorities or alertness in responding.

From an R&D viewpoint, even though alarm systems have been around for a long time, they are still rapidly evolving and have some very major problems requiring further R&D. Even when such systems are placed in private residences, false alarms take up considerable police time. Recent studies have shown that further development effort could be productive, and that steps can in fact be taken to partially solve the false alarm problem.[49]

Another residential security measure for which evaluation is a primary R&D-related issue is improved lighting. For instance, the crime displacement effects of improved lighting have not been evaluated sufficiently to make an unqualified recommendation for improved lighting. Even if individuals living in one residence can reduce the likelihood of a burglary by better lighting, they may only be displacing the burglary to another, less well-lit residence. From the point of view of society as a whole, a crime may not have been prevented. The still unanswered questions are whether better lighting for a large number of residences would reduce the overall crime rate and, if so, by how much and at what cost.

Although some studies[50] have documented crime reductions after improved lighting systems have been installed, these studies typically have not accounted for displacement effects—such as the criminal activity moving to other geographic areas, other times of the day, other locations (e.g., indoors) or other types of crime. In addition, evaluation studies of the effects of lighting on crime typically have been concerned with *nonresidential crime* (e.g., commercial burglary). The impact of improved lighting on the most frequent residential crime—burglary—which typically occurs inside structures (thus, out of view of passersby) and most often during the day (when lighting is not an issue), is still largely unknown.

[44] That standard reads: "Crime prevention measures should be an identifiable part of existing or proposed regulatory codes. Building, fire, and safety codes should be reviewed by regulatory bodies and private security representatives to avoid conflict with implementation of effective crime prevention measures."

[45] Perimeter systems for guarding the grounds of a residence include seismic intrusion detectors and balanced transmission line fences. The former, buried underground, pick up ground movement; the latter sense electrical disturbances caused by a person's approach. Perimeter detection devices for guarding the home itself include door and window magnetic conduct switches, mechanical blade contacts, foil tape on windows and on glass portions of doors, and vibration detection systems.

[46] These systems may include a combination of photoelectric and ultrasonic detection devices, sonic audio range motion detection devices, and modulated light motion detection devices.

[47] For a discussion of alarms, see Mandelbaum, *Protective Systems*, 1973.

[48] James S. Kakalik and Sorrel Wildhorn, *Private Police in the United States*, The Rand Corporation, Santa Monica, R-869-DOJ, December 1971.

[49] See, for example, "False Alarm Legislation in Seattle," *The Police Chief*, Vol. XLI, No. 9, September 1974, p. 42; and "Pasadena Police Find Alarming Way to Save," *Security Systems Digest*, Vol. 7, No. 8, April 1976, p. 1.

[50] See the President's Commission on Law Enforcement and Administration of Justice, *Task Force Report: Science and Technology*, Washington, D.C., 1967, p. 50.

Architectural Design for Security. The concept of architectural design as a means of site protection is a rapidly evolving area of R&D. The criminal justice system has long been trying to develop means of dealing with the offender; new efforts have been made recently to control and manipulate the environment in another attempt to deal with the crime problem.

Site protection was once considered primarily a manpower and an engineering problem. The threat of apprehension by security guards or nearby police was perceived as the main preventive measure. In addition, physical restraints such as walls, locks, and doors were relied upon to discourage or deter. The innovative concept of "defensible space" advanced by architect Oscar Newman in the early 1970's involved using *physical design characteristics* to inhibit crime.[51] Basically, the creation of a defensible space involves aspects of physical planning and architectural design. These include site planning and the arrangement of housing units, paths, stairwells, doors, windows, and elevators. One important effect of redesigning the space is in changing the residents' use of and attitude toward their territory. Newman states that:

> We are reasonably certain that the physical environment provided can directly result in attitudes and behavior on the part of residents which will insure the security of that environment—will enable them to naturally undertake a self-policing role which will act as a very effective form of target hardening not prone to the changing *modus operandi* of criminals—and finally will make evident to prospective criminals the high degree of probability of their apprehension.[52]

Newman describes four concepts of residential design, which work singly and together to help create a secure, defensible environment. These are territoriality, natural surveillance, image, and milieu.[53] Territoriality involves subdividing the residential environment into zones, toward which the residents easily adopt proprietary attitudes. Natural surveillance refers to designing a structure so that residents and their visitors have ample natural opportunity to observe the areas surrounding them. This involves factors such as positioning of windows, lighting, firestairs, and nonprivate areas such as lobbies and walkways. Image and milieu refer, respectively, to the adoption of building forms that prevent intruders from perceiving the vulnerability and isolation of the inhabitants, and to construction in areas that are not crime-prone.

Possible Nontechnological Approaches to the Problem. There is also a variety of nontechnological approaches that can be tried to provide residential security. The residents themselves can be encouraged to pay more attention to activities in nearby public areas and to be more systematically aware of what goes on in the lives of other residents. This is not intended to serve as an excuse for undue curiosity and invasion of privacy, but rather to point out that residents themselves are normally the only ones who can help distinguish strangers from nonstrangers and normal activities from abnormal ones.

Another form of surveillance can be provided by guards trained and equipped to inspect the perimeter, exterior, and interior areas of buildings for attempted breakins and the presence of unauthorized persons, detect illegal acts, and apprehend suspects on the premises. Guards may work in uniform for visibility or civilian clothes for anonymity; they may be employees of a private security firm that has been retained by the residents or part of a residents-organized patrol.[54]

Finally, the local police may provide additional coverage in an attempt to prevent residential crime. Increased numbers of police, changes in deployment patterns (e.g., more coverage during evening hours), and closer collaboration between residents and police can all be tried.

The Selection of Technology R&D Programs and Projects

Even for the single topic of residential security, the array of existing and potential solutions is bewildering. How then are priorities to be chosen and how can the selection process be improved?

Within the context of an agency's mission and objectives, the process of selecting a technology R&D agenda includes:

- Determining needs and problems by gathering information from various sources—including citizens, criminal justice practitioners, and other potential users of R&D results;[55]

[51] See Oscar Newman, *Defensible Space*, MacMillan, New York, 1972. Related work conducted by others in the 1960's is described in Jane Jacobs, *The Death and Life of Great American Cities*, Random House, New York, 1961; and in Shlomo Angel, *Discouraging Crime Through City Planning*, Working Paper #75, Institute of Urban and Regional Development, University of California, Berkeley, February 1968.

[52] Oscar Newman, *Architectural Design for Crime Prevention*, Department of Justice, Washington, D.C., 1973, p. 57.

[53] Newman, *Architectural Design for Crime Prevention*, 1973, pp. 51, 78, and 102.

[54] See Robert K. Yin and others, *Patrolling the Neighborhood Beat: Residents and Residential Society*, The Rand Corporation, Santa Monica, R-1912-DOJ, March 1976.

[55] For example, the National Bureau of Standards conducted a survey of equipment users in 1972 to help establish an agenda for the NILECJ Equipment Systems Improvement Program.

• Determining promising R&D projects by gathering information from potential R&D performers and users of the R&D results, and assessing the results of previously conducted R&D;

• Conducting preliminary analyses, using available data to aid in the selection of problem areas and potential R&D projects for inclusion on an R&D agenda; these analyses would provide estimates of the magnitude and significance of the problem area, the potential results of proposed projects, the costs and likelihood of successfully achieving those results, and the potential for successful implementation of those results;

• Selecting high-priority projects for inclusion on the R&D agenda, possibly including: technology, nontechnology, and mixed projects as appropriate to a priority need or problem; a range of projects on the dimension of time needed to achieve anticipated results; and a range of projects on the basic research to implementation continuum. This selection process will include the addition and deletion of projects from the agenda because they have achieved a successful result or have become outmoded, unnecessary, or appear to be insufficiently productive to warrant continuation; and

• Ascertaining if each of the high-priority projects on the R&D agenda is likely to be funded in the private sector or if it should be included on the public sector funding agenda.

Certain factors should be considered explicitly before selecting technology R&D projects. These include: the R&D costs, risks, and time required; the magnitude and relative importance of the problem being addressed; the potential cost and benefits of the technology if developed; the potential costs and benefits of *nontechnological and mixed solutions* to the problem; and the potential for private funding of the R&D project. Given limited resources, the decision to publicly fund technology R&D should be made affirmatively when:

• The technology, if developed, is likely to make a major contribution toward resolving some important criminal justice problem;

• The proposed technology compares favorably to other alternative solutions—including nontechnological and mixed solutions—within the limits of currently available data; and

• The private sector is not likely to fund the R&D.

The selection of technology R&D projects for public sector funding requires careful attention to avoid certain possible pitfalls. For example, the proposed technology may be feasible to develop, but clearly less desirable or little better than other solutions even if fully developed, or it may be developed even without public assistance. In addition, some esoteric new technology may not need to be investigated if a modification of existing technology or a nontechnological or a mixed solution would resolve the particular criminal justice problem in an acceptable manner.

Furthermore, even if the private sector is currently conducting R&D on a particular type of criminal justice technology, there is no guarantee that such R&D will continue; it is subject to termination at any time. It could happen, for example, that a major firm, undertaking the development of a product of value to the public sector, decides that the product's profit potential no longer merits the R&D investment that has been made. In this case, the government might wish to initiate public funding of the R&D to continue the work no longer being financed privately. For this reason, it might be desirable for technology R&D-funding agencies to maintain a basic inventory of projects of high public interest that are being publicly *as well as* privately funded. The primary purpose of such an inventory would be to enable public sector agencies to maintain current knowledge of ongoing criminal justice technology R&D projects. Information collected to maintain the inventory could alert the appropriate public agencies whenever important areas of R&D are no longer being addressed by the private sector, so that steps could be taken to weigh the relative advantages of public sector support.

Recent studies of NILECJ's Advanced Technology Division, the primary Federal office concerned specifically with technology R&D in criminal justice, have indicated that the application of some of these guidelines might be appropriate. A recent study suggested that there has been an ". . . overemphasized concentration on new hardware development . . . and the development of standards that are not appropriate to current user needs. . . ." [56] In a similar vein, a General Accounting Office (GAO) study pointed out that, "the analysis group should have had effectively functioning field sites for a long enough period to identify major problems before NILECJ selected research projects. . . ." [57] GAO's report went further, stipulating that although the original intention was for the development of technological R&D projects to follow an initial stage of problem analysis, ". . . none of the problems identified were selected for research efforts, and . . . the ineffectiveness of the analysis group resulted from the Institute's (NILECJ's) funding the analysis and development groups simultaneously." [58]

[56] Radnor, "Studies and Action Programs," 1975.

[57] Comptroller General of the U.S., *The Program to Develop Improved Law Enforcement Equipment Needs to Be Better Managed*, Report B–171019. Washington, D.C., January 20, 1976. Hereafter cited as Report B–171019.

[58] Comptroller General of the U.S., Report B–171019, 1976.

To place technology R&D priority setting in the perspective of all technological, nontechnological, and mixed potential solutions to criminal justice problems, it is important that overall priority setting be done for an R&D-funding agency—not separately and independently for a technology program within that agency. However, once overall priorities have been set, technology R&D projects could be conducted and supported by a separate program—such as within the national laboratory recommended earlier in this chapter. This is because conducting and managing technology R&D requires a different mix of professional skills and different types of facilities.

Summary

The discussion on residential security, where both technological and nontechnological approaches may be applied in efforts to reduce crime, provided an illustrative context in which to appreciate the difficulties of setting technology R&D priorities. Priority setting should first consider whether a technological solution is called for. Thus, priority setting needs to be done for the R&D-funding agency as a whole—not separately and independently for a technology program within that agency. When this has been accomplished, further priorities among specific technology R&D programs and projects may be set.

In order for a public sector R&D-funding agency to keep informed of relevant private sector activities, some basic inventory of technology R&D projects should be maintained among Federal R&D-funding agencies. This will assist in the priority-setting process. The inventory can also be used to inform local criminal justice agencies of existing and developing technologies.

Recommendation 4.4: Setting Technology R&D Priorities.

R&D-funding agencies should consider explicitly several factors in setting priorities in technology R&D, including: the costs and benefits of technological, nontechnological, and mixed solutions to the problem; the R&D costs, risks, and time required; the magnitude and relative importance of the criminal justice problem being addressed; and the potential for private funding of the R&D project.

(For related recommendations, see 1.3, 2.4, 5.4, and 6.2.)

Recommendation 4.5: Comprehensive Inventory of Technology R&D Projects.

R&D-funding agencies should maintain an inventory of privately and publicly supported projects involving technology R&D related to criminal justice. One purpose of such an inventory would be to enable public sector agencies to consider supporting an R&D project should the private sector cease funding it.

D. MANAGING TECHNOLOGY R&D

Need for Specialized Staff

R&D-funding agencies require staff with both technical and managerial skills to administer technology R&D awards. This is true for all types of R&D (as discussed in Chapter 1); however, staff requirements for technology R&D are somewhat different for three reasons:

- Funding activities in technology R&D require knowledge of very specialized scientific and engineering fields;
- Staff must be sufficiently knowledgeable to command the respect of the technology R&D community and to be able to communicate effectively with researchers; and
- Contract awards require closer monitoring because the projects often call for developmental work with specific requirements.

Funding activities encompass the whole range of R&D management functions, including: problem assessment, preproposal screening, review of proposals and work statements, decision to award, monitoring and evaluation of funded projects,[59] and dissemination of final results. The staff must therefore have sufficient technical expertise to carry out these functions. This is true even if there is heavy reliance on external panels of experts for reviewing proposals, because the staff must be knowledgeable enough to help select the panels; and, the panels traditionally have not been used to perform the monitoring function, which the staff itself must conduct.

It is also important that the staff have sufficient training, experience, and competence so that they are held in high esteem by the technology R&D community. Interactions with researchers in program development, as well as communication in fulfilling the monitoring function, both involve a high degree of mutual understanding and respect between the staff and the research community. Furthermore, if the staff does not have sufficient technical skills or

[59] This refers to evaluation of completed R&D projects, not to evaluation of the technology itself, which is discussed in Section E.

esteem in the research community, high quality researchers may not even be attracted to work on a topic. Those that do will not have the benefit of staff advice on anything other than purely contractual and administrative matters.

Contract awards are more prevalent because technology R&D often involves the procurement of products and services that are highly specified. This is to be contrasted with basic research programs, where a grant award is more prevalent because of the assumption that the course of the research is less predictable and hence requires fewer substantive (as contracted to administrative) constraints.[60] Technology R&D projects also may require collaboration among contracting and subcontracting organizations. In this case, monitoring the institutional relationships would require a greater degree of involvement by the staff of the funding agency. As a result, technology R&D management requires a staff technically capable and of sufficient size to develop work statements and monitor the course of work.

The need for highly specialized agency staff to manage technology R&D programs has posed continuing problems for government agencies. In the 1960's, one report to the President by the heads of Federal science agencies pointed, for example, to the major salary differentials between government and nongovernment agencies.[61] For this and other reasons, government R&D-funding agencies have developed formal relationship with individuals and organizations outside the government to assist with R&D management. These relationships permit a government agency to supplement its own staff with specialized R&D management talent that the agency may not require full time or on a long-term basis, or be able to hire as public employees in the needed quantity or quality for a variety of reasons. These reasons may include salary limitations, the inability of the agency to offer an employee the chance to conduct as well as to manage research, or the inability to offer the chance to work directly with a number of specialists related to the person's field.

For example, formal institutional relationships, drawing on faculty expertise and offering a work environment similar to that of a university, may be developed with university-based laboratories or nonprofit organizations specializing in a set of related fields (e.g., various types of engineering) and offering services to a variety of Federal agencies. The R&D-funding agency may contract out a major share of the responsibility for managing technology R&D projects to such organizations. In relation to Federal agencies, a group of organizations specifically identified by the Congress as Federal Contract Research Centers has operated in this manner for many years —covering a wide range of technical fields.

One limit to the degree of utilization of such outside resources, however, is that the disbursement and monitoring of publicly funded technology R&D awards are ultimately the responsibility of government employees. To protect the public interest and provide public accountability, the major award, monitoring, and evaluation functions should not be delegated completely by the public sector R&D-funding agencies to nongovernmental personnel. For instance, the report to the President by the heads of Federal science agencies, although clearly affirming that:

> . . . it is in the natural interest for the Government to continue to rely heavily on contracts with non-Federal institutions to accomplish scientific and technical work needed for public purposes, . . .

went on to stipulate that:

> The management and control of (R&D) programs must be firmly in the hand of full-time Government officials clearly responsible to the President and the Congress.[62]

Thus, if an R&D-funding agency is to use outside resources to assist in R&D management, it should develop sufficient mechanisms to effectively supervise and control those resources. Such mechanisms can include: (1) the assignment of sufficient staff to monitor the work of the major outside contractor; (2) the assignment of onsite monitors to follow directly the work of the contractor; or (3) the development of a governing board consisting of funding agency staff to supervise the work of the contractor.

Current Activities in Technology R&D in Criminal Justice

The R&D-funding agency again most relevant here is NILECJ's Advanced Technology Division (ATD). During fiscal year 1976, this division was staffed by six professionals; its budget was about $8 million.

[60] The distinction between contract and grant awards may be blurred because agency procedures may make one type of award easier to process. Thus, the type of award may be applied without discriminating between the type of research (basic versus applied) to be done. Nevertheless, the point here is that technology R&D mainly involves applied research and requires greater R&D management by agency staff.

[61] U.S. Bureau of the Budget, *Report to the President on Contracting for Research and Development,* Washington, D.C., 1962 (also known as the *Bell Report*). Although pay scale comparability is now an objective endorsed by the Congress and Executive Branch, the continued use of executive salary ceilings at below the $40,000 level has helped to maintain noncomparability for leadership positions in specialized fields such as medicine, law, and engineering.

[62] U.S. Bureau of the Budget, *Report to the President,* 1962.

Of these funds, the U.S. National Bureau of Standards (NBS) received $1.8 million in intergovernmental transfers—primarily for developing standards and test procedures for criminal justice-related technology. NBS had 65 separate projects underway in June 1976; one NILECJ professional staff member was assigned to manage this activity.

A second institutional relationship, involving a contract of about $6 million to a private nonprofit firm, is monitored by two NILECJ professionals. Under this contract, development is underway in about 10 different project areas, and field evaluations are underway on citizen alarms and body armor. In addition, the private firm provides technology project selection assistance, technical support, and grant monitoring to NILECJ; this activity includes technical review, evaluation or monitoring of various NILECJ grants, evaluation of some proposals submitted to NILECJ, and subcontracting of work—although NILECJ retains ultimate decisionmaking responsibility.

The pattern of R&D management thus involves assigning much of the individual project management activity to another Federal agency and a private organization. A GAO report challenged the adequacy of NILECJ staffing for managing these activities.[63] The report called attention, for instance, to delays in the dissemination of R&D results due to the lack of personnel. Thus, the staff resources allocated by NILECJ may be insufficient to adequately perform all the necessary management functions within ATD.

Recommendation 4.6: Management of Technology R&D in Criminal Justice.

Management of technology R&D requires effective performance of the following functions: problem assessment, preproposal screening, review of proposals and work statements, decision to award, monitoring and evaluation of funded projects, and dissemination of R&D results.

1. For government R&D programs, these functions can be performed by agency staff or through formal relationships with nongovernmental individuals or organizations under adequate supervision and control by government agency staff.

(For a related recommendation, see 1.13.)

E. EVALUATING TECHNOLOGY R&D

Evaluation is an essential step in the technology R&D process. After a technological product or concept has been developed, it should be evaluated carefully before being widely implemented. In addition to laboratory evaluation, field evaluations usually will be required to determine user acceptability and to uncover any unanticipated costs or effects that may not show up in a laboratory environment.[64] Once evaluations have been conducted, the resulting information needs to be widely disseminated, in a readily usable form, to people considering purchasing or adopting the technological product or concept.

Criteria for Evaluating Technology R&D

A technology evaluation should consider various *cost* dimensions—depending on the goals of the evaluation. These include the economic costs of the initial implementation of the new or improved technology, and the operating, maintenance, and replacement costs that are incurred over time. Facility costs and the consumption of scarce, specialized personnel resources may also be associated with the use of the technology. In addition, various noneconomic costs may be incurred. For example, the use of a particular technology, such as one used to "fortify" a residence, may require a change in life style; privacy may be decreased when audio or closed-circuit television devices are used for surveillance.

Technology evaluations should also consider various *effectiveness* dimensions, such as changes in:

- Prevalence of various crimes in the area where the technology is used;[65]
- Economic loss due to crime;
- Deaths and personal injuries;
- Psychological harm;
- Number of criminal suspects apprehended and convicted;
- Efficient use of criminal justice personnel;
- Equipment reliability and ease of use; and
- Citizens' fear of crimes.

[63] Comptroller General of the U.S., Report B–171019, 1976.

[64] For an overview of NILECJ's evaluation program, see "Measuring Effectiveness: An Evaluation Overview," *LEAA Newsletter*, Vol. 5, No. 5. Washington, D.C., December 1975. Evaluation of residential security measures is discussed in Arnold Sagalyn and others, *Residential Security*, 1973; and in William Fairley and Michael Liechenstein, *Improving Public Safety in Urban Apartment Dwellings*, The Rand Corporation, Santa Monica, R–655–NYC, June 1971. For a discussion of evaluations in general, see Edward Suchman, *Evaluative Research*, Russell Sage Foundation, New York, 1967, and Joseph Wholey and others, *Federal Evaluation Policy*, The Urban Institute, Washington, D.C., 1970.

[65] Ideally, this requires comparing a control group not using the technology with the experimental group to estimate the changes in crime rates. Also, there is the well-known problem of reported versus actual crime rates, since the rate at which crime is reported may be affected by the ongoing evaluation.

For specific types of technology, there also may be significant noncrime-related effects. For example, bars on windows keep intruders out but may also prevent the victims of a fire from escaping.

Evaluation becomes complicated because the various cost and effectiveness measures of a particular technology are likely to be a function of factors such as the type of crime, type of technology user, type of environment in which the technology is employed, and the level of crime or police presence in an area. The costs and effects of a technology may also be dispersed in time and by location. For example, evaluating the effectiveness of a security measure at the residential site where it is employed is essential, but such a narrow focus is insufficient because crime may have been merely displaced to another site. The possible displacements of crime to other geographic locations, to other times of day, or to other types of crime need to be assessed. From the viewpoint of society as a whole, a crime displaced is not a crime prevented. Several recent evaluation studies highlight the importance of considering crime displacement effects:

- A study of intensive police patrol in the evening indicated that the inhibited crimes were displaced to the afternoon;[66]
- A study of the installation of burglar alarms in the commercial area of one city indicated that the installation led to a decrease in commercial burglary but a simultaneous increase in residential burglary;[67] and
- A study of the effect of improved street lighting showed that night robberies decreased as a result of improved lighting, but the data suggested that street crime moved to new geographic locations and into residences and commercial establishments.[68]

Also, crime displacement complicates evaluation because the effect of the widespread use of a technology may not be the same as that at a few test locations.

Illustration: Environmental Design for Security

Some appreciation for the difficulties of evaluation may be derived by considering the evaluation of some of the environmental design concepts previously described. The general concepts initially have been received as intuitively satisfying and imaginative. However, important evaluative questions remain either totally or partially unanswered.[69]

Various crime preventive design features have been hypothesized to be effective. How much do each of these cost? How much crime do these design characteristics, individually and in concert, prevent? How much crime is displaced? What is the crime prevention potential of these design features in relation to other characteristics of the residential area and in relation to various different population groups? Without these data, we cannot know how much the crime prevention actually costs and in what types of residential sites or for what types of populations the benefits outweigh the costs.

To test defensible space and other environmental design concepts, these characteristics either can be built into new buildings and areas, or used to remodel already-constructed buildings and areas to conform to selected design criteria. Each approach poses distinct problems. Newman, in discussing how to accomplish the latter, points out that there is less design flexibility when remodeling. He suggests using a combination of physical modifications and electronic technology to give defensible space characteristics to existing public housing.[70] However, as Reppetto notes, to construct buildings for the purpose of testing defensible space concepts poses any number of practical problems. Buildings are an expensive investment, time consuming to build, and once built, are not readily discarded if the concept does not prove to be satisfactory.[71] In addition, experiments with building design most certainly affect those persons living on and around the building sites.[72]

New building and remodeling is not the only way to study the impacts of environmental design on security. In a paper addressed to the American Society of Criminology, Thomas Reppetto suggests that:

[66] See Michael D. Maltz, *Evaluation of Crime Control Programs,* U.S. Department of Justice, Washington, D.C., 1972, p. 21.

[67] Maltz, *Evaluation of Crime Control Programs,* 1972, p. 55; and William Stenzel, "St. Louis High-Impact Crime Displacement Study," Missouri Law Enforcement Assistance Council, St. Louis, September 1974.

[68] Mentioned in "Community Crime Prevention: An Overview," *LEAA Newsletter,* Vol. 4, No. 3, August/September 1974, p. 14.

[69] NILECJ is providing support for a number of projects that expand the *concept and scope* of Oscar Newman's original work. These projects are involved with expanding Newman's concepts to include a wide range of environmental factors, and the scope of the work to encompass school, residential, transportation, and commercial environments.

[70] See Newman, *Defensible Space,* 1972, pp. 163–186.

[71] It should be noted that it is not impossible to experiment with new buildings. For example, if public housing projects are being proposed or are in the planning stage, then perhaps crime preventive characteristics can be built into them, with public sector funds provided for any excess costs involved due to the evaluative experiment.

[72] Thomas A. Reppetto, *Crime Prevention Via Urban Design: Theoretical and Policy Implications,* paper prepared for delivery at the annual meeting of the American Society of Criminology, Toronto, October 1975.

A more useful approach may well be to build information on design hazards into standard collections of crime data. For example, the *UCR* could routinely list the physical environment of various crimes such as whether a street robbery occurred alongside a vacant lot or at a busy intersection. Victimization studies should indicate that a burglarized incidence was on the 10th floor of a 12-story building. This will have the inevitable effect of focusing the attention of the criminological and criminal justice community on design factors, and will stimulate increased dialogue between them and the urban design community.[73]

In general, however, the evaluation of the costs and effects of technology is far from simple.

Need for Disseminating Evaluation Results

Although the need for evaluation data on technology is well accepted, the various costs and effectiveness of specific technologies are often not well known. Moreover, potential users of specific technologies do not have ready access to objective and reliable data on the costs and effectiveness of different products (e.g., *Consumer Report* type of information is not readily available for criminal justice technology). Technology producers may evaluate their own products, but users (whether criminal justice practitioners or private citizens) cannot assume that this evaluation is impartial, or that positive and negative results both will be fully reported to potential consumers by the producers' representatives.

One example is the use of conventioual steel-belted radial tires on high-speed police vehicles. Although tire and auto manufacturers do not recommend such tires for use in (high-speed) police pursuit, many departments and dealerships were not aware of this. After several deaths and severe disabilities caused by failure of these tires, the National Bureau of Standards was asked by NILECJ to evaluate their safety factors.[74]

Antishoplifting alarm activator tags provide another example of the need for better evaluation data. What appears to be a good idea may, during field testing, result in unexpected and potentially serious consequences. The alarm activator tags are plastic tags with built-in electronic devices that are attached to new clothing being offered for sale; an alarm is sounded if the garment is removed from the store before the tag is removed; tags are supposed to be removed by salespersons with a special tool when the merchandise is bought. After fairly widespread implementation, costly problems with the tags became apparent, forcing many stores to discontinue them. These problems included: (1) salespersons forgetting to remove the tag, which led to embarrassment and, on occasion, to false arrest suits that were costly in terms of money and public relations; (2) skilled shoplifters learning to remove the tag themselves, or finding exits not equipped with electronic tag detection devices; and (3) the inadvertent triggering of certain alarm mechanisms by devices such as baby carriages and heart pacemakers.

The dissemination of the complete results of publicly funded evaluations should not be dependent on a manufacturer's approval of the results. Misleading marketing practices by technology producers could be partially counteracted by making evaluation results publicly available to potential purchasers in a readily understood format. Word-of-mouth dissemination of information from people who previously have purchased the technology provides another source of valuable information, although such information is incomplete and not always reliable.[75]

Current Evaluation Activities

Existing criminal justice R&D programs tend to emphasize the evaluation of *new* technology (e.g., new types of body armor, individual citizen alarms, and architectural design concepts), as well as the laboratory evaluation and development of performance standards for existing technology (e.g., how many foot-pounds of torque a key-in-the-door-knob lock should be able to withstand). These programs do not, however, tell the consumer which manufacturers' products meet established standards.

Given the above points, it is clear that wide gaps exist in evaluation data for criminal justice technology. Individual agencies or citizens purchasing technology may have to do their own evaluation if information is desired but not available. Redundant individual evaluations, if undertaken by many local jurisdictions, are not only inefficient, but also may be ineffective because the potential purchaser may not have the skills or the time to evaluate the technology properly. Public sector funding would help insure that the evaluations are objectively, efficiently, and effectively conducted, and that the information is made publicly available. Detailed test results for individual brand products should be made available in a readily understandable format; dissemination of information is a key adjunct to an evaluation and standards effort. In addition, standards and products should be reevaluated periodically to see if standards require revision and if products continue to meet standards. The U.S. Environmental Protection

[73] Ibid.

[74] See U.S. Department of Commerce, *Standards and Guidelines*, 1975.

[75] Newsletters, of course, also perform an important function. For instance, see *Systems, Technology & Science for Law Enforcement & Security*, published by Lomond Systems, Mt. Airy, Maryland.

Agency's evaluation of gas mileage performance by brand name of vehicle is one precedent for government action in this area.

Even the public sector funding the actual development of technology standards and product testing and certification could occur in a new national laboratory (see Recommendation 4.3), a public sector agency (e.g., the National Bureau of Standards), or a private sector organization (e.g., Underwriters' Laboratories),[76] or some other nonprofit organization.[77] A criminal justice equivalent of the National Fire Protection Association[78] might also play a role in standard setting. For example, a National Crime Prevention Association is being formed to serve as a source of crime prevention information, analyze crime data and developments, undertake applied research projects, gather and disseminate crime data, and work "with all interested parties to develop meaningful standards for security services and devices, municipal building codes, law enforcement performance in crime prevention, crime prevention training curricula, etc." [79]

Recommendation 4.7: Evaluation and Standards Setting for Criminal Justice Technology.

Criminal justice R&D-funding agencies should continue to support the setting of standards and evaluation of new technology.

Recommendation 4.8: Testing and Certification of Existing Technological Products.

Criminal justice R&D-funding agencies should support the evaluation of products and the certification of those that meet established performance standards. Detailed test results should be made available in a readily understandable format to agencies and citizens who are considering the purchase of such technology.

1. The evaluation and certification activity could be organized as part of a new national laboratory (see Recommendation 4.3) within an existing government agency (e.g., National Bureau of Standards) or within a private organization (e.g., following the model of an underwriters' laboratory or a professional association activity in criminal justice akin to the National Fire Protection Association in the fire sector).

[76] Underwriters' Laboratories (UL) is a nonprofit organization established to develop certification standards and to evaluate various kinds of products and methods with respect to dangers affecting life and property. Although most of UL's testing is concerned with safety, it also assesses performance of products intended for use in fire and burglary protection (e.g., alarms). Evaluation of a product is voluntary, with the applicant bearing the costs of the examination, whether or not the product examined is found acceptable. Successful passing of the examination results in listing, i.e., UL publishes the names of acceptable products and the manufacturer is authorized to use the UL Listing Mark on listed products. Followups are conducted to assure the manufacturers' continuing compliance with UL requirements, which, if not maintained, means removal of listing of the products.

[77] However, this is not to imply any endorsement of the practice of having the same firm develop and evaluate a particular technology.

[78] This group is a nonprofit technical and educational organization, with voluntary membership drawn from "all those interested in promoting the science and improving the methods of fire protection and prevention" (*Fire Journal*, Vol. 64, No. 2, March 1970). The work of the organization is supported by membership dues and grants obtained from various sources, including the Federal Government. As part of its work, the NFPA has a wide range of technical committees (e.g., on air conditioning, automatic sprinklers, aviation, etc.), whose findings, when adopted by the NFPA at annual conventions, become part of the National Fire Code. Where available and appropriate, their work recommends standards established by Underwriters' Laboratories.

[79] See "Fighting Crime With Prevention," *Security Systems Digest*, Vol. 7, No. 8, April 1976, p. 5.

A. INTRODUCTION [1]

Conducting Research on Criminal Justice Organizations

The past 10 years have seen a substantial increase in the number of studies focusing upon criminal justice organizations, which include the police, the courts, and correctional agencies. Instead of merely emphasizing the causes of crime or the personal characteristics of offenders, these studies have begun to examine the performance of system components and personnel in criminal justice organizations, including evaluation of various intervention programs. The purpose of this chapter is to describe the major issues and problems involved in conducting research about criminal justice organizations. Many of these issues overlap with the more general concerns that have already been raised in Chapter 2. Therefore, this chapter focuses on those issues that, while related to criminal justice R&D more generally, appear to be especially important in research on criminal justice organizations.

This chapter is divided into five sections, which deal with the following issues in conducting research on criminal justice organizations:

- Developing compatible definitions;
- Developing research hypotheses;
- Designing research studies;
- Developing new research perspectives; and
- Developing sound relationships between those who conduct a study (the research team) and the agencies that serve as subjects of a research effort (the criminal justice host agency).

Within each section, the discussion draws from an illustrative example—the sentencing process. The section on compatible definitions, for instance, discusses the problem of definitions in terms of the lack of uniform terminology in *commitment sentences*. Similarly, the section on research hypotheses uses the *determinants of sentencing* as an illustration, the section on designing research studies uses the *consequences of sentencing*, and the section on new research perspectives is illustrated by *discretion in decisionmaking*. The last section deals explicitly with the need for a researcher-organization partnership in conducting research on criminal justice organizations; it focuses on the peculiar problems of increasing the sensitivities of both researchers and the host agencies to the mutual benefits of criminal justice research.

The goal of this chapter, therefore, is not only to address some general principles, but also to indicate the way that general principles can be applied to concrete cases. The topics chosen for illustrate purposes are intended to represent a wide range of topics; it is hoped that the lessons learned—highlighting the sentencing process—are broadly applicable.

Sentencing as an Illustrative Topic

Sentencing was selected as the illustrative topic for this chapter because sentencing is one of the most vexing and critical current problems for criminal justice organizations. Courts, correctional institutions, diversion programs, and the police are all affected by the nature of the sentence. Yet research, by and large, has failed to provide guidelines to judges on the disposition of offenders, a neglect that seems unjustifiable in light of the high priority granted to protecting the rights of the accused.[2] The point is not to minimize the importance of basic constitutional protections, but rather to call attention to existing research on this enigmatic stage of judicial administration: the imposition of sentence. It is, after all, the final decision made by a judge within the relevant legislative mandate that determines the purpose and conditions of an offender's

[1] This chapter was developed by the Task Force in part on the basis of a paper by Bernard Cohen, The Rand Corporation, R–2018–DOJ in preparation. Dr. Cohen is an Associate Professor of Sociology, Queens College, City University of New York, and was a consultant to Rand's Washington, D.C. office during the Task Force effort.

[2] See Marvin E. Frankel, *Criminal Sentences: Law Without Order*, Hill and Wang, New York, 1973, p. vii.

disposition. In this sense, the sentencing process is a gate to the entire correctional system.

The significance of research into the sentencing process extends beyond the topic of sentencing itself. Sentencing is but one of many discretionary decisions made within the criminal justice system. In addition to judges, other persons within the system with significant discretionary authority are: legislators, police, court psychiatrists, probation and parole officers, and prosecuting attorneys. The criminal justice system may be viewed as the collection of these decisionmakers and their decisions. Thus, research that uncovers information about the sentencing process has broader significance; it may ultimately provide a better understanding of, and more effective policy options for, the entire system.

The Sentencing Controversy

The question of what to do with the offender is one of the most volatile issues in American society today. Debate rages about whether offenders should be rehabilitated, punished for the purpose of retribution, punished for the purpose of deterrence of future offenses, or simply incapacitated for a period of time.[3] The debate includes questions of institutional versus community-based programs, differential treatment of serious versus nonserious offenders, and the complexities of implementation—e.g., even if the aim of sentencing is known, what specific sentence is most likely to achieve the desired objective?

According to current research, a major tendency of academicians and practitioners is to consider retribution and deterrence to be among the main aims of sentencing. The most fervent proponents of this philosophy argue that rehabilitation has been politically abused and transformed into a punitive instrument that has done offenders greater harm than good.[4] Moreover, they claim that rehabilitation has resulted in uncontrolled discretion and miscarriages of justice by parole authorities. Therefore, the proponents of the position that retribution and deterrence should play a dominant role in the sentencing decision contend that such a policy would at least minimize the inequities and discriminatory practices characterizing the current sentencing process.[5]

In contrast, legislators and representatives of the legal profession are among the most strenuous advocates for retaining rehabilitation as the main aim of sentencing.[6] Their major arguments include claims that: (1) rehabilitation has not been given a proper chance to prove itself due to faulty implementation; (2) some evidence indicates that certain forms of treatment for specific offenders are successful; (3) the evidence against rehabilitation has been overstated; and (4) the removal of rehabilitation treatment as a primary goal of imprisonment will transform prisons into holding centers or human warehouses.

Neither of these positions directly addresses the remaining alternatives—incapacitation. The single issue that most clearly highlights the differences between the two positions concerns the type of commitment that should be imposed on the offender.

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[3] A brief but recent review of the controversy is found in Peter Lejins, "Issues and Priorities in International Cooperation in the Field of Criminology: Correction," paper presented at Santa Margherita, Italy, May 1976. See also, Peter Lejins, "The Systemic and the Composite Models for Planning and Evaluation of the Criminal Justice System," in Ronald L. Akers and Edward Sagarin (eds.), *Crime Prevention and Social Control*, Praeger, New York, 1974, pp. 155–165.

[4] These include Norval Morris, Leslie T. Wilkins, Marvin E. Wolfgang, Andrew von Hirsch, and David Fogel. The positions of Morris, Wilkins, and von Hirsch may be inferred from Vincent O'Leary and others, "Contemporary Sentencing Proposals," *Criminal Law Bulletin*, Vol. 5, September-October 1975, pp. 555–586. See Norval Morris, *The Future of Imprisonment*, University of Chicago Press, Chicago, 1974, and Andrew von Hirsch, *Doing Justice*, Hill and Wang, New York, 1976, for a more explicit statement of his position. Wolfgang's position was indicated in a personal communication, 1976. McGee's position is from Richard A. McGee, "A New Look at Sentencing," Part I and Part II, *Federal Probation*, Vol. 38, June and September 1974, pp. 3–8 and pp. 3–11; Fogel's position is from his book, *We Are the Living Proof: The Justice Model for Corrections*, W. H. Anderson Co., Cincinnati, 1975 and William Raspberry's review of the book in *The Washington Post*, December 29, 1975, p. A–17; and Alan Dershowitz, "Letting the Punishment Fit the Crime," *The New York Times Magazine*, December 28, 1975, p. 7ff., and from *Fair and Certain Punishment: Report of the Twentieth Century Fund Task Force on Criminal Sentencing*, McGraw-Hill, New York, 1976.

[5] The position does not exclude rehabilitation properly implemented. As Morris has stated,

> "Rehabilitation," whatever it means and whatever the program that allegedly gives it meaning, must cease to be a purpose of the prison sanction. This does *not* mean that the various developed treatment programs within prisons need to be abandoned; quite the contrary, they need expansion. But it does mean that they must not be seen as *purposive* in the sense that criminals are to be sent to prison *for* treatment. There is a sharp distinction between the purposes of incarceration and the opportunities for the training and assistance of prisoners that may be pursued within those purposes. The system is corrupted when we fail to preserve this distinction and this failure pervades the world's prison programs (Morris, *Imprisonment*, 1974, pp. 14–15).

[6] Witness several recent reports on sentencing reform by various bar associations, and also current legislative efforts to structure a meaningful and unified criminal code. These include the Senate's Criminal Justice Reform Act of 1975 (94th Congress, 1st Session, S. 1) and the Report and Recommendations on Sentencing and Prison Reform of the State Bar of California Committee on Criminal Justice, June 1975.

The current trend among academicians and practitioners is away from indeterminate sentences and toward some form of fixed or presumptive penalty with strict limitations on the use of discretion. Few, however, would argue for a system where the mandatory sentence would predominate. In contrast, those favoring a rehabilitative approach favor probation or the indeterminate sentence, as well as the enlightened use of discretion, so that individual sentences can be tailored to the needs of each offender. For instance, according to the bill introduced as the Criminal Justice Reform Act of 1975, the final set of objectives for a prison sentence is "to provide the defendant with needed educational or vocational training, medical care, or other correctional treatment in the most effective manner." [7]

No doubt, the sentencing controversy will continue as long as our society holds conflicting attitudes toward crime and criminals. Within this context, it is important to remember the role of research. Research may be able to enlighten the debate so that discussion centers around the relevant issues and the right set of facts. Research may also be useful in identifying new alternatives. However, research cannot end the debate or provide definitive answers that would rule out different sets of values or points of view.

B. DEVELOPING COMPATIBLE DEFINITIONS

Illustration: Commitment Sentences

The illustrative topic of *commitment sentences,* considerably narrower than the broader topic of sentencing, is confined to those sentences imposed on a minor proportion of convicted offenders. The topic of commitment sentences is discussed here to illustrate the need to develop compatible definitions in conducting research on criminal justice organizations.

A commitment sentence is a sentencing decision that commits the convicted offender to a prison or local jail. By definition, it excludes the various diversion, probation, halfway houses, and other treatment programs that the offender may experience after pronouncement of the sentence. It also excludes other types of disposition, such as dismissal, release, and acquittal. In this sense, commitment sentences apply to a very limited and specific target population of all offenders, because only a small portion of the total number of persons arrested ever receives a prison sentence.[8]

Definitions and Their Problems

A major problem in sentencing research, as in other kinds of research on criminal justice organizations, is the absence of uniform and standardized definitions, even for such basic terms as disparity, dangerousness, and recidivism. In attempts to predict dangerousness, for example, the lack of a common definition frustrates real progress. If the length of sentence is any indication of the offenses that both lawmakers and judges consider dangerous, then it becomes clear that the definition is not equally shared. In at least one State, for example, the sale of one marijuana cigarette entails the risk of a prison sentence of 30 years.[9] Similarly, in some jurisdictions a person who has sexual intercourse with a willing female under 16 may be subjected to a prison sentence 5 times as great as a person

[7] Criminal Justice Reform Act of 1975, 94th Congress, 1st Session, S. 1, p. 191.

[8] In 1972, for example, the California Superior Court felony caseload was 240,000, of which 49,024 felons were sentenced, but only 28,479 persons (11.8 percent) were sentenced to jail or prison. (Jails are local detention facilities typically used for commitment sentences of less than a year; prisons are used for longer sentences, supported and run at the State level by State agencies and at the Federal level by the U.S. Bureau of Prisons.) The number of commitments to State prisons and reformatories dropped even further, to 7,179 persons (3.0 percent). Even a smaller percentage of the 747,000 persons arrested for misdemeanors was given jail sentences (see Robert Carter, Richard McGee, and E. K. Nelson, *Corrections in America,* Lippincott, Philadelphia, 1975). The proportion of offenders arrested for felonies in Southern California in 1974 who experienced either jail or prison terms was also quite small. The accounting below indicates the disparities per 1,000 adult felony arrests in Southern California: 575 were not convicted (of these, 109 were released by the police; 164 were released because the prosecutor refused to file a complaint; and 302 were dismissed, acquitted remanded to a juvenile court, had the charge reduced to a misdemeanor and were not convicted in lower court, were dismissed on a felony complaint in lower court, or the like); and 425 were found guilty by plea or trial (236 of these were sentenced in the lower court on misdemeanor complaints; 52 were disposed of in the lower court on felony complaints; 147 were convicted of felonies and sentenced in the superior court). In other words, only about one in seven persons arrested for felonies ever reached the point of conviction and sentence in the superior court. These data are based upon dispositions taken from California Bureau of Criminal Statistics, *Offender Based Transaction Statistics System Preliminary Report,* Sacramento, 1974, and incorporated in *Trial,* published by the Association of Trial Lawyers of America, Vol. 12, March 1976, p. 25.

[9] J. Drew, "Judicial Discretion and the Sentencing Process," *Howard Law Journal,* Vol. 17, No. 4, 1973, pp. 858–864.

who physically assaults the same female with a deadly weapon.[10]

In general, the phraseology for various forms of commitment sentences is also opaque and confusing.[11] In several States, the *definite sentence* refers to a prison term that may not be more than the maximum term provided by statute for a specific offense, and the phrase *indeterminate sentence* means a minimum and maximum term set by a judge within the limits of a given statute, or a term by a parole board fixed within the statutory limits, as is the case in Washington and California. However, in other States this common usage is partly reversed. For example, in New Jersey the indeterminate sentence is referred to as the definite sentence. The State of Pennsylvania refers to the minimum-maximum sentence as indefinite and applies the word indeterminate to a minimum-maximum sentence imposed automatically by statute. Similar confusion reigns in Federal courts in which indeterminate sentence and definite sentence refer to a range of different sentences.[12]

Unfortunately, the scholarly community dealing with commitment sentences has not been exempt from this confusion over definitions. For example, there is little clarity in the use of the phrase *flat sentence*. Sometimes it is defined as a fixed mandatory sentence in which there is no discretion; in other instances, it is referred to as a prescribed sentence that allows limited discretion.[13] Perhaps the greatest confusion involves the *fixed sentence*. Some commentators use this phrase to identify a form of commitment, while others use it to describe the procedural aspect of fixing the release date of a sentence. In the latter instance, the fixed "sentence" cuts across several sentences insofar as it indicates whether the release date was or was not set at sentencing. Norval Morris, for example, argues against fixed sentences but advocates the fixing or setting of sentences immediately or soon after the offender has been imprisoned. Similar instances of ambiguity characterize the definitions and usage of other forms of sentencing, including mandatory, minimum-maximum, and determinate sentences.

Definitions That Could Be Used

For purposes of further research on the topic of commitment sentences, the first step required is, therefore, to establish a set of common definitions.[14] Although this is a task for a specific research project, the most representative types of commitment sentences have been selected and briefly defined here for illustrative purposes.[15] Three broad forms of commitment sentences—nondiscretionary, limited discretionary, and discretionary commitments—are referred to, and at least one example of each is provided. The purpose of establishing common definitions is to enable research studies to be compatible and, hence, amenable to comparative analysis.

Nondiscretionary Commitments. In these sentences, the individual or group imposing the sentence has virtually no discretion or flexibility in determining what the sentence ought to be. The sentences are fixed by legislative statute, and their application is rigid and automatic upon conviction of the offender. The most common nondiscretionary commitment is the *mandatory* sentence, which is determined by statute with a fixed term of imprisonment that must be imposed on certain offenders for specific crimes.

Limited Discretionary Commitments. These forms of commitment include the mandatory minimum and presumptive sentences. The *mandatory minimum*

[10] Edward Green, note in R. Knudten, *Crime in a Complex Society: An Introduction to Criminology,* Dorsey Press, Homewood, Ill., 1970, p. 511.

[11] The definitional problem of commitment sentences is typical of similar problems for the field of sentencing as a whole. Disagreement and confusion reign for even the most basic terms, including dangerousness, recidivism, discretion, disparity, variation, justice, equity, fairness, proportionality, probation, and so on. The following sources discuss definitional problems for the basic sentencing terms, dangerousness, recidivism, and discretion: National Advisory Commission on Criminal Justice Standards and Goals, *Corrections,* Washington, D.C., 1973, pp. 197–209, 512–514; Morris, *Imprisonment,* Chicago, 1974, pp. 62–73; disparity and variation: Jack M. Kress, "Sentencing: The Search for Rational Criteria," paper presented at the annual meeting of the American Society of Criminology, Toronto, 1975. pp. 5–6; justice, equality, fairness, and proportionality: Leslie T. Wilkins, "Equity and Republican Justice," *Annals of the American Academy of Political and Social Science,* Vol. 423, January 1976, pp. 158–159; Kress, "Sentencing," 1975, p. 24; P. Lindegaard and J. Meyer, "Sentencing Factors Working in the Judges' Minds," Appendix IV of *Sentencing,* European Committee on Crime Problems, Council of Europe, Strasbourg, 1974, pp. 80–81; and Sol Rubin and others, *The Law of Criminal Correction,* student edition, Minnesota West Publishing Co., St. Paul, 1973, p. 130; individualization: Rubin and others, *Criminal Correction,* 1973, p. 136; and probation: Norval Morris and Gordon Hawkins, *The Honest Politician's Guide to Crime Control,* University of Chicago Press, Chicago, 1970, pp. 251–252.

[12] See Rubin and others, *Criminal Correction,* 1973, pp. 133ff.

[13] Fogel, *We Are the Living Proof,* 1975.

[14] This point is different from one that would suggest actual revisions in State laws to make their use of sentencing terms consistent. Our suggestion is merely that researchers, in conducting research studies, establish compatible definitions.

[15] For example, other commitment sentences include the extended sentence, the consecutive sentence, and the split sentence. In the split (or two-part) sentence, the offender is sentenced to jail rather than to prison. The second part of the sentence occurs after release from jail, when the offender is placed on probation (Richard McGee, personal communication, 1976).

sentence requires that offenders convicted of certain crimes serve at least a specified minimum prison term; the upper limit, however, is left open. This type of sentence limits discretionary authority primarily by prohibiting probation, the imposition of a lesser sentence, or the invocation of parole prior to expiration of the minimum limit of the sentence.

The *presumptive sentence* has not been used in the United States, but there is serious debate over its possible adoption in the near future.[16] In this sentence, the legislature would determine the typical sentence for a specific crime, fix narrowly defined minimum and maximum terms, and allow the sentencing authority to raise or lower the sentence by a specific percentage based upon the presence of mitigating or aggravating circumstances specified by law. Only in extraordinary cases could the sentencing authority impose the minimum or maximum, in which case it would have to provide an explanation for this in writing.

Another form of the presumptive sentence is what some commentators have referred to as the *fixed sentence*. In this case, the minimum and maximum boundaries of confinement are based on the best and worst crime scenarios of the particular offense category, so that some discretion is provided to the sentencing authority fixing the term of commitment.[17] So much confusion results from use of the phrase fixed sentence that its use in this context might best be abandoned. Instead, a fixed sentence should refer to the procedure whereby the exact time of release is determined at sentencing or immediately afterward by a sentencing authority. In contrast, an *open sentence* would refer to a form of commitment wherein the exact time of release is left undetermined at sentencing. According to this usage, the fixed sentence would refer to setting the duration of a sentence and not to a form of commitment.

Discretionary Commitments. These types of sentences give the most discretion to sentencing authorities. The major forms are the definite and indeterminate sentences. For a *definite sentence,* the sentencing authority sets the term of years, which may be less, but not more, than the maximum penalty allowed by statute for a specific crime. The definite sentence is, in some ways, the opposite of the mandatory minimum sentence, because the maximum rather than the minimum limit of confinement is specified by statute. The offender usually becomes eligible for parole after serving a fixed fraction of the sentence. In the Federal system, for example, this period is one-third of the term fixed by the judge. This should not be interpreted to mean that the definite sentence allows somewhat less flexibility than the indeterminate sentence. In some States, the range between the minimum and maximum for the indeterminate sentence is narrower than for the definite sentence.[18]

The *indeterminate sentence* usually imposes for each offense a very low minimum and very high maximum term, both of which are set by statute. In between these limits is a wide range of determinate terms that allows for substantial discretion by either a court or a parole board. However, no truly indeterminate sentence, which theoretically would have a minimum of zero and a maximum of life, has ever been used in the United States.[19]

Summary Discussion

A major problem in research on criminal justice organizations is the absence of standardized definitions for such basic terms as dangerousness, recidivism, discretion, disparity, equity, proportionality, uniformity, individualization, commitment sentence, probation, parole, and length of followup. The confusion over definitions has not only impeded communication among researchers and, more importantly, between researchers and practitioners, but also has hindered comparisons and replications of research studies. R&D-funding agencies, such as the National Institute of Law Enforcement and Criminal Justice and the National Institute of Mental Health, should be sensitive to the way in which the terminology is used in the research studies being supported. Where appropriate, the use of common definitions can facilitate the direct comparison of research findings and, hence, the aggregation of research knowledge. For example, the development of standardized definitions has already occurred in the use of some identically worded questions in victimization surveys.

Recommendation 5.1: Use of Common Terminology.

Criminal justice R&D-funding agencies should encourage the development and use of compatible sets of definitions in R&D studies. Where common terminology is not achieved, terms should be well enough defined so that their meanings can be interpreted by other studies.

1. NILECJ or NIMH could commission professional associations to establish glossaries of termi-

[16] Alan Dershowitz, "Letting the Punishment Fit the Crime," *The New York Times Magazine,* December 28, 1975, pp. 7ff., and *Fair and Certain Punishment,* 1976.

[17] Vincent O'Leary and others, "Contemporary Sentencing Proposals," *Criminal Law Bulletin,* Vol. 5, September-October 1975, pp. 555–586.

[18] Rubin and others, *Criminal Correction,* 1973.

[19] Richard A. McGee, "A New Look at Sentencing: Part II, *Federal Probation,* Vol. 38, No. 3, September 1974, pp. 3–11.

nology in various special fields and could encourage use of accepted terminology in new research projects.

C. DEVELOPING RESEARCH HYPOTHESES

Illustration: Disparity in Sentencing

One of the most enigmatic questions confronting observers of the judicial system today involves the *source and basis of disparity in sentencing.* This issue concerns the general lack of uniformity that characterizes the use of discretion at each stage in the criminal justice process.

One way of characterizing the disparity issue is as a debate between the "uniform" and "individualized" approaches. Advocates of the uniform approach are most concerned with the range of abuses possible under the present system, including the belief that personal factors such as race, socioeconomic status of the offender, or sociobiographic background of the judge may have an untoward influence on the decision. Moreover, they argue that individualized sentences may undermine public confidence in the system and may have demoralizing and antirehabilitative effects on inmates who receive harsher sentences in comparable situations.[20] Supporters of the individualized approach argue that the needs of the offender must be considered in the sentencing decision. They, in turn, point to abuses in treatment under the uniform method.[21]

In any event, differential treatment of offenders is intolerable when it is influenced by any extralegal factors. If it is found that the uniform treatment approach alone is unacceptable or ineffective, it may be most useful to experiment with a mix, utilizing the most viable elements from the uniform and individual approaches, and attempting to reduce the disparity that exists to minimize its effects on offenders.[22]

Regardless of the various arguments on both sides of this debate, an important task for empirical research on criminal justice organizations can be to identify the determinants of disparity. Simply stated, research may reveal the extent to which variations in sentencing decisions can be attributed to:

- Different legal constraints;
- The characteristics of the crime or the situation;
- The characteristics of the offender;
- The characteristics of the judge and variations from court to court; or
- Some other set of factors.

Similar empirical research can be addressed to the determinants of disparity in other decisions in criminal justice organizations—e.g., prosecutorial, arrest, and parole decisions. To this extent, our focus on disparities in sentencing decisions is again an attempt to use a particular problem to illustrate a more general topic in research on criminal justice organizations.

Hypothesis Development

A critical step in such research occurs at the outset of a project, when the hypotheses to be studied are identified. The hypothesis development step is the major procedure for defining the scope of the study, the appropriate research design, the data to be collected, and the nature of the data analysis. Under some circumstances, as in an ethnographic study of a law enforcement agency in which the main goal of the research is a descriptive one (for example, to capture the unique and salient features of a criminal justice organization in as naturalistic a setting as possible),[23] a study need not have formal hypotheses. However, for most policy-related research, hypothesis development is critical because it represents a strong hunch about a causal sequence of events, and, if such a sequence is identified and confirmed in the research, it can be the prelude to policies that can be used to intervene in the sequence in the future.

The development and statement of hypotheses often are given only superficial attention in research on criminal justice organizations; an investigator may "throw in" a series of hypotheses just to satisfy a formal requirement. The satisfactory development of hypotheses, in contrast, involves a sound understanding of the research that has been previously conducted on a topic and a knowledge of the relevant underlying theories of causal relations.

In studying disparity in sentencing, for example, analysts have approached their work from a variety of perspectives.[24] Thorsten Sellin was one of the first to initiate the topic of sentencing disparity as a

[20] R. Dawson, *Sentencing: The Decision as to Type, Length and Conditions of Sentence,* Little, Brown and Company, Boston, 1969, p. 216.

[21] According to this approach, a theft, for example, may be the work of an organized group of professional thieves, or it may be the act of a juvenile offender attempting to impress his peer group. Despite differences in the offenders' backgrounds, the chances are good that the dispositions, under the uniform approach, may be similar.

[22] For some suggestions on how to deal with disparity, see Dawson, *Sentencing,* 1969, Chapter 8.

[23] See Jonathan Rubinstein, *City Police,* Farrar, Strauss, and Giroux, New York, 1973.

[24] The discussion that follows draws heavily upon John Hogarth, *Sentencing as a Human Process,* University of Toronto Press, Toronto, 1974; and Roger Hood and Richard Sparks, *Key Issues in Criminology,* McGraw-Hill, New York, 1970.

bona fide field of research. In his analysis of "The Negro Criminal," [25] Sellin was ultimately interested in discerning any kind of pattern of punishment that differentiated the minority defendants' treatment within the judicial system from that of the white offenders coming before the bench. Subsequent studies [26] emphasized race, as well as education level, occupation, sex, and age of the offender, as important variables.

A review of previous research on disparity in sentencing generally will reveal that theories of disparity revolve around one of several major themes: sociodemographic determinants, legal factors, and human and personal determinants. Each theme might contain hypotheses for future research.

Sociodemographic Determinants. The sociodemographic school subscribes to the hypothesis that the causes of sentencing disparity, or the sources of differential sentencing, can be found in the extralegal attributes of a defendant. The independent variables most often emphasized in studies of this type have been race, sex, age, occupation, and socioeconomic status of the defendant. Analysis of the victim's characteristics has also been included in some of these studies. The sociodemographically based studies vary mainly in the extent to which each analysis actually controlled for legal considerations.[27] In spite of this variation, the general consensus of opinion is that factors other than race, socioeconomic status, age, and sex are equally important in the sentencing decision.

Legal Factors. Legal considerations would obviously be included among such other factors. In his study of the Philadelphia Court of Quarter Sessions, Edward Green examined the effect of sociodemographic characteristics, such as sex, age, and place of birth, while controlling for legally oriented factors, such as the type and severity of the crime, the number of criminal acts charged, and the offender's past record.[28] Green concluded that, when such legal variables were taken into account, some of the apparent variation in sentencing disappeared. In other words, the nonlegal or legally "irrelevant" facts such as sex, age, race, and place of birth were found to have little influence in sentencing. As such, Green was instrumental in calling the attention of prospective researchers to the importance of legal considerations in the sentencing decision. This focus was reflected in the subsequent studies of Stuart Nagel, Charles Judson and others, and Marvin Wolfgang and Marc Reidel,[29] all of whom included legal variables primarily as control factors in their works.

In Green's study, the most important legal factors were the seriousness of the offense and the previous convictions of the offender. In correlating the severity of the offense with predicted sentence disposition, Green found that, in cases of either serious or minor gravity, there seemed to be a reasonable amount of consistency, although not complete uniformity. "However, as cases moved from the extremes of gravity or mildness towards intermediacy, judicial standards tend to become less stable and sentencing increasingly reflects the individuality of the judge." [30]

The point has been made in criticizing Green's approach that this research did not directly assess judicial attitudes in sentencing. John Hogarth, for example, argues that:

> The use of the concept 'attitude' to explain *consistency* among judges without supporting evidence is vulnerable to the same criticism made by Green of those studies that employ this concept to explain *inconsistency* between judges. The establishment of a statistical relationship between factors such as the severity of the crime and criminal record to the pattern of sentencing decision made does not mean that these factors were consciously or even subconsciously in the minds of the judge at the time of sentence.[31]

Thus, the complexities of the sentencing process

[25] Thorsten Sellin, "The Negro Criminal: A Statistical Note," *Annals of the American Academy of Political and Social Science*, Vol. 140, November 1928, pp. 52–64.

[26] For example, Roscoe Martin, *The Defendant and Criminal Justice*. University of Texas Bulletin No. 3437, Bureau of Research in the Social Sciences, Study No. 9, Austin, October 1934; Guy Johnson, "The Negro and Crime," *Annals of the American Academy of Political and Social Science*, Vol. 217, September 1941, p. 93; Harold Garfinkel, "Research Note on Inter- and Intra-Racial Homicides," *Social Forces*, Vol. 27, May 1949, pp. 369–381; Henry Bullock, "Significance of the Racial Factor in the Length of Prison Sentences," *Journal of Criminal Law, Criminology, and Police Science*, Vol. 52, November-December 1961, pp. 411–417; and Donald Partington, "The Incidence of the Death Penalty for Rape in Virginia," *Washington and Lee Law Review*, Vol. 21, Spring 1965, pp. 43–75.

[27] John Hagan ("Extra-Legal Attributes and Criminal Sentencing: An Assessment of a Sociological Viewpoint," *Law and Society Review*, Vol. 8, Spring 1974, pp. 357–383) reviewed 20 studies of sentencing that in one way or another attempted to correlate the differing levels of variables. He related the variation in the studies' conclusions to the degree to which each controlled for and covered *legal* considerations. Confusion about methodological technique has, in his opinion, tended to blur the researcher's vision, encouraging invalid conclusions in data analysis.

[28] Edward Green, *Judicial Attitudes in Sentencing*, MacMillan and Company, Ltd., London, 1961.

[29] Stuart Nagel, *The Legal Process From the Behavioral Perspective*, Dorsey Press, Homewood, Ill., 1969; Charles J. Judson and others, "A Study of the California Penalty Jury in First Degree Murder Cases," *Stanford Law Review*, Vol. 21, No. 6, 1969, pp. 1297–1497; and Marvin Wolfgang and Marc Reidel, "Race, Judicial Discretion, and the Death Penalty," *Annals of the American Academy of Political and Social Science*, Vol. 407, May 1973, pp. 119–133.

[30] Green, *Judicial Attitudes*, 1961, p. 69.

[31] Hogarth, *Sentencing*, 1974, p. 8.

require researchers to go beyond the analysis of official court statistics.[32]

Other studies have shown that neither legal nor sociodemographic factors are sufficient to explain disparity in sentencing. Hermann Mannheim and others studied the sentencing disparities in the London Juvenile Courts.[33] The researchers examined all the information available in the files of the police and probation service and in social indices of the districts served by the courts. They even took the sex of the chairperson into account. Yet none of these factors, by itself, explained the different sentencing patterns of the courts.

Roger Hood's study of the Adult Magistrates Court in England also uncovered disparity in sentencing policy.[34] Once again, a variety of information relevant to the crimes committed and the personal histories of the offenders was gathered and compared to the proportion receiving a sentence of imprisonment. There were no strong correlations, and Hood therefore interpreted his findings by attributing disparities in sentencing policy to differences in the philosophies of sentencing policy and to disagreements about the actual effectiveness of alternative sentences. This analysis also suggested that there may be different traditions on benches or courts transmitted by the older members of the court, as well as varying social conditions affecting the courts. For example, Hood concluded that the most severe benches were composed of middle-class magistrates situated in small nonindustrial communities.

Human and Personal Factors. A third hypothesis about sentencing disparity would, therefore, be that attributes of the *judges* are related to sentencing decisions. The broadening of research to cover the characteristics and perceptions of the judge requires a somewhat different research approach. One basic problem with past studies has been that they were restricted to examinations of sentencing from official statistical records, particularly police and court sources. The usual procedure has been to use these official sources to collect as much information as possible concerning the type and severity of the offenses committed, the background and characteristics of the offenders concerned, and the nature of the sentencing decision. This type of research approach has often been called an "input-output" or a "stimulus-response" model of judicial decisionmaking; the facts of the case constitute the input or stimulus, and the sentencing behavior of the judge, the output or response. It has also been called a "black box" model, because nothing is known about the judges or magistrates apart from the decisions they make.[35]

A study by John Hogarth, however, probed the possible internal and external influences on the magistrate's world.[36] Despite certain methodological problems, this study illustrates well the manner in which human and personal factors can be examined. While examining the obvious variables of the magistrate's personal background—political affiliation, religion, education, age, and the like—the study also went much further than most judicial decisionmaking studies and attempted to recreate the conditions of the sentencing question as the judge experiences it in everyday practice. The study was also distinctive in that it directly assessed the attitudes of the magistrates. The basic hypothesis underlying the Hogarth research design was that a direct and causal relationship exists between a magistrate's personal characteristics and his sentencing decisions.

Hogarth's findings indicated that variation in sentencing behavior was associated with variation in attitude on the part of the individual magistrate. Although there were wide variations in sentencing philosophy among magistrates, most individual magistrates had a fairly consistent and coherent set of beliefs bearing on their personal sentencing philosophy that appeared to lead to a selective interpretation of the facts of each case. For example, it was found that magistrates who claimed to rely heavily on institutional sentences in indictable cases tended to be traditional in outlook, were concerned for social defense, had positive relationships with the crown attorney, perceived magistrates as generally too lenient, and respected all other participants in the criminal justice system who expressed concern for the concept of justice.

The major conclusion of Hogarth's study is that magistrates do indeed select a sentencing disposition that reflects their own preconceived perceptions of the case. Needless to say, acceptance of this conclusion implies a whole range of political consequences. The difficulty that arises with respect to the criminal justice system's claim to equity is that, in the face of inadequate legislative guidelines, different magistrates do perceive and will continue to perceive differently the same case or types of cases. Hogarth's most revealing finding was that approximately *half* of the total variation in all sentencing decisions could actually be accounted for simply by

[32] Though Green entitled his book *Judicial Attitudes in Sentencing*, he actually conducted little research that provided direct evidence of judicial attitudes. He mainly inferred such information from consistencies (or inconsistencies) in judicial behavior.

[33] Hermann Mannheim and others, "Magisterial Policy in the London Juvenile Courts," *British Journal of Delinquency*, Vol. 8, July 1957, pp. 13–33, and October 1957, pp. 119–138.

[34] Roger Hood, *Sentencing in Magistrates Court*, Stevens, London, 1962.

[35] Hogarth, *Sentencing*, 1974.

[36] Hogarth, *Sentencing*, 1974.

knowing certain pieces of information about the judge. Thus, it is only when the researcher incorporates into his analysis the magistrate's *own* definition of the situation, from as wide a variety of perspectives as possible, that the inner workings of the judicial process may begin to come to light.

Summary Discussion

In developing hypotheses for a topic of study, an investigator must assess as accurately as possible all previous research on the question. This brief discussion of sentencing disparity has revealed several major hypotheses regarding the possible causes of variation in the exercise of judicial discretion in sentencing. A new study on sentencing disparity could begin by entertaining one or more of these hypotheses, or by adopting an altogether different approach, as long as these traditional hypotheses are examined as counterarguments. Whichever approach is chosen, stating a hypothesis to be tested is an important initial step—one that will dictate the scope, research design, and data collection requirements of the subsequent study.

Recommendation 5.2: Importance of Hypothesis Development.

Criminal justice R&D-funding agencies should insure that a study intended to test a hypothesis clearly states both the hypothesis and its alternatives. This statement dictates the scope, research design, and data collection requirements of the research study.

(For related recommendations, see the following: Recommendation 2.4 discusses the selection of research topics whether or not a hypothesis is to be tested; Recommendation 2.6 discusses the importance of a rigorous research design; Recommendation 2.7 discusses the need to justify research designs; Recommendation 5.3 discusses research designs in studies of criminal justice organizations.)

D. DESIGNING RESEARCH STUDIES

Illustration: Sentencing Consequences

This section focuses on the research design of studies of criminal justice organizations. In the course of research, this step generally follows the development of compatible definitions and specific research hypotheses. Naturally, the design of a research study is often a complex affair that cannot be accounted for by a simple sequential process. However, it is assumed here that the key hypotheses have already been identified, and that the concern now centers on designing the research study. The design of evaluation studies will be emphasized here; for such studies, adequate research design has importance beyond the methodological considerations stated in Chapter 3 of this report. When an existing criminal justice program is the subject of research, special care must be taken not to mistakenly confirm or deny the effectiveness of the program. Erroneous findings have implications far beyond the research community. Adequate research designs can minimize the occurrence of such erroneous findings.

Studies that attempt to evaluate the effect of different treatments or policy interventions are a common form of research on criminal justice organizations. Usually, the local practitioner or national policymaker supports such studies in the hope of finding out what works or does not work, and why. As an illustrative topic, the research design issues are discussed in the context of the *consequences of sentencing*. These consequences not only refer to the effects of commitment sentences, probation, and parole, but also encompass the effects of: (1) other types of outcomes, including milieu therapy, partial custody, and community-based corrections; and (2) different forms of treatment, including casework, individual counseling, group counseling, leisure-time activities, and medical methods. The section draws heavily on the works by Robert Martinson that deal with the impact of treatment programs on offenders and discusses the controversy over his study on the overall impact of penal treatment and practices.[37] Original tabulations and analyses of data from Martinson's study are presented in order to answer certain questions of interest on research design.

The Controversy Over the Impact of Treatment

No single study has created as much debate in the last few years as Robert Martinson's study on the effectiveness of correctional treatment. The findings and conclusions were first reported by Martinson in an article[38] and subsequently in greater detail in a book authored with Douglas Lipton and Judith

[37] In this section, "treatment" is used in the broad sense to include such penal practices as probation, imprisonment, and parole. A substantial proportion of convicted offenders who experience these penal practices, therefore, do not enter any "treatment" programs as defined in the strict sense of a deliberate attempt (and formal program) to rehabilitate the offender.

[38] Robert Martinson, "What Works? Questions and Answers About Prison Reform," *The Public Interest*, No. 35, Spring 1974, pp. 22–53.

Wilks.[39] The study was a summary of evaluation studies, screened for type of research design, conducted before 1966. This section presents some additional analyses of the data provided by Martinson[40] to deal with problems on outcome measures, sample selection, and research design. These works have been selected for analysis not only because they contain more useful information on the impact of penal and treatment practices than any other source, but also because they have generated considerable debate and controversy.

One major criticism of Martinson's work relates specifically to a series of negative conclusions on the effectiveness of penal and treatment practices presented in his article.[41] The following quotes are typical of these conclusions:

"With few and isolated exceptions, the rehabilitative effects that have been reported so far have had no appreciable effect on recidivism" (p. 25).

"What we do know is that, to date, education and skill development have not reduced recidivism by rehabilitating criminals" (p. 28).

"But by and large, when one takes the programs that have been administered in institutions and applies them in a non-institutional setting, the results do not grow to encouraging proportions" (p. 38).

"The results are similarly ambiguous when one applies this intensive supervision to adult offenders" (p. 46).

". . . I am bound to say that these data, involving over two hundred studies and hundreds of thousands of individuals as they do, are the best available and give us little reason to hope that we have, in fact, found a sure way of reducing recidivism through rehabilitation" (p. 49).

Ted Palmer, in his analysis of Martinson's article, disagrees with Martinson's overall conclusion that treatment and rehabilitation have failed.[42] Palmer attempts to prove that either Martinson did not mean what he said, or that he misinterpreted his own data. Palmer asks, "Does a careful reading of this challenging and influential article really warrant the pessimistic forecast which has been made, especially by individuals who have drawn upon it to support their suspicions regarding the futility of intervention in general?" Palmer goes on to show that a substantial number of studies reviewed by Martinson yielded positive or partially positive results (about 48 percent). Palmer adds that Martinson himself stated this in his description of several individual studies, but that he never systematized or concentrated in one place all the findings dealing with program success. Palmer attributes this to Martinson's interest in assessing the efficiency of each given penal and treatment method as a whole and identifying a treatment that worked on an across-the-board basis. Because Martinson did not find one treatment method that was always or nearly always successful, he reached the overall conclusion that rehabilitation had failed. Palmer speculates that had Martinson taken into account (1) the differential value and degree of effectiveness of various penal and treatment methods, and (2) the methods that worked best for different types of offenders and for different conditions, he would have reached a different conclusion, namely, that specific penal and treatment programs did indeed work for selected offenders.

Palmer's argument was based upon Martinson's article. A careful reading of Martinson's study, as published later in book form, reveals that Palmer was on the right track and that Martinson's evaluation of evaluations did indeed identify several individual penal and treatment programs that did work.

Why, then, was Martinson so pessimistic in light of his own evidence suggesting that a substantial proportion of the evaluation studies indicated program success? One possible answer, in addition to Palmer's explanation, is that Martinson's single criterion of success was rehabilitation or client improvement. Had he utilized other success criteria as well, such as equity in criminal justice involvement or the contribution of programs to system improvement, Martinson might have reached a more positive conclusion.

Perhaps another explanation is that Martinson did not analyze the data in his study sufficiently and presented only broad impressions of the studies. In fact, much of the raw data presented by Martinson still remain to be tabulated and analyzed; a separate research effort would be required for this purpose.

Methodological Issues

Outcome Measures and the Variety of Outcomes. To design a program assessment, an investigator must first identify the appropriate outcome measures that are reasonable criteria for judging the impact of the treatment or intervention.

Martinson's data, as computed for the specific purposes of this chapter,[43] show that the outcome measure most frequently used in evaluating treatment

[39] Douglas Lipton, Robert Martinson, and Judith Wilks, *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*, Praeger Books, New York, 1975.

[40] These data pertain to 231 treatment evaluation programs, conducted from 1945 through 1967, that met 16 methodological and procedural criteria.

[41] Martinson, "What Works?" 1974.

[42] Ted Palmer, "Martinson Revisited," *Journal of Research in Crime and Delinquency*, Vol. 12, July 1975, pp. 133–152.

[43] All the tables in this section are based on the Task Force's reanalysis, tabulation, or computation of raw data presented in Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975.

Table 5.1. Distribution of Selected Treatment Methods by Outcome Measure[1]

Outcome Measure (Dependent Variable)	Treatment Method (Independent Variable)																							
	Proba-tion		Impris-onment		Parole		Casework and Individual Counseling		Skill Develop-ment		Individual Psycho-therapy		Group Methods		Milieu Therapy		Partial Physical Custody		Medical Methods		Leisure-Time Activities		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Recidivism	18	78.3	19	61.3	18	72.0	7	38.9	15	36.6	12	44.4	19	35.2	20	52.6	4	66.7	5	22.7	1	50	138	48.1
Institutional adjustment	0		2	6.5	0		1	5.6	3	7.3	4	14.8	6	11.1	5	13.2	0		2	9.1	1	50	24	8.4
Vocational adjustment	1	4.3	0		0		2	11.1	5	12.2	3	11.1	2	3.7	0*		0		1	4.5	0		14	4.9
Educational achievement	1	4.3	0			0	0		9	22.0	1	3.7	1	1.9	0		0		0		0		12	4.2
Drug and alcohol readdiction	0		0		3	12.0	3	16.7	1	2.4	1	3.7	2	3.7	1	2.6	1	16.7	4	18.2	0		16	5.6
Personality and attitude change	3	13.0	10	32.3	4	16.0	3	16.7	4	9.8	5	18.5	21	38.9	8	21.1	0		9	40.9	0		67	23.3
Community adjustment	0		0		0		2	11.1	4	9.8	1	3.7	3	5.6	4	10.5	1	16.7	1	4.5	0		16	5.6
TOTAL	23	99.9	31	100.1	25	100.0	8	100.1	41**	100.1	27	99.9	54	100.1	38	100.0	6	100.1	22	99.9	2	100.0	287	100.1

Note: Percentages may not add to 100 due to rounding.

[1] This table was excerpted from Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975, p. 9, and adapted for this report.

* This is a unique entry, since feasibility or demonstration studies have not ordinarily been included in the survey.
** The original table had a total of 40 studies for skill development. The corrected total is 41.

programs was recidivism (see Table 5.1);[44] 48.1 percent of the studies used recidivism to assess program success. The second most common outcome measure, used by 23.3 percent of the studies, was personality and attitude change. The use of recidivism as an outcome measure varied with the form of treatment; for instance, only 22.7 percent of the studies on medical methods and 35.2 percent of the studies on group methods used recidivism as an outcome measure. On the other hand, studies of these two forms of treatment utilized outcome measures of personality and attitude change more frequently than other studies (40.9 percent and 38.9 percent, respectively). Educational achievement was the outcome measure least used (4.2 percent); vocational adjustment was used slightly more often (4.9 percent), followed by drug and alcohol readdiction and community adjustment (each 5.6 percent).

Because recidivism has been the most common outcome measure and entails many different measurement problems, we discuss it here in greater detail. The dictionary defines recidivism as "habitual or chronic relapse, or tendency to relapse, into crime or antisocial behavior patterns." It is no wonder that such a broad meaning has resulted in several different operational definitions of this concept. These measures include police arrests, proportion in custody at end of followup, number of convictions, time to first arrest, seriousness of offense, violation of the rules of probation or parole, and reincarceration. Some commentators, such as Marvin Wolfgang, have even suggested that a reduction in seriousness of an offense pattern or an increase in the period between offenses should be incorporated into a measure of recidivism. Moreover, it has been pointed out that many of the measures for recidivism focus on collective or system rates, such as the total crime rate or overall parole violation rate. A program of imprisonment, for example, is said to be successful if the crime rate in the community or State decreased during the period it was in effect.

Careful examination of each criterion for recidivism further reveals the complexity of establishing outcome measures. For example, crime seriousness may be determined in several ways, including the application of legal categories, differentiating among crimes on the basis of sentence received, or even measuring the attitudes toward different crimes of a representative sample of people from the community, as illustrated by the Sellin-Wolfgang scale.[45] For policy research, the need for a common definition of recidivism is not so much to arrive at a definitive conclusion as to establish a common standard so that various treatment programs can be compared.

Similar problems of definition and standardization pertain to other outcome measures, including attitude change, personality improvement, community adjustment, abstention from alcohol, reduction in alcohol consumption after treatment, or, possibly, a reduction of alcohol consumption to socially acceptable standards within a subgroup under study.

Sample Population: Characteristics of Offenders. In any new study, the population to be studied should be the group that is the subject of the treatment or intervention. At a minimum, this population should be characterized by type of offender, sex, and age. When the study population contains a mixture of these characteristics, any analysis of the effects of treatment on the population should include separate analyses according to each characteristic.

Table 5.2 presents a reanalysis of the Martinson data by the frequency with which different types of offenders were the subject of different types of evaluations. The overwhelming proportion of evaluation studies was conducted for mixed youth and mixed adult offenders. Only 16.1 percent of all studies dealt with what may be called special types of offenders. Only two studies included recidivists, while nine focused upon youths eligible for a first institutional commitment. The data (not shown on the table) also reveal that the vast majority of the evaluation studies (82.1 percent) covered the impact of various treatment programs only on males, while 7.3 percent of them examined similar effects on females, and 10.5 percent, on both male and female subjects. Relatively few evaluation studies (6.7 percent) were restricted to young adult offenders aged 18 to 25, while a substantial proportion of studies was conducted with juveniles under 18 years old (31.7 percent) and adults 26 years and older (24.7 percent).

Research Design. A research design is the plan of investigation; one of its primary purposes is to achieve internal validity. Internal validity is the degree of confidence the researcher can have that it was the experimental stimulus that caused the measured impact on the experimental group in the situation under investigation, and that the value of the resulting impact can be explained. The problem of constructing a research design for determining the consequences of sentencing is very complex, and authorities in the field cannot agree on the best or most appropriate experimental design for this type of research.

Martinson argues that only the most sophisticated and tight research designs produce valid results. The best known of these is the classical design, which

[44] Recidivism only applies to those who have been in prison once. Thus, a recidivism rate of 90 percent indicates 10 percent success.

[45] Thorsten Sellin and Marvin E. Wolfgang, *The Measurement of Delinquency*, John Wiley and Sons, Inc., New York, 1964.

Table 5.2. Type of Offenders Used in Selected Evaluation Studies of Treatment Programs[1]

Offender Type	Probation		Imprisonment		Parole		Casework and Individual Counseling		Skill Development		Individual Psychotherapy		Group Methods		Milieu Therapy		Partial Physical Custody		Medical Methods		Leisure-Time Activities		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Youths eligible for first institutional commitment	5	21.7	1	3.2	3	12.0																	9	3.2
Mixed youth offenders	9	39.1	11	35.5	4	16.0	3	16.7	25	61.0	25	92.6	30	55.6	32	84.2	1	16.7	5	22.7			145	50.5
Juvenile property offenders			1	3.2																			1	.3
Mixed adult offenders	8	34.8	18	58.1	11	44.0	10	55.6	13	31.7	1	3.7	16	29.6	3	7.9	3	50.0	11	50.0	2	100.0	96	33.4
Recidivists													1	1.9	1	2.6							2	.7
Alcoholics	1	4.3			1	4.0	4	22.2	3	7.3			3	5.6	2	5.3			4	18.2			18	6.3
Narcotic Addicts					6	24.0	1	5.6			1	3.7	2	3.7			2	33.3	1	4.5			13	4.5
Sex offenders													2	3.7					1	4.5			3	1.0
TOTAL	23	99.9	31	100.0	25	100.0	18	100.1	41	100.0	27	100.0	54	100.1	38	100.0	6	100.0	22	99.9	2	100.0	287	99.8

Note: Percentages may not add to 100 due to rounding.

[1] This table is based on data presented in Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975.

uses carefully selected experimental and control or comparison groups of subjects. Stuart Adams, on the other hand, argues that nonrigorous, quasi-experimental research designs have provided more useful information in research on sentencing consequences than poorly implemented experiments using the classical design.[46] Moreover, these quasi-experimental designs were found to be more credible and influential, and to have had a greater impact on major decisionmaking situations than rigorous designs. Adams speculates that this may be the result of several factors: (1) quasi-experimental designs conform more to decisionmaking styles and administrators' needs; (2) they provide a rationale for system change; and (3) the classical design is rarely implemented properly by corrections administrators.

Table 5.3 shows the different types of research designs as classified by Martinson. The different types are defined first according to whether the design included control or comparison groups, which refer to subjects who were not treated by the specific program under investigation. There are three categories within this basic division. In *"true" experiments,* the researcher has the greatest amount of control over experimental procedures, including the selection of the kind of treatment (experimental stimulus) and control subjects, the administration of treatment, the measurement of variables, and the reduction of, or compensation for, interference by extraneous variables. In *ex post facto design,* the researcher begins the experiment only after treatment has been administered and thus is not able to control every phase of the experiment. To compensate, he attempts to reduce the possible errors through statistical methods. As a consequence, this procedure is not as powerful as the pure experimental design. *Simulated research designs* consist of pretests on one group of subjects who have not received treatment and of posttests on another group of subjects who have. This type of design is not as effective as the other two, because many aspects of the experimental situation cannot be controlled.

The reanalysis of Martinson's data in Table 5.3 reveals the extent to which different types of research designs were used in research evaluating the consequences of sentencing. The vast majority of evaluation studies used control or comparison groups (93.4 percent), but it must be remembered that Martinson, in his initial screening of which studies to include in his assessment, *omitted* those that had very weak research designs. The data also show that the proportion of pure research designs used in studies of imprisonment was only 25.8 percent; of parole, 48 percent; and of medical methods, 59.1 percent. These proportions compare to an average of 64.1 percent for all treatment programs. The three treatments to which a higher proportion of sophisticated research designs were applied were individual psychotherapy (88.9 percent), and group methods and partial physical custody (each 83.3 percent).

Sample Size. The size of the sample selected for study will also affect the validity of the research findings, because certain statistical tests may not be valid with a small sample size. For example, if the sample size is roughly 100, there must be empirical evidence that the departure from normality is not serious. If the sample size is as small as 30, great caution must be exercised in drawing inferences from the study results. Although large samples may not solve all problems, an adequate sample size—usually defined in terms of the homogeneity of the population and the number of variables to be studied—is required for discerning statistical significance for possibly small but important relationships.

Information on sample size used in the evaluative studies on the consequences of sentencing is presented in Table 5.4. The data show that 67.5 percent of the studies had at least 100 subjects, and 15.3 percent used samples of fewer than 50 subjects. In 16.4 percent of the studies, the sample size was between 50 and 99.

Length of Followup. The length of followup is a critical aspect of a research design, aimed at evaluating sentencing consequences. A particular program with a short followup period may have been termed successful even though a relatively high proportion of subjects might have violated the success-failure criterion after the followup. Likewise, the reverse can occur when a program that may have been successful in the long run is judged ineffective on the basis of a short followup period.

In practice, the length of followup should cover the time period in which there is a reasonable likelihood that subjects may violate the criterion for success or failure. For instance, the Task Force on Corrections of the National Advisory Commission on Criminal Justice Standards and Goals recommended a 3-year followup period.[47] Although the length of followup should be determined partially by the likelihood of offenders desisting from criminal behavior, other factors should also be taken into account, including the amount of time the treatment effects are expected to last and the exact time when the effects of the treatment are activated.

[46] Stuart Adams, *Evaluative Research in Corrections: A Practical Guide,* Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice, U.S. Department of Justice, Washington, D.C., March 1975.

[47] National Advisory Commission on Criminal Justice Standards and Goals, *Report on Corrections,* Washington, D.C., 1973, pp. 528–530.

Table 5.3. Research Designs Used in Selected Evaluation Studies of Treatment Programs[1]

Research Design	Proba-tion		Impris-onment		Parole		Casework and Individual Counseling		Skill Develop-ment		Individual Psycho-therapy		Group Methods		Milieu Therapy		Partial Physical Custody		Medical Methods		Leisure-Time Activities		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Control or Comparison Group																								
True	16	69.6	8	25.8	12	48.0	13	72.2	20	48.8	24	88.9	45	83.3	28	73.7	5	83.3	13	59.1			184	64.1
Ex Post Facto	7	30.4	14	45.2	9	36.0	2	11.1	11	26.8	3	11.1	7	13.0	6	15.8			4	18.2			63	22.0
Simulated			6	19.4	3	12.0	3	16.7	5	12.2					2	5.3	1	16.7	1	4.5			21	7.3
No Control or Comparison Group																								
True			3	9.7	1	4.0			3	7.3			1	1.9	2	5.3			2	9.1			12	4.2
Ex Post Facto									2	4.9									1	4.5	2	100.0	5	1.7
Simulated																			1	4.5			1	.3
Unknown													1	1.9									1	.3
TOTAL	23	100.0	31	100.1	25	100.0	18	100.0	41	100.0	27	100.0	54	100.1	38	100.1	6	100.0	22	99.9	2	100.0	287	99.9

Note: Percentages may not add to 100 due to rounding.

[1] This table is based on data presented in Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975.

Table 5.4. Sample Size Used in Selected Evaluation Studies of Treatment Programs[1]

Sample Size	Proba-tion		Impris-onment		Parole		Casework and Individual Counseling		Skill Develop-ment		Individual Psycho-therapy		Group Methods		Milieu Therapy		Partial Physical Custody		Medical Methods		Leisure-Time Activities		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Less than 50	1	4.3	1	3.2	1	4.0	2	11.1	2	4.9	11	40.7	17	31.5	1	2.6			8	36.4			44	15.3
50–99	3	13.0	1	3.2	4	16.0	1	5.6	8	19.5	4	14.8	13	24.1	10	26.3			3	13.6			47	16.4
100–499	11	47.8	14	45.2	11	44.0	12	66.7	20	48.9	10	37.0	16	29.6	19	50.0	5	83.3	11	50.0	2	100.0	131	45.6
500–999	4	17.4	8	25.8	4	16.0	3	16.7	7	17.1	2	7.4	3	5.6	4	10.5							35	12.2
1000–1999	3	13.0	6	19.4					4	9.8			2	3.7	3	7.9	1	16.7					19	6.6
2000–4999					3	12.0							2	3.7	1	2.6							6	2.1
5000–9999	1	4.3			2	8.0																	3	1.0
Unknown			1	3.2									1	1.9									2	.7
TOTAL	23	99.8	31	100.0	25	100.0	18	100.0	41	100.2	27	99.9	54	100.1	38	99.9	6	100.0	22	100.0	2	100.0	287	99.9

Note: Percentages may not add to 100 due to rounding.

[1] This table is based on data presented in Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975.

Table 5.5. Length of Followup Period Used in Selected Evaluation Studies of Treatment Programs[1]

Length of Followup[2]	Proba-tion		Impris-onment		Parole		Casework and Individual Counseling		Skill Develop-ment		Individual Psycho-therapy		Group Methods		Milieu Therapy		Partial Physical Custody		Medical Methods		Leisure-Time Activities		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
None[3]			9	29.0	7	28.0	1	5.6	9	22.0	6	22.2	23	42.6	7	18.4			9	40.9			71	24.7
<6m	2	8.7	1	3.2	1	4.0	1	5.6	4	9.8	1	3.7	2	3.7	2	5.3	2	33.3	2	9.1			18	6.3
6m<1y	5	21.7	4	12.9	3	12.0	5	27.8	10	24.4	5	18.5	6	11.1	10	26.3	2	33.3	2	9.1			52	18.1
1y but <2y	9	39.1	3	9.7	10	40.0	3	16.7	6	14.6	5	18.5	14	25.9	10	26.3	1	16.7	4	18.2	2	100.0	67	23.3
2y but <3y	2	8.7	7	22.6	3	12.0	3	16.7	7	17.1	6	22.2	3	5.6	1	2.6	1	16.7	3	13.6			36	12.5
3y but <4y	2	8.7	3	9.7			1	5.6	3	7.3	2	7.4	3	5.6	7	18.4							21	7.3
4y but <5y			1	3.2	1	4.0	1	5.6							1	2.6							4	1.4
5y or +	1	4.3	3	9.7							1	3.7							1	4.5			6	2.1
Variable									1	2.4													1	.3
Unknown	2	8.7					3	16.7	1	2.4	1	3.7	3	5.6					1	4.5			11	3.8
TOTAL	23	99.9	31	100.0	25	100.0	18	100.0	41	100.0	27	99.9	54	100.1	38	99.9	6	100.0	22	99.9	2	100.0	287	99.8

Note: Percentages may not add to 100 due to rounding.

[1] This table is based on data presented in Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975.

[2] m = months, y = years.

[3] A period of time less than or equal to time in treatment.

Table 5.6. Length of Time in Treatment for Selected Evaluation Studies of Treatment Programs[1]

Time in Treatment[2]	Proba-tion		Impris-onment		Parole		Casework and Individual Counseling		Skill Develop-ment		Individual Psycho-therapy		Group Methods		Milieu Therapy		Partial Physical Custody		Medical Methods		Leisure-Time Activities		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
<6m	6	23.1	9	29.0	2	8.0	5	27.8	15	36.6	4	14.8	23	42.6	18	47.4	4	66.7	15	68.2			101	35.2
6m but <1y	3	13.0	9	29.0	6	24.0	11	61.1	10	24.4	16	59.3	19	35.2	11	28.9	1	16.7	5	22.7			91	31.7
1y but <2y	7	30.4	7	22.6	11	44.0			7	17.1			10	18.5	8	21.1			1	4.5			51	17.8
2y but <3y	2	8.7			3	12.0																	5	1.7
3y but <4y	1	4.3									4	14.8	1	1.9					1	4.5			7	2.4
4y but <5y					1	4.0																	1	.3
Variable	2	8.7	6	19.4	1	4.0			5	12.2	1	3.7									2	100.0	17	5.9
Unknown	2	8.7			1	4.0	2	11.1	4	9.8	2	7.4	1	1.9	1	2.6	1	16.7					14	5.1
TOTAL	23	99.9	31	100.0	25	100.0	18	100.0	41	100.1	27	100.0	54	100.1	38	100.0	6	100.1	22	99.9	2	100.0	287	100.1

Note: Percentages may not add to 100 due to rounding.

[1] This table is based on data presented in Lipton, Martinson, and Wilks, *The Effectiveness of Correctional Treatment*, 1975.
[2] m = months, y = years.

Table 5.5 presents the distribution of followup time by treatment programs. The data show not only that the vast majority of studies was the follow-up period less than 3 years (84.9 percent), but also that for 24.7 percent of them *the followup period was equal to or less than the time covered by the treatment program.* Thus, this type of study can only inform us about the impact of the program on the offender while in treatment, and not about the effects of the program subsequent to its termination.

Period of Treatment. The period of treatment is an important design consideration, because some evaluation studies may have arrived at negative results simply because the subjects were not exposed to treatment for the minimum amount of time required for it to take effect. The data in Table 5.6 show that in 35.2 percent of the studies, subjects spent fewer than 6 months in treatment. Whether and how length of treatment affected program results should be determined by careful examination of each treatment program. The data also show that in 5.9 percent of the studies, different subjects were exposed to treatment for varying lengths of time. This finding also could have a confounding effect on the data. It is surprising that all of the imprisonment studies in which the treatment period was not variable concentrated on offenders who spent fewer than 2 years in prison. Thus, the impact of long prison sentences rarely has been investigated. Finally, in 76 percent of the parole studies, the time on parole was less than 2 years. This finding should be considered when interpreting the results of these studies, especially of those where negative findings have been reported. Several of the studies on probation also focused on very short treatment periods. For example, in 23.1 percent of these studies, the probationers spent fewer than 6 months under supervision before evaluation.

Summary Discussion

The account of Martinson's assessment of the effects of treatment programs underscores the importance of tailoring the research design to the action or treatment program under evaluation. The effectiveness of a particular treatment program cannot be measured without considering a complex array of factors: the outcome measures, the characteristics of the sample population, the rigor of the research design in using adequate control groups and pre- and posttesting, the sample size, the length of followup, and the period of treatment. For instance, the effectiveness of a treatment program may be apparent shortly after it has been administered to the subjects, or it may be several months or even a year before some positive change is noticed. It is therefore incumbent on the researcher to define the evaluation study as tightly and as comprehensively as possible and on the R&D-funding agency to insure this. Unless this is done, there will not be a sufficient basis for choosing the most appropriate research design, nor will the results of the study be able to serve its original intentions. In these respects an inappropriately designed study can unnecessarily undermine support for the treatment program, even though the study contains a flaw, such as having too short a followup period.

Recommendation 5.3: Research Designs in Studies of Criminal Justice Organizations.

Studies of criminal justice organizations should justify the major methodological features of the research design, such as outcome measures, target population and its size, length of followup, and period of treatment (or intervention) program. At the same time, R&D-funding agencies should provide sufficient budget resources to give adequate attention to these features in the conduct of the study.

(For related recommendations, see the following: Recommendation 2.6 discusses the importance of rigorous research design; Recommendation 2.7 discusses the need to justify research designs in general; Recommendation 5.2 discusses the importance of developing research hypotheses.)

E. DEVELOPING SYSTEM RESEARCH PERSPECTIVES

Criminal justice organizations exist as parts of a complex set of systems commonly known, perhaps misleadingly, as "the criminal justice system." This term implies a logic and rationale that probably do not exist—the system is many systems whose outcomes and interactions are not always consistent.

Nevertheless, it is clear that changes at one point in the system usually produce changes at another point. For example, decisions made at one juncture in the criminal justice process have an important impact on decisions made at other stages.[48] If the police were to limit their use of discretion, there would probably be more arrests, which in turn would have a major impact on the decisions made by prosecutors and judges with respect to how they would deal with the offender. Equally important are the effects on the police and prosecutors of changes in the use of discretion by judges. In other words, truly effective policy implementation at any one point in

[48] Dawson, *Sentencing*, 1969, p. xvii.

the criminal justice system demands an understanding of just how each change will affect system operations elsewhere.

These observations suggest that research on criminal justice organizations needs to account continually for corollary and possibly counterintuitive effects in other parts of the system. Unfortunately, most research is narrowly focused on traditional system components—i.e., police, prosecution, courts, and corrections. This usually means that police studies rarely are concerned with the possible effects of police work on corrections policies, or vice versa. One alternative to this traditional division of research is to undertake additional studies that focus on key issues involving the entire system. As an illustrative topic, we have chosen discretion in decisionmaking.

Illustration: Discretion in Decisionmaking

Discretion refers to the amount of freedom or latitude afforded a decisionmaker in making a particular decision. It varies with the level of the decisionmaker in an organization, the type of decision made, and the organizational factors involved in the decision. In general, the amount of discretion enjoyed by a decisionmaker or by an organization (for example, a State legislature) is directly related to the power and control wielded by that individual or body. The interest in the exercise of discretion, and, consequently, on research examining discretion, is another manifestation of the recent concern over decisionmaking in criminal justice organizations. The implied notion is that, by increasing knowledge about discretion, it may be possible to affect the decisionmaking processes of criminal justice organizations, and in this way significantly affect their performance.

Factors Related to Discretion

Whether discretion is being studied in light of an arrest, a prosecuting decision, a sentencing decision, or a parole decision, there are several general factors related to the discretion with which the decision is made. These factors include the social context in which the discretion is exercised, the nature of the offense, administrative accommodation, opportunism, and the quality and amount of information deemed relevant to the particular decision.

Social Context. The social context in which decisions are made is a significant element of discretionary power. Police, for example, generally operate in the informal atmosphere of the street, where decisions are almost always made privately rather than publicly.[49] These decisions often involve immediate assessments of a situation, and it is generally believed that the police officer's interpretation of a set of circumstances helps to establish the boundary between lawful and unlawful conduct. Because police operate for the most part in the street, rules that govern their behavior often assume greater flexibility, and adherence to them is subject to less intense scrutiny by superiors and the public than would be the case if they worked within the closed confines of a precinct or courthouse. Should a police officer decide to overlook or ignore a criminal occurrence, there is little risk that anyone will be the wiser.

In contrast, decisions by prosecutors are made in more formal, confined public settings, where behavior potentially can be monitored and scrutinized, and where rules can be more easily enforced. Because of the nature of the social setting in which prosecutors operate, a case usually cannot be simply overlooked. A charge can be dismissed through lack of evidence, on grounds of improper search, or because witnesses or victims fail to appear, but it cannot be ignored.

Similarly, decisions regarding the sentencing of convicted offenders are made in formal, public settings where judicial behavior is more visible and therefore more accountable. A judge's decision is always made public. The judge must necessarily include the facts supplied by both the prosecutor and the arresting officer. The social setting in which judges and prosecutors, as opposed to police officers, exercise discretion is indeed a limiting factor on how practitioners may deal with an offender; yet, despite this limitation, much discretionary power remains.

Nature of the Offense. There is little doubt that the seriousness of the offense is a major factor in most sentencing decisions. Generally, serious offenses incur more severe dispositions. The more serious the offense, however, the less judicial discretion may be exercised. For example, it is not likely that offenders convicted of armed robbery, kidnapping, or assault with intent to kill will be dealt with leniently or granted probation in most courts.

Administrative Accommodation. One of the major problems facing most American communities today is an overworked, understaffed criminal court system. Although crime and arrest rates are rising, court operations have not become more efficient or benefited from the infusion of massive new resources. The result is a mounting backlog of cases, an over-

[49] Decisions are private in the sense that they are reached alone or between two members of the same organization. Police officers generally share similar values and attitudes and feel that they can trust each other not to divulge police business to outsiders.

burdened court system and personnel, and prisoners confined to detention facilities awaiting trial for as long as a year. This backlog of cases occurred not because most cases are handled in an adversary manner; on the contrary, in many courts, only 10 percent [50] of the defendants demand and receive a jury trial.[51] The remaining 90 percent of the cases are disposed through plea bargaining, in which reduced charges and lighter sentences are offered in exchange for guilty pleas, which saves the jurisdiction a great deal of money. What would happen if this 90 percent figure were reduced by persuading more defendants to take their cases to trial? Chief Justice Warren E. Burger gives some indication of the increased cost when he suggests that, "A reduction in guilty pleas from 90 percent to 80 percent would require the assignment of twice the judicial manpower and facilities and would throw the system into chaos." [52] It is not surprising, therefore, that judges and prosecutors are under tremendous pressure to exercise discretion in handling the majority of cases that come before them as expeditiously as possible.[53]

Opportunism. Personal considerations may influence the decisions made by judges, prosecutors, and police. For example, magistrates, who are elected or appointed officials, may be aware of the interests of their political sponsors when exercising discretion in sentencing. The exercise of a prosecutor's discretion also may be motivated by self-interest. Consider the plea-bargaining process, whose primary purpose is to expedite the handling of numerous criminal cases, thereby enabling the courts and prisons to function, as they do, with relatively small budgets and modest complements of manpower. However, another factor may also explain a prosecutor's unofficial stance on bargain justice. This is the importance of a high conviction record. Prosecutors, like judges, are selected or appointed agents who may be politically mobile. They may seek voter support for legislative posts or judicial appointments and may want to cite superior records to attract supporters.[54] In some jurisdictions, a prosecutor's success is still measured in terms of the number of convictions that the official has managed to obtain. Especially in communities where reelection and political appointment are based on one's record of achievement, the number of convictions assumes central importance.[55]

Police also may operate, at times, under the influence of personal motivation, in which decisions regarding an offender are affected by career factors. Most officers look forward to the day when they will "get out of the bag"—when they will get transferred to an assignment or detail in plainclothes. In some agencies, a "good arrest record" may serve as an important determinant of eligibility for promotion to the detective bureau or transfer to a choice assignment. A "good" record generally contains many arrests, most of them for felonies. Consequently, aspiring young officers may go out of their way to seek out criminal behavior that otherwise might go unattended.[56] Moreover, police officers may "overcharge" crimes, stretching misdemeanors into felonies, to improve their record.

Information Input. Finally, discretion may be affected by the amount and type of information provided to the decisionmaker. For instance, in many sentencing decisions involving felony charges, background information concerning the defendant is supplied by the probation department in the form of presentence reports. These reports vary in quality and in the type of recommendations according to the individual probation officer,[57] and many contain private information that may be inappropriate to have displayed in public documents (e.g., certain medical and psychological data). Nevertheless, pre-

[50] In some courts, as much as 20 percent of the defendants receive a jury trial.

[51] President's Commission on Law Enforcement and Administration of Justice, Task Force Report: *The Courts*, Washington, D.C., 1967, p. 4; and Knudten, *Crime in a Complex Society*, 1970, p. 441.

[52] The American Friends Service Committee, *Struggle for Justice: A Report on Crime and Punishment in America*, Hill and Wang, New York, 1971, p. 139.

[53] Dawson, *Sentencing*, 1969, Chapter 6.

[54] H. Bloch and G. Geis, *Man, Crime, and Society*, Random House, New York, 1962, p. 412.

[55] Recent evidence by G. T. Felkenes, *The Criminal Justice System, Its Functions and Personnel*, Prentice-Hall, Inc., Englewood Cliffs, 1973, and M. Haskell and L. Yablonsky, *Crime and Delinquency*, Rand McNally College Publishing Company, 2nd edition, Chicago, 1975, p. 49, tends to support the theory that prosecutors are "out to win" in spite of the professional ethic that dictates that their major responsibility is to separate the guilty from the innocent and that winning means securing a mounting conviction record, preferably by way of negotiating pleas. For research on more useful measures for prosecutors and other court personnel, see, for example, Sorrel Wildhorn and others, *Indicators of Justice: Measuring the Performance of Prosecution, Defense, and Court Agencies Involved in Felony Proceedings*, The Rand Corporation, Santa Monica, R-1917-DOJ and R-1918-DOJ, April 1976.

[56] Many of these arrests are for crimes that are of relatively low visibility in certain low-income areas of the city. Raids on known drug addict hangouts (e.g., shooting galleries) frequently result in a considerable number of arrests for possession of illegal drugs and related paraphernalia. In some shooting galleries, 20 or more addicts may be found congregating at any one time. Arrests may also be made in anticipation of gaining overtime, which in some cities is compensated at time-and-a-half in pay or time back. An officer who is working an 8 a.m. to 4 p.m. shift stands to gain considerably if he/she should make an arrest near the end of his tour of duty—it is not uncommon in several jurisdictions to spend up to 20 hours of overtime in processing and arraigning a prisoner.

[57] Dawson, *Sentencing*, 1969, pp. 35–36.

sentence reports serve the purpose of providing the judge with some insight and information concerning the offender, and thus are of considerable assistance in the choice of sentence. Important policy research issues include what type of information the presentence report should contain, and to what extent judges should make use of this information.

In contrast, the prosecutor usually has little information other than that which the arresting or assigned officer may supply prior to charges being drawn up.[58] Because effective decisionmaking may well be hampered at the arrest and charging stage by a lack of background data, which, according to some commentators, should be limited to the offense in question, it is important that researchers find methods by which the necessary information can be provided to practitioners at these stages.

Summary Discussion

The common division of R&D on the criminal system into components (such as police, courts, and corrections) has the generally undesirable effect of deemphasizing the interrelations within this system. For this reason, the current pattern of R&D does not provide adequate exploration of *system* effects. The President's Commission on Law Enforcement and Administration of Justice advocated one alternative to deal with this problem: an increase in the number of "system" studies, as reflected in comprehensive simulation models of criminal justice systems. This report presents another alternative—to focus on common themes, such as discretion in decisionmaking—that cut across component boundaries in the criminal justice system. Therefore, in addition to traditional studies that tend to treat a part of the criminal justice system in isolation, system perspectives should also be developed.

Recommendation 5.4: System Perspective for Studies of Criminal Justice Organizations.

In addition to supporting studies of components of the criminal justice system (such as police, courts, and corrections), R&D-funding agencies should increase the amount of research that focuses on interactive effects among these components.

1. Common themes such as discretion in decisionmaking will best be understood by enlarging the scope of the study across organizational boundaries rather than by confining such studies to particular types of agencies.

2. Systemwide studies can also be used to investigate unexpected (and compensatory) effects in one part of the system resulting from decisions in another part. Such studies could lead to an increase in knowledge about the functioning of the criminal justice system as a whole.

[58] Felkenes, *Criminal Justice System*, 1973, p. 156.

F. DEVELOPING RELATIONSHIPS BETWEEN RESEARCHERS AND CRIMINAL JUSTICE HOST AGENCIES

The Researcher-Host Agency Relationship

The foregoing discussion has considered some of the issues relevant to conducting R&D studies on criminal justice organizations. This section focuses on the relationship between researchers and criminal justice organizations when the latter are the specific subjects of studies. These organizations are called "host agencies," to typify the role played by the agency as "host" to the researcher or research team.[59] It is important to determine the intensity or "intimacy" of the relationship between the researcher and the criminal justice organization, and the extent to which the quality of the relationship can enhance or inhibit a research effort.

The importance of this relationship has frequently been overlooked. Often, one outcome of a study is a sense of regret shared by all concerned: the host agency, because it has wasted time and had its objectives misrepresented; the research team, because it has failed to develop an adequate picture of the problem or its solutions; and the R&D-funding agency, either because no visible product may result from the effort or future cooperation may be jeopardized. Researchers who study criminal justice organizations face a number of real difficulties, which can be mitigated if they are sensitized to the operational constraints of the criminal justice agencies they study. In many ways, it is this sensitivity that distinguishes experienced from novice researchers. (For a discussion on displaying sensitivity in publishing research results, see Chapter 2, Section G.) Thus, the first part of this section discusses how researchers can improve this relationship. However, the criminal justice organization that is the subject of study—the host agency—also plays a critical role in the success of the study. By nature, research is at once revealing, challenging,

[59] Not all criminal justice organizations are host agencies, nor is a host agency in that role all the time. It is also possible for a large number of host agencies to be involved in a single study as, for example, when several hundred police agencies are surveyed. However, the thrust of this section is on an agency in which considerable research effort is or has been concentrated for some time, thus requiring a close relationship between researcher and host agency.

probing, questioning, and threatening, and it is possible for an agency to misunderstand the motives and purposes of research. The second part of this section therefore addresses what host agencies can do to improve the relationship.

The Researcher's Role in Improving the Relationship

When some aspect of a criminal justice organization is the subject of study, the organization's view of the study may be quite different from that of the researcher. For example, researchers' values might stress the advancement of knowledge, but those of practitioners might be directed toward applying such knowledge. Thus, even though some research may be undertaken that is beneficial to both parties, it is often the case that disagreements take place over the objectives of the study. Gaining access to an organization and its data and the ethical dilemmas that may derive from possession of such information also pose real problems for the researcher. A relationship must be established that is based on mutual trust and cooperation; there is much that the researcher can do toward that end.

Research Versus Nonresearch Roles. Criminal justice researchers who are funded by, work closely with, or are employees of agencies whose functions include law enforcement can encounter ethical problems when they appear to assist in law enforcement activities. Although most researchers would support the objective of enhancing the effectiveness of the criminal justice system and recognize their duties as citizens to do so, the progress of research may nonetheless be undermined by failure to distinguish between their roles as researchers and the roles of other criminal justice agency personnel. The burden of maintaining this distinction falls on both researchers and agencies, but researchers who study any type of organization should guard against having to assume any nonresearch roles or even appearing to do so.

Jerome Skolnik has described some of the subtle ethical judgments faced by a researcher engaged in participant-observation in a police department.[60] On one occasion, he was asked to drive a stake-out van because he was unlikely to be recognized. For similar reasons, he was asked to walk into a bar to determine whether a certain suspect was present. On other occasions, detectives asked for his judgment about whether the evidence in hand was adequate to justify arresting a certain suspect, or suggested that he offer himself for solicitation by a prostitute.

[60] Jerome H. Skolnik, *Justice Without Trial: Law Enforcement in Democratic Society*, John Wiley, New York, 1966.

Criminal justice researchers, especially those engaged in participant-observation, case studies, and surveys, are more likely than other researchers to come into possession of evidence that a crime has been committed or is about to be committed, or that a certain person has committed a crime under investigation. Such situations pose extremely delicate issues of ethical conduct that cannot be resolved by any uniform set of standards. R&D-funding agencies can, however, review the methodological approach of proposed studies where such problems may arise and require techniques that, consistent with the research objectives, minimize the chances for later knowledge of specific criminal acts. For example, statistical methods have been developed to obtain valid conclusions from a survey in which a subset of respondents, selected randomly but with known probability, is instructed to answer a specific question falsely, or to answer an irrelevant question rather than the one on the survey instrument.[61] In this way, it is possible for the researcher to estimate the fraction of a sample that committed a certain crime without knowing whether any particular respondent did so.

Researcher-Host Agency Interactions. Researchers studying criminal justice organizations must be skilled in interpersonal relations and sensitive to the problems and needs of the criminal justice organization understudy. Often, administrators expect researchers to confine their investigations to areas of an agency's operations that do not affect its mission or its fundamental roles. Researchers on organization or system policies, on the other hand, may want to challenge many of the established patterns and assumptions. A balance must be struck eventually, and this process can be facilitated or hindered by factors such as the physical appearance of the researcher, his or her personal attitudes, and the kind of relationship and rapport that is developed with key agency personnel. Researchers can also increase rapport by avoiding any unnecessary interference with agency operations (e.g., conducting the study to accommodate agency work shifts), arranging for timely feedback to the agency on research progress and results, and forewarning R&D-funding agencies when excessive time demands will be made on agency personnel and when compensation for expenses may therefore be warranted.

At some point, researchers dealing with criminal justice organizations may find it necessary to interview agency members. This raises an interesting problem, because the persons who control data access for the study may themselves also be the subjects of the research. In sentencing, for example, judges not only

[61] Robert F. Boruch, "Assuring Confidentiality of Responses in Social Research: A Note on Strategies," *The American Sociologist*, Vol. 6, 1971, pp. 308–311.

might have influence over who can or cannot obtain data to conduct a study, but also might be the research subjects. They may not cooperate unless they can structure the research plan or exercise some other type of control over the research program. The researcher may be forced, in good conscience, to revise certain parts of the study in order to obtain permission to conduct the research.

The researcher should be cautioned about the likely response bias encountered in any interviews, because there may be no strong incentives for agency personnel to reveal information. In fact, forthright responses could serve to initiate or promote precisely those changes in procedures that agency members have fought so long to protect. Consequently, practitioners at all levels may be less than candid if they feel their behavior or responses could in any way alter traditional practices or affect the security of their positions.

Finally, research on criminal justice organizations generally involves extended periods of contact between researchers and agency personnel. One reason for this is that researchers and practitioners, trained in two different worlds, must get to know each other's objectives and limitations. Much time, too, is spent on developing personal relationships based on cooperation, confidence, and trust. Only when this type of a working relationship has been established can all parties benefit from the analysis of the problem to be studied. In other words, the conduct of research on criminal justice organizations often involves the development of *social relationships*. Such development requires sufficient time, a factor that must be incorporated into the research plan, by both the researcher and the R&D-funding agency sponsoring the research.

The Host Agency's Role in Improving the Relationship

Criminal justice agencies traditionally have been inaccessible to outside research efforts for a number of reasons. The fact that research is proposed may be perceived as implying some dissatisfaction with existing policies and practices, suggesting the possibility of negative findings and subsequent recommendations for change. Research on sensitive topics, for example, may result in public disclosures of mismanagement, waste in manpower, time, and facilities, improper treatment of offenders, or other findings that may embarrass the agency. Agency personnel also may perceive researchers to be generally incompetent, inexperienced, and uninformed about the organization's real problems, and may believe, often with justification, that the objectives of the investigator differ from their own.

The potential existence of these negative conditions, however, should not automatically be allowed to result in an organization's refusal to cooperate with any proposed research. Much research can be, and has been, highly beneficial to criminal justice organizations, both in solving immediate problems and in establishing the basis for long-term improvements in practice. Host agencies can develop a more sensitive posture toward research, in which the objectives of the research and the credentials of the researchers are not stereotyped, but are evaluated for each new proposed study.

Even after there has been an initial acceptance of a proposed research project, there is an important role for the host agency to play. Before work begins, the guidelines that each party intends to follow should be made explicit. In addition, these discussions should address specific matters regarding the research, such as the data to be collected, the procedures to be used, and the extent to which data may be regarded as confidential by the researchers (including whether data are to be withheld, even from agency administrators). At the outset of the study, agreements should also be reached regarding the extent of the agency's participation in the project and the potential demands on its resources. It is important that there be a clear understanding between the researcher and the host agency on these and other issues of mutual concern before work gets underway. Host agencies, however, should be sensitive to the fact that obtaining assurances from the researcher at this time could have the effect of modifying either the nature or scope of the proposed research. For example, an agency's insistence that all data obtained be made available to it could lead to a researcher's decision simply not to collect the data.

Summary Discussion

In the final analysis, virtually no research that involves a criminal justice organization is possible without the consent and cooperation of the host agency. Both the quality of the research effort and the usefulness of the results depend in large measure on the receptivity and sensitivity of the agency to the researchers. A proposed project should be evaluated on its individual merits and on the potential benefits that may accrue to the criminal justice system as a whole, as well as on the credentials and experience of the researchers. Although there is no panacea to resolve the many differences that exist between researchers and host agencies, at the outset of the project both parties should take the opportunity to clear

up any misconceptions and to establish important guidelines and requirements. Such negotiation can form the basis of a productive and mutually satisfying partnership for the duration of a project. The host agency should be sensitive to the ways in which it could undesirably affect the integrity or validity of the research design and should guard against compromising the ethics of the researcher. For example, researchers are sometimes mistaken for criminal justice agency personnel, thereby unexpectedly becoming recipients of confessions, offers for plea bargains, weapons or cash to be held in evidence, transcripts of grand jury testimony, and the like. Although no hard-and-fast rules can be given for handling such situations, criminal justice agency personnel should be aware that researchers may not consider it ethical for them to act on behalf of the agency.

Recommendation 5.5: The Relationship Between Researchers and Host Agencies: I. The Researcher's Role.

R&D-funding agencies that support studies of criminal justice organizations should be sure that researchers who conduct such studies are sensitive to the needs of the organizations that are part of the study. Such sensitivity will increase the likelihood of completing the project to the satisfaction of the funding agency, the organization that is part of the study (host agency), and the research team.

1. Before the research begins, clear agreements should be reached between the researcher and the host agency on such issues as: the purposes of the research, duration of effort, data to be collected, plans for protecting confidentiality of sensitive information, resources required of the host agency, extent to which the host agency may be identified by name in publications, form and timing of public disclosure of the results of the study, and any other topic of mutual concern.

2. Funding agencies should assist researchers in establishing favorable relationships with host agencies by:

- **Assuring that the research design does not unnecessarily interfere with the host agency's normal operations;**
- **Arranging for host agencies to receive timely feedback on research progress or results; and**
- **Considering the reimbursement of expenses incurred by the host agency in cooperating with the research project.**

3. Existing educational programs for researchers could be broadened to include relevant courses, on-site projects conducted in cooperation with an operating agency, internships, and exchange programs to make researchers more cognizant of procedures that may improve their relations with criminal justice organizations. These programs should stress the necessity of developing a viable partnership with the host agency during the planning, conduct, and followup of a research study.

(For related recommendations, see the following: Recommendation 1.12 recognizes the need to provide training for the next generation of criminal justice researchers; Recommendation 2.3 discusses procedures for protecting sensitive data once collected; Recommendation 2.13 discusses general guidelines for the publication of research findings; Recommendation 2.14 discusses prior agreements concerning publicity.)

Recommendation 5.6: The Relationship Between Researchers and Host Agencies: II. The Host Agency's Role.

Criminal justice organizations should recognize that research can provide general benefits to the criminal justice system. Therefore, research proposals should not be judged exclusively by the benefits that accrue directly to their organization. Responses to proposals should be based primarily on the merits of the proposal and on the credentials of the researchers. A previous research experience that had not been viewed favorably by the host agency should not be sufficient grounds for refusing to cooperate with future research endeavors.

Recommendation 5.7: Research Versus Nonresearch Functions of Researchers.

Criminal justice organizations should not expect researchers, whatever their source of funding, to serve as investigative agents or to undertake any other nonresearch functions of the criminal justice system. Researchers should be ultimately governed by their duties as citizens and act accordingly.

Chapter 6
Research on Criminal Justice Problems

A. INTRODUCTION [1]

New criminal justice problems that appear to require decisions about funding new R&D programs continually emerge. These problems may be the result of new events (e.g., increased drug-related crimes), shifts in public perceptions or preferences, or new theoretical developments. A major shift in criminological research occurred many decades ago, for instance, involving a general decrease in interest in personality or individual theories of criminal behavior, and a concomitant rise in interest in sociological theories of such behavior. Similarly, as the previous chapter indicated, theories of sentencing are in a major state of flux—i.e., whether incapacitation, deterrence, rehabilitation, or retribution should dominate a judge's sentencing philosophy. The purpose of this chapter is to describe when and how new R&D programs might be developed in relation to these problems. As in Chapters 4 and 5, the discussion uses a specific example—victim research—in an illustrative manner.

Illustration: Victim Research

Although scholars have long been aware that concern for the victim in Anglo-Saxon nations has varied through the centuries,[2] a new field called "victimology" has emerged only since World War II.[3] The medieval offender was required to compensate the victim or his family by paying "composition." Composition combined punishment and damages. Initially this transaction involved the criminal and his victim only. As the state increasingly entered judicial proceedings, part of the compensation was given to the victim and part to the community or the king. Eventually, compensation was made entirely to the state, not the victim; punishment was decided through criminal proceedings, and damages were awarded through civil proceedings. The victim, however, continued to affect the criminal process. His report to the authorities about the act committed against him initiated the legal machinery. Likewise, the magnitude of the crime committed against him affected the state's punishment of the criminal. However, for "more than 1,000 years prior to the mid-20th century, the victim of crime in our society—and in the administration of justice—has been ignored." [4]

The recent emergence of victimology has combined this longstanding concern for victim compensation with a new concern for the victim's contribution to the genesis of the crime.[5] In fact, victimology calls into question "the attribution of the cause of crime primarily to the offender or criminal, . . . transferring attention to the victim as cause. . . ." [6] The main impetus for victimology thus appears to be similiar to the main impetus for criminology—the identification of the ultimate causes of crime. Moreover, the degree of victim precipitation of crime—ranging from total offender responsibility to pure victim precipitation[7]—must be the initial consideration before any act of victim compensation.

Marvin Wolfgang's landmark study of the patterns of criminal homicide illustrates the major contribu-

[1] This chapter was developed by the Task Force in part on the basis of materials written by Sue Bobrow, Karen Heald, and Gail Zellman of The Rand Corporation. See especially Sue Bobrow, *Structuring an Unstructured Problem*, in preparation. Dr. Bobrow and Ms. Heald are social scientists located in Rand's Washington, D.C. office. Dr. Zellman is a psychologist located in Santa Monica.

[2] For example, see Stephen Schafer, *The Victim and His Criminal, A Study in Functional Responsibility*, Random House, New York, 1968.

[3] According to Schafer, *The Victim and His Criminal*, Benjamin Mendelsohn was the first to use this term. Much of the history of victimology can be found in a work that resulted from the First International Symposium on Victimology, Israel Drapkin and Emilio Viano (eds.), *Victimology*, Lexington Books, Lexington, 1974.

[4] Michael Fooner, "Victim-Induced Criminality," *Science*, Vol. 151, September 1966, p. 1080.

[5] Schafer, *The Victim and His Criminal*, 1968.

[6] Albert D. Biderman, "Victimology and Victimization Surveys," in Israel Drapkin and Emilio Viano (eds.), *Victimology*, Vol. III: *Crimes, Victims and Justice*, Lexington Books, Lexington, 1974, pp. 153–169.

[7] Lynn A. Curtis, "Victim Precipitation and Violent Crime," *Social Problems*, Vol. 21, April 1974, pp. 594–605.

tion of the victimology viewpoint.[8] Whereas most earlier research had only examined either the characteristics of the homicide victim or of the offender, Wolfgang's analysis of homicides in Philadelphia from 1948 to 1952, analyzed the *victim-offender relationship*. This was done in recognition of the fact that:

> . . . homicide is a dynamic relationship between two or more persons caught up in a life drama where they operate in a direct, interactional relationship. More so than in any other violation of conduct norms, the relationship the victim bears to the offender plays a role in explaining the reason for such flagrant violation.[9]

The field of victimology and its research theories have thus helped to shift attention to the problems of the victim, but mainly with emphasis on victim precipitation and victim compensation.[10] In pursuing this direction for their theoretical base, victimologists appear to be following the same ideology as many traditional criminologists. They have pursued a "disease" theory of crime that searches for the ultimate (or root) causes of crime, but one that, paradoxically, may not be helpful in designing policy interventions to reduce crime.[11] Furthermore, certain topics of direct policy concern—questions of victim protection or victim treatment by the criminal justice system have received much less attention from victimologists.[12]

Although all the problems of the victim seem to be topics that need to be confronted, most of the research and textbooks in the criminal justice field have neglected them. The topic of the victim is often absent from even the most comprehensive texts. Similarly, discussions of alternative research theories are given little attention, with virtually no mention of their currency or relevance to modern policymaking. In contrast, much has been done in an effort to understand the etiology of criminal behavior, the treatment of the offender within the criminal justice system, the mental health of the incarcerated offender, and the variety of rehabilitative steps that can be taken by the offender toward his or her ultimate freedom.

The gap in knowledge about victims is a fundamental one. Little is know about the conditions leading to victimization—e.g., whether many people are particularly vulnerable and therefore have been, or are likely to be, multiple-time victims (i.e., the victim of more than one crime incident). Likewise, little is known about the effects on victims of the harrowing, and often costly, experiences that many people undergo in providing information to the police, confronting the offender in the courtroom, or participating in other aspects of the criminal justice process. The study of the victim's problems therefore requires a considerable recasting of the traditional ideologies about crime and crime prevention.

Choices Confronting an R&D-Funding Agency

A funding agency responsible for criminal justice research can find itself confronted by continual shifts —in real terms, in public expectations and preferences, or in the prevailing explanations for events— as it endeavors to define criminal justice problems. In this environment, the agency must decide which of the new problems raised by these shifts should be pursued by developing new research, and which of them is not likely to be worthy of new initiatives. In addition to the standard administrative and resource constraints, the agency may focus on several rudimentary considerations to guide its choices: [13]

- The reality of the problem;
- The projected direction the problem will take;
- The social significance of the proposed research;
- The potential effect of any proposed solution; and
- The appropriate assumption of responsibility by government.

Reality of the Problem. The first consideration for deciding whether to proceed with new research is to ask: Is there a problem? For instance, it is generally assumed that this Nation has experienced a sharp increase in the incidence of crime during the past

[8] Marvin E. Wolfgang, *Patterns in Criminal Homicide*, University of Pennsylvania Press, Philadelphia, 1958. Wolfgang himself would not, however, necessarily characterize himself as a victimologist.

[9] Wolfgang, *Patterns*, 1958, p. 203.

[10] Victim compensation laws have been enacted by many States. Among the earliest were New York and California, 1965; Hawaii, 1967; Massachusetts and Maryland, 1968; Nevada, 1969; and New Jersey, 1971 (Donal E. J. McNamara and John J. Sullivan, "Making the Crime Victim Whole," in Terence P. Thornberry and Edward Sagarin (eds.), *Images of Crime: Offenders and Victims*, Praeger, New York, 1974, pp. 79–90). The Senate also passed a Federal Victim Compensation Act in 1972.

[11] As James Q. Wilson, *Thinking About Crime*, Basic Books, New York, 1975, pp. 48–56, has so aptly noted, the root causes, by definition are not susceptible to intervention.

[12] For example, see the conclusions and recommendations adopted by the First International Symposium on Victimization, Drapkin and Viano, (eds.), *Victimology*, Vol. III, 1974, pp. 227–229. The statements are almost entirely concerned with victim precipitation or victim compensation, while victim protection and victim treatment are largely ignored.

[13] There are other political or social values that may be germane to this decision. These also may need to be considered. The promotion of equity and the reduction of alienation have, for instance, been promient values underlying recent Federal social R&D programs. However, our discussion focuses on five issues that appear to be more general concerns irrespective of the prevalent social and political issues at any specific time.

several years. However, there has been persistent and legitimate criticism of the statistics by which crime is reported.[14] One explanation for the seeming rise in crime could be an increase in the reporting rate of crimes to the police. Victimization surveys bear this out and indicate that the crime rate in certain categories may be 2 to 3 times greater than what is indicated by the *Uniform Crime Reports.*

In victim research, defining the problems of the victim in real terms, on the basis of a rising incidence of victimization events, would require a simultaneous attempt to show that this trend was not an artifact of increased rates of reporting. The reality of the victim problem also could be defined without referring only to rising crime rates. If the assumption that many innocent people are victims of crime is accepted, an initial definition of the problem would have to show that most of these cases did indeed involve innocent people and that victim-precipitant behavior could not have accounted for the crimes.

Projected Direction of the Problem. If the R&D-funding agency decides that a problem really exists, it must consider what the future trend is likely to be. There are three kinds of projected futures that should be of special interest.

First, there may be reason to believe that the problem will decline in the absence of any policy intervention. This is characteristic of fads—although by no means limited to them. Fads often connote a problem or solution that is in vogue for only a short time—for example during economic cycles. An example of this type of problem is one that can be attributed to a short-term fluctuation, e.g., recession or war. The cause of this type of problem probably would have ended before the results of any research could be implemented. Research takes time. If it is designed to affect a problem, it should only be undertaken if the problem is expected to continue in roughly the same form and at roughly the same or greater magnitude. If a problem is likely to be transient, research designed to address the problem may not represent a wise investment of available resources.

Second, the problem may be perceived as persistent, but of questionable importance when compared with other topics that require funding support. In the absence of more positive indications of its seriousness, a problem may simply be placed low on the list of priorities.

Third, a trend may take the form of an explosion projection, i.e., an expectation that the problem is going to get out of hand (e.g., a crimewave). In this situation, the initiation of new research might be deemed desirable even though the initial problem may not have been that serious. Recent examples of such situations have been airplane hijackings and other terrorist attacks. The threat of a rapid rise in these types of incidents may have played a more important role in the search for countermeasures (including new research) than the severity of the incidents that had already taken place.

Social Significance: Does the Problem Matter? A problem does not have to be dramatic to have social significance. By the same token, an idea by itself does not have to promise to affect national goals in a major way. However, a problem should touch upon some social value that affects the population in general, or is critical to the well-being of some portion of it. For instance, one of the strongest reasons that problems of the victim are significant is the very existence of residential or predatory crime. The increasing fear of, and concern with, this type of crime during the past decade has been partially attributable to the increased threat of muggings and other crimes of violence around and inside the home.[15] This is in stark contrast to the feelings of safety and security in the home and neighborhood traditionally fostered in our society. Thus, the absence of residential security has led in numerous instances to spontaneous citizen initiatives that do not occur, for example, in response to corporate crime.[16]

The significance of a problem also may be assessed in relation to other problems. For example, the elderly seem to assume that their victimization rates are high; the victimization rate for males and females 65 years and over is 31.6 per 1000 individuals.[17]

[14] See Thorsten Sellin, "The Basis of a Crime Index," *Journal of Criminal Law and Criminology*, Vol. 22, 1931, pp. 335–356; Thorsten Sellin and Marvin E. Wolfgang, *The Measurement of Delinquency*, Wiley and Sons, Inc., New York, 1964; Marvin E. Wolfgang, "Uniform Crime Reports: A Critical Appraisal," *University of Pennsylvania Law Review*, Vol. III, March 1963, pp. 708–738; R. H. Beattie, "Problems of Criminal Statistics in the United States," *Journal of Criminal Law, Criminology and Police Science*, Vol. 46, July/August 1955, pp. 178–186; Donald R. Cressey, "The State of Criminal Statistics," *National Probation and Parole Association Journal*, Vol. 3, July 1957, pp. 230–241; Eugene Doleschal, "Criminal Statistics," *Information Review on Crime and Delinquency*, Vol. 1, August 1969, pp. 1–28; Stanton Wheeler, "Criminal Statistics: A Reformulation of the Problem," *Journal of Criminal Law and Criminology*, Vol. 58, June 1967, pp. 317–324; and Peter P. Lejins, "Uniform Crime Reports," *Michigan Law Review*, No. 64, April 1966, pp. 1011–1030.

[15] James Q. Wilson and Barbara Boland, "Crime," in William Gorham and Nathan Glazer (eds.), *The Urban Predicament*, The Urban Institute, Washington, D.C., June 1976, pp. 179–220.

[16] A recent study has examined some of these citizen initiatives. See Robert K. Yin, Jan Chaiken, Mary Vogel, and Deborah Both, *Patrolling the Neighborhood Beat: Residents and Residential Security*, The Rand Corporation, Santa Monica, R–1912–DOJ, March 1976.

[17] U.S. Department of Justice, *Criminal Victimization in the United States: 1973 Advance Report*, Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service, Washington, D.C., May 1975.

However, youths 12 to 15 and 16 to 19 have victimization rates almost 8 times the rate for the elderly (235.9 and 237.1, respectively). The elderly therefore seem to have a sense of victimization that is not in proportion to their actual risk. A funding agency considering a new R&D program would have to determine whether this was true, whether the fear of being victimized (rather than victimization rates) would be a more appropriate measure, or whether the elderly have an acurate perception of their risk, but have already taken extraordinary protective measures, e.g., not going out at night and installing three bolts on each of their doors. In the last case, the victimization rates of the elderly would reflect the effect of these protective measures and not the fact of true vulnerability.

Potential Effect of Proposed Solutions. For some problems, even those that are deemed highly significant, there may be little hope that any policy intervention can be effective. For these problems, the R&D-funding agency may not want to place a high priority on new research.

Responsibility: What is the Appropriate Role of Government? In addition to the obvious political priorities regarding the government's role in supporting different kinds of criminal justice R&D, there are several other questions regarding the appropriateness of governmental activity at the Federal, State, or local levels. One concerns the extent of its legal authority, i.e., is a specific unit or level of government mandated to address the question? Another concerns its presumed effectiveness, i.e., is an initiative more likely to be effective if it is the result of a Federal, State, local, or private effort? Finally, consideration must be given to the appropriate level of government that should undertake the *funding* of R&D projects as opposed to the *testing* of new ideas in the field.[18] In many cases, federally supported R&D may be appropriate to achieve economies of scale; however, participation by local agencies is warranted in the design of the R&D program and the field testing of new ideas.

Summary Discussion

New problems in criminal justice may arise as a result of real changes, shifts in public perceptions and preferences, or new theoretical developments. The R&D-funding agency must decide whether the problem is of sufficient proportion to warrant new research. Even if the decision is not explicit, it may be made implicitly by inaction. The funding agency is generally limited, by time and resources, from initiating research on every possible new problem; therefore, it is forced to make some difficult choices. Some problems may be eliminated from consideration immediately if it is thought that they may be alleviated before any new research is completed. This is, however, only one consideration. The funding agency should compare the problems for new research explicitly by taking into consideration their gravity, likely direction, and social significance, as well as the potential effect of proposed solutions to each of them, and the appropriate role for government in dealing with them.

Recommendation 6.1: Initiating Research on a New Criminal Justice Problem.

As part of their program development activities, criminal justice R&D-funding agencies should develop formal procedures for reviewing and screening problems for new research programs. The screening process should include at least the following considerations:

- **The magnitude, duration, and likely direction of the problem;**
- **The problem's social significance;**
- **The potential effect of proposed solutions to it; and**
- **The appropriate role for government in dealing with it.**

The more a problem satisfies these considerations, the more seriously it should be considered for new research funds.

B. DESIGNING A SYSTEM OF STUDIES [19]

The identification of high-priority problems is the initial step in developing a program of research. An R&D-funding agency and its staff—in conjunction with experts in the relevant fields—are then faced with the need to design a series of research projects. This section is concerned with the development of such a series, using the topic of *victim protection* as an illustrative example.

Criteria for Identifying a System of Studies

Developing systematic studies is called the strong inference strategy.[20] This strategy involves mapping

[18] For a related discussion of the role of different levels of government with regard to criminal justice R&D, see Recommendation 4.2.

[19] A more technical and elaborate version of this discussion may be found in a paper by Sue Bobrow, *Structuring an Unstructured Problem*, The Rand Corporation, Santa Monica, in preparation.

[20] John R. Platt, "Strong Inference," *Science*, Vol 146, October 1964, pp. 347–353.

a *decision sequence,* which negotiates the space between a problem (e.g., victim protection) and its various solutions. This sequence consists of *multiple* alternative hypotheses that link problem and solution.

Progress through the sequence is based on excluded hypotheses. The sequence pinpoints the critical experiments *within the system of reasoning;* thus, it provides a basis for assigning priorities to studies. In other words, it pinpoints those studies whose results would reduce the greatest amount of uncertainty—i.e., would produce the most information. In this way, the results of the studies conducted within a decision sequence automatically have implications beyond themselves. As part of a system, they have consequences for the entire system. They can be the basis for branching (i.e., alternative) choices and for the decision that part or all of the sequence is misconceived—for example, that a branch is missing or that the sequence of branching is wrong.

The development of a logical system of studies is not meant to preclude later decisions that R&D-funding agencies may have to make to deal with budgetary, managerial, or real-time constraints. There are certain realities that the agency staff must face. Among these is the need to demonstrate short-term visible signs of progress; this may mean that certain portions of the decision sequence may have to be examined prematurely. Even though the pressures on management to adopt a course of least resistance are understandable, a new research program is better off if it has initially established some decision sequence, based on the criminal justice problem being addressed, and then addresses managerial issues within that framework, than if the decision sequence did not exist in the first place.

The following sections show how a decision sequence could be constructed for the victim protection problem, beginning with a common step in the development of most new research—a review of the literature.

Illustration: Victim Protection

The researcher can learn three things about a problem from a review of relevant literature: (1) how to think about the problem (*metatheory*); (2) what is believed about the problem (*theory*); and (3) data relevant to the problem (*empirical evidence*). This section deals with the first two of these; Section C of this chapter deals with the last. Metatheoretical statements are analogic, e.g., "Treat the victim-offender relationship among human beings as the prey-predator relationship found in nonhuman animal groups." Theoretical statements suggest relationships that are expected to be true under certain circumstances, e.g., "Victimization incidents are more apt to occur in terrain that is not overseen." Alone, or in combination with other theoretical statements, theory is used to try to predict or account for the problem and its solution(s). Statements based on empirical evidence report what has been found to be the case under specified or unspecified circumstances, e.g., Americans 65 years old or older experience the lowest victimization rates of any age group. They are useful for validating or nullifying previously entertained theoretical statements and for generating new theoretical possibilities.

A literature review can be conducted efficiently and quickly if the problem is clearly structured. However, a cursory acquaintance with relevant literature shows that the problem of victim protection, as with any other new criminal justice problem, has very little structure. Thus, initial literature reviews must be used to define the problem further, i.e., they should involve considerable metatheoretical activity. In cases such as this, it is advisable to commission two different kinds of reviews. One ranges further, and, therefore, involves more risk-taking and tolerance for dead ends. It is used to shape the problem to the point where the theoretical and empirical relevance of knowledge can be decided. The second, typically termed a research assessment,[21] retrieves theory and data that have become relevant to the problem after it has been more adequately defined.

How to Think About the Problem. The ethological literature [22] is a useful example of how research literature can be used in thinking about the victim protection problem. Both animals and human beings have definite geographic distributions. Human beings, like animals, do not reside in the whole area available to them, but concentrate in insular districts (habitats). Again like animals, human beings do not range freely within the habitat, but carve an area out for themselves that fills the individual's major needs and includes the home—the primary place of concealment or protection.[23] Other members of the species also occupy the habitat, making it necessary for individual members to share the terrain.

There are two concepts offered by ethology, one involving terrain (geographic territory) and the other, a space within which threats to territory can be apprehended (perceptual territory). Geographic territory is that space around the individual which, if violated by another, the individual will defend.[24]

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[21] See Recommendation 2.5.

[22] Ethology is defined as the study of human or animal behavior in its natural (physical and social) environment.

[23] Heini Hediger, *Wild Animals in Captivity,* Dover Publications, Inc., New York, 1964 (translated by G. Sircom).

[24] Hediger, *Wild Animals,* 1964.

Animals mark their geographic territory by sounds, motions, and scents. Human beings are more apt to mark their territory by stares, words, or, as Newman observes,[25] steps that lead from the public pavement to the individual's home, fences around his yard, and the like. The perceptual territory is that world[26] around an individual within which sources of alarm are found.[27] It can extend beyond the geographic territory and is scanned for signs of potential threat.[28] Just as mechanical inventions (e.g., guns, missiles, telescopic sights on rifles, communication satellites, and bombers) have increased the area within which a predator can attack prey, they have also extended the area that an individual can survey for signs of danger (e.g., via binoculars, radar, telephones, and monitoring cameras).

These dual concepts of territory—geographic and perceptual—can assist in defining approaches to the victim protection problem. First, if a potential victim and potential perpetrator have nonoverlapping territories, victimization cannot occur. Thus, the notion of camouflage becomes a relevant concept: if the potential perpetrator does not *perceive* the victim as a potential victim, the perceptual territories are in effect separated. Second, the victim protection problem may be seen as one of protecting the victim's geographic territory. The victim may have accessible refuges, e.g., an open coffee shop, a well-traveled street at the next intersection, a home, or an automobile. Alternatively, the perpetrator may be confronted with obvious barriers, e.g., fences, locked windows and doors, reinforced doors, or a doorman.

The possibilities for protecting geographic and perceived territories suggest that *observers* and *mechanical aids* are two general ways of protecting the victim. This has thus led to two important foci for the next step—reviewing literature for theories about ways of improving victim protection. Because Chapter 4 of this report addressed mechanical aids for commercial and residential site protection, that literature is not reviewed here. The question of the bystander as an observer has not been addressed elsewhere and is, therefore, discussed below.

Theories About the Problem. There is reason to believe that the bystander may be a key to, and a necessary and possibly sufficient condition for, preventing many victimizing encounters. Jane Jacobs uses the concept of "eyes on the street" to account for the low crime rate in Boston's North End.[29] Oscar Newman uses the concepts of observant bystanders and defensible space to account for large differences in the crime rates of neighboring public housing projects in New York City.[30] Personal experience suggests that neighborhoods can feel different: in some there is a feeling of being observed and noted; in others, a feeling of anonymity and, consequently, invisibility.

Intuitive and systematic evidence indicates a relation between the presence of bystanders and the incidence of crime. Testing the hypothesis requires defining the term bystander. For example, the Kitty Genovese murder of March 1964 in Kew Gardens, New York City, showed that people can be present and hear, but take no action. This is not the type of bystander on which Jacobs' and Newman's theories rely. They were talking about involved or defensive observing.

Another question must be settled before the bystander hypothesis is tested: Who is meant by bystander—the police, or private citizens? Human groups have developed some specialization of the observing bystander function—i.e., there are some members of the group (such as police) whose duty is to stand guard, monitor the environment for danger, and sound alarms. Because their main function is surveillance, specialized bystanders have advantages. For instance, the police are more apt to be alert than the average private citizen. However, as the social group to be protected enlarges and the terrain to be surveyed increases, the ability of "specialized bystanders" to keep track of all places at all times decreases. In other words, for financial and civil libertarian reasons there would seem to be an upper bound on the extent to which social groups can be protected by increasing the size of specialized bystanders such as the police. For these reasons, the more fruitful concept of bystander deals with private citizens.

Involved bystanding occurs if people occupying public and semi-public places are willing to take action on the basis of what they see. There has been substantial research on bystander responses to poten-

[25] Oscar Newman, *Defensible Space,* The Macmillan Company, New York, 1973.

[26] The term used in ethology is "umwelt," which connotes the immediate perceptual world of an individual.

[27] Erving Goffman, *Relations in Public,* Harper Colophon Books, New York, 1971, p. 252.

[28] Note that perceptual territory changes as the individual moves. According to Erving Goffman,

> As the individual moves, some potential signs for alarm move out of effective range (as their sources move out of relevance) while others, which a moment ago were out of range, now come into it. A bubble or capsule of events thus seems to follow the individual around, but actually, of course, what is changing is not the position of events but their at-handedness; what looks like an envelope of events is really something like a moving wave front of relevance. (*Relations,* 1971, p. 255.)

[29] Jane Jacobs, *Death and Life of Great American Cities,* Random House, New York, 1961.

[30] Newman, *Defensible Space,* 1973.

tial or actual emergencies.[31] This research, based on an impressive series of naturalistic and laboratory experiments, attempts to explain responsiveness (taking responsibility) and nonresponsiveness (not taking responsibility).

Latané and Darley conceive of bystander intervention as one outcome of a series of decisions.[32] The first step is to *notice an event*—requisite for alarm and sounding alarm. The second decision is to *decide that the event is an emergency*. Events may be ambiguous: Do raised voices indicate a family spat or the onset of mayhem? Has a man fallen to the sidewalk simply because he is drunk or because he is having a heart attack? The third decision is to *decide on the degree of personal responsibility*. Estimates of the potential victim's deservedness or neediness affect the decision to intervene. A medically ill person elicits a greater sense of responsibility than a drunk, a female more than a male, an older person more than a young person. However, one of the most important determinants is the number of bystanders. The more bystanders there are, the more each individual bystander apparently expects another to take responsibility (diffusion of responsibility). Likewise, the more bystanders there are, the more the individual bystander is afraid of looking foolish, e.g., "crying wolf" when there is no wolf, appearing to be "odd" or out of control by running or crying out, or being revealed as an incompetent in a situation that allows the individual no time to think through or practice his or her responses.

The fourth step in the intervention process is to *decide on the specific type of intervention*—direct or detour. Direct intervention is self-explanatory (e.g., stepping between two combatants to break up a fight). Detour intervention involves the calling of the appropriate authority (e.g., the police or the fire department). A bystander's knowledge, ability (e.g., physical strength), and estimate of the danger to himself affect this choice. In some cases it may be foolish for a bystander to intervene directly, but detour intervention might be too late—the prey would be dead, raped, robbed, or beaten. In other words, there may be no good solutions in some situations.

The last step is to *decide how to implement* whatever intervention is chosen. On the one hand, in the use of a detour intervention, the bystander must find a phone, a police officer on the beat, or whatever is necessary. Direct intervention, on the other hand, involves a variety of operations; depending on the incident, these may include using a fire extinguisher, struggling with the perpetrator, or applying a tourniquet to the victim. Usually, it can be assumed that the bystander will be under stress and that his or her performance will consequently deteriorate.

Thus, this and further examination of the bystander literature can suggest possible steps for increasing victim protection. The main objective here has been to show how thinking about the victim-protection problem, aided by the ethological literature, has led to three theoretical notions: (1) a potential victim can take evasive actions, e.g., camouflage, to assure that his perceptual territory does not overlap with that of a potential perpetrator; (2) mechanical aids can be used to prevent potential perpetrators from entering the victim's geographic territory; and (3) involved bystanders can reduce the likelihood of victimization. It then has been shown that examining the literature on the last of these three notions can provide clues for developing theories of victim protection.

Developing a System of Studies

The three alternative theoretical notions discussed above serve as one way of designing a system of studies. The system of studies for the problem of victim protection can be represented as having three branches (see Figure 6.1). The bystander branch has been discussed at greater length than the other two. The literature review indicated a possible negative relation between involved bystanding and crime; this assumption has become the basis for possible preventive solutions. If there is such a relation, what produces active bystanding? The review suggested three possible answers: getting people into public places, getting people to perceive emergencies, and getting people to act on what they see.

[31] For example, Stanley Milgram, "The Experience of Living in Cities," *Science*, Vol. 167, March 1970, pp. 1461–1468; M. J. Lerner and C. H. Simmons, "Observer's Reaction to the 'Innocent Victim': Compassion or Rejection?" *Journal of Personality and Social Psychology*, Vol. 4, 1966, pp. 203–210; James H. Bryan and Mary Ann Test, "Models and Helping: Naturalistic Studies in Aiding Behavior," *Journal of Personality and Social Psychology*, Vol. 6, May 1967, pp. 400–407; Bibb Latané and John M. Darley, *The Unresponsive Bystander*, Appleton-Century-Crofts, New York, 1970; John M. Darley and Bibb Latané "Bystander Intervention in Emergencies: Diffusion of Responsibility," *Journal of Personality and Social Psychology*, Vol. 8, 1968, pp. 377–383; Bibb Latané and John M. Darley, "Bystander Apathy," *American Scientist*, Vol. 57, 1969, pp. 244–268; Bibb Latané and John M. Darley, "Group Inhibition of Bystander Intervention in Emergencies," *Journal of Personality and Social Psychology*, Vol. 10, 1968, pp. 215–221; R. D. Clark, III, and L. E. Word, "Where is the Apathetic Bystander? Situational Characteristics of the Emergency," *Journal of Personality and Social Psychology*, Vol. 29, 1974, pp. 279–287; R. D. Clark, III, and L. E. Word, "Why Don't Bystanders Help?" *Journal of Personality and Social Psychology*, Vol. 24, December 1972, pp. 392–400; and Irving M. Piliavin and others, "Good Samaritanism: An Underground Phenomenon?" *Journal of Personality and Social Psychology*, Vol. 13, 1969, pp. 289–299.

[32] Latané and Darley, *The Unresponsive Bystander*, 1970.

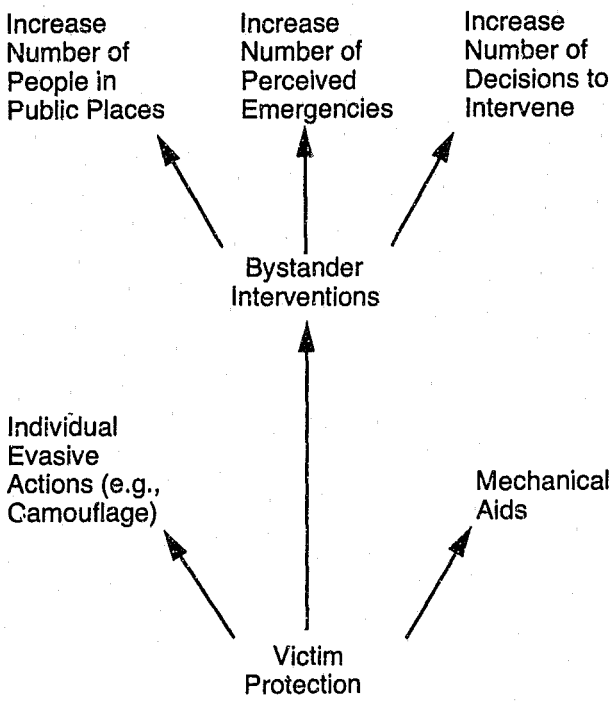

Figure 6.1

How does this sequence of steps help? First, it shows that, if active bystanding in public spaces is found to have no empirical relation to the incidence of crime, the entire bystander branch is eliminated in Figure 1. Second, it shows the most efficient research sequence. For example, the sequence of steps shows that it is inefficient to determine the conditions under which bystanders in public spaces intervene if there is no relationship between bystanders and crime. In other words, it shows which steps must be verified before the sequence can continue. Third, research findings from completed studies can be automatically fed back into the structure. Hence, conducting research within the framework of a decision sequence insures that the findings from individual studies will influence other ongoing research. Use of this sequence will, therefore, encourage the systematic accumulation of data relating to the problem. Fourth, it suggests which studies might be relevant in the future. This is especially helpful if a future study is expected to require significant preparatory work before it begins.

Summary

Research programs for new problems in criminal justice R&D require a system of studies. A decision sequence that consists of several main branches, each representing an alternative solution to a policy problem, can be used to select and order relevant topics of research. A decision sequence has several advantages over less systematic mechanisms for planning research. First, the path from one study to another represents the most efficient research sequence for testing the theory of that solution. It shows what must be the case before it makes sense to go forward. Second, the sequence reveals the critical experiments in the system, i.e., those hypotheses that, if not proven, result in the elimination of large amounts of uncertainty about the problem. Third, research results from completed studies are fed back into the structure. This insures that results of completed studies will influence other research and add to the cumulative data on the problem. Fourth, it shows what studies will have to be done in order to continue along a given sequence. This forewarning is useful if it is expected that a future study will require significant preparatory work before the research can be conducted.

Recommendation 6.2: Designing Research Programs on a New Criminal Justice Problem.

R&D-funding agencies should design programs on emerging criminal justice problems according to a decision sequence. The sequence should cover a system of studies, based on: (a) the alternative solutions to the initial problem, and (b) the factors that might be expected to produce each solution. The use of such a decision sequence can best allow the results of new research to lead to the most fruitful solutions to the problem, can provide a context for developing hypotheses, and can also provide forewarning of the relevant subsequent studies.

C. EXISTING INFORMATION ON A NEW PROBLEM

Once an R&D-funding agency has decided to develop new research on a criminal justice problem, it will need to review the available empirical evidence that bears on the problem and decide what additional data may be required before further study is possible. Assessments of existing information need not take a long time. Many sources of data on criminal justice problems now exist; using these sources can be less costly than developing new ones if the data are valid and relevant to the problem at hand. On this issue, however, the R&D-funding agency should be cautioned against prematurely pressuring researchers into using existing information, because it might lead to false economy. Unless the

information is usable and directly responsive to the needs of the problem, it would be wiser and cheaper in the long run to create a new data base. What makes this tradeoff so arduous to evaluate is not only the difficulty of making sure the information is precisely what is wanted, but also the practical realities of the agency's need to make decisions quickly or to limit the amount of support to a new program.

The topic of sources of criminal justice information and related data banks was discussed in depth in Chapter 2. This section reviews, in relation to the illustrative topic of victim research, one such source —*victimization surveys*. Although these surveys have been conducted only in recent years, they appear to be a major source of information for further research on problems of the victim. The surveys are a major innovation in crime reporting. For the first time, nationwide data on crime are available from a source other than police records and the *Uniform Crime Reports* (*UCR*). As an innovative approach alone, these victimization surveys should be regarded as a major accomplishment.

Illustration: Victimization Surveys

The first national victimization survey was conducted in 1966 as a pilot test.[33] It was then followed, in 1973, by the first wave of a 3-year national survey effort. There are currently two distinct survey efforts, which are being sponsored by LEAA and conducted by the Bureau of the Census.[34] One of them, the city surveys, has collected citywide data from a probability sample of approximately 10,000 households in each of 26 central cities.[35] In each household, all members over the age of 12 are interviewed. These interviews cover the following crimes: for individuals—rape, robbery, assault, and personal larceny; and for households—burglary and larceny, including auto theft. Eliminated from consideration were crimes in which victims willingly participated (e.g., gambling, abortion, and drug abuse), crimes of which the victim would be expected to be unaware (e.g., embezzlement and shoplifting), and crimes that the victim could not have survived (e.g., murder).

The other effort, the national survey, has quite different features. While covering the same crimes and asking similar questions, the survey is a stratified, multistage cluster sample of approximately 60,000 households in the U.S., and is not restricted to central cities. Household members have been interviewed over 6-month periods (one-sixth of the sample interviewed on a rotating basis each month)

[33] Section C is based on materials prepared by Ms. Karen Heald, a psychologist located in Rand's Washington, D.C. office. The survey was mandated by the President's Commission on Law Enforcement and Administration of Justice and was administered by the National Opinion Research Center. It was undertaken to test the feasibility of a national victim survey strategy and to design the appropriate field methods; see Philip H. Ennis, *Criminal Victimization in the United States: A Report of a National Survey* (Field Surveys II), National Opinion Research Center, University of Chicago, May 1967. The President's Commission mandated two other surveys to develop survey methods: Albert D. Biderman and others, *Report on a Pilot Study in the District of Columbia on Victimization and Attitudes Toward Law Enforcement* (Field Surveys I), Bureau of Social Science Research, Inc., Washington, D.C., 1967; and Albert J. Reiss, Jr., *Studies in Crime and Law Enforcement in Major Metropolitan Areas* (Field Surveys III), University of Michigan, Ann Arbor, 1968. These were local surveys conducted in Washington, D.C., by the Bureau of Social Science Research, and in Boston and Chicago, by the University of Michigan. The local surveys contributed to survey methodology in the choice of recall periods, the structuring of the interview, reverse validity checks (police records to survey report) on potential underreporting, attempts to render victim and offense data comparable, the use of a credibility rating of the reporting victim, and the choice of the respondent. A brief history of victimization surveying was given in Appendix A of the National Advisory Commission on Criminal Justice Standards and Goals, *Criminal Justice System*, Washington, D.C., January 1973.

[34] The National Academy of Sciences (Panel for the Evaluation of Crime Surveys of the Committee on National Statistics, Assembly of Mathematical and Physical Sciences, National Research Council) has been commissioned by LEAA to evaluate the victimization survey effort. Evaluation is being undertaken in two realms: (1) methodological aspects such as completeness, accuracy, reliability, and dissemination; and (2) utility of the results as bases for an improved system of crime prevention and criminal justice. The grant was awarded in January 1974, and its product was to have been completed by the summer of 1976.

[35] The city surveys include the Nation's five largest cities (conducted initially in 1973 and repeated in 1975), the eight LEAA Impact cities (conducted initially in 1972 and again in 1975), and 13 major metropolitan centers selected for varied and unspecified reasons (conducted initially in 1974 but as yet not repeated). (See U.S. Department of Justice, *Criminal Victimization Surveys in the Nation's Five Largest Cities*, Law Enforcement Assistance Administraton, National Criminal Justice Information and Statistics Service, Washington, D.C., April 1975; U.S. Department of Justice, *Crime in Eight American Cities*, Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service, Washington, D.C., July 1974; and U.S. Department of Justice, *Criminal Victimization Surveys in 13 American Cities*, Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service, Washington, D.C., June 1975.) The city surveys are unbounded, i.e., they do not use a pretest to provide a beginning reference point for the respondent's current reporting period, and they involve a 12-month recall period. The information collected includes characteristics of the victim (e.g., age, race, sex, marital status, family income), the victim-offender relationship, the time and place of occurrence of the crime, the injury or loss suffered, and whether the event was reported to police; in addition, there is an attitude supplement which explores respondent behavior potentially affected by crime, perceptions of crime rate, feelings of safety, and opinions about police effectiveness administered to one-half of the sample in each city.

for 3 years, beginning in 1973.[36] The response rate for both the city and national surveys has been approximately 96 percent.

An obvious drawback to victimization surveys is their cost. Because the incidence of some types of crime (e.g., rape) is often low in relation to the general population, many respondents are needed for a statistically reliable estimate. The costs of conducting such large-scale efforts are predictably high —$0.5 million per city for the city surveys, and $5.5 million per year for the national survey.[37] If all repeated surveys in all the different cities and the national sample are taken into account, a total of about $36 million, over approximately 5 years, has been expended for victimization surveys.

In spite of this considerable effort, there appears to be no clear consensus on the primary purpose behind the victimization surveys. Although they appeared during a time when the plight of the victim was becoming more fully recognized, these surveys were designed to meet a more pressing political and social need—the estimation of the crime rate. The President's Commission on Law Enforcement and Administration of Justice, while acknowledging that surveys could be important for understanding the causes and prevention of crime, mainly stressed their potential for developing better estimates of actual crime rates.[38] The limitations of the *Uniform Crime Reports*—due to victim underreporting of crime, police unfounding of victim complaints, and nonuniform and inconsistent reporting and classification systems—had become intolerable with the growing public debate on the extent of crime.[39] Echoing this stand, the National Advisory Commission on Criminal Justice Standards and Goals asserted that:

> Victimization surveys should be useful in evaluating reported crime statistics and vice versa . . . A lessening of public debate as to whether crime has gone up or down in the nation and communities may be a byproduct of the development of victimization surveys.[40]

Despite the relative emphasis on more valid crime statistics, there was also a desire to use the survey data to improve the understanding of problems of the victim.[41] However, these surveys may have fallen short in attaining either objective. While offering a new perspective and a new source of information on crime, the survey questions are neither rich enough to provide all the expected insights into the victim's role in crime (and, hence, to improve substantially the understanding of victim problems), nor are they able to focus on more than a subset of crimes (and, hence, to validate the *Uniform Crime Reports*).

The Relevance of Victimization Surveys for Victim Research

An initial source of information for studying problems of the victim should address some of the following questions:

- Who are the victims, in terms of demography and types of crime?
- What are the circumstances under which victimization occurs (e.g., the physical setting or the prior relationship between the victim and the offender)?
- Who are the participants in the victimization event (e.g., bystanders and police in addition to the victim and the offender) and how did these participants behave? and
- What were the consequences of the victimization event in terms of the victim's personal loss and subsequent interaction with the criminal justice system?

Although many details about the nature of the victimization event (e.g., location, loss, victim behavior) are lacking, the surveys provide the only extensive descriptions of victims and the only view of crime from the victim's perspective. Issues such as the extent of victimization, subgroup vulnerability, offender motive, offender-victim relationship, citizen fear behavior, and the time and place of crime are at least partially covered. For instance, the surveys report the percentages of total victimizations attributable to persons, households, and businesses and help to outline the scope of victimization events (see

[36] U.S. Department of Justice, *1973 Advance Report*, 1975. The initial national survey in early 1973 was used solely for bounding purposes, and each interview thereafter has acted as the bound for the reference period following it.

[37] Personal communication, Dr. Charles Kindermann, National Criminal Justice Information and Statistics Service, 1976.

[38] President's Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society, Washington, D.C.*, February 1967.

[39] For example, Donald R. Cressey, "The State of Criminal Statistics," *National Probation and Parole Association Journal*, Vol. 3, July 1957, pp. 230–241; Albert D. Biderman and Albert J. Reiss, Jr., "On Exploring the 'Dark Figure' of Crime," *The Annals of the American Academy of Political and Social Science*, Vol. 374, November 1967, pp. 1–15; Harold Pepinsky, *Police Decision to Report Offenses*, Ph.D. dissertation, University of Pennsylvania, University Microfilms, Ann Arbor, 1972; Wesley G. Skogan, "Measurement Problems in Official and Survey Crime Rates," *Journal of Criminal Justice*, Vol. 3, 1975, pp. 17–32; and Daniel Glaser, "Victim Survey Research: Theoretical Implications," in Drapkin and Viano (eds.), *Victimology*, 1974, Vol. III, pp. 31–42.

[40] National Advisory Commission on Criminal Justice Standards and Goals, *A National Strategy to Reduce Crime*, Washington, D.C., 1973, p. 22.

[41] For example, see President's Commission on Law Enforcement and Administration of Justice, *Crime and Its Impact*, Washington, D.C., 1967, p. 80.

Table 6.1. Percent Distribution of Victimizations, by Type of Crime

Type of Crime	Percent	
Crimes against persons	54.8	
Rape		0.4
Robbery		3.0
Assault		11.2
Personal larceny with victim-offender contact		1.4
Personal larceny without victim-offender contact		38.8
Crimes against households	40.8	
Burglary		17.1
Household larceny		20.2
Motor vehicle theft		3.5
Crimes aganst businesses	4.4	
Burglary		3.7
Robbery		0.7
All crimes	100.0	

Source: U.S. Department of Justice, *1973 Advance Report*, 1975, p. 1, Table A.

Table 6.1). Personal larceny is the single largest category of crime (40.3 percent). However, personal larceny with victim-offender contact represents a very small proportion of total personal larceny victimizations (3.4 percent), or 1.4 percent of total victimizations. Thus, summing the four categories of crimes against persons with the new personal larceny figure gives a new figure of about 16 percent of total victimizations in 1973, involving personal confrontation between victim and offender. The other victimizations all involved unattended property. Personal confrontation incidents cause the most fear among the public, in part because they have the potential for personal injury or death. However, these incidents represent only about one-sixth of the total victimizations.

Characteristics of victimizing encounters, the victims, and the owners of victimized property are also available from the survey data. These data are useful to the extent that they indicate personal, social, and environmental patterns that may reduce victimization. For instance, the survey data show that, in categories of crimes against persons, males are victimized more frequently than females (for all crimes except rape), black males are victimized more frequently than white males, and black and white females are victimized at approximately the same rates. Blacks are more likely to suffer rape, robbery, and aggravated assault; whites are more likely to suffer personal larceny (primarily through unattended property incidents). There is a strong negative relationship between age and victimization rates for all types of crimes. The relationship between age and victimization is pronounced in cases of robbery and assault; this rate of victimization drops sharply for persons over the age of 24. There is also a negative relationship between income and vulnerability to violent crimes.

In the case of household victimization, there is again a strong relationship between age of household head and all categories of household crimes (burglary, larceny, and motor vehicle theft). Households headed by individuals less than 19 years of age are victimized almost 5 times more frequently than those headed by individuals 65 years old or older. Black households are victimized more frequently than white, with the difference attributable primarily to higher rates of burglary. Black owners and renters and white renters are victimized at approximately the same rates, but white owners are victimized at lower rates for all categories of household crime. For blacks, and generally for whites, household crime rates, in contrast to those for violent crimes, are positively related to family income.

Information from victimization surveys can, therefore, help to focus on the types of situations on the basis of which preventive solutions may be drawn, i.e., the reason for lower rates of female victimization, the strong negative relationship between age and person victimization, and the contrasting relationships between income and victimization depending upon type of crime.

The Adequacy of Victimization Surveys for Victim Research

A more important lesson to learn from victimization surveys, however, is how they relate to information needs for doing research on a new criminal justice problem. When examining survey data as a source of information, one needs to focus on the comparative advantages of using such data over other sources of information, the sample of respondents, the survey procedures used, the scope of the survey questions, and the availability of the survey findings in a form that is useful for research purposes.

Comparative Advantages and Disadvantages. Household surveys have major advantages and disadvantages over other sources of information on victims—mainly police records. The major advantage of these surveys is their greater ability to probe victim characteristics. For certain types of crime, notably rape and assault, survey data may also come closer to representing actual victimization rates, mainly because of the substantial nonreporting that

limits the usefulness of police files. Another advantage is that survey data do not suffer from the same well-known biases as reported crimes, because they are obtained independent of police reporting procedures. Finally, survey data are often easier to retrieve than police records, because the data were designed from the start to represent a national sample and to be coded and computer-based, and, hence, readily accessible.

The chief disadvantage of surveys is their immense cost. This seems to be true even for collecting limited kinds of victimization data, such as victim age, sex, race, relation to offender, and loss suffered; time of victimization; number of offenders; number of victims; and whether or not the offenders were apprehended. Furthermore, these kinds of data are already available on a number of advanced police information systems.[42] When robbery data from one of these systems (CAPER) were compared to similar data from the San Jose Pilot (Victimization) Survey, it appeared that both sets of data yielded the same picture of the population of robberies and their victims. Moreover, CAPER operated at an estimated cost that was half that of a victimization survey for a city with a population of over 500,000.[43]

Because of the cost-intensive nature of the surveys, random sampling of households is relied on, and sample size is a major concern. The low incidence of some crimes, particularly rape, may make this sample survey technique less desirable than, say, a focused study of known rape victims to explore detailed descriptors of the event and to increase understanding of its causes and effects.

Another disadvantage is that the survey data have also inherited some of the problems of the *Uniform Crime Reports*. For instance, the surveys use the same definitions of crimes that have fueled criticisms of the *UCR*. Surveys also suffer from problems of underreporting, because they are limited in the types of victimizations that they can investigate. Information about some crimes is impossible to retrieve from victims (e.g., fraud, murder, shoplifting) or is unlikely to be volunteered by a victim (e.g., gambling, drug abuse, prostitution).

Finally, surveys are retrospective and depend on the unsubstantiated reports of cooperative respondents. Fading memories, understandable embarrassment, and lack of sanctions for providing false responses all add to the potential imprecision of survey reports.

Sample of Respondents. The sampling design for selecting survey respondents is critical to any conclusions concerning the total population of victims—who they are, where they live, how many people have been victimized more than once, and so on. The city surveys and the national survey employ random sampling procedures for household selection. Although each violates randomness within a household by interviewing all household members over 12 years old, and requires corrections to adjust likely sample deviations from the population distribution, the household-wide interviewing saves on costs of contacting and enlisting the cooperation of additional households to maintain sample size. Given the initial random sampling of households and the corrections for within-household selections, the sample of survey respondents is suitable for determining characteristics of victims, either within a specific city (assuming it is in the city surveys) or nationally (via the national survey).

Survey Procedures. A key to all of the victimization questions is the definition of a victimization event. In the case of the survey data, the definition of whether a victimization occurred or not is based on the respondent's ability to *recall* past victimizations. The adequacy of this definition is based on two assumptions. First, that there is no memory loss,[44] and second, that the victim fully perceives the incidents in which he or she has been victimized as victimization events. For instance, reverse record checks showed that the respondents failed to report a large proportion (approximately 52 percent) of assaults known to the police.[45] In the context of a survey of criminal behavior, respondents may not have defined a domestic squabble that produced threats and/or bruises as an assault or an attack. Thus, one suggestion has been to use a less-focused approach. This approach asks the respondent to report on the occurrence of past injuries and then traces back to the cause of the injury.[46]

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[42] In several locales, police reports are extracted and translated to computer form for efficient problem diagnosis and project evaluation. PROMIS, a system operating in Washington, D.C., and CAPER, operating in Santa Clara County, Calif., are two examples. These readable police information systems are unique in that they allow ready access to their data base for selected information.

[43] M. Katherine Howard, "Police Reports and Victimization Survey Results: An Empirical Study," *Criminology*, Vol. 12, February 1975, pp. 433–446.

[44] A technique for dealing with one memory problem is to use a screener technique. When using this technique, information is elicited on all incidents of victimization before the details on any one event are asked. Such a technique appears effective in preventing an undercount resulting from fatigue.

[45] U.S. Department of Justice, *San Jose Methods Test of Known Crime Victims*, Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice, Washington, D.C., June 1972, p. 6.

[46] See two recent works by Albert D. Biderman: (1) "Social Indicators of Interpersonal Harm," Bureau of Social Science Research, discretionary grant final technical report to U.S. Department of Justice, Law Enforcement Assistance Administration, Washington, D.C., December 1975; and (2) "Victimology and Victimization Surveys," in Drapkin and Viano (eds.), *Victimology*, Vol. III, 1974, pp. 153–167.

One procedural problem has been overlooked in discussions of victimization survey design, namely, repeated data collection from the national panels of respondents. This longitudinal design was used in spite of the potential bias introduced by the reactivity of the interview on the behavior it purports to measure. A respondent's awareness of or susceptibility to victimization, efforts to prevent victimization, and corresponding attitudes toward crime may be changed *because* of the fact of measurement every 6 months. Unfortunately, the development of the surveys has included few attempts to measure or correct for such reactive effects.

Scope of Survey Questions. The quality and nature of the resulting survey information clearly can be quite limited by the specific questions that are asked. The questions in existing surveys cover such items as: sex, age, race, income, marital status, and educational level of the victim, victim attitudes about crime and neighborhood safety, the time and place of the victimization, work loss and medical costs resulting from the victimization, and the sex, age, race, and relationship to the victim of the offender. However, some attributes of the victim and the victimization event have been omitted:

- The physical characteristics of the victim, e.g., height and weight;
- The motives or victim behavior that may have contributed to the event;
- The extent of injuries or loss suffered by the victim—if no medical treatment had been received;
- The changes, if any, in the victim's behavior since the victimization;
- The precise location of the victimization (the surveys make no clear distinction among carport, alley behind the house, street across from house, and parking lot of apartment building; between school grounds and other places on the street; between transportation systems and other commercial establishments);
- The approximate hour of the day when the crime occurred in the daytime; and
- The bystanders (e.g., companion or pet) available at the time of the victimization.

This type of information is not covered by the surveys, but might be important in developing new ways of protecting victims and other crime prevention policies.

Availability and Usability of Findings for Research Purposes. The accessibility to a large body of information, such as the victimization data, is itself a problem that requires attention. The statistical time series that these combined surveys represent is a complex set of data files (including hundreds of reels of computer tape) that have to be well documented for outside use.[47]

A second restriction stems from the Census Bureau rules of confidentiality of data. For example, the Census Bureau will provide data from the national survey disaggregated only by variables such as race, sex, age, income, and community size and type, but *not* by specific city. For the city samples, the Census Bureau has 26 tapes for the 26 cities, and will not disaggregate the data below the city level or, for larger cities, below areas of major population concentration within them of 250,000 or more.[48]

Summary Discussion

One of the first needs following the decision to begin research on a new problem is to decide whether existing information sources can be useful. This section pointed out some of the ways that existing information may be assessed, using victimization surveys—one of the most important sources of information for victim research—as an illustrative topic. The surveys provide data of a scope and quality not found elsewhere or previously reflected in the *Uniform Crime Reports*. The survey data do not, however, provide sufficient information to investigate the causes of victimization in depth. Thus, any development of victim protection solutions will likely need data not available from the surveys.

The main point is, however, that valuable data sources, whose potential remains unexplored, already exist. To the extent that they are able to supply any of the data needed for a new research problem, their use should be explored before the costs of new data collection efforts are incurred.

Recommendation 6.3: Assessing Available Information in Relation to a New Criminal Justice Problem.

Researchers should assess the potential value of

[47] To overcome this obstacle, LEAA has funded two organizations to improve the utility of the survey data. The Criminal Justice Research Center in Albany, N.Y., conducts conferences across the country for planning personnel, to familiarize them with the surveys and their potential uses. DUALabs in Arlington, Va., provides counseling services for police, State planning officials, and researchers; it will produce newsletters, manuals, handbooks, and corrected, well-documented copies of Census tapes to try to eliminate some of the confusion that may surround the current use of the victimization data.

[48] For all areas within a city, regardless of size, Census will provide summary tabulations but no tapes. However, they warn of the reliability problem given a small N and relatively rare crime incidence (personal communication, Linda Murphy, U.S. Department of Commerce, Bureau of the Census, 1976).

available data, to determine whether such sources can serve the information needs of investigating a new criminal justice problem. Where existing sources do not satisfy these needs, R&D-funding agencies should be prepared to support new data collection efforts.

1. For instance, in the case of new research on problems of the victim, an important existing source of information is the victimization survey. In deciding whether the data will be relevant and useful, several considerations can be weighed, including:

- **The comparative advantage of such data over other existing or new sources of information;**
- **The sample of respondents;**
- **The survey procedures used;**
- **The scope of the survey questions; and**
- **The availability of the data for research purposes.**

D. IDENTIFYING A SET OF STUDIES ON PROBLEMS OF THE VICTIM

The next step in developing new research on criminal justice problems involves the actual determination of a set of studies. In order to illustrate this process and potential topics that might be selected, this section examines another aspect of victim research: research on the treatment of victims within the criminal justice system.

Over the past decade there has been a growing impetus to attend to the needs of victims within the criminal justice system.[49] Social and political pressures are forcing the system to reappraise its approaches to victims. This pressure has stemmed in part from the increased consumer orientation of most public agencies. For instance, a defense attorney noted recently:

> Our system has been behaving like a railroad, because maybe it figures the victim can't just choose another court system. We've got to look at the victim like he's a customer who requires service.[50]

[49] Section D is based on materials prepared by Dr. Gail Zellman, a psychologist located in Rand's Santa Monica office. For general discussions of victim treatment, see M. Baluss, *Integrated Services for Victims of Crime,* National Association of Counties, Washington, D.C., 1975; Ann W. Burgess and Lynda L. Holmstrom, "Rape: The Victim and the Criminal Justice System," in Israel Drapkin and Emilio Viano (eds.), *Victimology,* Vol. III, 1974, pp. 21–30; and R. Knudten and others, "Citizen Victimization as a Characteristic of the Crime and the Criminal Justice System," Center for Criminal Justice and Social Policy, Marquette University, Milwaukee, 1975.

[50] Gilbert Geis, "Victims of Crimes of Violence and the Criminal Justice System," in Duncan Chappell and J. Monahan (eds.), *Violence and Criminal Justice,* D. C. Heath, Lexington, 1975, p. 63.

The increased attention to the victim nevertheless may be contrasted to the continued preeminence of the main consumer of criminal justice system services —the offender. Under this Nation's system, the offender's needs and concerns are written as rights. These rights—which are fundamental to the American system of justice—have been far more compelling than those dealing with the victim's feelings or needs.[51]

Illustration: Rape Victims

Victims of all crimes experience significant problems and assume many costs during their interactions with the criminal justice system, e.g., the trauma of recreating the crime, the time lost in testifying, and the need to prove one's claims. These problems and costs may be greatest for rape victims. The nature of the crime and the societal beliefs that surround it make repeated testimony and reports particularly grueling, embarrassing, and traumatic for rape victims. These factors suggest that the crime of rape provides a good illustrative case study of the problems that victims face in interacting with the criminal justice system.[52]

There has been increased public concern over rape. Within the women's movement, which has become a potent force in public opinion, one focus of concern has been on rape.[53] Consistent with approaches to other issues, feminists have begun to stress the political nature of rape, no longer viewing it merely as a personal misfortune but considering it an experience shared by all women in one form or another.[54] There has been a substantial increase in the rate of reported rape—even though the overall rate is still generally agreed to be the lowest of all

[51] T. E. McDermott, "California Rape Evidence Reform: An Analysis of Senate Bill 1678," *Hastings Law Journal,* Vol. 26, May 1975, pp. 1551–1573.

[52] One factor often forgotten is the potpourri of so-called rape incidents. Incest, child molestation, homosexuality, stepfather-stepdaughter interrelationships and other variations all cloud the precise definitions of rape. Such variations contribute to the incidence of reporting, the desire of the victim for prosecution, and many emotional complications.

[53] See Lisa Brodyaga and others, *Rape and Its Victims: A Report for Citizens, Health Facilities, and Criminal Justice Agencies,* National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice, November 1975; Duncan Chappell, *"Forcible Rape and the Criminal Justice System: Surveying Present Practices and Projecting Future Trends,"* Battelle Memorial Institute, Seattle, unpublished manuscript, 1975; and Noreen Connell and Cassandra Wilson (eds.), *Rape: The First Sourcebook for Women,* New American Library, New York, 1974.

[54] Connell and Wilson, *Rape,* 1974.

crimes surveyed.[55] During the past decade, reported forcible rape rates have more than doubled, with a particular rise since the late 1960's.[56] However, it is not clear whether this increase represents a real or paper rise in the incidence of rape.[57]

In developing new research on a criminal justice problem, an effective way to proceed is to choose an *organizing scheme* that insures a systematic review of the problem, while at the same time increasing the likelihood of identifying relevant research questions. In the area of corporate crime, for example, an organizing scheme might be a classification of the ways in which people are victimized. In the area of police-community relations, on the other hand, it may be worthwhile to study the problem according to the different strategies used by the police to produce effects on different target age groups.

With problems of the victim, and particularly those of the rape victim, a good organizing scheme appears to be one that follows the process of how a victim relates to the criminal justice system from the time of victimization to the ultimate disposition of the case. The process includes a series of sequential interactions with the system, and involves the issue of reporting a crime, collecting evidence about the crime, deciding whether to prosecute, participating in court proceedings, the final disposition, and feedback to the victim.

Issues in Reporting Crime

Most reasons for the victim's failure to report a crime fall into one of four categories. The first is a belief that the incident is not a police matter. Victims of crimes of violence tend not to report for this reason—particularly if the perpetrator is a family member. The second is a fear of reprisal, either physically from the offender, his family, or his friends, or economically through increased insurance premiums or cancellation of the policy. The third is a reluctance born out of anxiety and intimidation. People simply may not want to take the time or trouble to get involved with the police—this includes uncertainty or confusion about whether or not to call and about the personal costs that might be involved once the process is set in motion. Attitudes about police ineffectiveness constitute the fourth set of reasons. Many nonreporters believe that the police would be unable to do anything about the crime and therefore do not want to be bothered.[58]

Rape victims represent a group that is especially unlikely to report their victimization. Although some of the reasons that they give for nonreporting are similar to those given by victims of other crimes, the reasons seem to have more urgency. Some victims express fear of reprisal from the offender.[59] Many women are scared of what the rapist, his family, or his friends might do to them if they testified.[60] Some fail to report because they want to avoid the estimated time and costs of a complaint, investigation, and trial, or want to avoid having to think any more about the incident. In one study, one of the most frequently mentioned reasons for nonreporting was the desire to avoid the ordeal of going to court.[61]

Other troublesome aspects unique to the rape victim are the embarrassment of being victimized, the fear that revealing a rape to husband or boyfriend may damage the relationship,[62] and the fear that her description of the incident will not be believed. A victim's inability to convince others that it was not her fault and not pleasurable creates much mental anguish. Some women think that they will not be believed if they escaped without incurring severe physical harm. One past victim remarked that a woman must be "bruised, bloody, and damned near dead" in order for the activity to be considered not consensual.[63]

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[55] Estimates of the gap between rate of commission and rate of reporting vary. The National Victimization Study conducted in 1967 for the President's Crime Commission suggested a ratio of between three and four actual rapes for each one reported (President's Commission, *Challenge of Crime*, 1967). A more recent LEAA pilot survey suggested a two-to-one ratio, which might possibly indicate a change in victim reporting behavior since 1967. See B. Kovach, "Study Finds Crimes Rates Far Higher than Reports," *The New York Times*, April 27, 1973, pp. 1 and 44.

[56] Chappell, *Forcible Rape*, 1975. Nationally, the number of rapes per 100,000 "eligible females" (women 6 to 74 years old) rose from 21.9 in 1960 to 41.3 in 1970 (based on data contained in annual volumes of the FBI *Uniform Crime Reports*, 1960–1972).

[57] Feminists attribute the apparent rise to increasing reporting of rape, which in turn has come about because of feminist activities and consciousness raising. See Cassandra Wilson, "Interview With a Feminist Lawyer," in Connell and Wilson, *Rape*, 1974, pp. 137–142. Others suggest that increases in reporting incidents, at least in certain jurisdictions, are a response to liberalization of rape laws. See Duncan Chappell, "Forcible Rape and the American System of Criminal Justice," in Chappell and Monahan, *Violence and Criminal Justice*, 1975, pp. 85–99.

[58] Philip H. Ennis, *Criminal Victimization in the United States: A Report of a National Survey* (Field Surveys II), National Opinion Research Center, University of Chicago, May 1967. Richard O. Hawkins ("Who Called the Cops? Decisions to Report Criminal Victimization," *Law and Society Review*, Vol. 7, Spring 1973, pp. 427–444) found that police effectiveness attitudes were unrelated to decision to report.

[59] Leroy Schultz (ed.), *Rape Victimology*, Charles C. Thomas Publishers, Springfield, Ill., 1975.

[60] Burgess and Holmstrom, "Rape," 1974.

[61] Burgess and Holmstrom, "Rape," 1974.

[62] John MacDonald, *Psychiatry and the Criminal*, Charles C. Thomas Publishers, Springfield, Ill., 1969.

[63] Pamela L. Wood, "The Victim in a Forcible Rape Case: A Feminist View," in Schultz (ed.), *Rape Victimology*, 1975, pp. 194–220.

Little research has been done on the decision process that results in a report to the police. This process is of interest because it may point to ways of increasing the report rate. One of the few studies that examined how this decision was reached found that, in the case of rape victims, the victim most often decided whether or not to report after consulting with a number of other people.[64] In a considerable number of cases, other people took it upon themselves to decide for the victim. In some cases, the victim herself contacted people to get a sense of the reaction she could anticipate from close associates if the incident became generally known. The alternation of revealing and withholding information that appears to characterize this process takes time and may generate an inertia that takes hold between the times of incident and report.

Issues in the Collection of Evidence

Initial Encounter. Once the victim decides to report a crime, he or she begins interacting with the criminal justice system. The victim's control of events is sharply reduced once a report is made and continues to decline throughout the remainder of the process.[65]

The major issue during the initial phase is how most quickly, efficiently, and effectively to collect the information and evidence needed to bring the case to the prosecutor. Uniformed police officers are usually the first persons at the scene of a crime. They make the initial assessment of the victim's need for emergency treatment. Except in cases where the victim needs immediate hospitalization, officers secure the crime scene, set up a lookout, and initiate the search for the offender.[66] In the case of rape victims, it is important that the officers recognize and collect any physical evidence present at the scene, including fibers, hair, and torn and stained underclothing. Another role of the officers is to prevent the victim from destroying evidence by bathing or douching.

In larger police departments, the duties of the patrol officer in a rape case are bounded. Police are told to assume a passive approach while awaiting the arrival of better trained, more experienced investigators and evidence technicians. These larger police departments believe that specialized units are more efficient for handling rape cases, because sex crime investigators can receive special training and can frequently draw on previous experiences in their work.[67]

Pressure from some women's groups has resulted in the use of female officers in specialized squads to investigate rape cases. The effectiveness of these female officers has not really been determined. In at least one large urban police department that uses female officers, some victims have reported that *male* officers are more gentle and humane in their approach than are the *female* officers—who tend to view the victim more as a provocateur. The fact that this experience was related from a southern city may indicate that it is a regional type of response that perhaps should not be expected in other geographic areas.[68]

The Gathering of Evidence. The investigation of a rape case entails many evidentiary problems, because the information required to prove that a rape was in fact committed is extensive and often difficult to uncover. Many investigators try to get formal statements from victims because the information is necessary for investigation and prosecution. However, these statements can create a problem, because they must be made available to the defense attorney, and may be used as evidence against the victim if her testimony departs, even slightly, from the contents of the report. A sworn statement also requires repeated retelling of the information by the victim. As a countermeasure, it has been suggested that the victim's story be recorded or even videotaped to avoid retellings.[69]

In addition to the victim's testimony, two types of evidence need to be collected—physical and medical. The need for physical evidence is not unique to the investigation of a rape case. Some of this evidence must be collected by physicians and, of course, the medical evidence must be gathered in its entirety by physicians during a medical examination. However, the medical treatment, the collection and documentation of medical evidence, and the collection of some physical evidence by the physician represent different phases of what might improperly be perceived as a single process. For example, the examination of vaginal fluid for the presence of motile sperm involves the collection of the specimen during a physician's medical examination. However, the actual analysis of the material may be carried out by the same physician (if he has a compound microscope and certain laboratory items available), or by a properly trained laboratory technician. The overriding factor is the *rapidity* of the medical examination

[64] Burgess and Holmstrom, "Rape," 1974.

[65] D. J. Hall, "The Role of the Victim in the Prosecution and Disposition of a Criminal Case," *Vanderbilt Law Review*, Vol. 28, October 1975, pp. 931–986.

[66] Brodyaga and others, *Rape and Its Victims*, 1975.

[67] Brodyaga and others, *Rape*, 1975, and James Lacy, personal communication, February 1976.

[68] Institute of Forensic Sciences, personal communication from Dallas City Police Department, 1976.

[69] National League of Cities/U.S. Conference of Mayors, *Rape*, Washington, D.C., 1974.

and of the subsequent collection and analysis of the specimen, because sperm remain motile only a few hours under the best of circumstances. As another example, photography may be employed to document the extent of injuries. Such photography requires proper and informed consent; obtaining permission requires a great deal of tact by the examining physician—especially if the photographer is from a nonmedical agency. This latter example illustrates well the traditional conflict between the needs of the state and the rights of the victim.[70]

During the collection of medical evidence, some of the most pressing needs of the victim are or could be addressed. The need for reassurance, prophylactic treatment for venereal disease and pregnancy, and treatment of any injuries are available in this medical setting.[71] Outside agency help, provided to the victim by personnel of rape crisis centers (now established in a number of urban areas) may also be useful in directing the victim to followup care to prevent venereal disease and pregnancy, and to recognize or forestall emotional problems.

Issues in the Decision to Try a Case

Founding. Rape cases encounter two critical decision points on their way through the system. The first is a judgment by the police as to whether a crime has been committed, i.e., a decision as to whether or not a complaint is founded.[72] In general, the founding decision takes into account the promptness of the complaint, the complainant's behavior prior to the offense, the location of the offense, and the prior relationship, if any, between the complainant and the alleged offender. The police often refuse to pursue a complaint involving presumed victim precipitation,[73] because such a complaint rarely leads to a conviction.[74]

A major concern in the founding decision is the degree of discretion available to police departments. Therefore, recommendations have been made to decrease the likelihood of misuse of founding authority. For instance, it has been suggested that no case should be ruled unfounded except on the basis of some extrinsic evidence (e.g., no medical evidence that penetration occurred). A second suggestion is that investigative units should not have the authority to unfound cases. Rather, the unit's recommendation should be forwarded to the police chief or his or her designee for final determination. This second suggestion points to a lack of review that is not unique to rape cases. In addition to contributing to the unfounding of cases, the reluctance of law enforcement agencies to establish a strong review authority adds to the variation of crime statistics; it also may tend to prevent an upgrading of the work of these agencies.

Prosecutorial Decision. The second critical decision point in a rape case is whether or not to prosecute the case. The nonprosecution rate for all crimes is more than 50 percent;[75] the figure for rape may be even higher, because rape is the most difficult crime to prosecute successfully.[76] One factor unique to rape cases is the balance between prior acquaintance and offender identification. Prior acquaintance is more likely to result in the offender being apprehended and, therefore, referral to the prosecutor; however, the fact of prior acquaintance lessens the chances of achieving a conviction, and, therefore, means that the case is less likely to be prosecuted.[77]

[70] Not discussed is the necessity to establish a chain of evidence for each item of physical or medical evidence collected. The establishment of such a chain, beginning at the time the physician first collects the evidence, is required to satisfy the court that the evidence originated from the victim and that there was no opportunity for the evidence to have been altered (deliberately or accidentally). This requirement poses a demand for time and energy expenditure upon the physician. Moreover, the philosophy is foreign to the physician, and a reorientation is needed. A fertile field for the education of the examining physicians exists here.

[71] The treatment of victims in the medical setting has reportedly improved of late. Suggested changes and improvements include arranging for followup venereal disease checkup, offering a referral to a mental health facility, and providing the victim with a handbook explaining the reason for and nature of the medical procedures (Brodyaga and others, *Rape*, 1975).

[72] Few studies of the founding decision have been made. The available evidence suggests, however, that the basis for the decision in at least one jurisdiction closely matched that used in court and by the jury ("Police Discretion and the Judgment That a Crime has Been Committed—Rape in Philadelphia," *University of Pennsylvania Law Review*, Vol. 117, December 1968, pp. 277–322). This may be due to close surveillance by the prosecutor's office of the founding decision.

[73] Victim precipitation is a label applied to cases in which the victim, for whatever reason, enters a "vulnerable" situation. Hitchhiking or walking alone at night in a dangerous neighborhood may be viewed as precipitative behavior and, thus, result in unfounding. The subjective aspects of these judgments are, of course, very great. For instance, even a prostitute can be raped, but there is no question that such a view is shared by few people.

[74] Camille E. LeGrand, "Rape and Rape Laws: Sexism in Society and Law," *California Law Review*, Vol. 61, May 1973, pp. 919–938.

[75] Ennis, *Criminal Victimization*, 1967.

[76] National League of Cities, *Rape*, 1973; and S. E. Mathiasen, "The Rape Victim: A Victim of Society and the Law," *Willamette Law Journal*, Vol. 11, Winter 1974, pp. 36–55. In 1970, 56 percent of all rape complaints ended in arrest; 62 percent of those arrested were prosecuted (Federal Bureau of Investigation, *Crime in the U.S.*, Washington, D.C., 1970). In Washington, D.C., the prosecution rate was 48 percent in 1971 and 1972.

[77] National League of Cities, *Rape*, 1973; and James Lacy, personal communication, 1976.

The Victim in Court

Because a prosecutor's reputation generally depends on the number of sucecssful convictions he or she has been able to achieve, there are substantial incentives to win cases (and to decide against bringing risky cases to trial). However, these incentives have not been translated into a concern for the victim—who generally contributes the most valuable evidence in any trial. Indeed, the problems and complaints of victims are most numerous and most severe with regard to court procedures and treatment.[78] One reason is that, during court proceedings, it is the defendant's and not the victim's rights that are given special consideration.

Because the only form of redress possible to victims of crimes of violence is prosecution, their involvement in the case is intensely personal. Yet, in the state's view, the crime has been committed against the laws of the state. The complainant's testimony is merely another piece of evidence that a crime has been committed. Moreover, the prosecutor's role is that of an agent of the state; he is not the victim's attorney. The disillusionment and sense of abandonment that may follow leave a victim feeling even more victimized.

The judge, too, may not be motivated to protect the victim. The court has no obligation to protect a witness from being discredited on cross-examination unless the questions are designed merely to harass or humiliate the witness.[79] Judges know that higher courts often rule that there have been abuses of discretion when a defendant claims that the examination of the victim was unduly curbed. Therefore, it is easier and safer to permit the admission of evidence at this stage in the court proceedings, rather than at a later time when the defendant, if convicted, appeals the conviction.

An area not often considered is the appearance in the courtroom of the examining physician and the laboratory analyst who examined evidence relating to the victim. These individuals enter the courtroom as expert witnesses and are expected to describe what they found and to interpret their highly technical evidence so that all participants in the courtroom will understand its implications. There is no question that this is a proper forensic role for the physician or scientist, but only rarely do these expert witnesses receive instructions on how to present evidence in the courtroom. Too often, the jury is more influenced by the personality of the witness than by the evidence presented.[80]

In addition to the physical and psychological burdens they must bear, victims also suffer financially and in loss of time. The time loss is no doubt exacerbated by the ways that a victim's time is spent, with large amounts devoted to waiting for procedures to start or for one's turn to testify. In some jurisdictions, witnesses are required to appear on the morning of each day they may testify and to stay all day, even if they do not testify. Furthermore, they may make many trips to the courthouse, only to be informed that a motion for a continuance or postponement has been granted.[81]

These delays are particularly hard on rape victims, who often resign themselves to regard the period from report to court disposition simply as one they must get through. Normal activities cannot be carried out as usual, and victims look forward to the time when they can begin to forget the incident and "live again."[82] Understandably, delays and continuances frustrate the desire to forget and are, therefore, hard to tolerate. Moreover, delays are an accepted defense practice for wearing down the witness.[83] Not infrequently, the financial and emotional costs become too much for the victim, and she asks to withdraw. This presents another difficult situation, where the interests of the victim and the state diverge. Usually, the state's interest prevails, and the victim is subpenaed to appear in court and found in contempt if she does not.

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[78] Michael Ash, "On Witnesses: A Radical Critique of Criminal Court Procedures," *Notre Dame Lawyer*, Vol. 48, December 1972, pp. 386–425; C. Bohmer and A. Blumberg, "Twice Traumatized: The Rape Victim and the Court," *Judicature*, Vol. 58, March 1975, pp. 391–399; R. Knudten and others, "Clients as a Source of Input for Criminal Justice Planning: Victim Compensation and the Problems, Needs, and Attitudes of the Victimized," Center for Criminal Justice and Social Policy, Marquette University, Milwaukee, 1975; and Sacramento Police Department, "Improving Services to Crime Victims: A Report and a Proposal," submitted to the Police Foundation, Washington, D.C., 1974.

[79] McDermott, "California Rape Evidence Reform," 1975.

[80] As far as is known, no measurements of expert witness effectiveness have been designed and applied. In some States, medical privilege, if recognized by the physician, may contribute to his ambivalence in presenting evidence in the courtroom.

[81] In the Sacramento victim survey, scheduling (including cancellation and delays) was the most frequent complaint from victims (Sacramento Police Department, "Improving Services," 1974).

[82] Burgess and Holmstrom, "Rape," 1974.

[83] Wearing down does not fall exclusively on the prosecution, of course, but is more heavily felt, since it is the prosecutor who generally calls the most witnesses, and the prosecution who must prove guilt beyond reasonable doubt. Wearing down is evidenced by memory failures, changes in stories, and increased problems in getting witnesses to appear in court. One study (L. Banfield and C. D. Anderson, "Continuances in the Cook County Criminal Courts," *University of Chicago Law Review*, Vol. 35, 1968) reports that conviction rates decreased as case length increased. For the whole sample, the percent found guilty dropped from 92 percent, in cases that required four or fewer court appearances, to 48 percent, in cases that required 17 or more court appearances.

Appearing in court and encountering the defendant also present problems for the victim. Courthouse contact with the defendant may be difficult or traumatic, especially if he is free on bond or personal recognizance.[84] Most writers on the subject suggest that, at a minimum, victims and witnesses be provided a separate private waiting area.[85]

Issues on Disposition and Feedback

Case Disposition. Even though more than half of all rape complaints are screened out before they get to court, the acquittal rate is high. In 1970, 36 percent of prosecuted rape cases ended in a conviction; this is an acquittal or dismissal rate of 64 percent; which compares with an acquittal or dismissal rate of only 29 percent for all crimes.[86] An important implication of these statistics for rape victims is that two-thirds of them will have paid a high cost and lost their cases. The victim's feelings about her subsequent interactions with the criminal justice system may be critically and adversely affected by such a disposition. Furthermore, the not-guilty verdict is particularly hard on the rape victim, because it rekindles fears that the defendant, now free, may seek revenge.

Most victims strongly desire *official* notification of the disposition of their case, even if it ends in acquittal, rather than having to ask or find out from others. Failure to receive such feedback is often the victim's chief complaint. This request seems reasonable and humane; yet, the failure to inform a victim as to the disposition of her case is only one notable failure in a more general pattern of failure to convey information and outcomes to victims.[87]

Subsequent Behavior. In one survey, 20 percent of the victims who had undergone the kinds of experiences in the criminal justice system that have been described in the previous sections said they would refuse to be a witness in the future;[88] an additional 26 percent were unsure.[89] Given the real and extensive costs victims most absorb, future nonreporting may well be a rational response to a relatively insensitive bureaucracy. In efforts to halt this trend, many reforms have been proposed that will make the process of victim-system interaction less painful for, and costly to, the victims of crime.[90] A number of reforms specific to rape have also been proposed, including special family courts to handle sexual offenses[91] and limitations on the amount of pressure the defense attorney is allowed to apply during cross-examination.[92] As a recent Maryland case has shown, it is also possible for a victim to recover damages by suing the rapist.[93]

Research Issues

This discussion has suggested some of the problems faced by the victim within the criminal justice system. The treatment of the victim thus may be considered an important topic for further research. The type of research that is needed is likely to involve a series of discrete research projects; no single project can answer the questions that have been raised. The research projects might be grouped into several clusters: increased reporting by the victim; the goals in treating the victim; and the role of the major participants in the system vis-a-vis the victim.

Increased Reporting by the Victim. A major difficulty is that many victims choose not to report their victimization. In the case of rape, increased reporting might result from the use of rape crisis centers. In any case, the evaluation of these centers, in terms of their effect on reporting rates and their ability to assure better treatment of the victim, would provide much needed information. The results could even be used to suggest new types of services for victims of other types of crimes.

Another possible influence on reporting rates might be the division of rape into several levels of crime, including differentiation from other acts such as incest and child molestation. For example, the Prince Georges County, Md., Task Force suggested two levels of rape. Rape in the first degree specifies

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[84] Knudten and others, "Citizen Victimization," 1975, found that approximately one-third of the victims in their sample reported waiting conditions were a problem, and that a substantial number of these problems were related to exposure to threatening or upsetting persons.

[85] Ash, "On Witnesses," 1972, Brodyaga and others, *Rape*, 1975; and Commission on Victim Witness Assistance, *A Primer for Model Victim Witness Assistance Centers*, National District Attorneys Association, Washington, D.C., no date.

[86] Federal Bureau of Investigation, *Crime in the U.S.*, 1970.

[87] Bohmer and Blumberg, "Twice Traumatized," 1975; Sacramento Police Department, "Improving Services," 1974; and Fremont (California) Police Department, "Proposal for a Victims/Witnesses Project to the Police Foundation," August 1974.

[88] The figure may well be higher. Few studies have addressed the issue.

[89] Sacramento Police Department, "Improving Services," 1974.

[90] See Ash, "On Witnesses," 1972; Sacramento Police Department, "Improving Services," 1974; and Fremont Police Department, *Proposal*, 1974, for discussion on many of these reforms.

[91] "Report of the Task Force to Study the Treatment of the Victims of Sexual Assault," Prince Georges County, Maryland, 1973.

[92] Wood, "The Victim in a Forcible Rape Case," 1975.

[93] Timothy Hutchens, "Fed-Up Fairfax Rape Victim Wins $365,000," *Washington Star*, February 1, 1976, pp. D–1 and D–4.

that the victim is "not a voluntary social companion of the defendant upon the occasion of the crime"; rape in the second degree has no such specification.[94] Others have suggested that rape be treated as an assault. This would allow rape victims to be treated with less suspicion and automatically eliminate corroboration requirements—another frequently suggested reform.[95]

Goals in Treating the Victim. The discussion above has identified several goals that affect the treatment of the victim. These include: the explicit identification of the victim's rights; the prosecutor's desire to bring cases that have a high probability of conviction before the court; and the victim's desire to minimize further risks and possibly obtain retribution. The degree to which these goals interact, overlap, or conflict is not well understood. Thus, a second group of studies might attempt to identify the various goals that appear to determine the treatment of the victim. The further examination of the possible tradeoffs between more effective collection and presentation of evidence (e.g., photographs of the victim's injuries, training of expert witnesses in presenting evidence effectively, etc.) would be of key importance.

Role of Major Participants in Treating the Victim. A third group of studies, which focuses on the different participants who deal with the victim, can be initiated. The participants include the medical examiner, police investigator, prosecutor, trial judge, and others, all of whom are part of the system that deals with the victim. The more that is known about different events and procedures from the point of view of each participant, the more likely it is that improved practices can be developed. For instance, one study might examine the use of female officers in investigating cases and in dealing with the victim.

[94] "Report of the Task Force to Study the Treatment of the Victims of Sexual Assault," 1973.

[95] Wilson, "Interview," 1974; and Chappell, "Forcible Rape," 1975.

Summary Discussion

Only when the policymaker has decided that a criminal justice problem warrants new research can he or she begin the process of planning a set of studies to implement that decision. This section has suggested that an effective way of accomplishing the task is to choose an organizing scheme that is appropriate to the problem under consideration. This strategy assures the policymaker of a systematic treatment of the problem and strengthens the chance of identifying possible solutions. The strategy was illustrated by describing the sequential process involving the rape victim—from initial report to final disposition.

Recommendation 6.4: Conducting a Set of Studies on a New Criminal Justice Problem.

Once a new criminal justice problem has been defined and research is to be conducted, an R&D-funding agency should initiate a comprehensive set of studies that individually tackle different aspects of the problem. This set of studies should be derived from an overall logic regarding the nature of the criminal justice problem.

Biographies

National Advisory Committee on Criminal Justice Standards and Goals

Brendan T. Byrne

Brendan T. Byrne was elected as the 54th Governor of New Jersey on Nov. 6, 1973, by the largest plurality ever awarded to a gubernatorial candidate in State history.

Governor Byrne was born on April 1, 1924, in West Orange, N.J. He was educated in West Orange public schools.

Governor Byrne was commissioned a lieutenant in the Army Air Corps in March 1943, and served as a squadron navigator in the European Theater. He was honorably discharged in September 1945, having been awarded the Distinguished Flying Cross and four Air Medals.

He was graduated from the Princeton University School of Public and International Affairs in 1949. He received his law degree from Harvard University, served his legal clerkship with Judge Joseph Weintraub (who later became Chief Justice of the New Jersey Supreme Court) and, upon admission to the bar, practiced law in Newark and East Orange.

Governor Byrne was appointed an Assistant Counsel to Governor Robert B. Meyner in October 1955, Governor Meyner's Executive Secretary in 1956, and Deputy Attorney General in charge of the Essex County Prosecutor's Office in 1958. Governor Meyner named him to a full 5-year term as Essex County Prosecutor in July 1959, and he was reappointed by Governor Richard J. Hughes in 1964.

While a prosecutor, Governor Byrne served as president of the County Prosecutors' Association of New Jersey and as vice president of the National District Attorneys' Association.

In 1968, Governor Hughes appointed him to be president of the New Jersey State Board of Public Utility Commissioners.

In 1970, he was appointed to the Superior Court by Governor William T. Cahill and served as Assignment Judge for Morris, Sussex, and Warren Counties until he became a candidate for Governor in April 1973.

Governor and Mrs. Byrne, the former Jean Featherly, reside with their seven children at Morven, the Governor's official residence in Princeton, N.J.

Charles S. House

Charles S. House has served as Chief Justice of the Connecticut Supreme Court and as chairman of the Connecticut Adult Probation Commission since 1971.

From 1933 to 1953, Chief Justice House conducted a general law practice. He served in the Connecticut General Assembly as a member of the House of Representatives from 1941 to 1943, and as a member of the State Senate from 1947 to 1951. He was Assistant State's Attorney for Hartford County, Conn., from 1942 to 1946; chairman of the Connecticut Legislative Council from 1949 to 1951; and legal adviser to Governor John Lodge from 1951 to 1953. Chief Justice House served as a judge in the Connecticut Superior Court from 1953 to 1965, when he was named Chief Judge. He became an Associate Justice of the Connecticut Supreme Court in 1965. He was chairman of the Conference of Chief Justices in 1975–1976.

Chief Justice House received the bachelor of arts degree from Harvard College and the bachelor of laws degree from Harvard Law School.

Arthur J. Bilek

Arthur J. Bilek has been a vice president of Pinkerton's, Inc., since 1974.

Mr. Bilek served in the Chicago Police Department from 1953 to 1962, rising through the ranks to lieutenant and acting director of the training division. He was appointed chief of the Cook County Sheriff's Police Department in 1962 and was instrumental in professionalizing and reforming that Agency while replacing patronage practices with the merit system. Mr. Bilek was cofounder of the Illinois State Police Emergency Radio Network (ISPERN), an all-department, statewide emergency police system. He founded the first degree program in administration of criminal justice in the United States at the University of Illinois, where he was professor of criminal justice from 1967 to 1969. He served as chairman of the Illinois Law Enforcement Commission from 1969 to 1972 and later as Corporate Security Director developed the security program of the Hilton Hotels Corporation.

Mr. Bilek is chairman of the Private Security Advisory Council of the Law Enforcement Assistance Administration. He is a member of the board of the Law in American Society Foundation. He received bachelor of science and master of social work degrees from Loyola University in Chicago.

Allen F. Breed

Allen F. Breed has been director of the Department of Youth Authority, State of California, since 1967.

Mr. Breed began work in the field of juvenile justice in 1945, as group supervisor at the Stockton Camp. Subsequently, he served in nearly every capacity in juvenile corrections including superintendent of three youth facilities and as administrative superintendent of the Northern California Youth Center. Mr. Breed is chairman of the Center for Correctional Justice, chairman of the American Correctional Association's Council on Youth Correctional Services, a board member of the American Justice Institute and the American Correctional Association, and a member of the Council on Corrections of the National Council on Crime and Delinquency.

Mr. Breed also serves on numuerous advisory groups, including the National Advisory Committee on Juvenile Justice and Delinquency Prevention, the National Assessment Study of Correctional Programs for Juvenile and Youthful Offenders, and the American Bar Association's Juvenile Justice Standards Project Joint Commission. He holds the bachelor of arts degree from the University of the Pacific.

Doris A. Davis

Doris A. Davis was elected Mayor of Compton, Calif., in 1973, thus becoming the first black woman to hold the office of chief executive of a large metropolitan city.

Prior to her election as mayor, she served as Compton City Clerk for 8 years. Mayor Davis is a member of the State of California Joint Committee for the Revision of Election Laws and of the State of California Joint Committee on the Revision of the Election Code. She is a member of the board of directors of the National Association for the Advancement of Colored People. She also is director of Daisy Child Development Centers, a nonprofit organization that provides services to unwed teenage mothers.

Mayor Davis holds a bachelor of arts degree from the University of Illinois, a master of arts degree from Northeastern University, and a doctor of philosophy degree in public administration from Laurence University, Santa Barbara, Calif.

Lee Johnson

Elected Attorney General of Oregon in 1968, Lee Johnson currently is completing his second 4-year term. He was elected Judge of the Oregon Court of Appeals in 1976 for a 6-year term beginning in January 1977.

Mr. Johnson was selected under the Attorney General's Honor Recruitment Program, in 1959, to serve as an antitrust attorney for the U.S. Department of Justice in Washington, D.C. In 1961, he returned to Oregon and began private law practice in Portland. He was elected to the Oregon House of Representatives in 1964 and reelected in 1966. Mr. Johnson has served as a member of the Oregon Criminal Law Revision Commission and the Governor's Commission on Judicial Reform, and as chairman of the Oregon Law Enforcement Council and the Governor's Commission on Organized Crime.

Mr. Johnson received the bachelor of arts degree from Princeton University and the bachelor of laws degree from Stanford Law School. He is admitted to practice before the U.S. Supreme Court.

John F. Kehoe, Jr.

John F. Kehoe, Jr., is commissioner of public safety for the Commonwealth of Massachusetts. He was appointed to this position in 1971 and was reappointed in 1975.

Mr. Kehoe joined the Federal Bureau of Investigation (FBI) in 1941. During his 28-year career with the FBI, he served as special agent coordinator and supervisor and, for his last 8 years, as supervisor in charge of the organized crime section of the Boston field office.

From October 1970 through August 1971, Mr. Kehoe served as executive director of the New England Organized Crime Intelligence System in Wellesley, Mass. He holds the bachelor of science degree in education from Boston College.

Cal Ledbetter, Jr.

Cal Ledbetter, Jr., is serving his fifth term in the Arkansas House of Representatives. He also is chairman of the department of political science and criminal justice at the University of Arkansas at Little Rock.

From 1955 to 1957, Professor Ledbetter served in Germany with the U.S. Army Judge Advocate General Corps. He was chairman of the Law Enforcement and Criminal Justice Task Force of the National Conference of State Legislatures for 3 years and was a member of the Arkansas Legislative Council. He is co-author of *Politics in Arkansas: The Constitutional Experience.*

Professor Ledbetter received the bachelor of arts degree from Princeton University and was graduated from the Woodrow Wilson School of Public and International Affairs at Princeton. He received the bachelor of law degree from the University of Arkansas and the doctor of philosophy degree in political science from Northwestern University.

Peter P. Lejins

The biography of Dr. Lejins appears below with those of other members of the Task Force on Criminal Justice Research and Development.

Richard C. Wertz

For the past 6 years, Richard C. Wertz has served as executive director of the Maryland Governor's Commission on Law Enforcement and the Administration of Justice. In September 1976, Mr. Wertz was appointed also to serve as special assistant in criminal justice to the Governor of Maryland and assigned the task of resolving the State's serious prison overcrowding problem. Mr. Wertz has been an adjunct professor at the Georgetown University Law Center in Washington, D.C., since 1975.

From 1966 to 1970, Mr. Wertz was director of public safety for the Metropolitan Washington Council of Governments. He is immediate past chairman of the National Conference of State Criminal Justice Planning Administrators and a current member of the Advisory and Evaluation Committee of the Council of State Governments' Criminal Justice Research Project. Mr. Wertz is a member of the Advisory Committee on Corrections Reform of the Southern Governor's Conference and the Criminal Justice Advisory Committee of the Council of State Governments' Southern Legislative Conference.

Mr. Wertz holds the bachelor of arts degree in political science from Knox College and the master of business administration degree in public administration from the Wharton Graduate School, University of Pennsylvania.

Jerry V. Wilson

For the past 2 years, Jerry V. Wilson has been project director of a study, conducted by The American University Institute for Advanced Studies in Justice, of the efforts to control crime in the District of Columbia for the period 1955 through 1975.

From 1969 to 1974, Mr. Wilson served as chief of police of the Metropolitan Police Department of Washington, D.C. He joined the force in 1949 and was promoted through the ranks during his 25-year career with the department. He served as budget officer of the department from 1960 to 1965, when he was appointed to head the planning and development unit and the data processing division. He was named assistant chief of police for field operations in 1968.

He is the author of two books, *Police Report* and *Police and the Media.* Mr. Wilson was graduated magna cum laude from The American University in 1975, with a bachelor of science degree in administration of justice.

Pete Wilson

Pete Wilson was elected mayor of San Diego in 1971 and is now serving his second term of office.

Mayor Wilson began his political career in 1966 when he was elected to the California Assembly. He won reelection twice. He served on various committees in the legislative, including the Committee on Drug Abuse of the (International) Commission of the Californias. As mayor of San Diego, he has gained recognition as the architect of the city's efforts to control its urban growth through planning. He is a member of many committees and organizations, including the Mayor's Task Force on Drug Abuse Treatment and Prevention, jointly sponsored by the National League of Cities and the U.S. Conference of Mayors.

Mayor Wilson was graduated from Yale University in 1955 and received his law degree from the University of California School of Law at Boalt Hall in 1962.

Task Force on Criminal Justice Research and Development

Peter P. Lejins

Peter P. Lejins is director of the Institute of Criminal Justice and Criminology and a professor of sociology at the University of Maryland.

Dr. Lejins has held many appointments to major international conferences on crime prevention and treatment of offenders. He has served as a member of the U.S. Government Delegation to the six United Nations Congresses on the Prevention of Crime and Treatment of Offenders since 1950. In 1965 and 1972 he received Presidential appointments for 6-year terms as a U.S. Correspondent to the United Nations in the area of crime prevention and treatment of offenders. Dr. Lejins is chairman of the board of directors of the National Criminal Justice Education Consortium and is one of the two official United States representatives to the International Penal and Penitentiary Foundation. He is president of the Scientific Commission of the International Society for Criminology. Dr. Lejins is a past president of the American Correctional Association and long-time chairman of that association's research council. He is president of the board of directors of the International Center of Biological and Medico-Forensic Criminology in Sao Paulo, Brazil, a position he has held since 1974.

Dr. Lejins studied philosophy and law at the University of Latvia. He received his doctorate from the University of Chicago.

Hubert M. Clements

Hubert M. Clements has served as Deputy Commissioner for Administration of the South Carolina Department of Corrections since 1972.

For 10 years prior to entering the corrections field, Dr. Clements worked as a high school teacher and college professor and administrator. In 1969, Dr. Clements joined the South Carolina Department of Corrections and established that agency's Division of Planning and Research. From April to June 1972, he served as acting director of the National Institute of Corrections, U.S. Bureau of Prisons. Dr. Clements has directed several national research projects and is the author of several publications in the field of corrections.

Dr. Clements received the bachelor of science degree in education from Georgia Southern College in Statesboro. He received both the master's degree and the doctorate in education from the University of Georgia.

Don M. Gottfredson

Don M. Gottfredson has been Dean of the School

of Criminal Justice at Rutgers University since 1973.

Dr. Gottfredson has been in the field of criminal justice for more than 20 years. From 1953 to 1955, he was a correctional counselor with the California Department of Corrections. From 1956 to 1962, Dr. Gottfredson was a senior research technician with the research division of the California Department of Corrections. In 1962, he became project director for the Institute for the Study of Crime and Delinquency, a post that he held for 4 years. From 1965 until he assumed his present position, Dr. Gottfredson served as director of the National Council on Crime and Delinquency Research Center in Davis, Calif. He is a past president of the Association for Correctional Research and Statistics. Dr. Gottfredson has served as project director for several research projects and is the author of numerous articles in the field of corrections.

Dr. Gottfredson received the bachelor of arts degree in psychology from the University of California at Berkeley. He received both a master of arts degree and a doctor of philosophy degree in psychology from Claremont Graduate School and University Center, Claremont, Calif.

Lowell H. Hattery

Lowell H. Hattery is professor of management and public administration at The American University in Washington, D.C.

Professor Hattery has been involved in administration, research, and program development at The American University for over 25 years. In 1950, he initiated curricula in research and development administration; in 1956, in police administration; and in 1958, in automatic data processing. Professor Hattery, with George P. Bush, has compiled a 15,000-document reference collection in research management and science policy, which is located at The American University. For 8 years, Professor Hattery has been editor of the monthly digest, *Systems, Technology and Science for Law Enforcement and Security*. Professor Hattery also edited several books on research and management systems and is the author of others. He has served on the staff of the National Research Council and the U.S. Department of Agriculture, as well as consultant to several public and private organizations, including the National Science Foundation.

Professor Hattery received the bachelor's degree from Ohio University in Athens and the doctorate in public administration from The American University.

Ernst H. Krause

Ernst H. Krause is senior vice president for development at the Aerospace Corporation in El Segundo, Calif., and is in charge of the corporation's broad range of research and development activities, which includes energy production and conservation, satellite communications, environmental protection, and criminal justice.

Dr. Krause began his career as associate director of research at the Naval Research Laboratories. He then served as director of research at the Missile Systems Division of Lockheed Corporation. In 1955, Dr. Krause founded and became president and chairman of the board of Systems Research Corporation, which engaged in research and development in space systems and electronics. Dr. Krause has served on various government committees and advisory panels. He was chairman of the Joint Air Force-Navy-Army Upper Atmosphere Research Panel, consultant to the Advanced Research Projects Agency of the Department of Defense, and consultant to the Arms Control and Disarmament Agency.

Dr. Krause holds the bachelor of science degree in electrical engineering and the master of science degree and the doctorate in physics from the University of Wisconsin.

Richard A. McGee

Richard A. McGee is president of the board of directors and executive director of the American Justice Institute.

Since 1931, he has held a succession of key positions in corrections: warden of the New York City Penitentiary at Rikers Island; deputy commissioner of the New York City Department of Corrections; director of Public Institutions in the State of Washington; director of the California Department of Corrections; and, most recently, administrator of the California Youth and Adult Corrections Agency. He has served as chairman of the California Board of Corrections, and in many other posts as adviser and consultant in corrections. He has contributed numerous articles to professional journals and is co-author of the textbook *Corrections in America*.

Mr. McGee received the bachelor of science degree and the master of science degree in education from the University of Minnesota.

Robert M. Moran

Robert M. Moran is director of student academic program planning at Essex County College in Newark, N.J. He also is serving his second 4-year term as city councilman in East Orange, N.J.

Mr. Moran taught courses in business education. He has served as director of Neighborhood Youth Corps programs in East Orange, and director of the East Orange Community Action Program. Mr. Moran was a national marketing consultant for the

Westinghouse Learning Corporation in Washington, D.C., for LEAA programs. He also served for 5 years as executive director of the Americans for the Competitive Enterprize System Incorporation and Economic Education Cooperation. As a political associate of U.S. Congressman Peter W. Rodino, Jr., Mr. Moran has served as his East Orange Campaign Coordinator for the past three elections. He is a member of the New Jersey Health Advisory Board. Mr. Moran is the author of *The Contest for Young People's Minds: Can the Competitive Enterprise System Compete?*

He received the bachelor of arts degree in education from Montclair State College, Montclair, N.J., and is a candidate for the master of arts degree in administration and supervision at Montclair State College.

Lloyd E. Ohlin

Lloyd E. Ohlin has been the Roscoe Pound Professor of Criminology at Harvard Law School since 1967.

A sociologist specializing in the area of juvenile delinquency, Professor Ohlin has served on Presidential commissions, as a consultant for Cabinet-level assessments, and as an adviser for several State juvenile justice programs. From 1947 to 1950, he served on the Parole and Pardon Board at the Joliet, Ill., Penitentiary. From 1950 to 1953, he was a supervising research sociologist with the Chicago Parole Office. In 1953, Professor Ohlin became director of the University of Chicago's Center for Education and Research in Corrections. From 1956 until assuming his present position, he was a professor of sociology at the Columbia University School of Social Work. Professor Ohlin served as associate director of the President's Commission on Law Enforcement and Administration of Justice. He has been a member of the training review panel of the President's Commission on Juvenile Delinquency and Youth Crime and continues as a member of the research council of the National Council on Crime and Delinquency. Professor Ohlin is the author of *Selection for Parole* and *Sociology and the Field of Corrections*; he is coauthor of *Delinquency and Opportunity: A Theory of Delinquent Gangs* and editor of *Prisoners in America.*

Professor Ohlin received the bachelor of arts degree from Brown University, the master of arts degree from Indiana University, and the doctorate from the University of Chicago.

Elinor Ostrom

Elinor Ostrom is a professor of political science at Indiana University and co-director of the Workshop in Political Theory and Policy Analysis at the university.

Her teaching experience began in 1965, when she was a visiting assistant professor in the department of government at Indiana University. In 1966, Professor Ostrom became assistant professor in the department of government, and in 1969, associate professor in the department of political science. She served on the advisory board for LEAA's 1975 National Evaluation Program, the National Sheriffs' Association study of contracting, and the International Association of Chiefs of Police study on police discipline. Professor Ostrom was the principal investigator on several grant projects funded by the National Science Foundation and the National Institute of Mental Health, examining the relationship between community organization and police department size and citizen perceptions of police performance. She is the author of numerous articles on police performance and service delivery in urban areas.

Professor Ostrom received the bachelor of arts degree, the master of arts degree, and the doctorate in political science from the University of California, Los Angeles.

A. Atley Peterson

A. Atley Peterson is Acting Assistant Director (Technical and Scientific Services) and Special Assistant to the Director of the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury.

Mr. Peterson has pursued three careers simultaneously—business, military, and government. He operated a construction business for 11 years and an insurance brokerage for 17 years. In his military career, he achieved the rank of Rear Admiral in the Naval Reserve with a specialty in Intelligence, the third person in history to do so. Mr. Peterson served on active duty in the Mediterranean in World War II and with the Joint Chiefs of Staff during the Korean action. In 1971, he participated in the restructuring of the Office of the Chief of Naval Operations. Since 1952, Mr. Peterson has served as consultant to several government agencies. He served for 3 years as coordinator of plans for the National Security Agency. Before assuming his present position, Mr. Peterson was Assistant Director of the Office of Operations, U.S. Department of the Treasury.

He received the bachelor's degree in medical science from the University of Wisconsin and the bachelor of science degree in electrical engineering from the United States Naval Academy.

Charles S. Petty

Charles S. Petty is director of the Institute of Forensic Sciences in Dallas, chief medical examiner for Dallas County, and professor of forensic science and pathology at the University of Texas Southwest-

ern Medical School in Dallas, positions he has held since 1967.

Dr. Petty began his medical career as an intern in 1950. He spent 3 years as a resident training in pathology and then became a member of the department of pathology at the Louisiana State University School of Medicine. From 1958 to 1969, Dr. Petty held faculty positions at the University of Maryland School of Medicine and the Indiana University Medical Center. He also served as the chief medical examiner for Indiana. He is a past president of the American Academy of Forensic Sciences and a fellow of the American College of Physicians. Dr. Petty serves as an editorial board member on several medical and forensic science journals.

He received a bachelor of science degree in pharmacy and a master of science degree in physiology from the University of Washington. He earned the doctor of medicine degree from Harvard Medical School.

Herbert Sturz

For the past 15 years, Herbert Sturz has served as director of the Vera Institute of Justice in New York.

Mr. Sturz is a member of the New York State Crime Control Planning Board and also serves as a trustee for The Fund for the City of New York, The Police Foundation, The Drug Abuse Council, and the Manhattan Bowery Corporation. In 1974, he was a visiting lecturer at Yale Law School. Mr. Sturz is the author of several articles on the criminal justice process and on the bail system in particular.

Mr. Sturz received a bachelor of arts degree in philosophy from the University of Wisconsin and a master of arts degree in education from Columbia University.

Task Force Staff Director

Robert K. Yin

Robert K. Yin has directed urban studies projects at The Rand Corporation in Washington, D.C., since 1972.

From 1962 to 1966, Dr. Yin worked for the U.S. Department of Health, Education, and Welfare, dealing with the management of research at the National Institutes of Health. He joined The New York City-Rand Institute in 1970 as a research psychologist. Dr. Yin is a visiting assistant professor of urban studies and planning at the Massachusetts Institute of Technology. He is also a member of the National Institute of Mental Health's review committee for metropolitan problems and the MIT corporation visiting committee for the department of psychology. His research has focused on improving the quality of neighborhood life. His most recent studies have assessed decentralization strategies for neighborhood services, technological innovations for improving urban services, and the organization of neighborhood crime prevention activities. Dr. Yin is the author of several books, including *Street-Level Governments*, *The City in the Seventies* and *Patrolling the Neighborhood Beat*. He has also written numerous articles that have appeared in such journals as the *Journal of Experimental Psychology*, *Administrative Science Quarterly*, and *Policy Sciences*.

Dr. Yin received the bachelor of arts degree in history from Harvard College and the doctorate in psychology from the Massachusetts Institute of Technology.

Index

Footnotes have not been indexed.

O

P

R

S

T

U

V

W

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