NATIONAL INSTITUTE

OF

LAW ENFORCEMENT AND CRIMINAL JUSTICE

History, Charter, Organization, and Philosophy

National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
United States Department of Justice
Washington, D. C.

Pamphlet No. 1

November 6, 1968
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HISTORY

The National Institute of Law Enforcement and Criminal Justice was created by the Omnibus Crime Control and Safe Streets Act of 1968 and activated on October 21, 1968.

This Act was the culmination of much debate and thoughtful deliberations during the 1960's on the issue of law, order, and justice. A monumental study was conducted by the President's Commission on Law Enforcement and Administration of Justice which was established on July 23, 1965. The Commission's final report of February 1967 strongly urged that research on law enforcement and criminal justice be expanded greatly, both in magnitude and scope.

"The Commission has found and discussed many needs of law enforcement and the administration of criminal justice. But what it has found to be the greatest need is the need to know. America has learned the uses of exploration and discovery and knowledge in shaping and controlling its physical environment, in protecting its health, in furthering its national security and in countless other areas. . . But this revolution of scientific discovery has largely bypassed the problems of crime and crime control. . . There is virtually no subject connected with crime or criminal justice into which further research is unnecessary."

At the same time, valuable experience in research and training was being accumulated by the Office of Law Enforcement Assistance which implemented the Law Enforcement Assistance Act of 1965. During its three-year life, the Office sponsored a fruitful grant program, involving hundreds of projects throughout the country.

The urgent need for a focal point to bring the Nation's research and development potential to bear on the problems of law, order, and justice led to the conception and proposal of the National Institute of Law Enforcement and Criminal Justice as a part of the bi-partisan Law Enforcement Assistance Administration of the Department of Justice.

CHARTER

The following charter was assigned to the Institute by the Act:

> (a) There is established within the Department of Justice a National Institute of Law Enforcement and Criminal Justice (hereafter referred to in this part as "Institute"). The Institute shall be under the general authority of the [Law Enforcement Assistance] Administration. It shall be the purpose of the Institute to encourage research and development to improve and strengthen law enforcement.
>
> (b) The Institute is authorized—
> (1) to make grants to, or enter into contracts with, public agencies, institutions of higher education, or private organizations to conduct research, demonstrations, or special projects pertaining to the purposes described in this title, including the development of new or improved approaches, techniques, systems, equipment and devices to improve and strengthen law enforcement;
> (2) to make continuing studies and undertake programs of research to develop new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen law enforcement, including but not limited to, the effectiveness of projects or programs carried out under this title;

(3) to carry out programs of behavioral research designed to provide more accurate information on the causes of crime and the effectiveness of various means of preventing crime, and to evaluate the success of correctional procedures;

(4) to make recommendations for action which can be taken by Federal, State, and local governments and by private persons and organizations to improve and strengthen law enforcement;

(5) to carry out programs of instructional assistance consisting of research fellowships for the programs provided under this section, and special workshops for the presentation and dissemination of information resulting from research, demonstrations, and special projects authorized by this title.

(6) to carry out a program of collection and dissemination of information obtained by the Institute or other Federal agencies, public agencies, institutions of higher education, or private organizations engaged in projects under this title, including information relating to new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen law enforcement; and

(7) to establish a research center to carry out the programs described in this section.

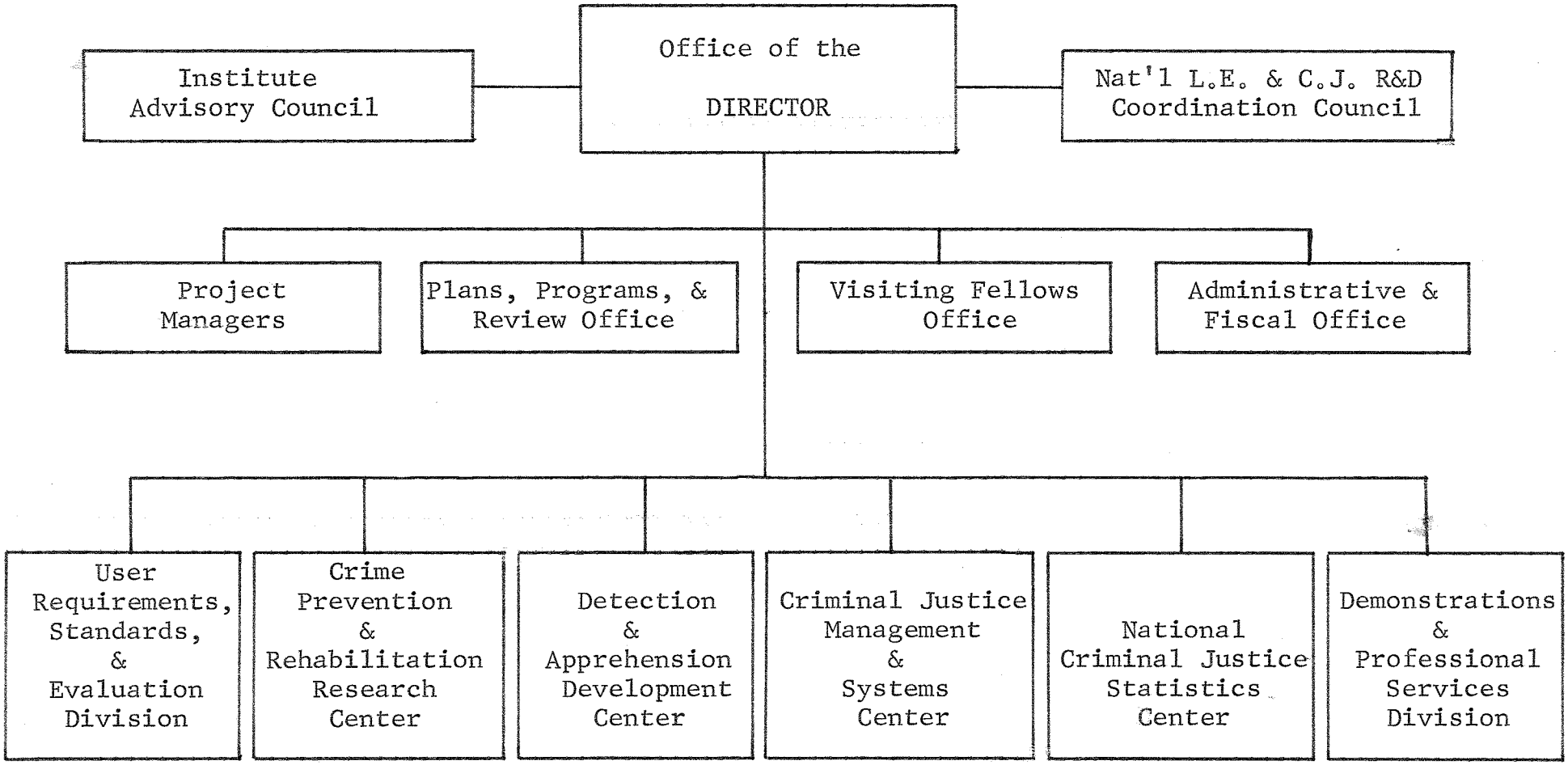
ORGANIZATION

The organization chart is shown on the next page. The missions and functions of the principal elements are as follows:

Institute Advisory Council advises on critical areas of the enforcement of law and the administration of justice to which research and development can contribute significantly; recommends policies, procedures, and approaches; assists in the recruitment of professional personnel; and conducts special studies upon request.

NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE

Organization Chart



National Law Enforcement and Criminal Justice Research and Development Coordination Council coordinates research and development activities of Federal agencies in law enforcement and criminal justice, encourages the elimination of unwarranted duplication, and facilitates the exchange of information.

Project Managers are executive agents of the Director in spearheading the solution of problems of exceptional importance.

Plans, Programs, and Review Office generates long-range plans, objectives, and programs; conducts progress reviews and management analyses; and formulates annual budgets.

Visiting Fellows Office manages the fellowship program.

Administrative and Fiscal Office provides administrative, personnel, and fiscal services.

User Requirements, Standards, and Evaluation Division identifies and describes operational needs and problems for research and development; directs objective user evaluations of proposed new techniques, procedures, tactics, equipment, and systems; and advises on standards and specifications for user agencies.

Crime Prevention and Rehabilitation Research Center encourages, sponsors, and conducts programs to identify factors contributing to crime, the means to its prevention or reduction and ways in which offenders may best be processed and rehabilitated. Its interests include juvenile and adult offenders; activities of organized, professional, white collar, and casual criminals; violations of regulatory as well as criminal statutes; and the social and moral conditions which constitute the environment of crime and its control.

Detection and Apprehension Development Center encourages, sponsors, and conducts programs for the development of techniques, procedures, tactics, equipment, and systems designed to increase capabilities for deterring criminals and reducing criminal opportunities; for responding to and interfering with crimes in process; and for apprehending, securing, and convicting offenders.

Criminal Justice Management and Systems Center encourages, sponsors, and conducts programs on systems analysis of law enforcement and criminal justice operations, application of operation research techniques in the reduction of crime and the administration of justice, and the applications of modern techniques of the management sciences.

National Criminal Justice Statistics Center coordinates, collects, and disseminates statistical data related to law enforcement and criminal justice; develops standard definitions, and reporting procedures; analyzes crime trends, effects, and costs; and evaluates the impact of various intervention efforts.

Demonstrations and Professional Services Division demonstrates new and improved techniques, procedures, tactics, equipment, and systems to law enforcement and criminal justice agencies throughout the country; provides professional support to these using agencies; and disseminates technical information to the research and criminal justice communities.

PHILOSOPHY

The Omnibus Crime Control and Safe Streets Act of 1968 contains the following declaration:

"Congress finds that the high incidence of crime in the United States threatens the peace, security, and welfare of the Nation and its citizens. To prevent crime and to insure the greater safety of the people, law enforcement efforts must be better coordinated, intensified, and made more effective at all levels of government. Congress finds further that crime is essentially a local problem that must be dealt with by State and local governments if it is to be controlled effectively. It is therefore the declared policy of Congress to assist State and local governments in strengthening and improving law enforcement at every level by National assistance."

To fulfill its charter and the intent of Congress, the policy of the Institute emphasizes the importance of service to State and local agencies and personnel. One important service is to provide financial support for programs of research and development. So that this support can become effective with the greatest speed, impact, and utility, the following goals have been enunciated.

1. To encourage the Nation's scientists and engineers, with collateral managerial and human behavioral experts, to focus their talent and resources on the solution of problems encountered in the enforcement of law and the administration of justice. The Institute seeks a national mobilization of ideas and talents so that effective and democratic operations are insured in all aspects of police services, the courts, corrections, and ancillary institutions.

2. To stimulate collaboration between physical and social scientists, engineers, management experts, and other skilled professionals, and local law enforcement and criminal justice agencies and personnel. Effective cooperation is needed so that shared problems can lead to shared problem-solving.

3. To develop a comprehensive view of the activities and challenges of the agencies of law enforcement and criminal justice so that operational requirements may be set forth and priorities for assistance and development may be set. The Institute hopes that personnel of operating institutions, investigators in the research and development community, and the citizens they serve will all contribute their knowledge, energy, and dedication to these efforts.

4. To acquaint those serving in law enforcement and criminal justice with the range and depth of knowledge and technique presently available from science, technology, management, and human relations endeavors so that it may be applied to local problems. It is important that they soon become capable of exploiting the potential of research and development on their own.

5. To enhance communication among local personnel so that they may share in one another's problems and advances with maximum speed and with minimum duplication of effort. Information dissemination and coordination will not only improve operations, but also will provide individual stimulation, strengthen confidence, and assist in maintaining high standards of performance.

Improvements in the enforcement of law and the administration of justice come about in a multitude of ways. The support and encouragement of all citizens is a necessity. Collaboration is required among workers and professionals whose capabilities, experience, and understanding are relevant to the fundamental issues, as well as to the improvement of daily operations and services. Even with all of these energies and resources, the prevention of crime and disorder is and will continue to be difficult. Because crime and disorder reflect multiple and complex forces and events, one dare not expect to find simple causes nor simple solutions.

It is likely that there will be disagreement on the nature and priority of problems requiring attention as well as disagreement on the most desirable paths to solution. Even men of great wisdom and abundant good will differ when assessing complex legal, social, moral, and human issues. Yet out of these differences there will come stimulation, progress, and accomplishment. The Institute seeks the interest of all citizens in the furtherance of these ideas -- in particular, the participation of the research and development community in joining with law enforcement, the courts, and corrections toward this objective. As the resources and capabilities of the Institute expand, worthwhile requests for assistance and proposals for research and development will be honored with the increasing frequency they deserve, so that law, order, and justice will continue to prevail in our Nation.

COMMENTS ON STATISTICS ON LAW ENFORCEMENT & CRIMINAL JUSTICE

(A working paper)

by

Richard Blum
Stanford University

NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
DEPARTMENT OF JUSTICE
WASHINGTON, D. C.

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FOREWARD

There has been much discussion during the past several years toward the establishment of a national center for the standardization, collection, and dissemination of statistics pertaining to all facets of law enforcement and criminal justice. The very useful reports, such as the Uniform Crime Index of the Federal Bureau of Investigation, and the National Prisoner Statistics of the Bureau of Prisons are to be supplemented with other data bearing on critical facets of the total picture. A stack of commentaries and reports of these deliberations laid on my desk one morning when Dr. Richard Blum of Stanford University walked in.

I pounced upon his generous offer of assistance and asked him to distill the essence of the hundreds of documents, as well as give us the benefit of his off-hand reactions. Sitting at the typewriter, he dashed off an analysis within a few hours.

His notes are reproduced in this pamphlet in the spontaneity of their unedited version.

RALPH G. H. SIU
Director
National Institute of
Law Enforcement and
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Review of Prior Deliberations

A review of available documents, comments and proposals reveals the following:

1. Since the Wickkersham Report with its original recommendations there has been a felt need for improved statistics on criminal justice and related areas. The Uniform Crime Reporting system inaugurated by IACP in 1929-30, spearheaded by Vollmer and later Smith, has not provided the kind of data which present agencies and authorities require.

2. The recommendations of the President's Crime Commission in 1967, particularly the Task Force Report: Crime and Its Impact, an Assessment are most often cited as evidence for the need.

3. A large number of individuals and agencies have been considering the form and function of statistics relevant to crime and the administration of justice. Conferences, scholarly articles, agency reports and the like all represent the thrust to expand greatly our present methods and knowledge. Agencies contributing proposals include Department of Justice, OLEA, Bureau of the Budget, Bureau of Prisons, Bureau of Census,the FBI, etc. Agencies whose advice has been solicited include these former but extend to HEW, Am. Statistical Assn., IACP, Am. Correctional Assn., National Council on Crime and Delinquency, Am. Bar Foundation, and responsible criminal statistics bureaus in California, Colorado and other states, and also individual police departments among which Los Angeles and Washington, D. C. recommendations were detailed. Individuals whose work or thinking bears on the possible function and nature of an enlarged criminal statistics enterprise include (not order by priority or importance) Beattie (California), Vincent (Justice), Green (Congress), Bowman (BOB), Pat Murphy, Leslie Wilkins (University of California, Berkeley), McCafferty (U.S. Courts), Lehman (Am.Statistics Assn), Daunt (FBI), Guildford (National Center for Education Statistics of HEW), Woolsey (National Center for Health Statistics of HEW), Lumbard (former New York Crime Commission Chairman),

Hammond (Home Office Research Unit), Crumlish (National Bureau of Standards), Blumstein (Institute of Defense Analyses), T. Sellin (University of Pennsylvania), M. Wolfgang (University of Pennsylvania), Emrich (OLEA), McNellis (Census Bureau), Barbour (BOB Statistics Standards Center), Griffin (?), Pearlman (HEW Children's Bureau of Juvenile Delinquency Statistics), Ohlin (Harvard University), Dickey (Radio Corporation Am.), Martensen (IACP), Magill (Dominion Statistics Bureau, Ottawa), Holt (Dominion Statistics Bureau), Hermann (Systems Development Corporation & RAND), Yeager (Bureau of Corrections Pennsylvania), Ward (Survey Services, NCCD), Davis (California Youth Authority), P. Kusuda (?), McConnell (N.J. Courts), Saari (Am. Bar Foundation), Thompson (IACP reviewer), Shulman (CCNY), and Hovey(St. Louis Police Department). This list is not exclusive and does not cite all of the conference participants in the three recently held conferences on crime statistics.

4. There are a number of problems associated with the establishment and operations of such a statistical service. This includes:

   a. Jurisdiction: (apparently solved by putting it in LEAA but not an act which involves enthusiastic cooperation by itself)

   b. Cost: estimates of which run from one million to twenty million per year

   c. Personnel: depending on orientation, whether management will be drawn from biostatistics, criminal statistics, census-survey specialties, etc. Most of the names suggested to date are academicians.

   d. Priority of service: Most discussions agree that statistics are to service functions of varied sorts and that these functions depend upon the operations of various agencies and upon the awareness of those agencies of the need for and importance of data subsumed under the statistics rubric. Thus one problem is the decision about which set of agencies (courts, corrections, police) or publics (press,

universities, legislators, etc.) one wishes to serve. Given such priorities the decision remains as to which components within these categories one wishes to serve (e.g., in courts--parole? pre-trial? judges?) There is further the very difficult problem of having these priority components decide what their statistical and information needs are; even when that is done their requirements must be evaluated to learn if what they see they need is actually information relevant to their stated functions, whether that information can be gathered by the mechanism set up.

e. Variety of services: Implicit in d above is that a wide range of data is included in expressed desires for statistics and that no matter what priority system designated kinds of agencies and components therein, there remains an immense number of possible kinds of information which can be developed. Decisions will have to be made as to the range of data of interest to the service and the potential range for the future which sets development and organizational goals. A list of possible kinds of data and its related functions is appended. It is to be recognized that service goals will shift as information itself is generated which forms a data base for the stat center to evaluate its work and also, as a research base, to point to new directions for data gathering.

f. Methodology: It is remarkable that in all of the material presented the least emphasis has been on the problems of data gathering in the field. Recognition was given to the elemental difficulties in terminology and classification and the mechanical-operational problems in processing information. Yet as a problem in elemental description, there can be no question that individual observers and recorders form the central data-gathering mechanism. As such they must be taught and supervised. Each step up from the individual observer provides for opportunities for distortion (loss of information, error, the additional of irrelevant info, etc) and for reporting failures. Any statistical effort

must devote itself to elementary methodological problems some of which will emerge as remarkably complex, e.g., perceptual bias, interpersonal judgment, the absence of records and systems, political interests dictating against assurate data, value systems (invasion of privacy concerns) mitigating against data gathering and storage etc.

g. Storage and dissemination: The presumption in most discussions appears to be that data once gathered will be integrated, rationalized, stored and disseminated with ease. An unlikely assumption, a major task is to link processing with storage and dissemination procedures. Included must be non-routine evaluation procedures, essentially research, will allow data to be available for new forms of classification. Dissemination of course is not limited to printing reports; responsibility includes defining consumers for each kind of report, revising reporting procedures on the basis of feed-back from consumers, and --necessarily-- evaluating the reception by consumers of data as a source of that feed-back.

h. Organization, staffing and financing within LEAA: Assuming that the statistical service is assigned to LEAA, the question of its location within the Administration is important. Given the liklihood that there will be considerable demand for increasing funds over the years as well as large facilities (computors, files, publications center, etc) the service might well come to be a source of internal admin. headache. It is also the case that, administrative action to insure reliability of data gathering at the grass roots might have to be taken,again a headache. Finally, by way of influence, the personnel in statistical services will presumably have interests in record keeping and descriptive functions whereas other elements of the Institute might be interested in demonstration programs, research of a more theoretical sort, program implementation and what-have-you. It would be sad if the descriptive emphasis, so favored

by some managers and criminologists, would hold sway so as to inhibit other activities.

i. Information aspects: It appears that the call for statistics, including data gathering processing, integration, storing, and dissemination (even without implementation of new information at local levels) embraces desires for information that exceed conventional notions as to descriptive statistics, records keeping, or census functions. Thus when a call is made for statistics on the ecology of the court system (which courts in which census tracts receive what kind of population and act differentially toward whom, etc) or longitudinal data banks on offenders (implying observation of their between-arrest activities and identification of factors associated with reduction in criminality) or statistics on victim-proneness (which is a study of life styles of victims compared with others, etc) it is evident that research of a complex order is in mind. Thus the problem of overlap between statistical services and research services is raised and requires what is necessarily an abritrary and approximate division of labor. It is also the case that since much of the stat service effort is on data storage, retrieval, and dissemination that its activities correspond closely to the information analysis, storage, and dissemination activities which arise from research and from pilot development projects. It is likely that these storage and dissemination functions can be joined. It is well to recognize that the statistical service is essentially an information service.

LIST OF DATA NEEDS

The following represent major needs and functions set forth by agencies and personnel consulted or cited. Detailed needs are not cited and it is not to be assumed that all necessary or possible sets of data are included.

1. Systems and agencies:

   a. Identification of all agencies in the U.S. active in any aspect of the administration of justice.

b. Description of the personnel by class, training, function, and cost who are operating within agencies concerned with the administration of justice. Official agencies specified.

c. Cost data on all aspects of the operation of agencies in the crim justice system. Includes fund sources, expenditures and some means for cost effectiveness evaluation. The latter is a systems interpretive activity, the former straight data gathering. The purpose is to evaluate effectiviness of operations in terms of cost and productivity.

d. Description of the functions and philosophy of all agencies in the administration of justice system. Implied but not stated are needs for statements of asserted goals and actual goals, of asserted activities and actual activities. Any contrast between formal and informal operations involves considerable organization study and is also going to be a stormy enterprise.

e. Descriptions of the system of criminal justice from intake to termination, defined in a number of ways: Careers of offenders from apprehension through arrest, disposition, jail relapse, parole, and rearrest, etc. Sequence of operations defined by offense and case. Sequence of activities within a process, as for example within a court.

f. Determination of the needs of agencies for statistics as a service function to set goals of the stat service.

g. Information on programs and program development within agencies that are part of the system of administration of justice. Further, description of relationship of programs to stated goals. Description of facilities of agencies within admin. of justice.

h. Description of resource allocation within the system of admin of justice including facilities, processes,

burdens, output analyzed as systems and descriptions of policies and considerations bearing on (a) resource availability and (b) allocation of resources. This will assist in the evaluation of current policies and aid in setting up long term plans.

i. Description of training programs for personnel involved in admin of justice. Implied are descriptions of training goals, personnel involved, procedures and content and evaluation of training outcome. This will assist the proper setting up of training programs.

j. Specific descriptions of police activities by police task, by classification of individuals, by actions linked to events (a) complaints, (b) offenses, (c) offenders, (d) victims, etc. Also overall descriptions by kinds of departments on the chain of offender-related offenses from apprehension-arrest-charge, disposition, bail, clearance rates, etc.

k. No proposals were made but it is apparent that non-official crime prevention and crime handling agencies, also quasi-judicial ones may be subject to study. Consider community social workers dealing with offender populations, psychiatrists-physicians so doing. Consider also kangaroo courts, informal complaint handling by employers, clerks with shoplifters, families with within-family delinquency, etc. The entire process of informal accomodation may be compared to the formal system. More and less formal systems may also be compared a la Wilson, i.e. Boston vs San Diego police.

2. Management:

A number of proposals distinguish between needs for data for research, planning, crime prevention and the like contrasted with daily management of agencies. Especial mention is made of the need for police management data. Many of the forgoing systems and agency needs can be applied to management needs. Conventional data gathered by admin-

istrators is also required, although it was not proposed that the stat service do this in a department basis. Even so one may consider (a) model records systems developed by the service. (For one model system see Blum and Ezekiel, Records Keeping for Mental Health Services; see also Comber's work in California) which would be disseminated to local agencies along with training methods (workshops, teams) and (b) organizational statistics based on stat service studies of management functions and problem areas that may be of general interest to all operating agencies, i.e. studies of recruitment problems, turnover, exit interview findings (See Blum and Osterloh, 1967) within organization communication network studies, the "preceptor" system in police informal "acculturation" officer performance in various neighborhoods, group and supervisor setup, and operational effectiveness evaluation (criteria never mentioned).

3. Offender and offense:

It is generally acknowledged that data on offenders and data on offenses require two or more data systems.

a. Characteristics of offenders classified according to various schemes, as for example by type of offense, type of disposition, time and locale of offense, "career" within the system of admin of justice, (incl recidivism, response to correctional programs, etc) lifetime career of offenders etc. The latter often repeated proposal for a data bank on offenders raises a number of policy questions. Does it become Big Brother to maintain a federal dossier on all offenders? Does one maintain a file of suspected offenders not convicted? Does one include in that file data only from police-corrections-justice agencies or does one also add data from other public agencies? Does one add to that data from private sources including the offender himself? Is there an argument for destroying dossiers after x years? Can one set up, in order to guarantee anonymity, a totally insulated federal group charged with filing dossiers which would not be available to any federal action agency?

b. Broader contextual-ecological studies are pro-

posed in which the offender is but one element. Multivariable descriptions of offender by characteristic linked to setting, offense, others in the setting, victim are proposed. Here too one includes descriptions of the environment of the criminal act (Comber) or normal studies of environmental standards for criminalistic comparison.

c. Crime reporting as such. Included are requirements which are methodological such as more adequate definitions and elaborated subclasses of events. Crimes as events, offenses, are also to be linked to process events such as circumstances (nature of environment, of complaining person, observing officer, etc) disposition (at all steps through the system from the curbstone magistrate on). Curiously, no mention is ever made of (a) multiple events observed by the complaining person of the officer and the sequency by which these are condensed to a one-event crime report and (b) the career of an offense from its initial definition by victim, observer, officer, and transition to booking charge, DA charge, plea and bargaining,etc.

d. It is also remarkable that given all of the criticisms of the inadequacy of the one of the principal crime statistical reports there is no reference in the proposal, other than by definition and systematization of terminology, to improvement of reporting. That is, reporting is not conceived of as a human plus records system frought with distortion.

e. Special offender populations are proposed as statistical objects, i.e. recidivists, juveniles, suspects not convicted, professional and habitual offenders, those involved in organized crime, public policy offenders, narcotic offenders, capital offenders, etc.

f. Criminal characterics defined in terms of personal descriptive data of the sort leading to arrest or recognition of wanted persons. The California program aims to set up speedy access to data banks

with such person-identifying data. No mention is made of hazards in person identification based on disguise, faulty vision or unfavorable circumstances etc. The assumption is made that visual data can be matched to abstract verbal data fed back from computers with a high rate of success. This is a methodology problem requiring test of assumptions and of variables affecting human data matching.

g. Cost data on crime is sought. Included here are direct and indirect costs to individual victims, to secondary victims, to organizations--again direct and indirect, and measured as costs functions of agencies in the admin of justice. A different sort of cost data is linked to the system of crime definition and reporting and stems from the scaling methods of Sellin and Wolfgang which propose reporting by moral seriousness rather than legalistic definiton. As a parellel system of reporting, it would perform that which Ohlin talked about as a "moral barometer" for the community.

h. Trend data on offenses is often requested. These requests remark on the need for making comparisons possible by requiring reliable classifications, control over observation and reporting, control of time periods, etc.

i. Crime reporting with prevention reporting associated is asked. The requirement is that observing officer, observers, victims and offender contribute to a post offense review which results immediately in a set of statements as to how the offense might have been prevented, presumably by victim, observers, officer and by interventions noted by offender himself.

j. Special groups of crimes are specified as deserving particular effort in description. These include organized crime, crimes by professional and habitual criminals, white collar crime, unreported crime, crimes of complaint without affirming classification, etc.

k. A classification of criminal events differentiated in terms of the occasion, but specifying situations (locale, ecology, kind of victims, etc), intent of offender, actual impact of offender, outcome to offender is proposed.

l. A social cost index is requested. No suggestion as to means of measuring pain, anxiety, interrupted activities, associated anxiety or anger in others, etc., is offered. Perhaps the Sellin and Wolfgang moral seriousness scale could be related to this. Wilkins proposes social welfare economics as the focus, i.e., indirect real costs to society in terms of operating associated progress and agencies plus dispersal of human resources, etc.

m. Trend analysis in terms of shifting types of crime, and development of new criminal styles and the abandonment of old ones is proposed. Presumably these changes would be linked to social analysis of opportunities and settings and also to legal changes, shifts in characteristics of offenders, offender morality, etc. Violations of administrative law and regulatory codes by persons and organizations which would embrace all industrail and commercial violations as Shulman proposes.

4. Victims:

a. A number of proposals ask that crime victims be identified, their experiences and characteristics described, that these be linked to pre-crime events and to the offense itself--(relationship to offender, reason for the setting, internal crime-proneness, etc).

b. The acts of victims as contribution to crime statistics through complaints are to be analyzed including comparison of complaining and non-complaining victims i.e., unreported crime or non reporting victims.

c. Victimization is also to be studied (Wolfgang) according to the attractiveness of victims (measured presumably by risk and offender reports), the public

concern accorded, victim provocations, victim compensation, the subsequent history of the victim (career, disposition). Indirect victims are to be specified, their data on the offender as victim are to be examined and vice versa, victim as offender.

d. Victimization by organizations and business is proposed as an area, including specification of kinds of risks depending upon their settings and characteristics.

e. Victimless crimes (vice) are also to be examined.

5. Publics and environments:

a. It is occasionally proposed that broad population data be gathered, sometimes the information is to be linked to specific crime risk or reporting; on other occasions general ecological or epidemiological concerns are apparent.

b. Crime and race. Requests are made for data on the crime experiences of members of races, their reporting behavior, their differential definition of crimes, differential anxiety, and their role vis a vis one another (i.e. white vs black) as victims and as perpetrators.

c. Citizens as crime observers. The phenomenon of observing and reporting or of not reporting is held important.

d. Data on public attitudes and emotion is sought including the impact of offenses or news thereof, or of police or court actions on public views and feelings. The relationship between actual crime and simultaneous public anxiety is of interest.

e. Public opinion of the police is sought and, also of police attitudes toward their functions and the public. Special race relation or police-community relations information is sought.

f. The various sources of information about crime are to be probed. Specially noted are insurance

companies whose records can be compared with private, victim and police reporting.

g. The community as setting is of interest, again social-ecological-anthropological data is sought, comparing kinds of crime, locales, offender and victim relations, public views, kinds of dispositions, assignment to agencies, the daily operation of officers-judges, etc; all in relationship to social variables, and also to possible geographic, economic, climatic, etc. ones.

6. Methodological Considerations:

Most of those concerned are aware of methodological problems and of related administrative ones.

Problems of common terminology and classification are repeatedly mentioned, although no one discusses the need to test definition systems against events, to test field recording systems for efficiency, nor how to train personnel to use such recording systems.

One or two observers show awareness of the possibility of intentional bias in the system; as for example, when one proposes that the stat service be autonomous from any action agency or when another demands that the police be only one reporting agency and that parellel means for crime reporting be set up to sidestep bias from local departments. However, little discussion of non-intentional bias in reporting is offered, although clearly the impact of prior definitions, the action requirements that negate certain kinds of reporting (e.g., officer cannot report a felony which he has handled by admonition or bribe accepting) and similar factors affect system operations.

Awareness of the cost and difficulty of setting up the apparatus for data collection, processing, storage is shown. The experience of other centers (FBI, Census, Health, California system) show these problems can be dealt with providing it is worth the time and cost.

There is recognition that a data collection system set up to serve operational purposes (e.g., daily police

management) cannot be expected simultaneously to serve other ends (research or planning data collection). Thus the requirements that multiple channels of input be developed each linked to required data characteristics must be recognized.

The impact of political or social problems on the data collection program is noted. There appears to be reluctance on the part of some agencies to continue its data collection. Certainly some local departments will refuse to go to the trouble of setting up a records system just to please outsiders. The privacy problem about identifying suspected offenders and doing life-time follow-ups is considerable.

Sampling methods must be decided on in terms not only of the kinds of data needed but the field opportunities for gathering data and the resources and resource allocation priority within LEAA. Thus periodic random sampling is easiest and cheapest but has the greatest error, continuous sampling (random units) costs more, periodic whole universe data gathering is expensive, continuous whole universe data gathering is the most difficult.

There are immense differences in the procedural-methodological requirement is for gathering and processing data which is from (a) existing records in public agencies, (b) regular records capable of being developed in public agencies, (c) data not useful for public agencies or not capable of being incorporated in regular records, (d) special data not capable of being gathered by regular personnel in agencies, (e) non-agency organizational data available, (f) organizational data (non-public) not available but capable of being developed for regular records systems, (g) unusual data not capable of being developed by regular personnel in (non-public) organizations, and (h) data from individuals or samples or other non-institutional sources. Although these differences are obvious the call for data to be part of the program of a statistical service covers all of these sources and necessarily implies a number of different systems for data gathering which range in sophistication from simply forwarding of agency

data to elaborate research on constructs which must rely on indirect observation and inference with highly skilled scientists acting as observers.

The assumption of the easy availability of simple records at agency levels has been challenged by criticisms of crime reports and indirectly by calls for improved terminology systems. Yet the extent of the inadequacy of even first level gross statistics from the local level is only suspected but not determined. Studies conducted of records systems in very sophisticated settings (see Blum and Ezekial) reveal horrendous gaps between fact and record, record requirements and actual recording capabilities, between staff interests and supervisor record demands, and between what administrators think they have by way of facts and what they do possess. It is unlikely that police services will prove more satisfactory in an across the board evaluation of records adequacy, even though some functions (warrants, prints, etc) may be expected to be efficient. A necessary first step for a stat system relying on local personnel for data flow is an evaluation of present adequacy of such agencies, identification of forces affecting inadequacy, development of programs of assistance, training (and political handiwork if necessary) to improve such records, evaluation of the results of these endeavours, and then--once reporting is inaugurated--constant supervision of the network of information flow at all steps along the line. Implicit too is the need for the maintenance of optimal conditions for data flow, including relationships between personnel within agencies and between stat service personnel and first and intermediate information exchange points along the way. It is to be remembered that a program of federal collection of court statistics was dropped after 16 years of endeavour because the courts failed to co-operate. It is also to be kept in mind that the development of recording for health statistics took almost a century.

REVIEW AND SUGGESTIONS

LEAA has been apparently given the responsibility to develop a criminal justice statistics service or center. The demand for this center which appears to have been continous since 1930, is spread widely among academic and

public agency personnel, is not met by the existing reports and is seen as serving management, planning, evaluation, research, and a variety of other needs.

The diversity of demands among those consulted is such that it is apparent that no service can meet all of the requirements posed, for these range from local agency administrative needs to national social accounting schemes. It also appears that whilst each person calling for the records system is aware of how it might serve an end of which he is aware, that there has been no explicit linking of statistics to the needs felt at the agency level, thus it is likely that many agencies which would be asked to contribute resources as well as data to the statistical service would not understand the utility of that data and may be expected to cooperate reluctantly. They may further fail as consumers of the data which, hopefully, would have been gathered just so their activities would be enhanced. Thus when some authorities call for need determination at the local level they are also calling for a series of local contacts designed to help people think in terms of national information programs, the difficulties of participating in such programs, and the potential gains from them.

This need for local agency participation which only partly serves to acquaint LEAA with needs (for presumably these are fairly general and will be reidentified over and over) is a matter of setting up a social system which will allow a statistical system to be innovated. The need for local agency contact differs from the conference series already supported by Department of Justice, FBI, Bureau of Census, etc, for it calls not for program development by experts, but rather for involvement in program conception and operation by non-experts who may well be the majority source of data as well as the abstractly conceived target for dissemination and implementation arising from the new knowledge which the statistics service derives.

Because of the difficulties in institution statistical programs, the high cost of sophisticated endeavours, the variety of information requested, the inevitable delays in work, etc, it is imperative that LEAA speak modestly

when it describes its endeavours. There is no way of avoiding disappointment to and frustration of those who have rather grand hopes for the service, at least in the beginning years. One can only make sure the disappointment is not a reaction to LEAA's claims or boasts. The best approach is one which shares the problems fully with the police-corrections-courts and research community which LEAA serves and who are its constituencies as well as product consumers.

Because much of the data which may be generated, given time and competence, is not of a census nature nor of the simple kind of records entry, it would be misleading to refer to the service as a statistical one only. More appropriate would be a term such as Statistics and Information Service. This combining of several kinds of data implicit in the name also implies an operational task which goes well beyond descriptive data collection. The requirement for data processing, analysis, storage and dissemination is there. These tasks apply to other kinds of information, as for example model systems available, new developments in methods and research, etc. The task of nationwide or worldwide information collection and dissemination may well be assigned to the service so that it functions as a clearinghouse, see for example the NIMH clearinghouse and its abstracts in a number of areas, its short publications and the like. It is also the case that the information developed by the service will be directly relevant to the research and development needs of other branches of LEAA, also for example in assigning priorities for research, in targeting regions with impending crime or race relations crises, in drawing inferences from data which lead to law enforcement endeavours in organized or professional crime, and so forth. Thus the service must be functionally close to the research and development activities. It would be well if joint staff meetings served to stimulate research and development personnel in company with statistical and information service personnel. The exchange of all publications within these two groups would also be desirable.

Since it is clear that there will be a heavy demand for funds on the part of the service, since it could

grow rapidly, and since its facility requirements may be considerable, these growth potentials must be recognized. Priorities should be considered in the beginning as to the distribution of present as well as near-future resources. In terms of organization it would also be well to recognize that the orientation of persons in the statistical and information branch may be different from research and development folk, and these in turn different from various model program units. There must be a guarantee of non-ascendancy of any rigid point of view, especially in the beginning when small hobby horses can suddenly become enveloping dragons. I am not equipped to recommend wise organizational structures.

It is not wise to recommend binding first steps for a unit which has yet to come in existance and whose to-be-chosen head may well wish to decide for himself how to proceed. My own judgement is that there should be (a) immediate friendly listening-teaching contact to local agencies as set forth above, (b) an immediate program of methods studies to identify and correct reporting problems of the sort set forth in the methods section, and (c) the establishment of priorities for effort and of planned growth for coming years which would constitute a policy both for the service and with the service in perspective within LEAA. As policy I would recommend the more clearly scientific research functions called for by some not to be part of the service but be, if worthwhile, under research programs in the Institute. I would give first priority in establishing data needs to local agencies--police--courts--correction rather than to academic persons, although these latter may certainly be consulted.

There seems no need for any further study committees, commissions of inquiry and the like. Conference aplenty there have been. However it may be desirable to form an Ad Hoc Advisory Committee to serve as either midwife or pediatrician to the new child. Such a committee would be drawn partly from among the names listed on page 1.

The eventual relationship between the Statistics and Information Centers and the to be established National

Data Center must also be kept in mind. Matters of coordination and matters of sensitivity as for example, invasion of privacy, will be of considerable importance in this long-range planning.

OMNIBUS CRIME CONTROL AND SAFE STREETS

ACT OF 1968

NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
DEPARTMENT OF JUSTICE
WASHINGTON, D. C.

Pamphlet No. 3

November 8, 1968

OMNIBUS CRIME CONTROL AND SAFE STREETS ACT OF 1968

The Omnibus Crime Control and Safe Streets Act of 1968 became law on June 19, 1968. Its purpose was "to assist State and local governments in reducing the incidence of crime, to increase the effectiveness, fairness, and coordination of law enforcement and criminal justice systems at all levels of government, and for other purposes."

In Title I, Law Enforcement Assistance, Congress finds "that crime is essentially a local problem that must be dealt with by State and local governments if it is to be controlled effectively." Toward this end Congress wished to encourage the local authorities, provide appropriate financial assistance and support related research and development.

LAW ENFORCEMENT ASSISTANCE ADMINISTRATION

A Law Enforcement Assistance Administration was established within the Department of Justice. It consists of an Administrator of Law Enforcement Assistance and two Associate Administrators. In carrying out the provision of the Act, the administration is charged with four principal functions. These are:

1. Provision of grants toward the establishment and operation of state law enforcement planning agencies.

2. Provision of grants toward improving and strengthening law enforcement.

3. Provision of grants and/or contracts for related training and education purposes.

4. Exercises general authority over the National Institute of Law Enforcement and Criminal Justice.

STATE LAW ENFORCEMENT PLANNING AGENCIES

A state planning agency is to be established within each state or territory and subject to the jurisdiction of its chief executive. It represents the state's law enforcement agencies and units of local government. The three main functions are:

(1) "develop . . . a comprehensive state-wide plan for the improvement of law enforcement throughout the state."

(2) "define, develop, and correlate programs and projects for the State and the units of general local government in the State or combinations of States or units for improvement in law enforcement."

(3) "establish priorities for the improvement of law enforcement throughout the State.

Within six months after the enactment of the Act, the state planning agency may apply for an operational support grant from the Administration. Each state (D.C., P.R., territory or possession) is allocated $100,000 plus a pro-rata share of the funds available for this purpose according to relative population.

At least 40 per cent of the Federal funds is to be made available to units of general local governments to contribute toward the formulation of the comprehensive state plan. Unexpended portions of this 40 per cent may revert to appropriate use by the state planning agency. In any case, no more than 90 per cent of the expenses of establishing and operating the state planning agency is to be charged against the Federal grant.

LAW ENFORCEMENT GRANTS

Grants are also authorized to states for programs to improve and strengthen law enforcement in the following areas:

(1) "Public protection, including development, demonstration, evaluation, implementation, and purchase of methods, devices, facilities, and equipment designed to improve and strengthen law enforcement and reduce crime in public and private places."

(2) "Recruiting of law enforcement personnel and the training of personnel in law enforcement."

(3) "Public education relating to crime prevention and encouraging respect for law and order, including education programs to improve public understanding of and cooperation with law enforcement agencies."

(4) "Construction of buildings or other physical facilities which would fulfill or implement the purposes of this section."

(5) "Organization, education, and training of special law enforcement units to combat organized crime."

(6) "Organization, education, and training of regular law enforcement officers, special law enforcement units, and law enforcement reserve units for the prevention, detection, and control of riots and other violent civil disorders."

(7) "Recruiting, organization, training, and education of community service officers to serve with and assist local and State enforcement agencies." Grants in this subcategory require prior approval of local law enforcement agency.

The compensation of personnel shall not account for more than a third of the Federal grant made under this part. This does not include the pay of personnel undergoing training. Up to 50 per cent of the program cost under (4) above, 75 per cent under (5) and (6), and 60 per cent for (1), (2), (3), and (7) may be paid by Federal funds. No part of a grant can be used, however, for the acquisition of land.

In order to obtain Law Enforcement Grants, the state, through its planning agency, needs to submit a comprehensive state plan, within six months after approval of its planning grant. Grants for law enforcement may be awarded by the Administration to state planning agencies with an approved state plan on file with the Administration not more than one year in age. The plan shall:

(1) "provide for the administration of such grants by the state planning agency."

(2) provide at least 75 per cent of Federal funds for use by local units by specified dates; unused balances may be utilized by the State planning agencies in accordance with the approved plans.

(3) "adequately take into account the needs and requests of the units of general local government in the State and encourage local initiative in the development of programs and projects for improvements in law enforcement, and provide for an appropriately balanced allocation of funds between the State and the units of general local government in the State and among such units."

(4) "incorporate innovations and advanced techniques and contain a comprehensive outline of priorities for the improvement and coordination of all aspects of law enforcement dealt within the plan, including descriptions of: (A) general needs and problems; (B) existing systems; (C) available resources; (D) organizational systems and administrative machinery for implementing the plan; (E) the direction, scope, and general

types of improvement to be made in the future; and (F) to the extent appropriate, the relationship of the plan to other relevant State or local law enforcement plans and systems."

(5) "provide for effective utilization of existing facilities and permit and encourage units of general local government to combine or provide for cooperative arrangements with respect to services, facilities, and equipment."

(6) "provide for research and development."

(7) "provide for appropriate review of procedures of actions taken by the State planning agency disapproving an application for which funds are available or termination or refusing to continue financial assistance to units of general local government or combination of such units."

(8) "demonstrate the willingness of the State and units of general local government to assume the costs of improvements funded under this part after a reasonable period of Federal assistance."

(9) "demonstrate the willingness of the State to contribute technical assistance or services for programs and projects contemplated by the statewide comprehensive plan and the programs and projects contemplated by units of general local government."

(10) "set forth policies and procedures designed to assure that Federal funds . . . will be so used as not to supplant State or local funds, but to increase the amounts . . . for law enforcement."

(11) "provide for proper fiscal control and accounting."

(12) provide for proper reporting of activities.

Local government units may receive funds from the state planning agency, if their proposals are judged to be in conformity with the state plan. They may also receive funds directly from the Administration under certain conditions, i.e., a plan has been submitted to the state planning agency, which has not filed or received approval for its overall state plan by the Administration. Up to 60 per cent of the cost of the proposed local program may be funded.

85 per cent of the appropriation for this part of the Act is distributed among the states on the relative basis of population. The remaining 15 per cent, together with funds withdrawn for non-compliance with the provisions of the Act, is distributed as the Administration determines.

Special emphasis is given, where appropriate, to " the prevention, dection, and control of organized crime and of riots and other violent civil disorders."

TRAINING, EDUCATION, RESEARCH, DEMONSTRATION and SPECIAL GRANTS

A National Institute of Law Enforcement and Criminal Justice was established within the Department of Justice, under the general authority of the Administration. The purpose of the Institute is "to encourage research and development to improve and strengthen law enforcement." It is authorized:

(1) "to make grants to, or enter into contracts with, public agencies, institutions of higher education, or private organizations to conduct research, demonstrations, or special projects pertaining to the purposes described in this title, including the development of new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen law enforcement."

(2) "to make continuing studies and undertake programs of research to develop new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen law enforcement, including, but not limited to, the effectiveness of projects or programs carried out under this title."

(3) "to carry out programs of behavioral research designed to provide more accurate information on the causes of crime and the effectiveness of various means of preventing crime, and to evaluate the success of correctional procedures."

(4) "to make recommendations for actions which can be taken by Federal, State, and local governments and by private persons and organizations to improve and strengthen law enforcement."

(5) "to carry out programs of instructional assistance consisting of research fellowships for the programs provided under this section, and special workshops for the presentation and dissemination of information resulting from research, demonstrations, and special projects."

(6) "to carry out a program of collection and dissemination of information . . . including information relating to new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen law enforcement."

(7) "to establish a research center to carry out the programs."

The Director of the Federal Bureau of Investigation, under the general authority of the Attorney General, is authorized to:

(1) "establish and conduct training programs at the Federal Bureau of Investigation National Academy at Quantico, Virginia, to provide, at the request of a State or unit of local government, training for State and local law enforcement personnel."

(2) "develop new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen law enforcement."

(3) "assist in conducting, at the request of a State or unit of local government, local and regional training programs for the training of State and local law enforcement personnel."

Grants authorized under this part may be used to pay up to 100 per cent of the project cost. Contracts may also be made to institutions of higher learning for loans, not over $1800 per academic year to full-time students in programs approved by the Administration, leading to degrees or certificates. These loans can be cancelled for service as a full-time officer or employee of a law enforcement agency at the rate of 25 per cent of the total cost per complete year of service. Contracts up to $200 per academic quarter or $300 per semester can be made for an officer of a law enforcement agency enrolled in courses approved by the Administration, which lead to a degree or certificate. The recipient, however, must sign a prior agreement to remain in the service of the law enforcement agency for two years following the completion of the course.

ADMINISTRATIVE PROVISIONS

Related administrative provisions have also been included in Title I of the Act. For example, the Administration is authorized, after appropriate consultation with representatives of States and units of general local government, to establish the necessary rules and procedures. It may appoint advisory committees. It may request assistance, on a reimbursement basis if appropriate, from other Federal, State, or local agencies. It may terminate payments for noncompliance with the provision of this title or regulations of the Administration. Procedures of appeals against such ruling are laid out.

The Administration is further authorized:

(1) "to conduct evaluation studies of the programs and activities

assisted under this title."

(2) "to collect, evaluate, publish, and disseminate statistics and other information on the condition and progress of law enforcement in the several States."

(3) "to cooperate with and render technical assistance to States, units of local government, . . . or other public or private agencies, organizations, or institutions in matters relating to law enforcement."

$100,111,000 was authorized for fiscal year ending June 30, 1968 and June 30, 1969; 300,000,000 for fiscal year ending June 30, 1970. Of the amount appropriated for June 30, 1968 and June 30, 1969, however,

(1) $25,000,000 was earmarked for planning grants.

(2) $50,000,000 was earmarked for law enforcement grants. Of this amount, not more than $2,500,000 was to be used for public education; not more than $1,000,000 in any one state and not more than $15,000,000 in toto for the organization, education, and training of special law enforcement units to combat organized crime; not more than $15,000,000 for the organization, education, and training of regular law enforcement officers and units for riot and violent civil disorders control; and not more than $10,000,000 for correction, probation, and parole.

(3) $24,111,000 was earmarked for training, education, research and development, and special grants. Of this $5,111,000 was allotted to the Federal Bureau of Investigation and not more than $10,000,000 for education.

Of the total sum appropriated, not more than 12 per cent may be used within any one State, except that this limitation does not apply to research and development, training and education.

A report from the Administration to the President and to the Congress is to be submitted on or before August 31 of each year.

T - THOUGHTS

by

Ralph G. H. Siu

NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
UNITED STATES DEPARTMENT OF JUSTICE
WASHINGTON, D. C.

Pamphlet No. 4 November 15, 1968

T - THOUGHTS

The following selections of T - Thoughts may be of value to budding executives. T - Thoughts have appeared regularly in The Journal of the Washington Academy of Sciences.

On being a manager . . .

Keeper of the Gates

The ancient civilizations of the Indus Valley were sustained by a complex irrigation network. The flow of water through its canals was regulated by a series of gates. The farmers found it necessary to assure equitable distribution of water among themselves. So a group of gatekeepers was hired and trained to sit astride this apportionment of water in accordance with the requirements and instructions of the farmers.

According to some historical accounts, not too many decades later the keepers of the gates became the rulers of the farms.

The Worried Look

It has been said that "A good executive is a person who goes around with a worried look on his assistant's face."

Storming the Barricades

A kindly fellow, with a satirical bent, insisted that there is considerable resemblance between many executives and the hero of the following story about the 1848 upheaval in Paris.

A man saw his friend marching after a crowd heading for the barricades. Knowing that the troops behind the barricades

were well-seasoned and well-armed, and that the mob would certainly be slaughtered, the man urged his friend to leave.

The friend said he could not do so. When pressed for the reason, he explained, "I must follow them. I am their leader!"

Two Cats and the Monkey

There are various ways of resolving jurisdictional disputes. Some people are prone to appeal to higher echelons. Before they make too much of a habit of it, however, they may wish to recall McGuffy's tale of the two cats calling in the monkey.

> Two hungry cats, having stolen some cheese, could not agree on how to divide it. So they called in a monkey to decide the case.
>
> "Let me see," said the monkey with an arch look, "this slice weighs more than the other." With that, he bit off a large piece, in order, as he said, to make them balance.
>
> The other scale was now too heavy. This gave the upright judge a fine pretense to take a second mouthful.
>
> "Hold! Hold!" cried the two cats, "Give each of us his share of the rest, and we will be content."
>
> "If you are content," said the monkey, "justice is not. The law, my friends, must have its course."
>
> So he nibbled first one piece, and then the other. The poor cats, seeing their cheese in a fair way to be eaten up, most humbly begged the judge to give himself no further trouble.
>
> "Not so fast, I beseech you, my friends," said the judge, "we owe justice to ourselves as

well as to you. What is left, is due to me in right of my office."

So saying, he crammed the whole into his mouth, and very gravely dismissed the court.

The Mantis

Empire-builders should pay head to the ancient warning: When the mantis hunts the locust, he is unaware of the shrike hunting him.

On being a planner . . .

Measurements

Perhaps we should pass the following quotation from Saint Augustine to some of our statistically-minded friends: "For so it is, oh Lord my God, I measure it; but what it is that I measure, I do not know."

One-Hole Mouse

George Herbert's comment throws some encouragement to executives favoring diversification. He said: The mouse that hath but one hole is quickly taken.

On the other hand, there is the older proverb: Never try to catch two frogs with one hand.

No Snakes

Too many projects have gone sour, not so much because the laboratory's work was incompetent, but because management's question was incomplete. The situation recalls the story of the little boy fishing along the banks of a beautiful lake in the South. Several tourists saw the inviting water, as their car approached it.

The driver stopped the car and asked the youngster, "Son, are there any snakes in this lake?"

"No suh, no snakes in the lake," replied the boy.

Whereupon the men peeled off their clothes and enjoyed a hour and a half of fine swimming. When they came out, one of the men asked the boy, "How come there are no snakes in this lake?"

Said the boy with a half-grin, "Because the alligators done et them up."

Betting Odds

The continued funding of a unproductive project reminds my Master, so he admonishes me, of the gambler who keeps returning to the same joint saying, "I know the game is crooked but it's the only one in town."

On being a salesman . . .

Smoking and Praying

So frequently, it's the way the proposition is stated. My Master reminded me of the story of the two priests arguing whether it was proper to smoke and to pray at the same time. To settle the disagreement they decided to write the Archbishop. Two weeks later they met again, each claiming support from the same high authority. After some perplexity, one finally asked the other, "What did you ask the Archbishop?"

The second priest replied, "I asked whether it was proper to smoke while praying; and the Archbishop answered, 'Certainly not, praying is a holy affair and tolerates no frivolous distractions.' And what did you ask?"

"Well," said the other, "I asked whether it was proper to pray while smoking, and the Archbishop answered, 'Certainly, prayer is always in order.'"

Incentive Payments

During a visit to a strange village where he was unknown, Nasreddin Hoca went into a hammam or a public bath. Seeing that he was poorly dressed, the attendants paid him scant attention. He was issued a sleezy, torn, and dirty rag and given no help at all.

As he left the hammam, however, Nasreddin Hoca gave a gold piece to each of the surprised attendants, who were completely deceived by his humble attire.

The following week, Nasreddin Hoca went to the same hammam, in the same dress as before. But this time the attendants brought him new towels, perfume, and fresh soap; scrubbed, washed, and massaged him; and carefully helped him dress -- their palms tingling with anticipation of another gold coin.

But on leaving the hammam this time, Nasreddin Hoca gave only a nickel to the attendants -- much to their consternation and protest.

Whereupon Nasreddin Hoca replied: "The gold pieces I gave you last week were for the manner you treated me today. The nickels I gave you today are for the manner you treated me last week!"

Research on Horse-Flying

Whenever budget formulation is just around the corner, the bugaboo of some projects being terminated rears its ugly head. For those who are at their wit's end in further defense of their project, the following story is offered for encouragement:

> Once upon a time, two men were sentenced to death by the Sultan of Persia. One man, knowing how much the Sultan loved his white stallion, promised that he could make the horse fly in one year in return for his life. The Sultan, fancying himself as owning the only flying horse in the world, agreed to postpone the execution for a year.

The other prisoner looked at his friend in disbelief. "You know you can't make the horse fly! What made you come up with a crazy scheme like that? You're just prolonging the inevitable!"

"No," answered the wise one, "I have actually given myself four chances for freedom: First, the Sultan might die during the year . . . second, I might die . . . third, the horse might die, and fourth -- I just may teach the stallion to fly!"

Sarsaparilla

Efficient teamwork requires resolution of the sarsaparilla problem in the story of the three turtles.

Two large turtles and a little one went to a bar one day to quench their thirst with a mug of sarsaparilla. As they began to drink it, one of the large turtles observed that it had begun to rain. After a lively discussion, it was decided that the little turtle should go home for their umbrella. The little turtle objected, afraid that if he went, the big turtles would drink his sarsaparilla. But they convinced the little fellow they would leave his sarsaparilla alone, and he started after the umbrella.

Three weeks passed and finally one of the big turtles said to the other, "You know I don't think the little guy is ever coming back. Let's drink his sarsaparilla."

"I was just thinking about the same thing," said the other big turtle. "Let's do it."

From down at the end of the bar near the door, a shrill voice cried out, "If you do, I won't go after the umbrella."

Principles Among Thieves

According to Chuang-Tzu, the apprentice to the robber Cheh asked him whether or not there are principles among thieves.

Robber Cheh replied, "There is the sage character of thieves by means of which booty is located, the courage to enter first, and the chivalry to come out last. There is the wisdom of calculating success and the kindness in fair division of the spoils. There has never yet lived a great robber who did not possess these five qualities."

On being an elder statesman . . .

Pigs

My father once told me: "Son, never wrestle with pigs. You get dirty and they enjoy it."

This is an earthy phraseology of an old Chinese proverb: In shallow waters, shrimps make fools of dragons.

Baited Bulls

What happens to some individuals during their tour of duty in the Government? The following represents an analysis by a keen observer of human metamorphosis:

> Many bureaucrats undergo a peculiar transformation, which is characterized by four stages. The first stage is the Neophite. The Neophite feels highly complimented that he has been selected by name for assignment to such a high staff. All matters are treated with consummate energy. In-baskets are kept clear; directives are written with dispatch; meetings attended eagerly.
>
> About six months later a transition to the next phase begins. In-basket fills as rapidly but empties less readily; coordination time drags out; meetings drone on. Imperceptibly, he learns of the trade secret of just noting and initialling all papers coming across his desk. Gradually, he becomes a Polyp. In-baskets are kept clear again; directives

are written by the Neophite who has just reported in; meetings are attended by his Neophite alternate. This is the comfortable stage of Washingtonian life.

Things go well for a while until a sudden change into the next stage, which invariably occurs at a conference. The conference takes place in a large room with a center table around which are seated the more senior conferees. Against the wall are arrayed a score of Neophites and Polyps. The subject is highly familiar to one of the Polyps and the discussion proceeds to the point where he cannot contain himself any longer and he bursts forth: "This is entirely the wrong approach, because..." At that moment he has become a Baited Bull and receives all subsequent papers on that subject since he is the recognized expert. Matters get serious once more; work piles up; the in-basket fills again; directives are written with frenzy; meetings are chaired by him.

He then remains as a Baited Bull for some time until there is a gradual drift into the last and final stage, The Elder Statesman. In this stage all matters are treated with a casual but unhesitating assurance which comes from years of experience. He floats about the office with an air of professionalism, advising the Neophites, ignoring the Polyps, and baiting the Baited Bulls.

Today's Wine

It is a simple proverb to understand but a difficult one to practice:

Today's wine, I swallow now.
Tomorrow's sorrow, I'll swallow then.

The Old Crower

The moral of the following story is strictly for newcomers. I'm sure others have long acquired a deep respect for the old-timer's ability to survive.

> Once upon a time a young rooster was brought in by the farmer to upgrade the egg production of his hens. He had chosen the young cock well. For the rooster immediately began shoving the old one aside and garnered all the hens unto himself. The old rooster approached the vigorous young executive and asked that a few hens be set aside for him in his old age. "Absolutely no!" said the newcomer.
>
> The old rooster then asked the young one whether or not he would be willing to race three times around the barn to settle the issue. Thinking it was a sure thing the young rooster agreed. In his confidence he even acquiesced to a 20-yard handicap which the old rooster requested. So off they started on the race. As they rounded the third turn with the young one hot in pursuit, "bang" went a shotgun in the distance. The farmer was heard muttering to himself as he picked up the carcass of the young rooster: "Darn it! That's the third queer rooster I had to shoot this month!"

Lessons of History

Charles A. Beard, the noted historian, was once asked whether or not he could summarize all of the lessons of history in a short book. He replied that he could do it in four sentences:

(i) Whom the Gods would destroy, they first make mad with power.

(ii) The mills of the Gods grind slowly, but they grind exceedingly fine.

(iii) The bee fertilizes the flower it robs.

(iv) When it is dark enough, you can see the stars.

SYSTEMS ANALYSIS AND ZEN

by

Ralph G. H. Siu

National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
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SYSTEMS ANALYSIS AND ZEN*

It is a pleasure being with you on the evening of your graduation. I would like to extend warm congratulations for completing this arduous course. As you prepare to reenter the world of affairs, a fitting theme tonight would be the transition from those lofty deliberations of the past three weeks on the latest analytical techniques for decision-making to the realities of life.

What I would like to do is to remind ourselves of intuitive inputs to decision-making not covered in this course. I propose to talk about one of them, which is at the opposite extreme -- an ancient, nonverbalized, nonanalytical, non-technique called Zen.

Areas for Improvement in Systems Analysis

Let us begin our discussion of some of the areas in systems analysis which are in most need of improvement. I do not believe they lie in the development of more mathematical techniques per se, but in the relational clarity of the methodology with regard to the realities of decision-making. There are many philosophical difficulties in this regard. I will take up three illustrative bugaboos. These are:

First, the bugaboo of language,
Second, the bugaboo of stasis, and
Third, the bugaboo of apples-and-oranges.

Bugaboo of Language

Regarding the bugaboo of language. Underlying much of the confusion in modern technical management is looseness in the use of words. We seem to be deluged with words like "systems," "configuration," "value," and "cost-effectiveness." These terms mean different things to different people, as well as different things to the same people under

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different circumstances. Take the word "system." When is a collection of things a "system" and when is a "system" a component of a larger "system?" I doubt whether any person can define the word "system" in such a way that ten others would apply it uniformly in specific cases at hand. It seems strange that such a widely used word would not, by now, have enjoyed a standard definition understood and accepted by all professional practitioners of the art. Yet this seems to be the case.

Take another commonly used pair of words -- namely "cost" and "value." We may well ask ourselves the question whether or not their employment is accompanied with a degree of precision matching the apparent precision of the mathematical procedures adopted in the analysis of cost-effectiveness. Actually, there is a great difference between "cost" and "value." And by this we are not referring to the assumption of some people that one is merely the reciprocal of the other. Rather, we are referring to the more subtle differences implied in Oscar Wilde's definition of a cynic as a person who knows the cost of everything but the value of nothing.

We need not dwell further on this bugaboo of language except to say that a semantic cleaning up is in order before major progress can be made in the profession of system analysis. Unless we do this we will find ourselves in continual misunderstandings with each other. I am reminded of the temperamental young Chinese who came to America from Canton. He had barely learned a few words of English when he got a job as a delivery boy for a Chop-suey restaurant. The first delivery involved a take-out order to a beautiful house in the suburb. When he knocked on the door, the mistress of the house looked out of the window and saw the delivery boy. Since her hair was in a mess, she called to her maid Ella, who was in the kitchen. "There's the chow mein," she said. "You go, Ella." When the temperamental Chinaman heard that, he snapped right back: "You go to hella, yourself!"

Bugaboo of Stasis

So much for the bugaboo of language. We shall now take up the bugaboo of stasis. This is the implication that

everything remains essentially unchanged from the time we begin a system analysis to the time we phase the resulting item out of the inventory. Based on this assumption we proceed to shape up an elegant mathematical model, collect data according to an orderly framework, feed them into the computer according to a neat programming, and then apply the results in an uncooperative and whimsical world.

Let us take a look at a typical military item. It may take six years for research and development and 12 years in production and inventory -- a total of 18 years. What does this length of time do to our assumption of stasis In a period of 18 years from 1950 to 1968, for example, we have had four Presidents; five or so Secretaries of Defense; a comparable number of incumbents in many executive positions in industrial and governmental research, development, production,and sales; two wars each in turn different in character from its predecessor; creeping inflation in commodity prices and steeper rises in the cost of personal services; drastic perturbations in international monetary thinking; sweeping technological advances through the nuclear armamentarium, the missile gap and counter gap, the space race, the double helix, etc; and so on. It would appear that such a wide array of changes cannot help but radically alter the predicted costs required to do a given job as well as the value of its completion.

Obviously, a single rigid mathematical model will never provide the prophetic coverage for these and the thousand and one other changes that happen. A most important question, therefore, to which system analysts need to address themselves is: How elastic can their methodologies be made? In other words, can they be made to handle changes in assumptions, as contrasted to changes within fixed assumptions? Perhaps, this is expecting too much of mathematics. If mathematics is unable to accommodate to the dynamics of real life in this respect then the decision-maker may be forced to retreat more and more into his fortress of intuition.

Bugaboo of Apples and Oranges

So much for the bugaboo of stasis. Let us now proceed to the bugaboo of apples-and-oranges.

What many a system analyst attempts to do is to reduce all competing factors to a common index of merit. This raises the question as to how does one go about determining the relative value of things and what is the ultimate standard of value, which is to be the basis of the index of merit. How does one compare apples and oranges?

In order to reduce values to a common denominator, Plato and Aristotle tried to ascribe an objectivity to value. That value is objective has to be assumed for analyses of cost-effectiveness, of course. Otherwise, how are we going to make the necessary calculations? Yet when we talk about objectivity we always come face to face with the dilemma of subjectivity.

Whenever people are involved, the hierachy of objective values necessarily involves a subjective referee. The rules of the ball game may be objective, but their objectivity is always subjectively interpreted. When this occurs we encounter peculiar possibilities.

There are a million and one influences -- some explicit, some perceivable, some submerged, some unknown -- which effect the final answer. The fact that many transformations have to be made among disparate factors gives much room for forced fittings, particularly if there's something to be gained personally for the individual concerned. One of the best examples of forced fittings I have come across is an algorithm for success. It has been advanced as the secret of success for overzealous young system analysts on the rising slope of the gamesmanship curve. It goes like this: To obtain success from zero to zero plus delta success Monte Carlo the third partial derivative involving the conjugate of the skew-Hermitian matrix, divided by the fourth moment about the mean in dimensionless form, as adjusted by the Bayes estimator, and add the entire quotient to what the boss wants to hear at the moment.

Nevertheless, the fact remains that we do have to compare different kinds of value. We not only choose values within the same class, such as when we select one economic good over another, we also choose between classes of good, as when we exchange an esthetic satisfaction for money. From the philosophical standpoint, we require a reliable conception

of an ultimate standard. In general, this standard resides in the notion of inclusiveness, that is, some functional concept such as the totality of a war, a life, or a company's existence. The highest value then is that which contributes most to the coherent functioning and organization of experience as a whole. This, of course, is easier said than done. Particularly must a person be careful in approaching such a task, when he recalls the old adage of "many a slip between the cup and the lip." In other words, even if the decision and the instruction are correct, the implementation may be messed up. This reminds me of the story of the Texas bachelor who wanted to become an Alaskan.

When Alaska was admitted as a State, the Texan wanted to move from Texas to Alaska, so that he could still be living in the largest state in the union. Even after spending quite some time in Alaska, however, he did not seem to be accepted as a real Sourdough by the people up north. He went into a bar deeply discouraged and related his troubles to the bartender. The bartender finally told him the secret. "What you need to do to become accepted by the rest of us are three things. First, drink this fifth of whiskey in one swiggle. Second, make love to an Eskimo girl. And third, shoot an Alaskan bear." The Texan grabbed the bottle of whiskey, downed it in one long gurgle, and stalked out. Eight hours later the Texan staggered back through the swinging doors, all bloody and battered, with his clothing all torn to shreds, but still undaunted. He beat his chest and bellowed forth: "Now, where is that Eskimo gal I'm supposed to shoot?"

Wholist Strategy

The three bugaboos of language, of stasis, and of apples-and-oranges suggest the need for a general approach to decisions based on a broad synthesis rather than a narrow analysis. In other words, a wholist strategy may prove preferable to a partist strategy for the really big and important decisions. The wholist strategy begins with the totality, so that all factors are included within the net of consideration. The strategy then successively eliminates unnecessary and less relevant components, until the desired equilibrium answer is reached. In this case,

the answer is always correct, but with varying degrees of chaff and noise.

In contrast, the partist strategy begins with an assumed collection of relevant factors. The strategy then successively tests the different combinations and permutations of factors. In this case, the answer is always precise but wrong until the correct one is found.

Some preliminary experiments have compared the effectiveness of the two strategies. Given infinite time to complete the task, either strategy will deliver the correct answer, provided of course the bugaboo of stasis does not throw a monkey wrench into the situation. Because of this bugaboo of stasis, however, it is encumbent upon us to take the least amount of time to complete the study.

When only a limited time is available to arrive at a conclusion, the wholist strategy apparently turned out to be superior. If the findings are true, then the entire current approach to system analysis and selection requires a thorough reexamination.

The Zen Master

Of all the wholist strategies possible, there is none that I know of which is more wholist than the Zen approach.

One characteristic of the masters of Zen is their great patience and passivity in soaking in the ways of Nature as Nature actually is and in observing, participating, and experiencing by immersing themselves in the reality. They do not theorize; they do not model. Nor do they talk -- at least not explicitly in the way system analysts are supposed to do.

When the Zen apprentice watches the constant changes of hypotheses by scientists, he may well ask: Is the scientist getting confused? Is he drifting farther

and farther away from the joy and the laughter of the living real world into the monastery of scientific virtuosity? Can he ever solve the meaningful problems of Nature? Or does he require a new perspective?

The scientist would respond by assuring him that these continuous iterative adjustments of models constitute the very strength of the scientific approach, that it only appears that the picture is hazier, but that it is actually becoming progressively clearer as more of the heretofore unknown factors are uncovered.

But the situation is not as straightforward as all that. Let me illustrate the point with two little stories.

The first concerns the law of cause and effect. It lies at the base of scientific work and has served science well. Actually, the law has never been proven rigorously. This is illustrated by the story of the little chicken which ran away in fright at its first sight of a man. After the man left, the chicken came out of its hiding place only to find some corn on the ground. This was repeated over and over again --999 times. In terms of the law of cause and effect, this would mean that whenever the man appeared, the corn must also appear. So when the man came out the thousandth time, the scientific chicken ran out to thank the man -- only to have its neck wrung for supper that night. Obviously the assumed law of cause and effect failed the chicken miserably the last go-round.

The second story concerns logic. Scientists pride themselves as being very logical people. But we must be careful about trying to follow logic to the bitter end. This is illustrated by the story of the beautiful maiden who fell out of her canoe into the hands of the king of the alligators. The mother tearfully begged for her return. The alligator king was actually a good sport. So he offered the old lady a proposition. "I will return your daughter," he said, "if you can make one true statement." Without thinking, the old lady replied, "You are going to keep my daughter."

The thinking man frequently finds himself in the

same fix as the alligator king. If the statement that he is going to keep the girl is true, then he must release her. If the statement that he's going to keep the girl is false, then he must keep her. So you see, he's damned if he does and damned if he doesn't. The mathematicians don't like such situations, but I'm sure you men of the world are quite used to it by now.

Tao and Zen Techniques

These stories provide some indication why Lao-tze and the Zen Masters would have no truck with mathematical modelling and analytical techniques as the prime basis for decisions involving man. They place no faith in words and equations as the final arbiter of one's actions. These are regarded as devices for leading people from the truth. As the proverb goes, "The wise man does not speak; the talented man talks; the stupid argues." Real enlightenment is ineffable and indescribable in words.

The question arises as to how one goes about conveying the essence of Tao and Zen, if in fact they are indescribable in words. In our way of thinking, this is a hopeless affair. As a results,there is no university, no consulting firm, and no institution that I know of in this country, which purports to teach their method of gaining enlightenment or of decision-making.

Yet obviously there must be some way of passing on these nonverbalizable essences. Otherwise their culture would not have endured for many centuries.

You may be interested to hear an example of their analogue to this course of yours here at ALMC. One of the classical stories tells how an ancient Chinese master went about conveying the substance of the indescribable Tao. The story goes something like this.

It seems that a certain Taoist master was conducting a new class, in which the students were particularly eager to grasp the concept of the Tao. Whenever the master was asked to explain the Tao, however, he would remain silent and merely stick up his thumb. This went on for weeks

and weeks. Before long a student in the front row thought this was quite hilarious and began to mimic the Master and stuck up his thumb whenever the Master did so. This went on for weeks and weeks. One day, when the same sequence of question and gestures occurred, the Master suddenly whisked out a long knife, reached over, and lopped off the boy's thumb. With considerable pain, the boy ran crying up the center isle toward the back door. When the boy reached nine-tenths of the way, the Master called out to him. And just as the boy turned around, the Master stuck up his thumb. And, as the story has it, then and there the boy knew what the Tao is.

Did you get it? No? Well, let's try a simpler story. This one is about a Japanese teaching another one of those indescribables -- Zen.

Once upon a time there was a young fellow who went to a revered Master to learn what Zen is. After much supplication on the youngster's part, he was accepted as a pupil. He was told by the Master to sweep up the house, the yard, the nearby street, to wash the pots and pans, and so on. After months of being what appeared to be simply a house servant, the youngster very humbly approached the Master and begged for more enlightening lessons on Zen. The Master nodded his head but said nothing. Several weeks later something new happened. For no apparent reason and without warning the Master would strike the youngster with a stick. This continued for months until one day the youngster became thoroughly fed up with the whole business. He decided to quit. But before he did so, he was going to get even with the old Master. Then came the appointed day. As per his unvarying routine at 5 p.m. every day, the Master walked down the long corridor to the kitchen to check the soup which he took great delight in preparing for his pupils. He would invariably bend over the fireplace, lift the heavy lid off the large cast iron pot, lower his head over the hot simmering soup, and take a deep sniff to check the aroma. The youngster stealthily followed him down the corridor, with a huge stick in his hand. As the Master began to lift the heavy lid off the pot, the youngster raised his stick in readiness to bring it crashing down upon the old man's head when it is over the hot soup. And sure enough, as the Master lowered his head over the hot simmering soup, down came the stick. But just at that moment the old Master had raised the heavy lid over his head so

that the stick landed on the lid with a loud clang, without touching a hair of the old man's head. Whereupon the old Master slowly turned up his head and blandly looked at the young fellow. And, as the story has it, then and there the young fellow knew what Zen is.

Did you get this time? Still no? Yes? Maybe?

The Wise Men

Anyhow, what is clear from our discussion so far is the disjoint between our scientific analysis and their intuitive apprehension. There are considerable differences between the two. Take the concept of approaching a limit. According to mathematics, we can continue to approach a limit ever infinitely closer and yet closer. Lao-tze says "Not so." In real life, the old Master says, "Reversal is the nature of the Tao." "When the sun reaches its meridian it falls; when the moon becomes full it wanes." We cannot steadily push toward the same limit going ever in the same direction. If you keep pushing, at a certain point things reverse themselves. In other words, everything is changing all the time. Nothing is linear. No slope is constant. No direction remains for long.

This leads us to a second difference -- the forerunner of the 0, 1 of our computers. This is the Yin-Yang concept of the universe. Roughly encapsulated the concept states: "Everything is made up of the Yin and the Yang. Wherever there is a Yin, there is a Yang. Wherever there is a Yang, there is a Yin. Everything is Yin-Yang." In other words, there are no absolutes, such as black or white, good or bad. Life is varying shades of grays. To use the classical phrase of Professor Whitehead, "Exactitude is a fake."

The third and last difference I would like to mention concerns their respective centroids in overall strategy. The modern system analyst attempts to solve the problem. The old Zen follower attempts to deexist the assumptions.

The Good Decision

In conclusion, I believe that the wide gulf between

analytical techniques and Zen has been bridged by men of wisdom throughout history. These include the wise men living today, whose decisions often puzzle the junior grade system analyst. If we observe these practitioners of the agglomerate strategy very closely we will notice something special about the way they go about asking questions or keeping quiet, making decisions or postponing them, grunting or smiling, taking action or changing the subject. Their finesse defies description. They possess what can be described as the "instantaneous apprehension of the totality." For example, when I strike this table -- bang -- the sound does not wait for a system analysis before issuing forth. Everything -- cause, analysis, synthesis, effect -- all occur in the instant. This is the kind of intuitive wholist contributions that has to be added to temper the results of modern scientific techniques with the wisdom of the ancients.

RESEARCH PORTFOLIO

Early Direction

by

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Introduction

In response to the call put forth by the President's Crime Commission and in keeping with the mandate of its charter, the Institute will stimulate, support and engage in research in a number of areas which relate to crime prevention and control and to the administration of justice. Although it is not possible to define in advance all of the areas which will prove to yield fruitful results, it is worthwhile to designate major sectors of inquiry and, within sectors, to indicate particular research goals. Decisions about task priorities, either among sectors or by kind of investigation within sectors, are difficult. The difficulty arises partly because the immensity of the problems posed means that there are hundreds of urgent questions requiring information. Priority specification is also difficult because it is the nature of scientific inquiry that some of the most important discoveries can be anticipated only after an inquiry is underway, that is, new questions and new answers which were unanticipated occur during the course of work. Priority specification is difficult for a third reason as well, which is that all basic research is essentially a risk-venture; there can be no assurance that the results will be what one hoped. Applied research, especially that which rests upon a large body of prior discovery and technique, may be somewhat less risky in terms of anticipating outcomes, but it too is faced with hazards of unexpected costs and contingencies. For all of these reasons it is well for the Institute not to presume too much in structuring research priorities except that there be shown a clear relationship between the goals of the investigator and the goals of the Institute itself.

The proposed research tasks do not include many of the concerns of the Institute which are encompassed by its present and future programs of development, demonstration, or education. In the description of research tasks, necessarily brief, the emphasis has been on problems which require the development of further information through scientific inquiry. Research programs are also set forth which, although not resting on scientific methods, do require marked innovations or field experimentation with evaluation. A number of activities which require that known successful procedures be modified and adopted, that existing procedures be made more efficient or extensive, or that outmoded techniques or structures be replaced, do constitute areas for Institute programs and support but are not included here because they do not have a research component. (See for example programs described in Institute Regulation NI-2 as well as proposed

missions and program areas set forth in the IDA November 1968 report, most of which are activities not included in this research portfolio but which do comprise activity areas for the Institute.)

Systems studies

The reports of the President's Crime Commission demonstrated that there is no system for the administration of justice if "system" is defined as an organized and integrated set of structures and functions. What is evident is that a variety of structures and operations exist from one jurisdiction to the next and that within smaller systems, i.e., the administration of justice in one town, there is likely to be inconsistency, inefficiency, and the like. Illustrative studies of these failings have been produced in many locales by the IACP, the American Bar Association, and by investigations of jails and prisons. From the standpoint of operations research, it would be well to establish general classifications of the levels and types of systems in effect and to define appropriate models for systems analysis of each type revealed. As the applicability of various systems approaches is tested for various settings, one would be building a sample of systems studies. As a long-range goal one would hope for (1) the utilization of systems studies to improve local operations drawing upon the models set forth and (2) development of systems data describing the overall operations of law enforcement and the administration of justice on regional, state, and national levels. Thus, in the systems study area one has as tasks:

- Sampling of kinds of local operations and the establishment of "best fit" operational research procedures for structures functions of a given nature. This will be followed by dissemination of these several model procedures to scientists and local practitioners in law enforcement and the administration of justice. They will be encouraged and supported in the application of operational research. Out of their work will emerge an expanding "library" of descriptive data which will serve as (1) a source of data about overall operations at regional, state and national levels and (2) a source of data allowing general and specific recommendations for improvements in each type of agency and for each type of function.

- Additional work in the systems study area will include:

(1) Mathematical model of court operations

(2) Mathematical model of corrections operations

Police Field Procedures

Reports of the President's Crime Commission emphasized the immediate potential for work on police field procedures including tactics but embracing back-up organizational structures. Attention is directed especially to the Commission's Police Advisory Committee (B-Alert) recommendations which call for innovation and research in the areas of patrol, vice control and crime investigation, crime prevention, communications, records (in relation to field procedures), juvenile work, special tactics, traffic control, special services, police-community relations, personnel (in relation to field procedures), training and education, and equipment and apparatus.

Additional areas include intelligence operations, evaluation of the impact of changes in the law and judicial decisions as they affect investigation, apprehension and prosecution, and developmental work in air mobile operations, surveillance, fire-power strategies, etc.

Police-community relations

Although mentioned as a field procedure, the community relations area is so broad and affects so many areas of police function that it is best considered as a separate area urgently deserving of research. Closely related to tactics and field procedures, concerns in this sector require the understanding of social movements, of the rise of civil disobedience, the analysis of black and white militancy, and the growth of mobs. It also requires that the impact of police actions on groups be identified, analyzed and understood. Because the range of actions and considerations included under the community relations heading is so great and because many personal, social, political, cultural, organizational (and other) variables affect events occuring in this arena, it is impossible to set forth all relevant research areas without duplicating some of the major investigation areas of the behavioral sciences, the major policy problems in police management, and certain of the major social concerns of America today. We would however set forth as matters of the most urgent consideration the following:

- Development of innovative police organizational capabilities in the community relations area, including the exposition of goals and of procedures relevant to those goals; the provision of management support for these endeavors; the selection, training and assignment of personnel; the development of programs fitted to local needs; the development of evaluation procedures which allow the assessment of community trends, police effectiveness, etc. Subsidiary needs include the coordination of community relations with intelligence activities, with juvenile programs, with complaint processing procedures and the like.

- Research on riot causes and consequences

  Fine work has been done (Kerner Commission) on riot causes, other work is underway in these areas; a great deal more is urgently required. One important step will be the development of a practical barometer for the police to use in determining the probability by time, place and group based on indicators (predictors) of demonstrable validity. The same barometer data will also allow planning for longer range intervention on cause of disturbances.

- Research on the role of the police

  This is also an urgent area which requires a systematic analysis of current police functions, analysis of points of conflict between the police and the community, understanding of the basic reactions of citizens and police to police actions per se and to the police role, power and authority. Typical sequences in escalating conflict and de-escalating conflict must be identified so that conflict can be predicted and controlled.

Organized crime

It is clear that organized crime represents a major American industry. There is reason to believe, as supported by the Crime Commission analysis, that organized crime is susceptible to partial control by new means which include coordinated law enforcement intelligence and prosecution, social and economic analysis to identify weak points in the structure of organized crime, and new legislation which will include both new control

statutes and the elimination of some current statutes from the criminal law (see Packer, Kaplan). As research and development endeavors each of the foregoing presents opportunities, as for example, analysis of the economic structure of Cosa Nostra activities to pinpoint new legislative control areas, analysis of the social-family life and social-educational aspirations of family members to identify persons who might be used as informal influences, identifying of patterns of bribery and corruption to design counter-measures for application within local government, the identification of ancillary services (lawyers, accountants, etc.) who can be vulnerable to ethical, legal or social (informant-producing) pressures, etc.

Criminalistics

Criminalistic advances can be rapid for they rest upon the expanding base of hard science knowledge and technique, chemistry, and physics, especially, but also biology and psychophysiology. Unfortunately, criminalistics has been a stepchild of research in most of those areas. Promising endeavors are neutron activation analysis, and semiautomatic fingerprint. Other areas include enhanced and simplified identification of drugs in the body (e.g., urine thin layer chromotography), advanced polygraph interrogation methods, etc.

Special policing problems

With the evolution of special facilities, institutions, and the like as part of city development, there have emerged special policing problems for which new methods must be devised. Innovation is required in high rise building policing (policing the vertical city); zoo policing (where, because of the large areas, routine night patrol does not work); park policing; vehical policing--subways, trams, buses--and now airplane hijacking--present serious problems. Campus policing (with rising rates of civil disobedience and drug use) and ghetto policing as sociological challenges also require innovation in response to the increasing present difficulties. What is needed are a series of Model Program development endeavors coupling basic and applied research with field experimentation and new procedure evaluation in these and other special problem areas. All of these are high priority endeavors.

Crime statistic methodology

Pamphlet # 2 sets forth a number of the problems of policy

and method involved in developing adequate crime statistics. As a research endeavor there are minimal requirements for the development of reliable reporting procedures for officers in the field, reliable transmissions of reports to central files, improved records processing and storage in central records, and reliable coding and transmission of local reports to national centers. Work will also be necessary on data storage and retrieval procedures, on data analysis for the purpose of trend identification, the development and dissemination of standards for all phases of statistical work, the conduct of pilot studies in non-routine reporting areas, etc.

Criminal code studies

There is considerable debate among the community of legal scholars as to the ideal and actual function and impact of the criminal law as well as to the proper burden of responsibility for the appeal courts, vis a vis, the legislatures in creating and revising the criminal law. That dissatisfaction with existing codes and the larger organization of the criminal law is widespread is evident in the strong efforts to bring about revisions, as for example, the Model Penal Codes of the American Law Institute and the criminal laws and sentencing code revision committees which are to be found at work in many of the states. Many of the disputes and problems which center on the criminal law and its development are outside the scope of scientific research, although certainly are the subject of legal scholarship as such. In recent years there has been an effort to marry the interests of lawyers, behavioral scientists and other specialists--as for example, psychiatrists. It is increasingly realized that some of the issues confronting legislators, jurists and legal scholars can be clarified by empirical research. Much work, for example, is being done currently to assess the impact on behavior of narcotics laws; strong proposals for study have been made for such evaluations in the field of vice, organized crime, and white collar and commercial crime. The development of joint inquiry which brings together the knowledge and skills of law makers, judges, legal scholars, and behavioral scientists is a meritorious endeavor and research proposals which reflect movement in this direction will be considered, insofar as the proposals are sound, as priority activities.

Criminal offenses; "Dark number" studies

In discussions (Pamphlet # 2 of crime statistics) the point

is made that most crime in the U.S. is not reported. For statistical purposes this is methodological problem, but for the examination of the significance of crime in society--in terms of the actions and perceptions of citizens and in terms of the responses of the police and legislators--an adequate investigation of the "dark number" phenomena is urgent. Some Crime Commission studies on victimization provide excellent beginnings. What is needed is a functional analysis of the differences in conduct, persons involved, perceptions, police response, community milieu, etc., which serve to distinguish dark number from reported crimes. One must expect that knowledge derived from such work will provide an area of dramatic illumination of factors bearing on criminal offenses.

Criminal offenses; offender characteristics

A consideral amount of work has been done in clinical psychiatry and psychology in personality studies in attempts to identify recurring personality features among offenders. Currently it is popular to seek personality variables linked to violent offenders (sometimes without noting that there are many forms of violence). Important and solid findings have emerged in descriptions of drug law offenders, confidence men, and others. Continued work in this area of personality should be supported. Efforts to describe offender characteristics have also been made at the neurophysiological and psychophysiological levels, as for example, EEG studies of psychopaths, GSR studies of risk-takers, etc. Promising areas for research include studies of autonomic nervous system; psychoendocryne factors in relationship to behavior (see Wenger, Hess, Funkenstein), genetic considerations in aggression (of XYY chromosome studies), and ethological studies relating predatory, deficient or destructive behavior to early (infancy, childhood) experience, etc.

Criminal offenses; environmental and situational factors

Considerable work has been done in sociology, social psychology and psychiatry in an effort to identify features of environment and setting which contribute to the production of criminal behavior. There has been specific and relevant work on stress, risk-taking, situation perception, group influence, criminal opportunity, precipitating factors in homicide, interpersonal crises and the like. Given the fact that environmental features, broadly defined, give rise to personalities and to particular life settings which are in turn linked to high risk

of criminality and given also that immediate environmental circumstances comprise the situation in which a criminal act takes place, it is not surprising that a great portion of criminological research and of police practice focuses on environmental features. The problem in defining research priority is that attention to environmental features as determinants of human behavior encompasses fundamentally the whole of extrinsic inquiries in the behavioral and social sciences, just as action experiments or programs of intervention to prevent crime run the broad gamut of social, economic, and political methods which have been used--or are suggested--for introducing all manner of constructive environmental changes. Most of these broad programs (e.g., reducing poverty, improving education, offering job opportunities) are considerably beyond the scope of criminological research or of the operations of agencies administering justice.

In order to specify research priorities on environmental features, it is advisable first to order priorities regarding kinds of crime which are of greatest concern and, secondly, to envision environmental situations in which specific interventions (i.e., police tactics, correctional methods, manipulated group ethics) are feasable, that is within the particular capabilities, present or developable, of local agencies and institutions. The following endeavors are illustrative of those holding promise:

- Crime prevention through potential victim education

  Much recent work has shown that actions by the victim either invite offenses, stimulate a cycle of escalating conflict, or simply provide opportunities to predators. Insofar as one can presume the existance of large populations of potential victims (householders at risk of burglary, businessmen at risk of fraud, auto owners at risk of clouting or theft), one can attempt to identify classes of victims defined by their precipitating roles, their capabilities of reducing victim status, and the best methods for communicating to them means for their safeguarding themselves, their families and their property. Such studies require the combination of basic behavioral science research with action programs of crime prevention by local agencies, e.g., police, school systems, etc.

- Crime prevention through education of potential offenders

  There are a number of levels and styles of education

which can be applied as environmental interventions. Ongoing are efforts to teach conceptions of law and mutual obligations in grade schools, church school endeavors to link abstract religious principles with specific conduct requirements, work with parents groups to enhance school and ancillary institutional educational endeavors directed at high risk slum children, and didactic efforts in prisons to develop in inmates emotional understanding of heretofor alien moral standards. Other levels of education include instruction in laws and regulations to specialized groups at risk of violation (those engaged in businesses governed by such regulations, taxpayers advised of tax laws, etc.) Systematic education also includes education of past or potential offenders to risks in offenses. A number of relevant research enterprises are foreseen, including identification of kinds of populations influenced by particular educational endeavors with demonstrable reductions in expected rates for particular offenses. Some of these endeavors require conventional application of educational and mass media research strategies, some move into the areas of the formation of group norms, of work on attitude change, and of evaluations of minimal levels of enforcement for risk of apprehension probabilities to affect conduct.

Adjudication speed and outcome and crime deterrance

The President's Crime Commission observed that in a number of courts the processing of criminal cases was so slow as to call into question the efficacy of punishment, at least as perceived by the wrong-doer. Individual judges comment that actual and potential offenders include in their risk estimates (whether or not to commit offenses), estimates of the speed and outcome of adjudication. An important research area focuses on these features: actual operation of the courts and outcome of criminal cases, the effect of court operations and outcomes on connected persons' future criminal conduct, and the perception of the adjudication-outcome system by the population of not charged but potential offenders. An anticipated outcome would be a set of statements as to the effect of given court procedures (including sentencing) on given populations of offenders and potential offenders.

Neighborhood and group intervention for crime prevention

Ever since Shaw's famous area project in Chicago there have been efforts to reduce crime by working in the neighborhoods where risk of youthful criminality has been high. The tenor of streetwork with gangs, of neighborhood recreation programs, of various poverty program self-help endeavors has been to emphasize direct attacks on presumed core influences on crime; the family and peers of young people. Evaluation of such work has been difficult; early assessments--as of the Chicago Area Project--were discouraging, yet more recent case reports from streetworkers and youth program organizers hold out considerable hope. What is needed is a systematization of what is already known, a refinement of evaluation methods, and formulation of model programs which rest upon facts showing which methods work for the different kinds of communities and populations involved.

The police as an environmental agent

Much police work rests upon the practical knowledge that the police presence serves as a deterrance to crime, e.g., saturation patrol of districts can suppress crime rates. It also rests on the premise that interpersonal intervention can influence future behavior, thus juvenile officers work directly with youngsters, and officers when apprehending an offender make decisions as to disposition with an eye to its impact on future criminality (e.g., warning, referral to agency, requiring parents to pick up the child, booking etc.) such functions leading to descriptions of beat officers as "curbstone magistrates." Clearly the police in their work are the prime agency which citizens rely upon for crime control. (Although as the President's Crime Commission noted, neither prevention nor control of crime are within the present capabilities of the police, at best they can increase the risk of apprehension for offenses committed). Given these fundamental police operations and the fundamental assumptions of the citizenry about police effectiveness, it is obviously a strong need to establish--for the purposes of strategy and tactics--better estimates as to the actual effects on crime rates for given styles of police intervention, for example, what factors would account for a failure of saturation patrols (S squads) to reduce purse-snatching? What constitute standards for the beat officers to help them decide which disposition is best for a young minor offender when first apprehended? What juvenile officer actions are most efficient from the standpoint

of maximal reduction in gang offenses? These and other questions require the joint effort of behavioral scientists, police officers, and criminal law specialists.

Civil disturbance

Although linked to the efforts in community relations, a special and growing problem is presented by the expanding violence associated with civil disturbance. As the reports of the Kerner Commission showed, the problem is considerably broader than simply identifying individuals who commit acts of violence; one must consider the larger social-economic forces which contribute to non-respectful dissent, which contribute to confrontations between the police and citizens, or between citizen groups, and which underlie the anxiety and anger of citizens who are victims of prejudice, or exploitation, or insufficient education in democratic conduct. As with other problems in crime, the offense itself is an outcome of complex events which are themselves more the province of politics or social philosophy than of criminology or police operations themselves. Nevertheless the police are called upon to respond to civil disturbances and to act to protect the peace while the courts and correctional facilities are called upon to deal wisely with the individuals apprehended. Yet at several levels there is a desperate shortage of knowledge as to what to anticipate and how most wisely to respond. We need knowledge about the reasons for escalating militancy among students and minority group members. We need knowledge about the conditions under which small groups of militants who espouse violence will be joined by larger groups of a more conventional nature (e.g., ordinary students, faculty, minority leaders in a community). We need knowledge about the conditions under which disturbances are contageous, as for example in the spread of student strikes, the growth of urban terrorism (internal warfare), etc. Some bits of knowledge are on hand; mostly in work done by behavioral scientists, community organizers, and police departments with experience in intelligence and in civil disturbance settings. That knowledge must be expended and communicated to others soon to be faced with disturbances. In addition to fundamental facts about why, we need reliable estimates of trends which will tell us, who next, where next, and when. We need further to establish better guides for the police in terms of intelligence and assessment. Finally, one needs guidelines for response. Given a situation in a ghetto, on a campus, in front of a draft board, what sequence of operations are optimal? And for the courts and

correctional facilities, given persons apprehended in civil disturbance, what processing and sentencing procedures are desirable? One learns much from the Commission on Civil Disorders, one anticipates learning more from the Violence Commission. Insofar as their recommendations include requirements for more knowledge, then a strong priority is to be attached to research and development which contribute to that knowledge.

Police and court technology

In the world's most advanced technological society it is surprising to see how little of that technological potential has applied to the operations of components in the administration of justice. Computers are rare in police departments, data storage and retreival systems to assist in detection and apprehension of offenders (from warrants through patrol through arrest inquires) are only now being developed; electronic data processing facilities to assist courts and correctional facilities are also rare. Similarly the equipment of the police, whether one inspects vehicles, non-lethal weapons, handguns, surveillance devices--even clothing--is for the most part out-dated, borrowed from military or civilian models, or ill-adapted for its police function. The reports of the Crime Commission document these weaknesses and the potential for rapid improvement in technological capabilities of the police. The potential benefits for records especially are also apparent for courts and corrections. A number of endeavors are recommended; several are already underway, for example, the Institute is supporting work on police transceivers and is planning to disseminate information on new night vision devices. High priority projects include improved alarms and sensors, automatic (vehicle and foot) patrol locators, a nationwide telephone police number, improved vehicles for auto and helicopter patrol, new non-lethal weapons, improved body protection (vests, visors, helmets), etc. More detailed illustrations for technological development may be found in the Crime Commission's several reports (reviewing radar, infra-red, television, facsimile, mobile stations, telephone alerting systems, etc.)

Court operations

The need for endeavors focusing on the courts has already been touched upon in considering research on deterrance for crime prevention and in stating the requirements for technological assistance in court data processing. There are general and pressing requirements for the operation of the courts which con-

stitute areas where research and development may be expected to make a contribution. The President's Crime Commission called for "early identification and diversion to other community resources of those offenders in need of treatment, for whom full criminal disposition does not appear required." This recommendation leads to the need for knowledge as to which kinds of offenders suffer from what defects of personality, education, or physical health and when these occur, what forms of treatment promise rehabilitation. There is, for example, evidence that alcholics can be benefited by enforced treatment procedures, thus the provision to the judiciary of information which they can use in disposition of offenders with alcohol problems is a natural consequence of a research endeavor. Another recommendation of the Commission proposes the simplification of indeterminant sentences, using the Model Penal Code as a standard. Yet the judge--as with the parole authority--must rest a sentence in part upon a prediction. That prediction, of recidivism risk as a function of length and kind of sentence, must arise from research-generated data. Some data is available (witness the work of Burgess, the Gluecks, Wilkins, and others); yet what is needed is an imaginative approach to postulating and measuring recidivism-related variables (e.g., data which shows the relationship of post-release experience to recidivism), and the development of tables applicable to local populations throughout the country (i.e., the judge must know the effects of his State's prison system or his county jail on different kinds of offenders). Sentencing disparity is another concern of judges--and of the Crime Commission. The call is for a regular system of data gathering which will show sentencing disparity by class of offender and kind of court for all court systems (if not for all judges) and which will, in addition, provide a means for relaying that information to judges in such a fashion that judges can, as a group, work to establish standards appropriate to their needs. Such work might be in conjunction with the American Bar Association which has proposed standards for appellate review procedures. A final priority area, given the great burden of cases on the courts and the slowness of procedures, focuses on considerations for the reduction in the kinds of behavior punishable under criminal statutes. The possibility of such reduction has been referred to earlier; for any such major change in the criminal law to come about will require a considerable period of analysis of the impact of the present law on offenses, the testing of alternate methods for disposition, and the evaluation of the attitudes of legal professionals and laymen so as to assess the acceptable limits for change should such changes be recommended.

Correctional impact on recidivism and adjustment

There have been studies which relate recidivism to correctional experiences, as for example, sentence duration, prison adjustment, prison work record, participation in one or another form of psychotherapy in prison, exposure to varieties of security facilities, and the like. The most recent major work has been the assessment of recidivism of federal inmates.(Glaser) There have also been valuable attempts to compare the impact of prison with the alternatives of probation. There remain, nevertheless, a number of deficiencies in our knowledge. These include an almost total lack of information on the impact of the single largest "warehouse" in the penal system, the city or county jail. There is, further, almost no knowledge about the social adjustment of released inmates who do not become recidivists; yet no appraisal of impact can be complete with assessment of those who appear to succeed. A third problem has been the lack of flexibility and professional resources in most correctional facilities so that very little experimentation has been possible. A fourth problem is related to the third; lack of professional resources has meant that at least some of the research which has been done lacks methodological soundness so that the findings are essentially useless. As priority areas it is proposed that the following work be undertaken in correctional settings:

- A major effort to describe jails, their operations as these touch on inmate education, morals and health, and the assessment of the outcomes of jail experiences.

- Follow up studies of cohorts of released inmates using sophisticated social and psychological assessments--including attention to the environments in which they live--with an eye to assessing recidivism as a function of offender characteristics, penal experience, and post-prison circumstances.

- Evaluating a variety of correctional experiences so that, within categories of discretional disposition, there is experimental random assignment of offenders to various types of correctional facilities and, within facilities, random assignment to a systematically expended variety of institutional programs. Evaluation should begin not at time of parole violation but should monitor inmate adjustments at all stages of processing, incarceration, and after release.

- Special encouragement should be given to innovative experiments within institutions, as for example, those comparing moral, didactic, work, analytic, and behavioral therapy programs (to illustrate only, not a design recommendation). Encouragement should be offered to correctional workers collaborating with scientists of exceptional research sophistication and imagination.

- Considerable controversy remains with regard to probation and parole practices as these contribute to recidivism rates. It has been shown that locale, caseload, administrative change, and other variables operate to contaminate recidivism data purportedly showing recidivism as a function of offender characteristic, probation officer styles, etc. Further work is needed to identify the events and interactions which contribute to the actual conduct of the parolee as well as to the decisions as to whether or not to revoke parole or invoke suspended sentences. When there is a better understanding of the factors that influence the risk of offense it will be possible to offer better comparative data on probation, parole, and incarceration as sentencing alternatives.

- As better information is developed which predicts recidivism (presumably as a function of person, prison experience, release environment, parole setting, etc.), it will then be possible to provide models for decision making regarding release as well as for sentencing. As an important area for inquiry in the meantime, there must be attention to present decisions matrices including hidden policy variables (latent functions).

Reducing recidivism

The programs for correctional research presume an intent to reduce recidivism rates, yet as has been implied, there is strong evidence that extra-prison (or jail) factors contribute most to the risk of repeated offenses. It is known that recidivism is related to offender characteristics prior to offense, to social relations, the kind of offense committed, and the nature of the release environment in which an offender lives. Recidivism is also a function of the revocation decision on the part of parole

officers. (See above). There is further evidence that factors in the post-release environment can be manipulated to improve the adjustment of parolees thus reducing recidivism. These are by no means all of the factors associated with recidivism, indeed many of the influences have yet to be identified. What is evident is that there is an urgent need for evaluated action experiments which will serve to reduce recidivism rates (which currently run overall at about 60%). Since the offense is one necessarily taking place in the release environment, the problem is one of crime prevention for prior offenders. A number of social experiments have been conducted, for example, the use of parolee peers as parole officers, the British and Swiss "adoption" method whereby established citizens serve as counselors and friends to parolees, the building of half-way houses where parolees can make a transition to community life, the development of parolee self-help groups (modeled on the Alcholics Anonymous or Synanon plan of group meetings and emergency help), etc. Most of these methods have been put in practice without adequate evaluation which would state which is comparatively the best for which kind of offender. In addition, there is a need for imaginative ventures--which incorporate evaluation--which provide reconstructed environments, as for example, in whole family therapy for parolees and their wives, incentive job corps programs with close supervision in relatively isolated surroundings for high-risk parolees (i.e., voluntary participation in controlled environments), and--most strongly recommended for study--graded release programs which allow parole officer-judicial supervision over a many-year period (on the model of the Danish and Dutch systems), and which allow for failures and growth. The latter required both expanded facilities, enlarged professional staffs, and facilitating legislation.

Mass media studies

There is widespread citizen concern over the impact of television on youth, on the effects of erotic literature (e.g. comic books, picture magazines, etc.) and over the possible contageon in civil disturbances which news reporting may create. These are all worries about the link between the mass communications and criminality. Other concerns are social and political; police officers can feel unfairly viewed by the press, there are complaints of prejudicial reporting, newsmen report selective brutality by police officers directed at them, and in some cities it is said that newspapers make and break police chiefs without regard to competency. Because of these concerns, diffuse but voiced by citizens in many walks of life, it is apparent that research on

the role of the mass media is in order. Scholarly work has been done attempting to assess the impact of particular kinds of programs or periodicals on specific behavior outcomes in children; more such work--more broadly conceived--is in order. There has been no systematic study of the complex emotional-attitudinal-political relationships involving the police view of the press and vice versa nor of the role of the press in police administrative affairs. Beginnings of such studies are called for. Their goals should be to define what the police and journalists feel, how they have come to their opinions, and what can be done to reduce such misinformation or conflict as may exist.

Drugs and alcohol

The largest single category of arrests is for alcohol-use related offenses. The most rapidly growing arrest rate (in some states) is for youthful drug offenses. These events have led several national commissions, including the President's Crime Commission to recommend major changes in the laws and in disposition of drug cases. Two other Federal agencies are actively pursuing research and development programs in the drug field (Bureau of Narcotics and Dangerous Drugs, Center for Drug Abuse at NIMH) and one Center (NIMH) is supporting research on alcoholism. It is important that any research and development undertaken by the Institute be coordinated with these other endeavors and complement rather than reproduce their work. A major area in which work is required is in the production of information of value to local police agencies, as for example, studies of the drug traffic as an economic and social system (which at some points joins with work on organized crime), examination of the impact on young drug users of the law and of arrest and sentencing practices, studies of the traffic in and growing use of weapons among drug dealers and work to improve police intelligence operations (again a special case of a general need early cited).

Comparative studies

Comparative studies in two behavioral science basic research areas are recommended. One is cross-cultural and requires that the genesis and nature of crime in different cultures be examined along with assessment of differing means for crime intervention, control and correction. This latter endeavor leads to comparative work on police, judicial, and correctional systems designed

to illuminate features in such systems that are worth borrowing for trial application in the United States. The second set of comparative studies requires biological investigations and calls for research on destructive behavior (predatory conduct, infanticide, etc.), among mammals to identify genetic, rearing, and environmental features associated with the emergence of destructive activity.

Administrative and organizational research

There is a strong need to improve the organization and management of many of the agencies involved in the administration of justice. Some of these needs can be met simply by applying techniques already at hand, others require the modification of techniques through trial programs; still other needs require that research can be done to provide directions for improvement. There is, for example, a considerable body of research which aids in personnel selection, there have been applications of this research in police selection, yet there are many areas of police selection which still require investigation. To illustrate, recent work has been done on the use of the polygraph in police selection showing the polygraph (lie detector) yields data not otherwise revealed. What has not been done is a follow-up study which would show whether the data so revealed has relevance to predicting actual job performance. It is also the case that prediction work to date has been general, based on the generalist conception of the police role. Yet with increasing specialization, it would be well to considering recruitment, hiring and training directed toward specialist functions. Such endeavors would require careful job descriptions, test development,evaluation of training impact and the like, all of which are within the capabilities of the administrative and psychological sciences. Other research areas deserving attention include police organizational interpersonal communication nets, formal verses informal training and policies within departments, and analysis of the impact of and accomodation to unionization of public safety personnel. Also critically important are studies of innovation itself--how best to bring about change in law enforcement, courts, and correctional agencies.

A LINE MANAGER LOOKS AT PERSONNEL MANAGEMENT

by

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A LINE MANAGER LOOKS AT PERSONNEL MANAGEMENT*

by

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Is an effective personnel management job being done today? By whom? Are needs being met?

In specific instances, personnel management is effective, e.g. sound career programs in some companies, excellent recruitment campaigns in other companies, fine research on human behavior in certain universities, high esprit of public service in many elements of the government, and so on.

But the line manager must work with the basic raw material furnished him. If he gets an excellent new employee from within the organization directly from the outside, he is fortunate. If he is given a choice between a marginal person or nobody at all, he is frequently guided by the old proverb that "It is better to struggle with a sick jackass, than to carry the wood oneself." The line manager is therefore always interested in the general character of the manpower situation at large.

What can he expect today? What kind of esprit? What sense of dignity? What value norm?

The line manager and the personnel manager both recognize that they too influence the character and nature of the manpower pool at large. For it is their employees and their children who comprise this manpower reservoir. None of us, therefore, can say with absolute justification that he has nothing to do with the issue.

When we ask the key question about our society, when we look all around us in the light of the events of the past year, how else can we answer questions about our handling of people in the large--except to say "pitifully poor!" Considering all our understanding of the dignity of man, all our affluence, all our education--we ought to be ashamed of the present state of affairs.

My answer to the question, "Is an effective personnel management job being done?" No, an emphatic No!

Regarding the second question "By whom"? my answer is: an effective job is being done as local wavelets in an otherwise churning sea of dissatisfaction.

Regarding the third question, "Are needs being met?" my answer is ambivalent and generally negative.

WHAT ARE THE GAPS?

What actions and plans are necessary to meet the challenges of today and in the immediate future?

In the purely mechanical and routine aspects of personnel management, I find no disconcerting gaps. People get paid on time, application forms are available in profuse quantities, channels of grievance appeals are set up, and computers are being brought into play. Major progress will be made in the normal course of events and I forsee significant advances in this direction.

On the substantive side of the ledger, however, the situation can stand much improvement. The problem is one of a nebulous orientation. There seems to be a lack of firm philosophical anchorage and a diffusion of insight, which spreads a cloud of uncertainty and inefficiency throughout our society, throughout our organizations. Now and then, a line manager or personnel administrator is able to dissipate this fog in a local setting. But the pall hangs on! Let me be specific.

First we will examine "management by exception" as the guiding rule of personnel management.

What does it really mean?

It means that the manager is always surrounded by people who are discussing problems with him. In all probability, these problems were created by the very people themselves. By being constantly enveloped in such an environment, the manager soon loses the true feeling for the deserving individuals who never create problems and who solve them without having them boil up to the manager's level. He loses touch with the deserving point of reference. His subconscious view of mankind becomes tainted by his constant communication with the exceptions. This leads to the thinking that somehow he ought to be able to control people such that they don't generate problems, which are always embarrassing him. This view has an insidious quality. A hardening of the soul sets in.

My first suggestion then is: Do not manage by exception; be in touch with all of the people all of the time.

Another question often heard in management circles goes something like this: How can we make man more effective in the man-machine combine so that materiel productivity can be maximized? This is a dangerous basis of personnel management. To attain this means making man and the machine resonate in the same frequencies, speak a common language, and accept the same values. The entire endeavor would then reach a climax when the heart of the machine itself is transplanted into the breast of man. To optimize a system, the subsystems must be matched. Since we cannot manufacture machines able to feel like men, we will have to make men behave like machines. This is the inescapable conclusion of the man-machine thesis. It is the dehumanizing of man.

So my second suggestion is: Drop the man-machine concept; let man be the measure of value.

One of the greatest deficiencies in our handling of people today is the production line approach to personnel management. We pride ourselves in lumped statistics. I've tried to get a kitchen helper transferred from a government cafeteria, for example, to a punch-card office because she was alert, capable, and showed considerable potential as a human being. But no go. I've tried to activate a novel career development program for the uneducated. But no go.

Everyone is too busy--too busy with the production line, too busy with the big picture, too busy with looking at the fine overall statistical arguments.

They just did not have the inclination to take that extra trouble to deviate from the production line to make a particular face smile, to see a particular hungry mouth fed, to see a particular flower blossom.

So my third suggestion is: Humanize and individualize, rather than mechanize and generalize.

HOW ABOUT PLANNING?

There are two important considerations in this regard. The first is that the technological environment is changing rapidly at an ever accelerating pace. The second is that man adapts rather slowly. A fish, for example, is on his own the moment it hatches out of the egg. On the other hand, man takes decades of education to prepare to earn a living and an indeterminate length of retraining to move from one job to another.

When dealing with people there is a considerable and varying lag period which must always be borne in mind. We should anticipate this. Our anticipating should be sufficiently in advance to allow the requisite time and resources for the necessary retraining. This retraining should not be restricted to the purely mechanical and procedural aspects of the job but should include considerations that provide a sense of values and dignity compatible with the new job. Only in this way can management fully meet its responsibility. But to wait until someone fills a personnel requisition before taking action is too late for today's technological age. In my opinion, this is the primary reason why personnel management frequently appears to be fighting the problem!

So I make the fourth suggestion: Anticipate and act, rather than react and resist.

What should be the role of the personnel office and of line management?

Personnel management is a shared responsibility. However, one or the other usually takes the lead or the primary responsibility. However, one or the other usually takes the lead or the primary responsibility in a given area. With respect to the four things to be done, I believe that line management should pay particular attention to the first two suggestions and the personnel office should emphasize the last two suggestions. Line managers should:

a. Junk the principle of management by exception; be in touch with all of the people all of the time, and

b. Drop the man-machine point of view; let man be the measure of value.

On the other hand, the Personnel Department should:

a. Humanize and individualize, rather than mechanize and generalize, and

b. Anticipate and act, rather than react and resist.

ROLES OF MANAGER AND PERSONNEL

We can make another division of responsibility between the two managers by looking at the nature of the job of the line manager. He is given a certain objective to reach--developing a product, making a profit, furnishing a service. With this charge, he is given certain resources of men, money, and time.

With respect to the role of the line manager in personnel management, I would identify three principal responsibilities.

First, he is to use the individuals furnished him by the personnel office for the attainment of his assigned objective in a sound and dignified manner.

Second, he is to insure that during this period of employment, the net worth of the employee as a member of society and as a reservoir of talent and skill is increased.

Third, he is to release the employee to the manpower pool as a more useful individual and employee for the next manager.

As far as the personnel officer is concerned, I would like to mention three principal responsibilites.

First, he is to keep the manpower pool at good quality and quantity to meet the needs of line managers.

Second, he is to keep improving the human and talent worth of the pool; keep reshaping and revitalizing it in anticipation of future needs; and intermesh it with other functions and groups of society.

Third, he is to overview the line managers' treatment of human beings, sound the clarion call when people are being dehumanized or wasted away, and make necessary adjustments to steer efforts in the right direction.

Capable line managers themselves are quite knowledgeable in the handling of people. Otherwise they would not have been promoted to being executives. The most capable ones may know more about people than many personnel officers. But even the best executives have a lot to learn about people from the better personnel officers. This is the crux of the delicate relationship between the personnel officer and the line manager.

A good executive will seek advice and help from a good personnel officer, particularly in shaping personnel policies, philosophies, criteria, and plans. However, a good executive will not endanger his operations and

jeopardize his objectives by agreeing to unsound personnel policies, philosophies, criteria, and plans.

The decisive factor lies principally in the hands of the personnel officers. The line manager, in order to do his job, has no choice but to be good in personnel management. The personnel officer, in order to do his job, has no choice but to be better.

ROLE OF TECHNOLOGY IN CREATING THE ENVIRONMENT FIFTY YEARS HENCE

by

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ROLE OF TECHNOLOGY IN CREATING THE ENVIRONMENT FIFTY YEARS HENCE*

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Wholeness of Man

Man has always yearned after Beauty, Goodness, and Truth. He has speculated continuously about the perfect life hereafter. He has hoped for its approximation on Earth, where "the wolf also shall dwell with the lamb and the leopard shall lie down with the kid," where life is fulfilling, beautiful, and uplifting. Plato described his concept in his Republic; Francis Bacon in his New Atlantis; Tommasco Campanella in his City of the Sun.

Many left their homes in search for the land of their dreams. Thus it was that Paul Gauguin basked under the tropical sun of Tahiti. Others attempted to create their own Shangri-la where they were. Such was the Red Fort of Shah Jehan in the seventeenth century. There on the banks of the Jumma River, delicate pavilions and marbled mosques nested among blooming lotus pools, soothing waterfalls, and exquisite gardens. The Grand Mogul had inscribed above one of the great halls: "If there is a paradise on earth, it is here, it is here, it is here."

It is a pity that we hear very little of these utopias nowadays. The eager voices of former times seem to be drowned out by the contemporary prophets of gloom and doom. Despairing people are parading around condemning society as being hopelessly rotten through and through and point accusing fingers in the direction of technology. I would like to suggest that we reject such glooming and dooming over man's helplessness in general. I protest such disapproval of technology in particular. Some decry technology for the fire and brimstone which rain upon cities in modern warfare. For them, let me recall the Biblical event thousands of years before modern technology, when death and destruction came down from the vengeful heavens upon Sodom and Gomorrah. Others impugn technology for the unemployment plaguing some of our communities. For them, let me point to the dire misery and groveling destitution hundreds of years before modern technology throughout the European cities. Still others blame technology for the wayward youth of today. For them, let me quote the words of the Assyrian, thousands of years before modern technology, who said, "Our earth is degenerate in these latter days; bribery and corruption are common; children no longer obey their parents; every man wants to write a book, and the end of the world is evidently approaching." That was the state of affairs in 450 B.C. So let us not censure technology too severely.

Should society be degenerating, let us say that there is more than enough blame to go all around. Should society be improving, let us say that there is more than enough credit to go all around. I feel the latter to be by far a better assessment of the situation. But even if society may be on a downward slope for the moment, one does not go about improving the state of affairs by damning and scuttling it. Rather, one should go about with the same soothing understanding that Natasha showed to Waska, in Maxim Gorki's Lower Depths. The poor Waska replied to her

kind words, "From childhood, I have been only a thief. . .always I was called Waska, the pick-pocket, the son of a thief! I was a thief, perhaps, only out of spite. . .because nobody came along to call me anything except--thief. . .You call me something else, Natasha. . . ."

The thrust of my paper is twofold: There has never been a greater opportunity for society to approach utopia on earth than in the next fifty years and technology is a key element of implementation. My thesis follows that of Mencius: Man is basically good and wholesome, if we respond to his natural leanings by providing the appropriate environment and means, society cannot help but be healthy and happy. But to be natural is to be entire, integrated, and organic. Neither man nor society is to be fractionated into myopic foci of attention and dismembered by disconnected interests. Technology needs to join with Art, Spirit, and Science to realize the wholeness of living.

I shall now discuss the three most important roles of technology in shaping man's environment toward this end during the next fifty years. These are (1) expansion of technology's vista, (2) instrument of values, and (3) avant garde of the new age.

Expansion of Technology's Vista

Broadly speaking, Technology is the application of knowledge to practical purposes. Technology has never coveted the role of Art, Spirit, and Science in proclaiming the norms of Beauty, Goodness, and Truth. It merely recognizes that man's lot can be enriched in everyday living, that a number of options are available to attain the best-of-all-possible worlds, and that technology should get on with the job.

During the past fifty years its attention has been directed toward a continuing increase in material productivity of capital and labor. How much should be spent on supporting research and development? What fraction should be contributed by the private sector and what by the public sector? What kind of new knowledge is required to further this productive efficiency? What planning? What new managerial techniques? At first glance, technology seems committed to do the same things in the same way in the next fifty years as it has in the past fifty--except faster, at an ever-accelerating pace. Art, spirit, and science are to catch up as best they can. Public policy and social effort are to react as expediently as circumstances permit.

But this is not the role I envision for technology in shaping the future environment. To be sure, an increase in material production will continue to be a necessary contribution of technology. I do not minimize its importance. But society senses that more of the same will only lead to an enlargement of the cul-de-sac in which it feels constrained. It is expecting something new. In order to respond effectively, technology must first have a clear vision of its own personality, heritage, and

potentialities. It must also expand its vista to take account of the human context in the totality. Let us review the bidding.

The most striking characteristic of today's technology is the greatness of power in the application of scientific knowledge to purposes of materiel. The first nuclear-powered ship, the Savannah, could have continued for three hundred thousand miles without stopping on its maiden voyage in 1962, using its eight ton load of uranium oxide fuel. Wind tunnel tests have been successfully carried out on a delta-wing aircraft at the equivalent speed of five thousand miles per hour. A single space satellite can transmit to half of the earth at the same time, in contrast to a direct range of fifty miles prior to the era of space communications. We can look forward to face-to-face TV-telephone conversations with anybody on earth, TV-transmission of mail, and dialing of latest news from all parts of the globe. Laser pulses are in production line use, punching holes in diamond dies in two minutes instead of three days required by the older procedure using steel pins and diamond dust.

Technology is now eyeing the potential riches of the oceans: the gas and oil in the spectacular salt-dome under the gulf of Mexico, the phosphorite fertilizer nodules off the Continental Shelf, the manganese and magnesium ores on the deep ocean floor, and the fish that got away.

A second characteristic of technology is the self-effacing modesty of its members. There is minimal paining of personal egos. The entire technological endeavor is swept up in the enthusiasm of the common effort. Such was the beautiful story about the Cathedral of Chartres. One day the cathedral was struck by lightning and burnt to the ground. Thousands of people--master builders, artisans, laborers, priests, artists, and burghers--came from miles around and rebuilt the impressive structure on the same site. Not a single name of these individuals is known today. Their personal fame mingled anonymously with the common sweat and mortar as the Gothic blocks were laid one on top of another.

It is this minimal concern for egocentric recognition on the part of its practitioners that permitted technology to look outward for suggestions. It began to envision the necessary transformations of its former practices to match the future interests of man. The horizon expanded greatly with the so-called systems approach to materiel management. The technique has been refined to a highly sophisticated degree during the last two decades in the development of communications and the fielding of weaponry.

As technology matured in the application of systems management to materiel problems, it began to notice that the products cast shadows far beyond the mere conversion of knowledge into materiel. There were important interactions with the lives of men.

To bring ideas into practical realization requires knowledge and assessment of human behavior. Thus it was that although red hair dyes were

used in Egypt in 1600 B.C. and green eye shadows in 500 B.C., the cosmetic industry never began to take hold until the end of the nineteenth century. Its growth in the twentieth century was largely a matter of skillful marketing.

The construction of skyscrapers is not just a matter of engineering know-how. There must be an awareness of the marketplace for services, the financial problems of subcontractors, the uncertainties of labor, the inroads of taxation, the pitfalls of various lease arrangements, the trade-offs between aesthetic appeal and functionality, the long-term outlook for the surrounding community, and the imprint of the people for whom the services are intended.

An even more intricate network of factors operates in fostering the economic expansion of a country. This is directly affected in large measure by the growth in world trade. The latter is influenced by the levels of tariffs and functioning of the international monetary system. These two, in turn, are related to the stresses and strains of the balance-of-payments difficulties of individual countries and the crises of confidence that wax and wane with every rumor.

As a result of such experience, technology is gradually reorienting itself from individual gadgets of materiel systems, then from materiel systems to functional systems, with man as the point of reference. Sumner Myers neatly illustrated the needed transition with the simple case of traffic control. "Most street traffic control systems are now programmed to move vehicles, not people. . . .Traffic lights are set to favor three people in two cars over fifty people on one bus. To give buses the priorities they deserve on the 'time shared' city streets, traffic control systems should be redesigned to consider people flows rather than vehicular flows. In the language of the traffic engineer, they should be people-actuated, not vehicle-actuated."

As technological innovations become people-actuated rather than device-actuated, significant social benefits will ensue with an upward sweep. This is exemplified by the installation of five thousand new electric lights in an Indiana city not too many years ago. Criminal assaults declined 70 percent and robberies dropped 60 percent over a two-year period.

Technology has already begun to anticipate the drastic social changes of the next fifty years. It recognizes that not much time is available to make preparatory adaptations. The point is readily observed from the popular curves on the output of technology. Graphs on energy consumed, speed of transportation, tons of materiel fabricated, number of electric components per cubic foot of space, and number of discoveries, for example, show an originally slow incubation period with time, followed by a gradual upward turn, then a sudden steep climb. Today the curves are on an almost vertical rise. Technology seems steaming toward the peak of "Megaloscience." Electronics would replace the composer and the poet.

Computers would become the dispenser of knowledge. Children created in the image of God would be brought up in the image of machines.

There are definite signs, however, that the world is turning away from peripheral devices to central man. Technology has plunged headlong, so feverishly and resolutely down the material groove that countervailing reactions have begun to set in. As Lao-tze said some twenty-five hundred years ago, "Reversal is the nature of the Tao." The higher amenities of life are no longer to be excluded by material progress. The sensibilities of art and spirit are to be incorporated, as well as the facts of science. Action is to be a total equation. Somehow technology must find a way to the new synthesis.

This requires a dialogue between the thinkers of the social norms and the implementers of the articulated goals--between art, spirit, and science on the one hand, and technology on the other. The liaison must be mutually responsive. Before technology can apply the output of the former, there must be understanding. The surest sign of understanding is resonance at the interchange. This implies a transfer of thought, substance, and activation. In terms of purposeful activity, there must be a capability of predicting the physical embodiment of the Beautiful, the Good, and the True in the man-made world. Otherwise, the consequences of the utterances of art, spirit, and science would be but sheer accident. To be realistic, life is enmeshed in chance and accident. Lightning fells an oak. An impromptu meeting begins a new generation. An overhearing of a folk tune leads to a new symphony. Chance provides the tang and thrill of living. But it would be more reassuring to man's welfare if the capriciousness of chance were moderated in man's favor.

A principal question in this regard is: who should shoulder the primary burden for maintaining the dialogue on a meaningful basis? To say that we should have a new profession to bridge the gap between basic thinking and applied actions is merely begging the issue. This suggestion only leads to an infinite regress as to what further new professions are to be established to bridge the two new interfaces, and so on, ad infinitum. Speaking as an idealist for the moment and not as a technologist, I would say that both parties should meet each other at the half-way point. But practically speaking, this never happens. One or the other must carry the initiative and overlap the seams to form a functioning society, whether it be at the 51:49, 60:40, or 90:10 mark.

Perhaps my answer might have been different at another period of history. But at this stage of our civilization, and for the next fifty years, I feel that technology should press for the contact. I do not recommend this because I believe technology to be superbly qualified to undertake the responsibility. On the contrary, I consider it to be grossly deficient in this respect and I shall come back to this point later. But my reasons are three.

The first is to redress the balance between the materialistic and idealistic tendencies of the world during the past fifty years. We do

not need more know-how in getting things done. We need more insight about incorporating lofty ideals into the things that are being done. The best way for the doer to gain a keen insight into their nature is searching for them. He will never understand it if he is spoon-fed. The fact that technology has not damaged its engineering competence by maintaining close relations with science shows that technology will not lose its realism through intimate association with art and spirit. On the contrary, technology will acquire a new dimension.

Technology will be able to incorporate the meaning of Yeats' words into the everyday lives of men:

> God guard me from those thoughts that men think
> In the mind alone.
> He that sings a lasting song
> Thinks in a marrow bone.

The second reason is to preserve the precious talent of the true savants of art, spirit, and science. These are entirely too few to be diluted. Their beacons should be permitted to shine forth in their pristine brilliance to penetrate the smog of reality. They should not be sooted at the source.

The third is the very personalities of the individuals involved. Many of those in the forefronts of art, spirit, and science consider that everyday utility imparts vulgarity and banality to their works. They avoid realism and practicality, as if shrinking from a fatally contagious disease. On the other hand, it is in the nature of technologists to get things done. They do not stand on ceremonies. If the practical goal recedes from their grasp, they usually run that much faster in pursuit.

It is comforting to note that the enlightened leaders of technology are aware of the broader scope of their responsibilities. It is a rare top-rung industrial executive in this country who does not spend a significant fraction of his time raising money for worthy community causes, such as education, health, culture, and religion. For twenty-seven consecutive years, Texaco has been sponsoring radio broadcasts of the Metropolitan Opera on Saturday afternoons. The board chairman of another large company has been quoted to have said about a year ago, "We have got a tradition in General Motors of maybe too much sticking with our business problems!" The president of the company added, "We live in a changing world. Our job is to maintain liaison."

Technology's liaison with art, spirit, and science reminds me of the Indian apologue about a lump of clay, as described by William Punshon. A lump of clay was once asked by a man, "What are you?" The reply was, "I am but a lump of clay, but I was placed beside a rose and I caught its fragrance."

Instrument of Values

While absorbing the essences of art, spirit, and science, technology is expected to fulfill the second role of an instrument of social values. There is need to transform technology as an unknown and uncontrollable power into a welcomed and malleable force.

In this connection it takes just as much creativity and energy to solve wrong as well as right problems, to ameliorate phantom as well as real concerns. The task of technology, then, begins with the interpretation of the issue at hand. Defining problems in the component-oriented analytical fashion of the past will only lead technology back to the same kind of questions, tools, solutions, and contributions, with which it has been involved in the past. Defining problems in a totality-oriented synthetic fashion, however, will expand technology's horizon to new qualitative heights. Success would no longer be measured in terms of solving problems per se, but of maximizing value to society.

In order to facilitate its contributions in this role, technology must first be able to forecast the price to be paid for the value to be received. The social and human client needs to be reminded of Ralph Emerson's admonition: Nature never gives anything to anyone; everything is sold. It is only in the abstractions of ideals that choice comes without consequences.

The purpose of articulating prices associated with values is not to sap man's faith in his vision. It is not designed to scare off the bridegroom with a list of financial burdens linked to marital bliss. It is to guarantee his freedom in actuality. If a citizen is at liberty to make the choice, but is ignorant of the consequences, is he really free? The choice is what he imagines; the consequences are what he lives. Technology does not necessarily have the responsibility to advise as to selection of wants, but it has the responsibility to make the prices explicit and clear. If people's unawareness of the consequences misdirects them to harmful choices, technology must share the blame. If their poverty of soul or smallness of mind leads them to choose ill, despite the clearly defined consequences, then at least technology would have done its duty. In any case, the citizens in the democracy would have exercised their freedom to the fullest. They would be able to walk erect in the full light of day, enjoying the fruits of the decision as they are borne and paying the bills when they are due.

Unfortunately, this is easier said than done. The rapidity of change in today's world is alarming. About $24 billion is being spent per year in this country alone on research in the natural sciences and development of materiel. Ninety percent of all scientists who ever lived are living today. The amount of technical information doubles every decade. There are fifty thousand journals publishing the results in sixty odd languages. With today's constant flux, where does one find the reference reflection of the changing moods?

The clear statement of pros and cons is additionally complicated by well-meaning men of misguided action, and by the wily minority which knows,

as Oscar Wilde has said, that "to be intelligible is to be found out." There is a tendency to mask the bitterness and boredom with sweet flavors and soothing words. The wishful thinking of the public is catered to with pleasing sounds. This is exemplified by the testimony of a "motivational research expert" before a Congressional committee several years ago. He stated that "Our entire social structure depends on the mass production of psychologically satisfying products as much as the individual depends on these products in fulfilling his emotional needs." According to him, words like "colossal" and "mammoth" are more meaningful than "large" or even "very large." He argued for continuing the classification of "giant," "colossal," and "mammoth," rather than "small," "medium," and "large" for olives and prunes. Finally, he added the clincher, "Customers do not want small prunes at any price!" Stephen White described this art of advertising as "the wedding of artistic talent to commercial drive, brought about by the provision of a substantial dowry."

We need not belabor the difficulties surrounding the forecasting of costs of decisions, and the plausibilities of available options. These have been aggravated by the breakdown of ethical, aesthetic, and social norms of the Renaissance. Tradition no longer prescribes the constraints of former centuries. Modern man is adrift amid an enormously expanded range of choices with uncertain consequences. Nevertheless, regardless of the formidable nature of the challenge, technology must meet it head on. It may well take the next fifty years before technology perfects a frame of mind conducive to the art, and techniques appropriate for the task.

Once society has selected its values and goals, it is the role of technology to bring them into tangible forms. In attempting this particular task, technology must clearly appreciate the limitations, as well as power, of its own methods. For example, one of the most useful techniques is extrapolation. Extrapolations are made from mathematical equations to physical models, from small models to large operating installations, from physical analogs to flesh and blood, from mice to men, from man to society. These are giant leaps. The degree of uncertainty must be hedged with appropriate flexibility of adjustments.

A simple case of scale modeling may be used to illustrate the problem. All of the complex mechanical items which have been developed recently in this country have been engineered through the use of scale models. The basic question in every case involved the validity with which a scaling law can be written which accurately displays the similarity of behavior between the small scale model and the large operational prototype. Even in cases involving only reasonably complex equipment--like a turbine engine--where all significant parameters have been mathematically analyzed, the extrapolations are usually reliable only within a fivefold extension.

Another very useful planning and managerial device is a portfolio of methodologies for systems analysis, cost-effectiveness analysis, and configuration management. I alluded to these techniques earlier. But here too are serious limitations. They are encumbered with constraints and assumptions.

Only a relatively few variables are treated at any given time. In order to complete the analysis it is always assumed that the system is not sensitive to factors outside of the few explicitly included in the mathematical model. Clearly this is not the case in real life. There are many second and higher order relationships which are not readily foreseeable. The list of consequences is never complete. It was with this in mind that Denis Brogan once said, "The impact of America on the outside world...is far more revolutionary than most Americans think, because we think of it as the arrival of Cadillacs or Coca-Cola or anything else, without realizing that in the same ship--so to speak, in the same package--they are bringing a whole series of ideas, habits, and concepts, which must all hang together.... Otherwise, you won't have industrialization." A concrete example of such anastomoses is the coal-and-steel community idea of the 1940's, which led to the economic alliance of six European nations. Within two decades the elimination of all obstacles to the free movement of labor is within attainment. Schools and universities of Europe have been established whose credentials are accepted throughout the six countries. Increasingly this free interchange is bringing their folkways closer together. Even the emotional patterns to which the television and radio programs are being pitched are becoming progressively similar.

When social ramifications are involved, the available scientific methods are woefully inadequate as the prime basis for decision, although they remain very useful as adjuncts. There is as yet an unbridged gap between cost-effectiveness and value-effectiveness. The mathematics of nonlinear variations, which are characteristic of the real world, is overly complicated for even the most skillful mathematicians and the largest computers. The social indicators are yet to be clearly defined. The equilibrium and dynamics involving individual and group values are ill understood. The deep seated sensations of the heart and mind defy verbal descriptions.

Furthermore, scaling laws do not take into account the shifting values of society. Technology needs to keep in harmony with these trends, so that the product of its efforts are timely in meeting the needs of man. During the developmental stages of a society, for example, survival holds the center of attention. "A full stomach is heaven; the rest is luxury," so the old proverb goes. Aesthetics can wait. But, as Eric Larrabee asks, "After abundance, then what?" It seems as if society is not yet ready for this question. A demand exists for ingenuity of a higher order.

At this state of knowledge, it would seem the better part of wisdom to rely on intuitive experience as the final arbiter. Nevertheless, the task of predictability from limited data and restricted models to reality is an urgent one. The sooner technology begins a determined search for predictive schemes with man as the measure, the earlier they will be attained.

As an instrument of values, technology should refrain from carrying a project to the bitter end, regardless of previously unforeseen consequences, to attain the understandable satisfaction of completing a challenging enterprise. This is but petty compensation. Technology must remember the clear intent,

value norms, and strategic purposes at all times. This is important since the route needed to be taken to attain a given goal cannot be determined precisely ahead of time. The interminable financial overrun is a mundane example of "well-laid plans of mice and men gone oft awry." Frequently, the change in tactics presumably essential to gain the strategic purpose often defeats the very purpose itself. At other times, the ends do not justify the means. At all junctions of tactical alternatives, therefore, technology must select that road which conforms to the intent as well as letter of the overall object of the exercise. Technology has not been granted the license to vitiate socially determined strategic purposes by technologically improvised tactical increments. A noble profession does not throw a Frankensteinian fait accompli on the doorstep of society with the dispassionate proclamation, "Here's what you ordered!" As soon as indications arise that continuation along the current route of implementation will not provide society what it had bargained for, it is incumbent upon technology to lay the current picture before society. Let society then revalidate its wishes in the revised list of choices and consequences.

The so-called urban problem is illustrative of the broad challenges facing technology as an instrument of social values. Since it is of special interest to many members of the American Institute of Planners, I would like to go into it in some detail. The problem was summarized this way a year ago by Wendy Buehr in Horizon magazine:

> With all the wonder-working powers that modern Technology has devised, there is a certain macabre humor in the fact that a head of lettuce can travel across an entire continent and arrive at market in a better condition than the customer who comes three blocks to buy it. Life in a twentieth century city is, in a very real sense, an endurance test. Too many people trying to outwit too few buses, too little air, and too much noise, too many pounds of black soot and too few blades of green grass, antiquated plumbing and overpowered autos, blizzards, droughts, buckling pavements, exploding water mains, and faltering power sources, these are the outrageous fortunes of the city dweller.

The public's reaction to the British government's decision a year ago to build an airport in the beautiful Essex countryside, north of London provides a sober example. The Daily Mail asked sharply, "What is the point of technology if it is going to make life faster but also uglier, drabber, dirtier, noisier? Is it right to create slums near London so that jumbo-loads of passengers from New York can get to the Piccadilly a few hours earlier?"

Comparable dilemmas confront us in America. Our large cities are resigned to having half of their central areas occupied by streets, parking facilities, and transportation facilities, befouling the atmosphere, jeopardizing the health of the people, and ruining the beauty of the landscape. The citizens of the greatest democracy that ever existed may well ask themselves: Did we know this to be the consequence of our free choice? Or did we ever have a choice? Is a great democracy only obliged to provide clean government to rule but not clean air to breathe?

Of an even greater potential harm to men, who are destined to live in the giant American cities of the future, is the way in which they are literally poured over each other. We have forgotten what Thomas Carlyle had once told an American, "you may boast over your democracy, or any other -ocracy, or any kind of political rubbish; but the reasons why your laboring folk are so happy is that you have a vast deal of land for a very few people." We should ask ourselves about the longer range consequences of living in compact quarters, quite apart from the well-known first order physical effects. I am reminded of Konrad Lorenz's observations, recorded in King Solomon's Ring, of two doves placed in a cage. After one day, "a horrible sight met my eyes. The [male] turtle dove lay on the floor of the cage; the top of his head and neck, as also the whole length of his back, were not only plucked bare of feathers, but so flayed as to form a single wound dripping with blood. In the middle of his gory surface, like an eagle on his prey, stood the second harbinger of peace. Wearing that dreamy facial expression that so appeals to our sentimental observer, this charming lady pecked mercilessly with her silver bill in the wounds of her prostrated male." In the cramped quarters, the weaker bird could not flee into safety. Nor could the stronger vent its feelings elsewhere. The saving spatial generosity of nature had been upset. We know what this means in one instance with doves. We have yet to know what this means with men.

We talk about making our cities our greatest work of art, about the limites of Nature's bounty of liveable streams and green surrounding, about the rehabilitation of the old and imaginative planning of the new. We read about bold concepts of "space frames," "domed arena cities," "ecumenopolis." Yet we sit back and wonder whether this all is a Sisyphean exercise as we watch the ticker-tape statistics flash by: By the year 2000, 85 percent of the 300 million citizens of this country will be congregated in cities. A third will be crowded into ten metropolitan areas with populations from 5 to 23 million each.

So far, most of the proposed solutions have ranged from pouring more dollars into the beehive, so that more bees can be added to the hive, which in turn will demand more dollars, then more bees; to ingenious ways of packing more ants in an ant hill. These are typical of the brute-force approaches that seem to have attracted so much attention. Yet frequently the brute-force method is the only one which works. I would not belittle its contributions in this case at this time.

The suggestions, however, show a tendency to fragment the city into segmented concerns. There seems to be a lack of an obvious pattern tying them together. It is not clear that solving any one or more of them will in fact provide the city as a whole some respite for growth. The tension remains unresolved unless there is a transcending concept of an urban-gestalt, so to speak. There are a number of ways of going about this, of course. We might mention an oversimplified example to illustrate the possibility of viewing the urban problem as a totality and solving the constituent problems within that context.

Let us suppose there is an equation relating the effects of saturation and/or breakdown of one of the constituent functions of a city of a given size, and the time it takes for the city to recover from the effects.

The break-even point occurs when the mean time between failures of that function equals the mean time of recovery of the city. The higher the ratio between the two, the more time and energy would be available to the city to realize greater things for its inhabitants. In actuality, there are many functions within a city. Their interdependence is complex. The equation becomes very complicated. Nevertheless, the basic principle holds: The mean time between failures of any one of the essential functions of a city must be comfortably greater, say a hundredfold, than the mean time of recovery before the city can ever aspire to greatness. It may well be that mathematical analyses might show that there are ascertainable minimum and maximum populations for greatness, with predictable rates of decline for cities beyond these limits. In any case, the urban problem is amenable to the expanded systems treatment to which we have referred earlier.

However, the systems treatment must be broadened not only to include cost-effectiveness of all component materiel and functions. It must also include factors of replacement and rejuvenation at the very outset in temporal and physical tune with the rhythm of human needs. I would like to stress this point in particular. Urban planning should not treat the city as a mechanical totality but as an open-ended living entity. The plan of a city should not be looked upon merely as a blueprint for the layout of streets, parks, buildings, and inanimate paraphernalia. It is to be a portrayal of metabolizing tissues functioning in a living organism. Change, both in function and structure, is to be incorporated for successive generations in a single plan. At this point we can draw some useful inspiration from biology. A living creature maintains its tonus of youth because the body cells are continually being replaced by new ones. In the case of man, all cells are replenished every six years or so. It is to be noted that during the early fetal stage, each generation of cells is succeeded by another with new metabolic functions, as the fetus evolves into maturity. We need not dwell on this analogy any further. Suffice it to say the urban planner should be a biotic planner. Before he puts pen on paper, he should have before him a clear picture, not only of what the city will look like when it is first built, but also what it will look like in the years to come. Not only what, but when; not only when, but at what differential rates of change for constituent structures and functions. Subsistence, work, education, transportation, recreation, and other systems are to be designed in that context. They are to be built and used for the space-time function in a particular phase in the life of the city, then replaced by a new structure for the same or a new space-time function, as the city grows, its inhabitants change, and its interface with the outside environment mutates. In particular, intrinsic adaptive flexibility must be designed into the city so that the capriciousness of international, national, and other external factors can be assimilated without catastrophic impact. The fundamental values and functional centers vital to their preservation must be safeguarded with the necessary homeostatic mechanisms. The elegance of an urban plan rests on capturing this dynamic vibrancy of metamorphosis, growth, and rejuvenation at its very inception. Infinite real time is compressed into the visionary instant.

We can see that the speculative constructs for the solution of the urban problem are available. Putting them into practice, however, is a challenge of another order of magnitude. This represents the greatest single test facing technology as an instrument of value in the next fifty years.

Avant Garde of the New Age

But technology alone cannot solve the urban or any other social dilemma of great pith. There must be a change in the cultural context in which technology is embedded. I sense an incipient transformation underway. Our present age of materialism seems to be giving way to a new age. This new age, which may be called the Age of Holistic Humanism, will be identified by two principal characteristics.

First, a holistic approach is adopted in shaping man's life and environment. Such an approach is based on Jan Christiaan Smuts' philosophic doctrine of holism. This states that the determining factors in nature are wholes, such as organisms and not their constituent parts. Man and society are not to be fractionated. Human needs are to be considered in relation to man's total being and environmental context.

Second, man is the measure of value--the apt theme of the American Institute of Planners' Fiftieth Anniversary Conference. As William Blackstone once said, "Mankind will not be reasoned out of the feelings of humanity." No matter how far astray society may drift temporarily, it will always come back to man as the measure.

There will be a harmony of things spiritual and intangible with the cornucopia of material abundance. The consciousness of the inner soul and the awareness of the self will be embodied in the nature of the environment. The sense of feebleness and futility arising from the fluctuating interplay of system components is replaced by the enlightened freedom of choice and consequences in the full light of the totality. Man and Nature are to be one. This is the tenor of the new age.

To help inaugurate this glorious era is one of the most important roles of technology. An environment of diversity and richness is to be created to uplift the lives of citizens of the great democracy and give meaning to their activities. The people will gain a sense of worth and belonging, in their fuller participation in the economic and social life of the community. This will result in a general pride of stewardship in the collective prosperity and welfare of the country.

To be prepared for this opportunity, technology must complete the transformation it is undergoing. There needs to be a shifting of its intellectual salients. The process of grinding out more inventions, labor-saving devices, and profits is now routine in character. A reasonable level of technical knowledge and common sense nimbleness is all that is required. With 20 percent of the work force destined to have college degrees in this country during the next decade, the responsibility for technological advances in materiel can well be left in the hands of the general public with considerable assurances of success. The leaders of technology should now turn their attention from the centripedal thrill of this acceleration of materiel change, upward in search for a greater future for technology. The systems view of planning, which it has so eagerly embraced, needs to be extended to include not only the calculations of science but also the emanations of Art and Spirit. It should

encompass not only the needs of the physical but also those of the psychic and the social. It should no longer overlook the so-called "non-quantifiables." It is not to be restricted to the linear, the sequential, and the controlled. At this point, however, technology hits a snag. The fundamental transformation of intellectual orientation is not technology's to bring about.

A new generation of thought and a new context of education are required. Art, spirit, and science would also have to adopt the ecumenical view in its broadest sense. For in reality, how can a truncated art, a segmented spirit, and a specialized science serve as the prophets of Beauty, Goodness, and Truth? I know of no American teaching institution dedicated to inculcating the necessary apprehension of the totality. There are gurus, monks, and Zen Masters elsewhere. But these are outside the normal stream of technology's associations. There are no universities, no graduate schools, and no academic departments dedicated to developing, refining, and imparting holistic techniques to prepare leaders for the new age. The closest approximation is the so-called interdisciplinary approach, whereby teams of specialists are brought together to solve a problem. However, something vital is still missing. The results of these interdisciplinary collaborations are always composites. Integration is attained by vote of partisan constituents and by compromise of definitions of terms. The solutions are insipid statistical averages. Humanity becomes a statue sculptured by a committee. Its totality is an arithmetic accretion of parts, miscellaneous and missing. There is no intuitive living wholeness. In the new age, deliberations will be centered around alternatives of wholes, not upon assemblages of alternative components which harmonize neither among themselves nor with the context of Nature. Technology needs to encourage our educational system to move in this direction, to grow out of its own traditional ways of pedagogic alienation of intuitive integration.

Perhaps a new institution should be established. Wisdom of values and judgment can be added to maturity of thought and breadth of knowledge. There will be no architects of building, biochemists of the gene, physicists of the nucleus, doctors of letters, or historians of the middle ages as world renowned specialists in this school of the future. Such scholars of partial knowledge will continue to make major contributions to society. But they will do so in the learned departments of the present universities, for purposes other than what we have in mind. But we need one place--just one small and intensive place--where the new seed can be allowed to grow. It is a new species; it needs different nutrients; it responds to the total spectrum of light. It seeks the instantaneous apprehension of the totality, from which holistic knowledge gains relevance. There are many individuals wandering about looking for such a home. The urban and other social problems of the future require the imput from such talents to leaven the vast technological knowledge of the day. Perhaps we can then supply the missing element of a grand civilization, which Edna St. Vincent Millay described in her sonnet:

> ...Upon this gifted age, in its dark hour
> Rains from the sky a meteoric shower
> Of facts...;they lie unquestioned, uncombined,
> Wisdom enough to leech us of our ill
> Is daily spun, but there exists no loom
> To weave it into fabric.

It is the role of Technology to sponsor this avant garde.

Technology's Nudge

In summary, the next fifty years provide technology the opportunity of a millenium. The evolution of civilization has progressed through a series of emphases on various facets of man's fancy and knowledge. Successive centuries have witnessed the predominance of different disciplines. Science has become the prophet of the present age and technology has put its pronouncements to work.

During the past twenty-five years, technology has found it necessary to grasp the systems views for efficient implementation of the materiel concepts of science. The inevitability of the intrinsic logic of the systems view is extending the scope of Technology beyond the bare materiel necessities of animal life to the grandeur of Art and Spirit. It is now focusing attention on values with man as the measure. This is moving technology gradually onto the threshold of a new age. This is the age in which man is no longer to be viewed as a single-faceted creature of the moment, nor as a composite of many separate components, but as an intuitive whole with Nature. The systems approach of technology is no longer bounded by the thermodynamics of machines but open-ended in the harmony of, as Paul Valery calls it, "a unified system of human sensitivity and activity."

Man is hesitating about whether or not he should enter this new Age of Holistic Humanism. It is the great opportunity and privilege for technology to give him an understanding but firm nudge. This constitutes the most important of all roles for technology in creating man's environment in the next fifty years.