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ABSTRACT

This report describes the design of a Policy Research Center (PRC) for the U.S. Office of Education. The PRC was conceived as a place to produce information and to develop systematic ways of understanding complex processes that would help educational policy planners (1) make better decisions about current problems, (2) anticipate the future, and (3) formulate appropriate long-range policies. After probing ethical issues, surveying the state of knowledge and method in the behavioral sciences, and conducting pilot studies, a set of guiding assumptions and orientations was generated and a PCR was designed. Specific suggestions and detailed procedures for a center are presented, as well as summaries of pilot studies and conclusions. (Author/DE)

FINAL REPORT
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DESIGN FOR A POLICY RESEARCH CENTER

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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SUMMARY

The purpose of the work reported here was to determine the design of a Policy Research Center (PRC) for the US Office of Education. The PRC was conceived as a place which could produce information and develop systematic ways of understanding complex processes that would help educational policy planners make better decisions about current problems, anticipate the future, and formulate appropriate long-range policies.

From probing ethical issues, surveying the state of knowledge and method in the behavioral sciences, and conducting pilot studies a set of guiding assumptions and orientations was generated and a Policy Research Center was designed.

Specific suggestions and detailed procedures for a Policy Research Center are presented, as well as summaries of pilot studies. The broad general conclusions of the study were as follows:

1. The ethical implications of policy research are important to a unique degree and in a unique manner for an educational Policy Research Center, and must therefore be scrutinized in all aspects of its work.

2. A central function of a Policy Research Center, focused on looking at alternative futures and their relevance to educational policy must be dissemination—the provision, in other words, of tools and information to all those who have a stake in educational policy decisions.

3. The Policy Research Center should emphasize comprehensiveness, and focus not only on the educational system itself but on those other systems that comprise the context in which the educational system operates.

4. The Policy Research Center should serve as a link between audiences and the information and ideas they need to help solve the problems of educational planning for the future.

5. The Policy Research Center should have three main components:

a. Information Component. This component would

produce, survey, monitor, critically appraise, and synthesize data and concepts in science, technology, education, and the arts.

b. Integration Component. This component would use models and theories to integrate the surveys of information into more comprehensive understandings of the present and projections into the future.

c. Dissemination Component. This component would communicate information surveys, comprehensive analyses, and projections, to the Office of Education and to a variety of other relevant audiences.

6. An increased contribution from behavioral science to educational policy planning may be thwarted as much by the piecemeal nature of knowledge as it is by lack of knowledge in specific content areas. The U.S. Office of Education should support efforts to bring greater coherence into our understanding of society.

I. INTRODUCTION

The purpose of the work reported here was to determine the design of a Policy Research Center (PRC) for the US Office of Education. The PRC was conceived as a place which could produce information and develop systematic ways of understanding complex processes that would help educational policy planners make better decisions about current problems, anticipate the future, and formulate appropriate long-range policies.

II. METHOD

As a background for formulating a PRC design, attention was focused on three efforts:

1. Fundamental ethical issues involved in policy research were examined to insure that the center design would further democratic processes.

2. A survey of the present state of knowledge and method in the behavioral sciences was conducted to assess the disciplines and techniques most likely to be of help in solving the problems of educational planning for the future.

3. Pilot studies were conducted—studies of the sort envisaged to be carried out in a permanent center.

III. RESULTS

From probing ethical issues, surveying the state of knowledge and method in the behavioral sciences, and conducting pilot studies, three types of results were obtained. These results are presented below under the headings, A) Guiding Assumptions and Orientations for the Design of a Policy Research Center; B) Design for a Policy Research Center and; C) Summaries of Pilot Studies.

A. Guiding Assumptions and Orientations for the Design of a Policy Research Center

The task of a PRC is to produce information and develop systematic ways of understanding complex processes that will help educational policy-planners make better decisions about current problems, anticipate the future, and formulate appropriate

long-range policies. It is clearly imperative, therefore, that a PRC produce unbiased, objective information, based on research conducted according to rigorous scientific standards. Because their subject-matter is, at bottom, the nature of man and society, behavioral scientists have an especial mandate to recognize their individual philosophical or "ideological" assumptions, lest their research be contaminated.

Both the design for the Center and the approach to policy research are based on certain assumptions that should be made explicit. They have to do with the kind of change that is underway, its methodological implications for behavioral sciences research, and its ethical implications for policy research per se.

Perhaps the most important quality of the world we will soon inhabit—already evident today—is the erosion of boundaries. The breakdown of geographical and spatial boundaries, with the advances in transportation and communications, is, of course, most obvious. Perceptual boundaries are dissolving, as when sound is translated into sight in the form of blips on a radar screen. Boundaries separating many of our citizens from each other and from full participation in society are being vigorously attacked. The boundaries between scientific disciplines are everywhere being breached. Once we begin to be conscious of it, the disappearance of boundaries, it is evident wherever we look. And the consequences of this phenomenon are of immense importance in thinking about the future.

As elements, traditionally separated, begin to interact throughout man's total environment, their interaction results in ever-increasing complexity, and ever more rapid change. Thus it becomes more difficult than ever before either to plan in traditional ways or to predict fully the consequences of social decision. If the outcomes of policy-decisions are to be congruent with their intent, policy planning must take much more into account than ever before; it must be done in the context of complexity and change.

The domain of policy-research should be broad, and its goal should be that of comprehensiveness—it needs to be carried out in terms of "context." For the educational system is interwoven with almost all other systems, with housing, transportation, law enforcement, welfare, industry, politics, etc. Hence it is absolutely necessary to view education in terms of its context, and to understand the forces for stability and change, not only

in the educational system itself, but in the contextual systems as well. It is necessary, too, to understand the impact of changes in any one system on all the others, and on the educational system.

For those who hope to augment the contribution of science in solving human problems, increasing complexity and change pose a new challenge. The traditional scientific strategy of focusing upon a narrow range of phenomena in order to gain very precise knowledge must be supplemented: greater attention must be directed to problems of broad scope, and more effort should be made to relate isolated bodies of knowledge into more comprehensive frameworks. The PRC should not only draw upon the state of knowledge in particular disciplines and sub-specialities but try, in addition, to integrate such bodies of knowledge into wider, more unified conceptions.

As the world becomes ever more complex, and changes come at an increased speed, attitudes and values change as well. To understand the future adequately, then, an assessment of attitudes, values and goals must be included and their inclusion has <u>methodological</u> and <u>ethical</u> consequences for a Policy Research Center.

Cost-effectiveness analysis is a very useful method where there is relatively stable agreement as to values—that is, on what is desirable, and the costs of alternative paths to an agreed goal can be explored and compared. But cost-effectiveness techniques cannot be appropriately applied to many aspects of educational policy research because it is precisely the desirability or the value of various educational policies that is widely disputed as our values change. In a Policy Research Center then, customary methods of analysis will need to be used in new ways, and new methods must be devised to study attitudes and values. For example, the attitudes and values expressed by artists and humanists, dissidents, and youth have sometimes come to be widely accepted. For this reason the ways in which studies of these groups could aid our understanding of the future have been explored in the pilot phase.

The rapid and continuous change in values and goals has, in addition, ethical implications for policy-research that raise a number of issues. Since there is no single system of values in America, the "perfect solution," the "right policy," sought by

decision-makers, cannot be arrived at by any solely intellectual process. If one group supports a goal and another group does not, then this conflict of interest cannot be resolved by science. All who will be affected by a policy decision must resolve such conflicts through the political processes of a democratic society. It is the responsibility of a Policy Research Center to insure that all the information necessary to considering the full range of alternatives is available to all who have an interest in policy decisions.

The ethical implications of policy research are important to a unique degree and in a unique manner for an educational Policy Research Center, and must therefore be scrutinized in all aspects of its work.

It should be clear that a Policy Research Center should not try to influence policy, for policy is the function of officially chosen decision-makers and the larger public. It is also clear that a Policy Research Center should relate to official agencies in a manner that furthers democratic processes—it should not by-pass nor hamper them. For example, though it is to be funded by the Federal Office of Education, a Policy Research Center is ethically bound to be responsive to the goals of state and local educational agencies as well.

Such ethical considerations should not only guide research activities, but should be incorporated in the ways findings are disseminated. A central function of a Policy Research Center, focused on looking at alternative futures and their relevance to educational policy, must be dissemination—the provision, in other words, of tools and information to all those who have a stake in educational policy decisions. This means first, that the audience for dissemination activities cannot be restricted to formally designated decision-makers, but includes the public at large; and second, that special efforts should be made to shape the Center's information outputs so that they are meaningful to as wide an audience as possible.

In summary, the purpose of the Policy Research Center is to produce information and ways of understanding complex processes that enable decision-makers to make better decisions about present problems, and to anticipate and plan appropriately for education for the future. In accomplishing this purpose the Center must be guided by scientific standards to insure objectivity. Because elements, traditionally separated, have begun to interact,

the Center must anticipate increasing complexity, rapid change, and a consequent necessity to include considerations sometimes omitted from a narrow concept of the scientific approach. The Policy Research Center should emphasize comprehensiveness, and focus not only on the educational system itself but on those other systems that comprise the context in which the educational system operates. Values, attitudes, and goals are also changing and must be taken into account in any adequate understanding of the future. Their inclusion has important consequences for research methodology and raises ethical considerations of major concern.

The design of the Center is based on these considerations.

B. Design for a Policy Research Center

We have conceived an ideal Center—a Center that cannot be realized in a less than ideal world. Nevertheless, postulating such a Center can serve as a model to guide us in making the compromises imposed by limitations of knowledge, talent, and resources. We see the Center as a link between audiences such as the Office of Education and the information and ideas they need to help solve the problems of educational planning for the future. Such a link has three major components.

1. Information Component

This component would produce, survey, monitor, critically appraise, and synthesize data and concepts in science, technology, education and the arts.

2. Integration Component

This component would use models and theories to integrate the surveys of information into more comprehensive understandings of the present and projections into the future.

3. Dissemination Component

This component would communicate information surveys, comprehensive analyses, and projections, to the Office of Education and to a variety of other relevant audiences.

The three components are shown in Figure 1.

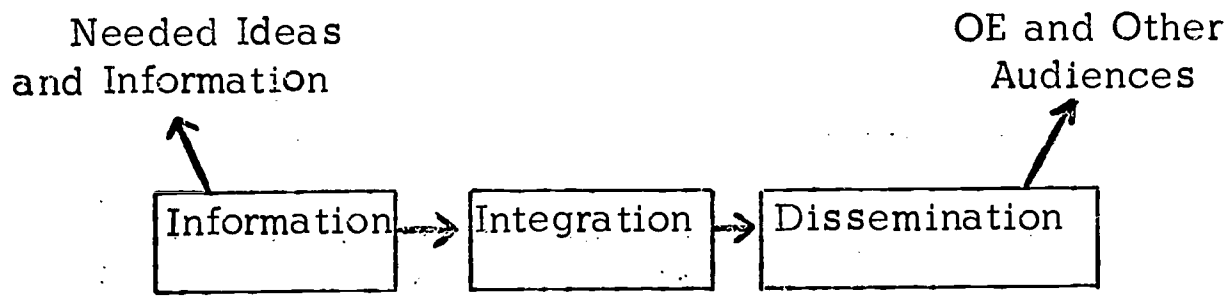


Figure 1. Center Components

The details of the rationale, purposes, functions and procedures of each of these three components appear in the sections that follow. An expanded diagram of each component and their interrelationships follows the description of the Dissemination Component.

Information Component

Ideally, the purpose of the Information Component would be to produce, monitor, gather, filter, analyze, appraise, and synthesize all the information relevant to educational policy planning for the future. Such a goal is, of course, unattainable in a Policy Research Center of manageable size. However, it is possible to accomplish these purposes more nearly than might be thought, by utilizing the model developed by Theodore Melnechuk for the journal, Science and Technology, and for Neurosciences Research Project at the Massachusetts Institute of Technology.

Melnechuk distinguishes four basic types of information-producing centers:

> (a) The Center of Empirical Investigation—the typical institute of laboratories that frame questions which Nature must answer by way of experiments and observations.
>
> (b) An offshoot of the first—the Center of Theoretical Investigation, or what is popularly known as a "think tank."
>
> (c) The so-called Information Center; it attempts to cover a given subject completely by means of a specialized library which makes accessible the information and ideas produced by the first two types of Center. The library is augmented, at least, by a computer for rapid document retrieval and, ideally, by subject-specialists whose task is to extract data and concepts.

(d) The "Survey for Synthesis" Center—an offshoot of the Information Center; it draws on the other types of center for state-of-the-art surveys that are selective, critical, and synthetic, and contain implications for science, technology, policy-planning, and the like, depending on the orientation and purposes of the center.

These four types are represented diagramatically in Figure 2.

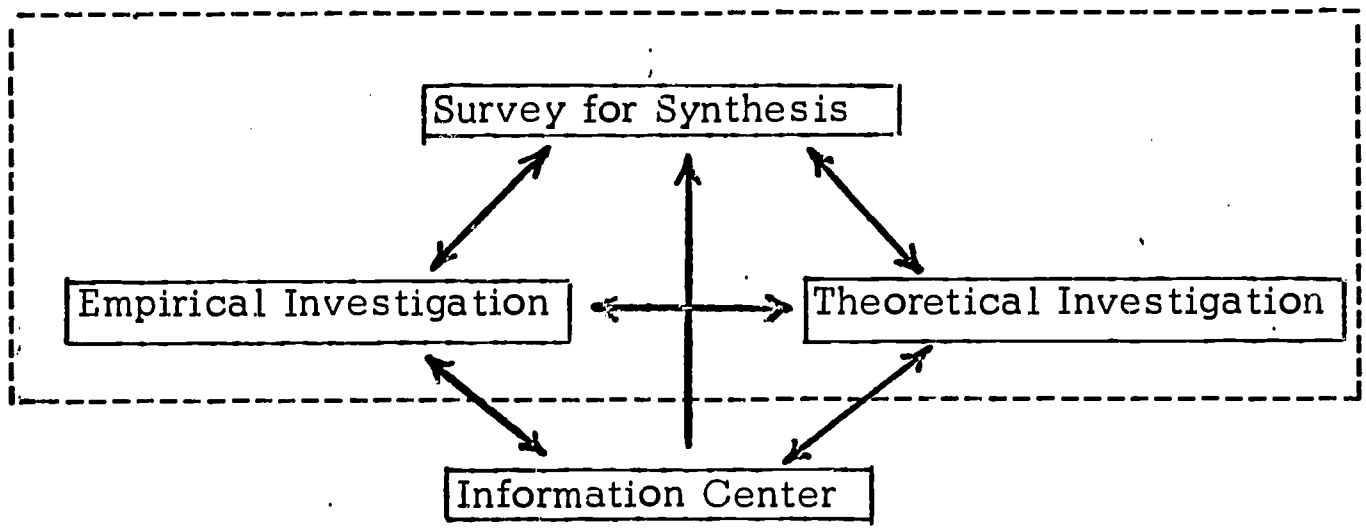


Figure 2. Four Types of Investigative Center

The Information Component will be primarily a "Survey for Synthesis" center; but it will include a small Active Library, and an in-house and sub-contracting capability, for empirical and theoretical research. Thus it embraces elements of three of the four types of centers, as indicated by the dotted box in Figure 2. The major constituents of an Information Center will be excluded for a variety of reasons but chiefly because such a "document-depository" centered approach is not as efficient as the "invisible college" approach described below, and is inappropriate for the kinds of activities envisaged.

The Active Library will contain standard reference and bibliographical tools, a small, core-collection of selected source materials, and sets of relevant indices. The function of the Active Library will be to synthesize existing knowledge by scanning the relevant literatures on specific questions, abstracting their findings, and transmitting them to the Integration and Dissemination Components. Though it will be guided by, and respond to, the needs of these Components, it will also act as a scout for the Policy Research Center, rather than restricting itself to the passive fulfillment of requests for information.

The Information Component will maintain a limited in-house research effort, keyed to the special capabilities and interests of Center personnel (e.g., research on values, social change, psychological aspects of decision-making, the policy-process, and the like) with particular emphasis on the use of simulations and small-group techniques. The Component will also subcontract research to obtain crucial information, needed by either of the other two Components, which cannot be supplied by the Center's in-house research.

Primary emphasis, however, will be placed on the "Survey for Synthesis" function of the Information Component. The techniques developed by Melnechuk will be used in this effort.

There is an "invisible college" of experts in every discipline —the top men in the field who are working on the "hottest" problems, and who are in communication with each other through the "grapevine." The surveyor taps into this grapevine as follows: he does just enough reading in a specific field of interest to identify the leaders in that area; he phones them till he finds a friendly one, gets advice on the least possible reading, does the homework, and then visits the expert for his survey of the conceptual and technical mountain peaks in the field. The surveyor then asks to be recommended to the next members of the invisible college, and continues till he has made the rounds.

He then synthesizes the provisional visions of the dozen or so experts into a map or matrix—the intellectual armature of a survey on the state-of-the-art, the trends, and the meaning of research in the selected area. Thus he circumvents the publication-lag (often a year or more), maintains a "concept-centered" rather than a "document-centered" orientation, and "gets on top" of a field in a relatively short time (five to six weeks); he has, furthermore, established vital contacts of inestimable value for both information-gathering, research, and dissemination activities.

Moreover—and equally if not more important for a Center doing policy research in so broad a domain as education for the future—synthesizing—surveys of this sort, carried out in a number of divergent but policy-relevant areas, will enable the Information Component to establish conceptual links among the domains monitored by the survey-for-synthesis effort.

A parallel activity of the survey-for-synthesis is the actual convening of the invisible colleges in Work Sessions, Intensive

Study Programs, and the like. Such groups constitute self-refereeing bodies and may, with luck and with knowledge of group dynamics, establish a critical mass for group creativity. Tapping the grapevine is a highly profitable approach to information-gathering and gleaning; the convening of invisible colleges is a way of establishing ad hoc groups of experts who would provide an invaluable permanent resource for the Policy Research Center.

The invisible colleges would become a permanent resource because groups would be convened periodically to update the state-of-the-art survey, could provide "early warning systems" for important new developments, and could be consulted for help on special, or urgent problems. This permanent feature of the invisible colleges is an important consideration for the number of fields it is possible to monitor. Though initially time-consuming to establish, invisible colleges are cumulative, and several would be functioning after two or three years.

In sum, the underlying purpose of the survey-for-synthesis activity is to detect, clarify, and synthesize <u>emergent</u> information for transmittal to the Integration and Dissemination Components. In this activity, as in the Active Library and in-house research, the survey-for-synthesis will be linked in a feedback system to the other two Components. In addition, the surveys provide a valuable product directly to educational policy-makers.

<u>Integration Component</u>

The purpose of the Integration Component is to use behavioral science theory and predictive methodology to integrate both information about the present and projections of the future into useful form for educational policy planning.

The primary objectives are to produce the following:

1. Comprehensive descriptions of the present state of the educational system and of the systems with which it interacts.

2. Projections and invention of a range of more or less probable future states of these systems.

These products are not only useful in themselves but can be used to generate knowledge of new policy alternatives, unforeseen contingencies, and future planning problems. How can these objectives be reached?

Ideally, information about the present state of the educational and related systems could be gathered and organized into a comprehensive description, but unfortunately good social indicators for many important factors are missing or of low quality. If this difficulty were overcome, information could be used as inputs to a grand comprehensive theory which could, using predictive methodology, generate projections of the future. Unfortunately, present comprehensive theories are known to be inadequate, and predictive methodology and social forecasting are in a primitive state by scientific standards.

Little is known about how the system we call "society" works—about the dynamic relationships among the constituent elements—and we depend chiefly on extrapolation of present trends to forecast the future.

Due to the present state of information, theory, and method, anyone who expects behavioral science to furnish authoritative answers to policy questions or definitive descriptions of the future is sure to be bitterly disappointed. Nevertheless, despite severe limitations of the state-of-the-art, much can be done to inform policy analysis.

Information of value for policy planning is available in the thousands of behavioral science studies of concrete situations. The Information Component will survey and synthesize many of these studies, and will furnish decision-makers with valuable information, for example, a state-of-the-art survey of educational innovations. These surveys will provide exceedingly valuable data for the Integration Component as well.

In addition, valuable information is contained in the many "part-theories," "miniature theories," and "islands of theory" (e.g., role-theory and cognitive-dissonance theory) that have been constructed by behavioral scientists. These theories are of limited scope but they bring conceptual order to some subspeciality of a behavioral science, and many can be used to aid policy analysis.

There are also a number of broad theories, models, and simulations that encompass large segments of entire behavioral science disciplines. For example, Ithiel de Sola Pool has developed a voter-behavior model; Andrew Scott has designed a political-economic model called SIMULAND; Harold Guetzkow has developed the INS as a model of international relations.

There are also such sophisticated economic models as PARM, used in planning for economic recovery following nuclear attack, and the microanalysis of the socio-economic system, developed and now being refined by Guy Orcutt. In a recent state-of-the-art survey, Abt Associates, Inc., identified 57 such models and concluded that modeling and simulation research is nearing payoff for policy planning.

There are known inadequacies in many of these models. But even a crude model can be the vehicle for useful and illuminating projections. The Integration Component will select from the range of available models those of particular usefulness for educational policy planning. In addition, much can be gained by selecting relevant "miniature theories" and simulation models, and adapting them for use in analyzing educational policy planning problems. This should be an important part of the Integration Component's activities.

Most importantly, progress can be made in constructing more adequate and more complete models that integrate larger portions of behavioral sciences data and theory. One approach is to link two existing models—for example, an economic model and a voter-behavior model. Another approach is to link several "miniature theories" together into a sub-model that represents a part of the total system. A comparatively easy and efficient way of linking the part-theories into sub-models is to transform verbal theory into model or simulation form; "concretized," in a model, part-theories can more easily be examined for their areas of overlap, and for their incompatibilities; and by then linking two or more such sub-models, a more comprehensive theoretical structure can be achieved.

Fortunately, the usefulness of such efforts does not depend on their completeness. While a perfectionist approach demands that details and interactions be completely specified, an approach which emphasizes usefulness does not. Even an incomplete model, e.g., a simulation in the early stages of its development, can provide a means of making rough but useful projections, of generating previously unforeseen contingencies, and of communicating a new sense of the complex interrelations involved in policy planning. It may never be worthwhile to expend the probably enormous effort to bring a useful model to the stage of detailed perfection, but this in no way detracts from the power of using a "comprehensive modeling" approach as a guideline for work. The crude overall model and the more detailed sub-models which such an approach produces, are themselves valuable tools for policy planning.

In recent years the great spurt of interest in projections of the future has produced a small but growing group of futurist scholars and new methods of forecasting. Thus there is a pool of projections, or "probable futures" on which the Integration Component can draw. More specific projections such as demographic forecasts, or various economic projections, constructed for other purposes, can be obtained; still other projections can be commissioned through subcontracting.

In sum, the Integration Component will draw on:

1. Information surveys-for-synthesis (using the techniques described in the Information Component section). These surveys will include not only descriptions of the present state of affairs but also projections of future developments.

2. Existing projections of the future produced by futurist scholars; new descriptions generated by the Integration Component's systematic use of experts (e.g., Olaf Helmer's work with the Delphi method); and invented futures developed through scenario construction (e.g., work at the Hudson Institute).

3. Trend-projections in critical areas (e.g., the economy, demography, and technology), made for other purposes, or commissioned through subcontracting.

4. Sub-models and part-theories from behavioral science, to be selected or constructed.

5. More comprehensive models linked together by means of the simulation approach.

Any one of these five resources can contribute to policy analysis. In combination, they will make possible (1) comprehensive descriptions of the present state of the educational system and of the systems with which it interacts, and (2) projections and invention of a range of more or less probable future states of these systems.

Descriptions of the present and projections of the future are essential to policy analysis, and will be used to explore the probable consequences of alternative policy choices, to detect new policy alternatives, and to uncover unforeseen contingencies and future planning problems.

The Dissemination Component

The Center's task is to provide tools for society to use in making educational policy and setting educational goals. As a matter of policy, then, the Center's function is that of trying in every possible way to make these tools (chiefly information of all kinds) available, not just to elites or the planners in the Federal government, but to all who are concerned with the very pressing current problems in education, to those who wish to question educational goals and values, to those who wish to change the direction of education (whether to a more traditional and conservative or to a more experimental orientation), and to those who are primarily concerned with laying the groundwork now for the educational enterprise needed ten or twenty years from now.

The Center must make meaningful models and information available to educational elites and laymen, to Congressmen and hippies, to Deans of schools of education and potential dropouts. If we fail to do this, and instead become an esoterically-informed elite which uses sophisticated techniques to make predictions and to project "givens," we shall have failed to qualify as an acceptable member of a democratic society.

Assuming the first two Components have done their jobs well, the Center will possess at least a limited amount of synthesized information; comprehensive understandings; projections; models; simulations; and games. So what? Who, besides the Center staff (and the relatively few people with whom they have worked directly) will profit from this work? Enter the third crucial Component of the design, which connects the Center with "users" of its products.

Goal

The goal of the Dissemination Component is to share outputs of the Center with selected audiences in a way that will reach them, and in a manner that enables them to be effective improvers of education.

To accomplish the goal, the Center staff must know: (a) which audiences represent the most "efficient" targets on which the Center should concentrate; (b) how these audiences learn—and this includes knowing something about the organization climate that surrounds each of them, and the uses they are likely to make of whatever they receive; (c) what members of the audiences think they want from an enterprise like the Center—and what the Center staff thinks they need. We are

sure we will never have final answers to these questions. However, based on our Pilot Center experience, and on our previous involvement with a variety of educational research-actions programs, we have made some tentative choices to guide us.

Techniques

We need to use a variety of dissemination techniques, both conventional and unconventional, with all our selected audiences if possible, and we need to use existing communication networks, as well as create new ones. We will use the following conventional approaches.

Existing Channels in the Educational System. We intend to make use of the elaborate communication apparatus that has emerged within the educational system itself through the dissemination capabilities of ERIC, the regional laboratories, etc. Our reports will go to key educators and administrators in all of our States, as well as to those on the Federal level, and an effort will be made to use the existing organs of the educational associations, professional journals, etc., for the communication of our findings and recommendations.

Publications, reports, etc. The Center will issue technical reports about the essential elements of our program and, eventually, perhaps, a more popularly-oriented publication which will attempt to communicate to policy-makers and to the public as a whole. In addition, we plan to use speeches, correspondence, and other traditional techniques for communicating our ideas and findings.

Mass Media. We plan to make extensive use of radio, television, films and newspapers. We have learned to work rather effectively with the mass media, having produced successful video tapes, films and radio programs for mass consumption. The CBS Twenty-First Century Program is filming two shows based on our work. Many journalists, writers and media people request an opportunity to communicate to their audiences the nature of our work; we try to use good judgment in choosing the most responsible among them.

Initially, we will make considerable use of gaming and simulations as an unconventional, but we think very potent, way of communicating ideas and information.

Gaming. Games and simulations have proven to be powerful tools for creating involvement on the part of players and

for stimulating their interest in and thinking about given subject areas. Participation in games appears to aid participants' integration of their own knowledge into new mental models, to stimulate players to think in new ways, to enrich their feel for the complexity of the system being simulated, and to help them visualize problems and opportunities involved in planning futures.

Packaged Simulations and Games

An educational policy research center which utilizes the simulation method for synthesis and for research will have among its products, sets of games and simulations. These will range from "micro-models" of particular phenomena such as a local school system to playable replicas of society itself. It is our intention to package these games and simulations into exportable form for use by "consumers" of the Center's activities.

Interaction Between the Dissemination Component and the Other Components

Though it may be obvious, it bears emphasizing that work done under the "dissemination" label will be of value to efforts carried out in the other two components. For example, players' responses to games used for dissemination purposes will be of value to the Integration Component, and they may suggest gaps in knowledge and new ways to acquire data through the Information Component. Accordingly, we feel much of the dissemination work, particularly that involving games and simulations, should be carried out by researchers rather than by a separate dissemination team, since the experience of sharing ideas with audiences is likely to produce changes in the assumptions which underlie more abstract work.

Overview

The simple iconic design presented at the beginning of this section may now be elaborated by picturing in greater detail the three components, their specialized functions, and the relationships among them and between the Center and its peripheries—nature and relevant policy formation audiences. See Figure 3.

It should be noted at this point that the design elaborated

is impossible to carry out in full detail and comprehensiveness. To fulfill it wholly would require resources far beyond those available—and perhaps beyond present human knowledge even with unlimited funds, talent, and time. But this comprehensive design is a guide and a framework for inquiry, integration and dissemination. Policy planners must constantly be aware of the vast problem with which they have to deal—with all its ramifications. To delineate some small sub-part of the problem in order to carry it out fully, would duplicate the efforts of others and encounter the danger of all specialization —parochial intensity and loss of relevance for the total context.

C. Summaries of Pilot Studies

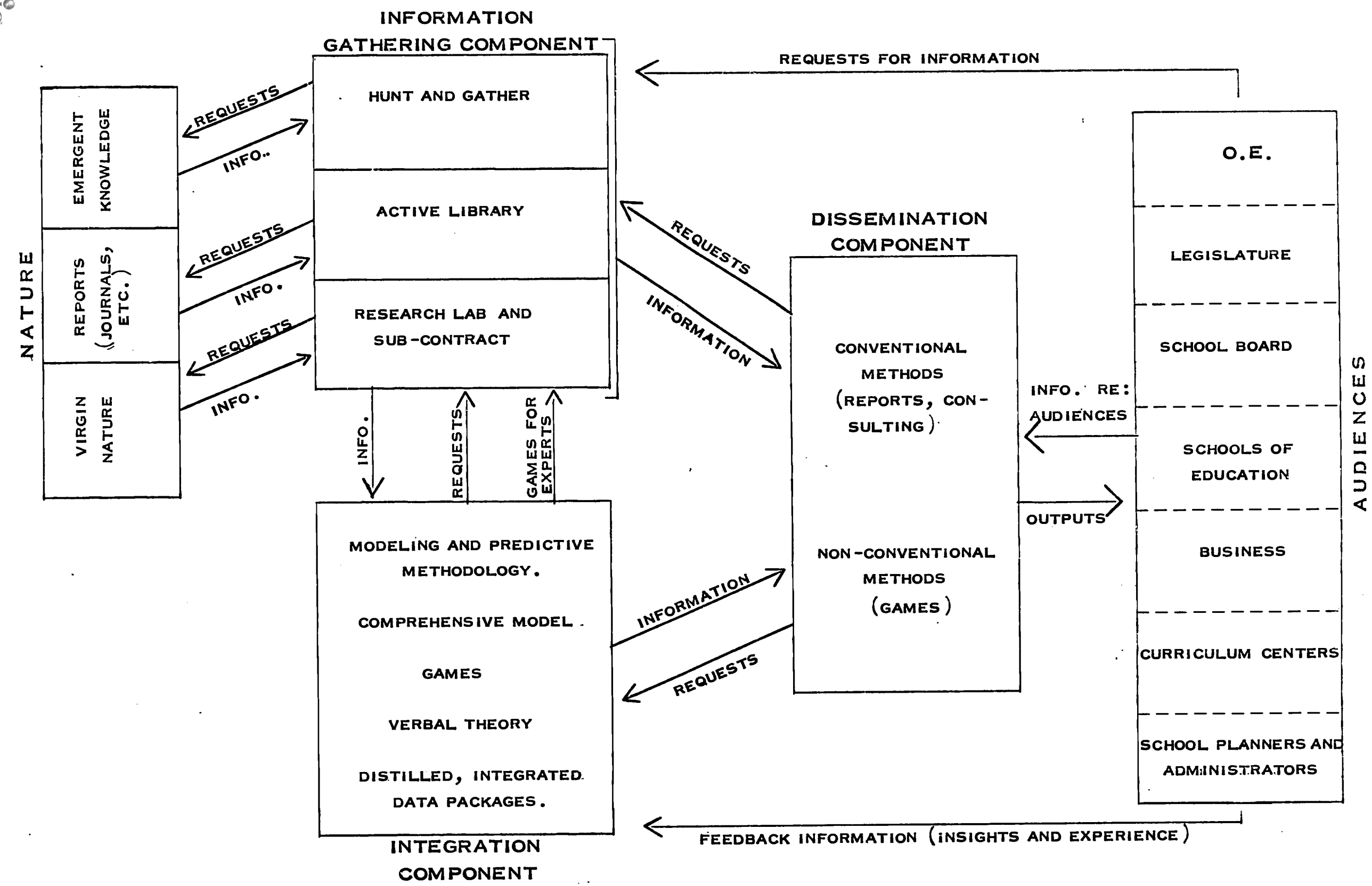
As part of the process of developing a design for a PRC, pilot studies were conducted—studies of the sort envisaged for a permanent center. These studies were exploratory and therefore not expected to produce definitive results. However, they opened new ground and contributed substantially to our approach in designing a center. These studies fell into four groupings: 1) Simulations as a Tool for Educational Planning for the Future: A Feasibility Study; 2) A Predictive Study: Attitudes and Values of Future Decision-Makers; 3) Conference on the Future: Focus—The Human Condition; and 4) Toward a Comprehensive Model of Society.

1. Simulations as a Tool for Educational Planning for the Future: A Feasibility Study

Two of the five studies in this group were completed with the unexpended balance of funds outstanding at the original ending date of the contract. These studies are: Development of the San Diego Planning Game and Bibliography of Simulations: Social Systems and Education. The other three studies formed the background for the emphasis upon the simulation approach contained in the Center design.

a. Use of the Simulation Approach in Educational Policy Planning: General Considerations

Previous work on the use of simulations and modeling as a research technique was brought to bear on the problems of educational policy planning and of developing projections of alternative futures. This study contains an extensive analysis of the epistemological and philosophical bases of



A DESIGN FOR THE CENTER

Figure 3

research simulations and "games", a description of their use as tools for integrating information, and for pointing to gaps in knowledge and theory. A full report of this study is contained in U.S.O.E. Progress Report, Volume 2, Western Behavioral Sciences Institute, November 1967.

b. A Look at the State of the Art

This study examined existing social process simulations and makes specific suggestions for ways they might be used in policy research. This new and rapidly developing field was found to have a sufficiently firm basis in present accomplishments to warrant the expectation of immediate usefulness for specific planning objectives. In the present state of the art and its development in the immediate future, simulations cannot be relied upon in making decisions. But, simulations can now be constructed that provide decision-makers with a broader base of information, a greater range of contingencies to consider and a more thorough exploration of the ramifications of possible solutions than might otherwise be available for them. Details of the study appear in U.S.O.E. Progress Report, Volume 2, Western Behavioral Sciences Institute, November 30, 1967.

c. The Sitte Game

This study reports the development of a relatively simple and unsophisticated simulation-game to be used chiefly as an unorthodox and highly involved way of disseminating information about problems affecting education, of arousing widespread interest in them, and as a way of establishing a dialogue between policy-researchers and those concerned with education.

Participants are assigned to one of five interest groups: Education, Government, Business, the Disadvantaged, and Humanists. Each group has "Influence Units" which it can allocate to support proposals advancing its particular goals and improving the city. Test runs of the game produced encouraging results for its further use.

The game is described in U.S.O.E. Progress Report, Volume 2, Western Behavioral Sciences Institute, November 30, 1967.

A version of the Sitte game developed for use with a mass audience called Colossus appeared as a special feature in Look magazine, June 11, 1968.

d. Development of the San Diego Planning Game

This study involved building on the work accomplished with the "Sitte" game. The effort was made to develop a game for use by fairly sophisticated groups such as educators, city planners, and citizen participation groups. A completely new game was developed, modeled after the structure of a particular city, San Diego. The game involves members of pressure groups and city council members. The city council is required to act in accordance with the San Diego City Charter. The councilmen attempt to meet their goals by voting "wisely" on legislation, holding press conferences and meeting with pressure groups. At the end of each round of play they are informed of their chances of re-election. The game has been played by students in city planning and public administration. The groups responded very favorably to the experience. The game is described in Development of the San Diego Planning Game, Western Behavioral Sciences Institute, January 30, 1969.

e. Bibliography of Simulations: Social Systems and Education

This bibliography of 178 pages contains approximately 2,000 entries. The articles cited were selected to emphasize the literature on the development of social systems simulations and models, the uses of such simulations in the classroom, and the application of simulations as aids to educational planning and administration. See, Bibliography of Simulations: Social Systems and Education, Western Behavioral Sciences Institute, January 15, 1969.

2. A Predictive Study: Attitudes and Values of Future Decision-Makers

The attitudes and values of youth have sometimes become important orientations for the larger society. The group of studies summarized in this section had a common concern for understanding the current "generation gap." Did it represent the normal rebellion of youth against parental values or might a significant change in value-orientations be underway?

a. Underground High School Newspapers

This is a report of an experiment in communication with a group of editors of underground high school newspapers in the Los Angeles area. We wished to study the most vocal students' values and attitudes in order to get an idea of the nature and probable direction of this potentially important force for educational change.

Thirteen editors of unofficial student newspapers, some of which are not allowed to be distributed on campus, met with us for a 2 1/2 day workshop. Analyses were made of taped discussions during the workshop and of articles from different newspapers.

Two alternative ways of viewing the student power movement were posited, with multiple suggestions for steps that might be taken to assure positive goals whichever view is held.

A detailed description of the entire study is reported in U.S.O.E. Progress Report, Volume 3, Western Behavioral Sciences Institute, November 30, 1967.

b. Where It's At: A Preliminary Report on "Boss Radio" Song Lyric Contest

"Boss Radio" is one of the top Los Angeles rock stations which sponsored a song-writing contest and provided us with some 17,000 lyrics submitted mostly by young people, for scrutiny. A random sample of 300 was analyzed 1) for theme category and 2) for evidence of alienation or anomie. In addition every member of the sample was sent a postcard questionnaire. Several indications of a strong desire to be responsive and participatory were noted, particularly among

those we had classified as "alienated." This was also evident from the enormous initial response to the contest (17,000 entries) which the KHJ promotion manager felt to be "overwhelming." Details of the above study are presented in U.S.O.E. Progress Report, Volume 3, Western Behavioral Sciences Institute, November 30, 1967.

c. Today's Youth and Tomorrow's World

Seventy-eight college students representing "emerging elites" provided data for an intensive analysis of their 1) political activism, 2) cognitive structure and, 3) values and attitudes. This is part of an ongoing attempt to project future dominant societal attitudes by extrapolation of present trends.

The rationale for this preliminary study and description of its details are to be found in U.S.O.E. Progress Report, Volume 3, Western Behavioral Sciences Institute, November 30, 1967.

d. Youth and Politics: A Pre-Theoretical Model

This paper attempted to outline the parameters of a model incorporating both attitudinal and system variables crucial to an understanding of student political activity. The assessment of students according to their legitimacy orientations and politicization may uncover probable sources of political stability and instability, the success or failure of political socialization and civic education, and the effectiveness or ineffectiveness of communications between students and authorities. Tentative hypotheses were arrived at which should be subjected to further analysis in order to establish an empirically based theory to guide and explain further research.

The full text of the study is to be found in U.S.O.E. Progress Report, Volume 3, Western Behavioral Sciences Institute, November 30, 1967.

3. Conference on the Future—The Human Condition

Artists and behavioral scientists were brought together in a weekend conference to see whether their interaction might be fruitful for a Center oriented toward studying the future. Although the conference failed in large measure to achieve the desired results, some tentative conclusions were drawn from it which need much further exploration for confirmation. A report on the conference appears in U.S.O.E. Progress Report, Volume 3, Western Behavioral Sciences Institute, November 30, 1967.

4. Toward a Comprehensive Model of Society

This study was an attempt to focus previous work upon the problem of educational policy planning for the future. An examination of behavioral science theory and method was conducted to evaluate the possibility that a fresh attempt to develop a comprehensive model of society might be successful. On one hand, particular empirical propositions, whether simple or complex, were found to be insufficiently interrelated and must be combined into larger systems. Secondly, those more comprehensive systems of ideas that do exist need much more anchoring to empirical propositions.

Encouragement for a fresh attempt was found in modern developments in the philosophy of science and in general systems theory. Simulation technology was appraised as contributing importantly to such an effort. The full study is contained in U.S.O.E. Progress Report, Volume 2, November 30, 1967.

IV. CONCLUSIONS

Specific suggestions and detailed procedures for a Policy Research Center have been presented above. The following general conclusions were drawn from this study.

1. The ethical implications of policy research are important to a unique degree and in a unique manner for an educational Policy Research Center, and must therefore be scrutinized in all aspects of its work.

2. A central function of a Policy Research Center, focused on looking at alternative futures and their relevance to educational policy must be dissemination—the provision, in other words, of tools and information to all those who have a stake in educational policy decisions.

3. The Policy Research Center should emphasize comprehensiveness, and focus not only on the educational system itself but on those other systems that comprise the context in which the educational system operates.

4. The Policy Research Center should serve as a link between audiences and the information and ideas they need to help solve the problems of educational planning for the future.

5. The Policy Research Center should have three main components:

a. Information Component. This component would produce, survey, monitor, critically appraise, and synthesize data and concepts in science, technology, education and the arts.

b. Integration Component. This component would use models and theories to integrate the surveys of information into more comprehensive understandings of the present and projections into the future.

c. Dissemination Component. This component would communicate information surveys, comprehensive analyses, and projections, to the Office of Education and to a variety of other relevant audiences.

6. An increased contribution from behavioral science to educational policy planning may be thwarted as much by the piecemeal nature of knowledge as it is by lack of knowledge in specific content areas. The U.S. Office of Education should support efforts to bring greater coherence into our understanding of society.