OAK RIDGE NATIONAL LABORATORY
operated by
UNION CARBIDE CORPORATION
NUCLEAR DIVISION
for the
U.S. ATOMIC ENERGY COMMISSION

ORNL - TM - 1635

CIVIL DEFENSE VIEWED AS A PROBLEM IN SOCIAL INNOVATION

Lewis A. Dexter

Sale Item $1 00 cy   .50 MN.

ORNL-TM-1635

Contract No. W-7405-eng-26

DIRECTOR'S DIVISION

CIVIL DEFENSE VIEWED AS A PROBLEM IN SOCIAL INNOVATION[*]

Lewis A. Dexter[**]

NOVEMBER 1966

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee
operated by
UNION CARBIDE CORPORATION
for the
U.S. ATOMIC ENERGY COMMISSION
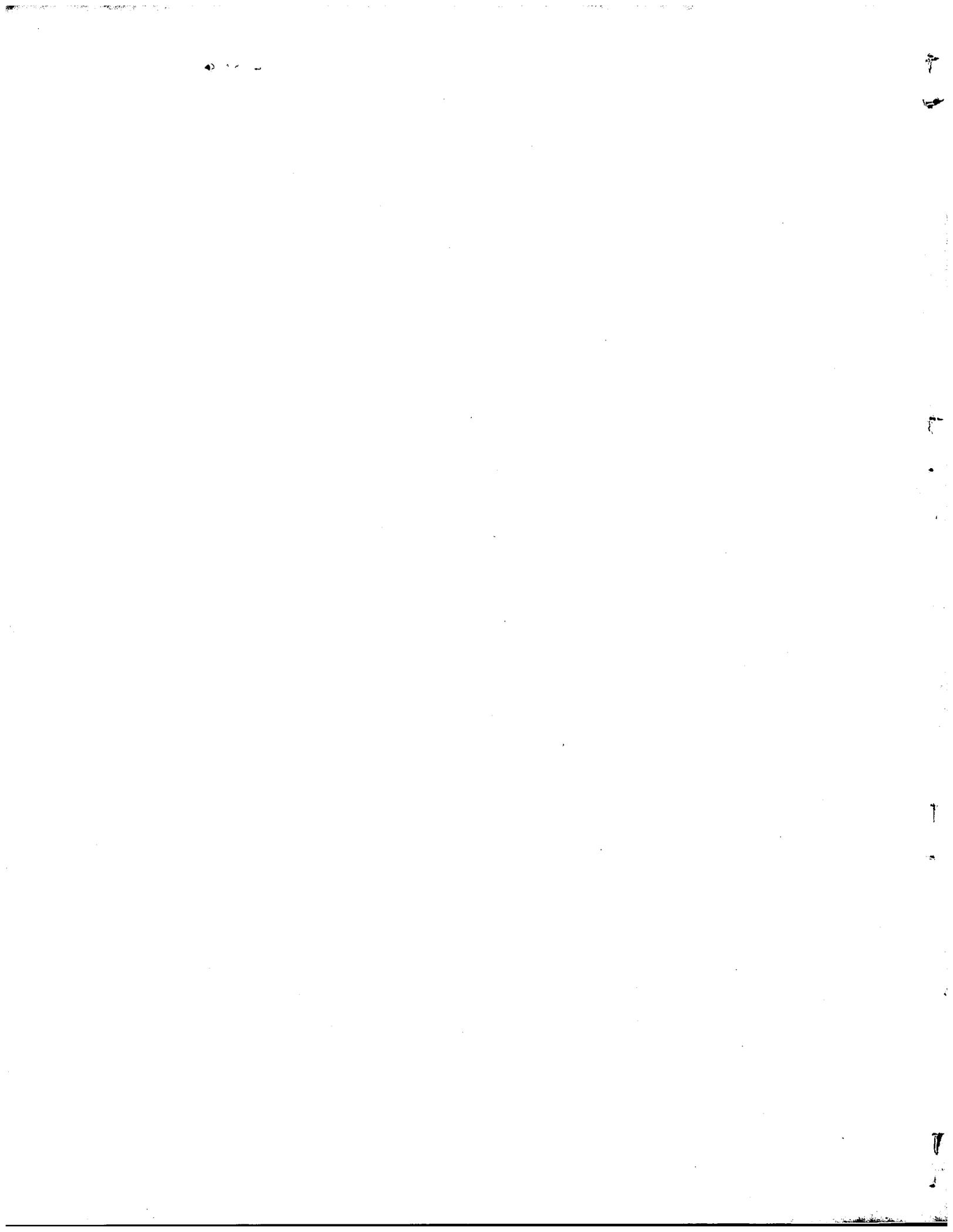
ABOUT THE AUTHOR

Dr. Dexter, a consultant to the ORNL Civil Defense Research Project, has been engaged in civil defense analysis for 13 years. In 1955-56, he was Consultant on various issues, such as strategic warning, to the Advisory Committee on Civil Defense, National Research Council. During this year he also conducted a series of interviews for a project at Massachusetts Institute of Technology, under the direction of Walt Rostow and financed by the Carnegie Corporation. This project resulted in his article "Congressmen and The Making of Military Policy" in Components of Defense Policy, ed. D. Bobrow (Chicago, 1965). He also wrote an article on civil defense theory, appearing in The American Scholar, 1955 (republished in the Congressional Record by Humphrey of Minnesota, 1955), an article with Congressman Richard W. Bolling entitled "We Can Defend Ourselves Against Atomic Attack," New Leader, 1954, and "Conventional Death or Unconventional Survival," Saturday Review, February, 1959 (republished in the Congressional Record by Green of Oregon).

In 1957-58 Dr. Dexter was on the staff of Governor Furcolo of Massachusetts and of the State Civil Defense Director, concerned with relationships between Governor's office and civil defense planning and with appointments in the civil defense agency. In 1960-61, while on the staff of Governor Volpe, he was occupied with related matters.

With his co-authors of American Business and Public Policy (Atherton, New York) he won the Woodrow Wilson prize, awarded by the American Political Science Association for the best book in political science published in the U.S.A. in 1963. He received a grant from the Social Science Research Council for the years 1966-69 to study clienteles and support groups for some movements analogous to civil defense in selected state governments. He is a member of the Research Committee, Citizens' Conference on State Legislatures.
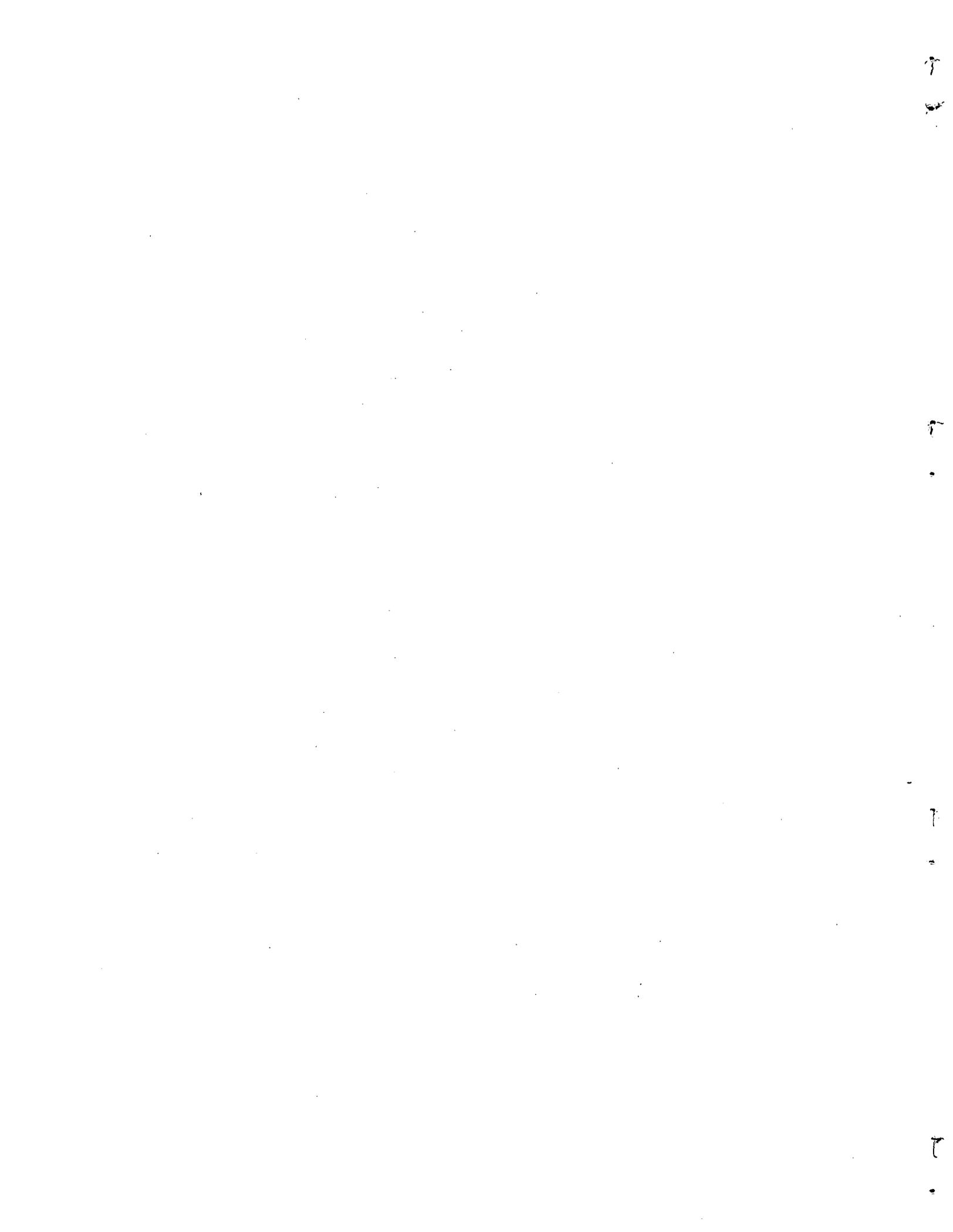
CIVIL DEFENSE VIEWED AS A PROBLEM IN SOCIAL INNOVATION

Lewis A. Dexter

ABSTRACT

Civil defense is defined here as providing for the survival of
enough productive members of society to make the rebuilding of society
possible. If we are to increase our chances of survival and recovery
if attacked, certain institutional, organizational, and political changes
are necessary now. These changes are so far reaching as to constitute
genuine political innovations: a major reorientation of both attitudes
and priorities in civil defense planning. Yet since such innovation
lacks natural systematic reinforcements, it must at least make political
sense to be adopted.

Our civil defense planning programs need implementation, including
training for shelter seekers and shelter managers and actual experience
in shelter living. A viable civil defense program demands consideration
of:

1. American emphasis on universalism

2. The difficulty in planning for a contingency ahead
of time

3. The existence in certain cities of civil defense plans
which could result in unequal protection for urban and
suburban dwellers

4. Insufficient help from the social science literature
on instigating innovation

5. The difficulty of achieving a genuine systems approach
to civil defense

6. Uncertainty as to what civil defense planning is sup-
posed to maximize.

All comments will be appreciated.

I

This paper is essentially a report on my efforts to look at civil defense as a problem in political change as well as a sociological and anthropological problem. I hope, therefore, that the paper will have some interest, not only for persons interested in civil defense, but also for any one concerned with the application of contemporary methods of social analysis to political invention.

It may be useful to state several points of perspective. This paper is oriented towards its initial audience of applied anthropologists and a panel on innovation in which I took part. It reflects both my experience in civil defense planning on two governors' staffs and my experience in conducting a series of interviews with civil defense and planning officials in a hurricane-prone area. These interviews, which dealt with preparedness against thermonuclear attack and against hurricane-induced damage and destruction, provide an empirical basis for this report.

II

"Civil defense" is not a completely unambiguous term. In the United States in 1966 it usually suggests protection against thermonuclear attack by means of some sort of shelter or shielding. For my purposes I shall define "civil defense" within this context as providing for the survival of a sufficient number of productive members of society to make the prospects for rebuilding society fairly good--that is, if both sides are reasonably "rational" after the cessation of attacks. By a "rational" aggressor, I mean one not committed to the complete subordination or extermination of the enemy, provided that this enemy's will to resist can be overcome by means short of these extremes, that is, he will cease to resist the aggressor's political demands. For our present purposes, it would be futile and pointless to try to give specific values to such conceptions as "rebuild" and "completely subordinate," but I think one factor in making discussion of civil defense unacceptable to many people is the tendency to substitute perfect prospects rather than optimum likelihoods into any contemplation of the future. (That is to say, there is a tendency

to reject any future plan which does not imply or state the best possible
result, rather than a willingness to accept the best result possible <u>under
the worst possible circumstances</u> as a worthwhile goal.)

It is also important, for purposes of social science analysis, to
differentiate what is to be discussed here from the first two:

1. the <u>social problems</u> in living, for a longer or shorter
   period of time, in a shelter situation, and/or the sub-
   sequent issues of rehabilitation, after an attack;

2. the "<u>attitudes</u>" held by specified social individuals
   toward such shelter or rehabilitation situations as
   foreseen; and

3. the <u>social problems</u> arising out of the fact that
   attack is a contingency, not a certainty, and the
   <u>changes</u> necessary now and later to make shelter
   living and post-attack rehabilitation more feasible
   and satisfactory---this is what we are discussing.

These three social aspects of civil defense may be presumed to
have some relationship to one another, but for our purposes it is
more important to stress their discreteness. For instance, we must
teach some persons how to manage shelters and others (a much larger
number) how to seek shelter now, prior to an attack situation, if
we are to make the best possible adjustment should attack occur; for
instance, we must make, pay for and adjust to a series of rather
radical changes in urban and suburban building patterns if we are to
have adequate shelters available, say, on the West Coast of Florida.

What I am concerned with here---and I think this is an area
widely neglected in most efforts to think about planning---are chiefly
the institutional, organization, and political changes necessary
<u>in the present</u>, if we are to increase our chances of adapting to an
attack and post-attack situation. Now, the tendency is for advocates of
civil defense to do one of two things: (a) most commonly to try to argue
for civil defense and the shelter program, to try to "convert" opponents
or to excite mild supporters; or (b) to explain how nuclear attack may
not be nearly as bad as people think; and to point out that in fact we
can adjust to it quite well. Neither of these approaches, at least by
itself, induces builders to build differently, urban developers to revise

their plans, banks to reorganize their mortgage requirements, citizens to
take training, etc. There is indeed no clear evidence in this regard of
a close connection between belief and action.

III

People may well profess to believe in a plan without taking any
action to implement their belief. This aspect of human behavior is
particularly applicable to the area of civil defense planning. Civil
defense officials, for instance, have openly admitted that they had
not followed the advice of their office in regard to fallout shelters.
One constantly encounters the kind of complaint that a civil defense
director made to me recently: "The Federal Government is not putting
any shelter spaces in its new building in our city. So we ask builders
and developers and managers to provide for shelter in their new build-
ings because this is Federal policy. Then they ask us what the Federal
Government is doing!" Or, still more vividly, one community in which
I recently interviewed has a city government which really wants to pro-
vide shelter for its population. There is one and only one building
in town which meets minimum shelter requirements; it happens to have
enough shelter spaces to provide for all the normal population of the
(small) town. But the city officials cannot get it licensed---that
is, cannot get agreement from the owner and manager to stock supplies
in case of an attack. The city officials reported firsthand their
several exasperating conferences with the representatives of the owner.
And who is the owner? None other than the Federal Housing Administra-
tion, which has repossessed the building and--adamantly, apparently--
refuses to cooperate. "I just wish," says a responsible city official,
"that the different branches of the Federal Government would talk to
each other." The point here is not that the FHA is necessarily opposed
to civil defense, but that the main objective of the FHA is to sell the
building, and FHA representatives fear that any encumbrance, such as a
licensing agreement, might discourage a potential purchaser. Now the
FHA is in the business of handling---and where possible disposing of---
repossessed properties. Reputation, promotion, and sense of achievement

of the FHA officials depend upon how well they handle repossessed pro-
perties, and not upon their contribution to civil defense. (There has
been a good deal of complaint and criticism about the various Federal
housing agencies' indifference to racial discrimination, by the way,
and the parallel is exact. Many of these Federal officials are in no
way hostile to Negroes or other minority groups, but they <u>will</u> <u>not</u> get
credit for helping Negroes to get houses and they <u>will</u> be penalized if
they fail to handle properties in a satisfactory fiscal fashion).

Now, this kind of dilemma is characteristic of most efforts at
civil defense shelter programs. If civil defense shelter planning is
to be developed, responsible officials who are engaged in a particular
task in a particular way have to redefine the job or at least reorient
themselves towards it. And it is not enough, in the case described
above, for the local FHA officer to reorient his attitudes. There
has to be some reorientation on the part of his superiors or associ-
ates.[1] Nor will a mere reorientation of their attitudes suffice.
Admittedly, to switch from "Jones really ought to have got rid of that
big building" to "Too bad these idiot buyers won't handle that building
with a shelter license on it, but that's the way the ball bounces," is
a step in the right direction. But what is really called for here is
a reorientation of priorities---the willingness of responsible superiors
to change the system of evaluation, penalties, and rewards. A professed
concern with the innovation, in this case civil defense, will not bring
about appreciable changes in the behavior of the participants in the

---

[1]More generally, of course, of his reference group, whatever that may
be. In some Federal agencies, no doubt, the reference group would be
prospective future employers in private industry, as much as immediate
superiors and associates. In Washington, for bright young professionals,
it would not necessarily be so much people in their own agency, as people
of their sort in any "interesting" agency, since such professionals ex-
pect to move about from agency to agency.

organization. And, naturally, there are systematic reinforcements in most cases for continuing with the prevailing pattern of evaluations--- reinforcements like the emphasis upon financially measurable achievements in an agency which must emphasize accounting, and (as I would deduce from the work of Grodzins and others[2]) the dependence of government employees for their sense of achievement and status upon the respect of fellow professionals. But almost by definition, there are not systematic re- inforcements for attaching priority to most innovative patterns. In fact, from a political standpoint, I have been wondering whether we might distinguish a genuine _innovation_ from a _political_ _novelty_ along such a line; a genuine political innovation could be defined as one for which natural[3] systematic reinforcements are lacking, even if it is adopted with all appropriate legal, formal, constitutional means, and where the disincentives to implementation would be considerable. Think- ing about civil defense plans as social innovations demands conceptual clarification---clearer definition---and even leads to the question of whether such terms as innovation are sufficiently precise.

Last term, I taught a graduate course in Social Change in which I assigned to my students first Foster's elegant _Traditional_ _Cultures_ _and_ _the_ _Impact_ _of_ _Technological_ _Change_, (New York, 1962), then Germaine Tillion's brilliant _Algeria_: _The_ _Realities_ (New York, 1958). One of the students said that on reading Foster she had been excited about the possibilities of planned social change; but that then on reading Tillion, she concluded that Foster deals with the cosmetic aspects of social

---

[2]The late Morton Grodzins left uncompleted at his death materials invol- ving the pattern of Federal-state-local relations. A surprising by- product of the study was the extent to which in some cities and some professional groups, cliques consisting of a mixture of employees of Federal, local, state, charitable, and private organizations interact to set policy leadership; I presume, though do not know what this will be reported in Daniel Elazar's forthcoming edition of some of Grodzins' work. I myself worked on this project in Massachusetts.

[3]Those who have been exposed to sociology in the tradition of Park, Burgess, and Hughes may recognize the special sense of "natural" here.

change, those which can be handled, for the most part, within an existing
(or only mildly changing) social framework, whereas Tillion reports the
profoundly surgical aspects. These figures of speech indicate a difficulty
quite relevant to the present problem: how do we classify innovations?
And this question raises an issue which often confronted graduate students
exposed to the classic Aristolelian analysis of politics in political
science in my time (thirty-odd years ago): what is a revolution? I have
not so far encountered any classification of types of innovation or of
political change which enables me to distinguish clearly and explain suc-
cinctly differences which I "intuitively" feel exist between different
kinds of innovation. Can we usefully generalize from most of the kinds of
experiences reported by Foster---experiences which for the most part involve
changes in what might be called culture-traits, fairly isolatable and small
portions of the total culture---to the kind of change involved in the
so-called Negro revolution or to the introduction of civil defense planning
on a large scale?

IV

The question is: can we make political sense, useful for such changes
as civil defense, out of what we know about innovation? By "political
sense" I do not mean "political acceptability." In fact, with some
other innovations, civil defense has suffered a great deal I think from an
over-emphasis on acceptability. [Parenthetically, I believe it was hurt
rather than helped for various reasons by a brief period of emphasis during
the administration of the late President Kennedy, because this emphasis set
up expectations which could not be fulfilled and focused significantly
greater attention upon one particular form of shelter planning (family
fall-out shelters) which should have been introduced only as part of a
large program.] In a complex, interdependent society the most that a
statute, a charter, an enactment, or a Presidential proclamation can do
is to realign priorities to some extent and to give advocates of a parti-
cular program a wider hunting license. If we are to believe a substantial
volume of opinion polls, many people support civil defense and there is a

considerable majority <u>not</u> opposed to it. The problem is one of coordinated implementation. The difficulty with the emphasis during President Kennedy's administration was that it made people think that civil defense was a one-shot proposition of building things; whereas civil defense, in order to be effective, has to involve preparation and training. The analogy is with most other military activities, or with education if you prefer. A militia does not consist of a group of guns and an armory, but the trained men who know how to use the guns and refresh and update their training; by the same token, a university is not the building and the library but the people who know how to use them.

Certainly, acceptability is important; but, up to a considerable point, national and state policy already provides civil defense agencies and supporters with the necessary framework and enables us to try to stress the priority which we think should attach to civil defense. What is lacking now is implementation of civil defense planning programs so that in the event of a thermonuclear attack people could take the necessary actions with some confidence about what they were doing. The difficulties which appear to face us here are fantastic---if we think of civil defense as something which has to be available for everybody at once. But, after all, no one thinks of military planning in such a fashion; one allows time. In the past countries subject to invasion have recognized that some areas, harder to defend than others, must be sacrificed, unpleasant as that may be. I suppose that in practice public health programs are usually introduced region by region or group by group and that not everybody in a given population is protected equally against specified diseases until the program is absolutely optimized.

In the United States today, however, the whole emphasis upon equality of treatment for everybody (universalism) does serve as an obstacle to the introduction of new safety or health proposals because by the definition of the concept people are NOT getting equal treatment until and unless a program can be introduced 100%. Particularly in the civil defense field, this universalistic notion has been a handicap, because the responsibility for both survival projects and analyses of what aspects of civil defense to concentrate on is financed by governments and devolves to governmental

officials who have to think in universalistic terms of the same protection for everybody.[4] When various state agencies in a certain state were queried about a survival project and their part in it, a mental health official evoked considerable amazement when he suggested that inmates of state institutions for psychotics be forgotten because the skills and training of doctors, nurses, and attendants in the department could be put to better use than caring for inmates in a post-attack period. In effect, he was reported as saying that care of psychotics is a luxury, not feasible under combat conditions. In a genuine attack period---most people would probably realize this; but they find it difficult in the United States today to plan in advance for such contingencies. Interestingly enough, if I remember correctly, the Public Health Department came up with a large plan for caring for bedridden patients in several hospitals. And a little later, enthusiasm in civil defense discussion centered around school shelters partly because people felt that anyway the children could be saved, whereas if one is thinking of post-attack rehabilitation and the survival of a society, a disproportionate number of children could overwhelm the productive capacity of the society.[5]

What I am saying is that while the majority of people more or less approve and accept civil defense planning, most of these same people unreflectively accept at the same time a set of propositions which make realistic civil defense planning extremely difficult.

Another disadvantage which adheres to civil defense has to do with the fact that it is largely financed by Federal funds. If the research and study of birth control had been financed in this manner, I doubt very much whether we would have reached our present stage of development; and

---

[4] This may become particularly acute as in the early stages of sheltering it may be that rural dwellers and downtown city inhabitants can be more easily protected than politically conscious suburbanites.

[5] Great emphasis must be placed on the point that no policy could be foolisher than the (purely temporary) saving of the lives of children in disproportionate numbers, since many people seem attracted to civil defense as a child-saving device.

I may add with some authority as a citizen and ex-politician in Massachu-
setts, that had state agencies been responsible for expending federally
financed funds for birth control research in Massachusetts we would not
be where we now are! Of course until recently (as the statutes were
interpreted) there were legal barriers to Federal and state support of
birth control. As a result of this fact the financing and organizing
of birth control research and promotion were almost entirely private.
Accordingly, it was possible to challenge various tabus and assumptions
which would have been more difficult to challenge under a governmentally
financed program. Since war and defense, even civil defense, have been
regarded chiefly as governmental activities, practically no research or
development on civil defense has been carried on by private agencies,
which might be a little more free to challenge this universalistic
notion. (It would be interesting to find out if Russian, Swedish, and
Swiss civil defense are any more free of such universalism. During World
War II, Russian civilian officials presumably had to make hard choices
about letting some populations die and others live, choices which never
faced U.S. civilian officials.) (To be sure, there are defense studies
centers now at several universities, partly privately financed; but I
do not know that any of them has concentrated on civil defense.)

As it is, the kind of planning in which local civil defense direc-
tors can engage was stated to me by one director recently: "If the
attack comes at night, I intend to have the bridges blown up, because
we have enough shelters in the downtown sections of the city to care
for most nightdwellers if we keep the suburbanites out; if it comes in
the daytime, I intend to put up barricades at 14th Street South and 26th
Street North, because there are enough shelter spaces in the larger build-
ings in those areas to care for the people between those streets (there
are natural barriers to the east and west), but we will simply have to
keep out anybody who lives uptown or downtown. Yes, I shall have the
police keep anybody from forcing those barricades." This may work; the
police force may be well enough disciplined to undertake such a job but
since trained police will presumably be necessary in a post-attack
situation, one wonders if it is the best way to use them. But what is
still more important, the expensive downtown hotels in this particular

city house a large number of elderly people with few skills to contribute
to post-attack recovery, while the cheaper downtown hotels lodge a large
number of derelicts with practically nothing to offer in the way of re-
building society. (I have disguised facts so that no one can identify
the city; but the fact that I have to disguise it shows one of the diffi-
culties in the situation. I am not sure how many officials of the city,
including the police commissioner, know of this plan.) It should be
pointed out that, as in almost all cities of any size, the downtown
business section has far more shelter spaces than the residential and
suburban sections; and this in general may mean a most uneconomic selection
of skills amongst the survivors of a nighttime attack in which the central
city is not the area where the bomb falls. (Quite often it would not be.)

V

Obviously, there are a whole set of problems involved in learning
to live in a shelter under shelter conditions, and these problems will
be greatest for shelter managers. There are also a whole set of pro-
blems involved in being willing to take refuge when there may be strong
stimuli to do something else. (I suppose the most tiresome single argu-
ment advanced against civil defense is that people will insist on being
with their families, rescuing their spouses and children, etc., and will
not take refuge. Certainly, this will be true of <u>some</u> people under all
conditions, but it would be true of a much greater number of <u>untrained</u>
<u>and</u> <u>unrehearsed</u> people than of trained and rehearsed people. Indeed
such thinking resembles the arguments that people will always panic in
a catastrophe, arguments which have been rather effectively disproved by
the studies of Harry Williams and Charles Fritz on panic and disaster,
in the National Research Council's Committee on Disaster Studies. From
those studies, I deduce that most people who have something to do which
is comprehensible (because they have rehearsed it) and meaningful (because
they understand it) will not engage in potentially self-destructive attempts
to reunite with relatives and children).

The problems tend to vary somewhat from one type of terrain to another;
shelters that would be <u>possible</u> on the rock-ribbed coasts of New England
or in the salt caves below Detroit are different from anything we would

conceive of for Florida, for instance. Naturally enough, the emphasis
hitherto in civil defense has been on training shelter managers. But,
training is also necessary---perhaps quite as necessary---for those who
are expected to take refuge in shelters and to live in them. In the cases
which I have heard about, the training of the managers seems to be largely
telling them what to do; whereas all our knowledge of pedagogy suggests that
difficulties are better foreseen and people are infinitely better trained
if they can actually try out activities and operations. "Learning by
doing" is indeed much more extensively practiced for combat training than
it is in university education!

Such learning by doing should not, however, be confined simply to the
particular training of particular shelter managers in a particular area.
Rather, civil defense administrators should try to develop what Lasswell
calls "prototypes" in his brilliant discussion of how to develop political
innovations in chapter 5 of his Future of Political Science (Atherton,
1963). Perhaps, as a cross between a laboratory situation and a proto-
type, one might work out with subjects, some playing themselves, others
adopting other roles, some of the various difficulties that would arise.
(For example, it might be impossible to get the mayor or governor to spend
two weeks in a shelter; but just conceivably some mayors and governors
would be willing to order their executive assistants to play their part
for two weeks, or some impecunious ex-mayors might be willing to undertake
the role for pay. And, just as some business firms insist on promising
young executives' devoting some time to the Community Chest, so a few of
them might be willing to draft staff at various levels for shelter living.)
The effort here would be to determine not so much whether shelters are
psychologically tolerable for more or less enthusiastic volunteer subjects
but what kinds of problems arise in getting people to rehearse and train.
Lasswell, in discussing prototypes, says that those who are "ideologically
alienated" or "characterologically incapable" among the leadership should
be released from participation in the prototype. In the present instance
those who are completely ideologically alienated or characterologically
averse might be eliminated. Yet, contrary to Lasswell's opinion some
degree of characterological difficulty and ideological ambivalence would
probably make the "pilot study" more revealing and rewarding. For,

presumably, most Americans despite their profession of preference for shelter life to death, have the same kind of mixed feelings towards shelters that they have, at least, towards being hospitalized.

This raises another difficulty in discussing civil defense as an innovation; it is highly probable that, like public health measures, zoning laws, or public safety enforcement, civil defense will involve some degree of coercion. Yet, so far as I know, most recent writing in this country---most writing on planning and innovation---stresses the noncoercive, free choice aspect of innovation. It is not startling to find Rogers' summary called "the diffusion" of innovations, diffusion implying either something natural or something free. But in fact a great many innovations from Christianity in the days of Charlemagne to rat control in our own time diffuse or are adopted effectively because a fair number of people are coerced. Although to govern is to coerce, it is interesting that there is little discussion of coercion or social control in such works as Rogers' or Foster's. And there is little discussion in the political science literature about the techniques of securing innovation through imposed leadership, coercion or other methods. To be sure, there are a number of how-to-do-it manuals which have some analysis of coercion---the best known being Machiavelli's The Prince---but I know of no manual which relates the realistic approach to politics and social control specifically to the problems of innovation, for the reason among others that most writers about power politics and social control were far more concerned with the acquisition and maintenance of power as a supposed end in itself than with degrees of power and the possibilities of innovation. This is to say, the literature on innovation concentrates on the bland aspects of innovations, or perhaps on the innovations which can be secured relatively blandly.

VI

Were civil defense shelter planning to be developed taking full advantage of the social sciences, one would probably have a genuine systems approach---that is to say, there would be a collaborative enterprise to improve shelter design and shelter building (and shelter living and post-attack adaptation) in which engineers, economists, planners, social

anthropologists, and students of urban politics worked together. And
with such a systems approach, the planning would involve as much the
sort of question which I have labeled (A) below as the sort of question
which I have labeled (B).

(A) It appears that people would find it a lot more convenient
     and "natural" to keep up community shelters and to rehearse
     training for their use, if the shelter system had characteris-
     tics x, y, z, k, l, m, than if not. Can engineers and archi-
     tects design shelters for city K on a prototypical basis which
     have these characteristics (or specified ones of them)? Can
     these be built at a reasonable cost? Can the system of plan-
     ning to use them be developed in a similarly suitable fashion?

(B) The reverse: Engineers and builders and economists have de-
     signed this sort of shelter; how can you "sell" it to the
     people who ought to use it?

As is probably known to most readers, questions of type (B) are
commonly asked even in areas like hospital administration or university
construction or public housing where there has been a much longer history
of social science involvement than in civil defense. So, it may be some-
what Utopian to suggest that a genuine systems analysis could be developed,
since it's fairly unlikely that the technical people who would have to accept
it would at the present stage of the game be willing to work with it. After
all, very few architects have followed out Richard Neutra's use of social
observation methods in his field.

One comment on the choice of types of questions is in order here,
not only for civil defense but in general. Ignorant laymen dealing
with experts tend to create in experts the feeling that questions of
type (B) are always appropriate; so, for instance, much work in public
health has consisted, in effect, of asking "How can we get these idiots
to see sense?" But in fact there is a whole range of possibilities as
to the relative use of approaches (A) or (B). In hospital administra-
tion, more clearly than in drug prescription, approach (A) is prefer-
able to approach (B), simply because there are, obviously, conceivable
alternatives. In domestic architecture clearly one does not simply
accept the architect's views as to what a house should be like, but finds

out what kind of people will live there; whereas in planning safety features in an aeroplane design, approach (B) would be more nearly acceptable.

The point to bear in mind is that in military and defense matters, the number and variety of alternatives is so great, the possibility of technical inventiveness so considerable, that approach (B) is hardly ever justified. Yet, in military and defense matters, the authoritarian tradition and the obvious necessity for command decisions in actual combat or crisis situations have tended to develop the attitude among experts (and among many laymen) that expert decisions of a technical nature are final. (Liddell-Hart in his essays on The Fog of War showed the enormous difference between unchallenged acceptance of orders in combat and unrelenting criticism of doctrine prior to combat.) Essentially approach (A) leads us into a serious effort at systems analysis.

VII

But it may be worthwhile to try to develop what would be the next best thing to a genuine systems approach---a manual of social-science-based questions which engineers, builders, and civil defense planners could take into account, about local government, the local daily living patterns, and even such issues as those suggested by Lasswell's emphasis in his chapter on prototyping "the clarification of values." For it is by no means certain what civil defense shelter planning is supposed to maximize. (This holds true also for most other political issues---school building construction, highway building, traffic safety programs, state mental health programs, educational appropriations, etc.) Would it be more desirable to give more people some prospect of survival or fewer people a substantially greater prospect? This question may have relevance to determining some technical emphases. Certainly, the emphasis of this paper has been on civil defense as a valuable contributor to post-attack survival of the society and the population; but some supporters of civil defense are for it as an instrument of bluff and counterbluff in the international arena, and regard its other aspects as relatively secondary. Emphasis on the deterrence value of civil defense considerably alters the technical engineering, building, and economic emphases one would choose.

Without some clarification of values, technicians choose naively techniques which contributed more to one value system, called civil defense, than to another. (It can, I believe, be demonstrated similarly that at various times nations have chosen to emphasize weapons which did not at all serve the major national purposes of those who stressed these weapons; as when a nation which regards itself as committed to defense and opposed to a first strike relies chiefly upon a weapons system so tactically aggressive and mobile that it is regarded by the potential enemy or enemies as a clear and present threat.)

VIII

When I originally planned this paper last fall, I hoped I would find a great deal I could immediately apply in the sociological and anthropological literature on innovation. But I came gradually to realize, I think, that this literature does not, so far as I can see, contribute much directly to the development of ideas about political and organizational invention. It should no doubt be of some value in criticizing or analyzing inventions (or potential inventions) once they are made; but invention must proceed analysis and criticism.

INTERNAL DISTRIBUTION

1-30.	D. B. Bobrow	39-41.	Laboratory Records Department
31.	J. C. Bresee	42.	Laboratory Records, ORNL, R.C.
32.	J. L. Liverman	43.	ORNL Patent Office
33.	H. G. MacPherson	44.	Research and Development Division, ORO
34.	A. M. Weinberg		
35.	E. P. Wigner	45-59.	Division of Technical Information Extension
36-37.	Central Research Library		
38.	ORNL-Y-12 Technical Library, Document Reference Section	60-99.	Civil Defense Library

EXTERNAL DISTRIBUTION

100. Harry Adley, Adley Associates, 900 Peachtree Street, Atlanta Georgia
101. J. H. Aitchison, Department of Political Science, Dalhousie University, Halifax, Nova Scotia
102. Bert Anthony, National Institute of Disaster Mobilization, P. O. Box 906, Grand Central Station, New York, New York, 10017
103. Thomas Barber, Salvation Army National Headquarters, 120 W. 14th Street, New York, New York
104. Raymond Bauer, Harvard Business School, Soldiers Field, Boston, Massachusetts, 02163
105. Samuel Beer, Department of Government, Harvard University, Cambridge, Massachusetts, 02138
106. George Belknap, Research Coordinator, Department of Housing and Urban Development, 1926 Connecticut Avenue, N.W., Washington, D.C., 20036
107. Biderman and Crawford, Bureau of Social Science Research, 1200 17th Street, N.W., Washington, D.C., 20036
108. Gerahard Bleicken, John Hancock Company, 200 Berkeley Street, Boston, Massachusetts, 02116
109. John Bodine, Department of Anthropology, Marquette University, Milwaukee, Wisconsin.
110. Richard W. Bolling, House of Representatives Office Building, Washington, D.C., 25
111. David Braybrooke, Department of Philosophy, Schenley Hall, University of Pittsburgh, Pittsburgh, Pennsylvania.
112. R. C. Brictson, System Development Corporation, Santa Monica, California
113. John Brumm, Citizens Conference on State Legislatures, 910 Pennsylvania Avenue, Kansas City, Missouri, 64105
114. Charles Coates, Department of Sociology, University of Maryland, College Park, Maryland, 20742
115. Ralph Conant, Joint Center, 16 Story Street, Cambridge, Massachusetts, 02138

116. L. J. Cormier, Region I Director, Office of Civil Defense, Oak Hill Road, Harvard, Massachusetts, 01451
117. Robert L. Corsbie, Rose, Beaton, Corsbie, Dearden, and Crowe Architects and Engineers, 95 Church Street, White Plains, New York.
118. David Danielski, Department of Political Science, Yale University, New Haven, Connecticut
119. Keith Davis, Psychology Department, University of Colorado, Boulder, Colorado
120. Vincent Davis, Executive Secretary, International Studies Association, University of Denver, Denver, Colorado, 80210
121-123. L. J. Deal, Civil Effects Branch, Division of Biology and Medicine, U. S. Atomic Energy Commission, Washington, D.C.
124-163. Lewis Dexter, 526 Pleasant Street, Belmont 78, Massachusetts
164. Laura Dittmann, 10709 Clermont Avenue, Garrett Park, Maryland
165. Trevor Dupuy, Historical Evaluation Research Organization, 2233 Wisconsin Avenue, N.W., Washington, D.C.
166. Russel Dynes, Disaster Studies Program, Department of Sociology, Ohio State University, Columbus, Ohio.
167. Dan Elazar, Department of Political Science, Temple University, Philadelphia, Pennsylvania
168. Wentworth Eldredge, Department of Sociology, Dartmouth University, Hanover, New Hampshire
169. Morris Feld, Librarian, Harvard Defense Studies Center, Harvard University, Cambridge, Massachusetts, 02138
170. H. W. Fox, 211 Holt Avenue, Apartment 3, Winter Park, Florida
171. Robert Friedman, Institute Public Administration, Rackham Hall of Graduate Studies, University of Michigan, Ann Arbor, Michigan
172. Charles Fritz, Institute for Defense Analysis, 400 Army-Navy Drive, Arlington, Virginia
173. D. Grant, Political Science Department, Vanderbilt University, Nashville, Tennessee
174. John C. Green, Office of Emergency Planning, Washington, D.C.
175. Bertram Gross, Department of Political Science, Syracuse University, Syracuse, New York.
176. General H. F. Harding, Department of Speech, Ohio State University, Columbus, Ohio
177. Sam Huntington, Department of Government, Harvard University, Cambridge, Massachusetts, 02138
178. Morris Janowitz, Department of Sociology, University of Chicago, Chicago, Illinois, 60637
179. Edward Katzenbach, Vice-President for Education, Raytheon Corporation, 141 Spring Street, Lexington, Massachusetts, 02173
180. Irving Kristol, Basic Books, Inc., 404 Park Avenue, South, New York, New York, 10016
181. Robert Lamson, Office of Civil Defense, The Pentagon, Washington, D.C.
182. Kurt Lang, Stonybrook Long Island Campus, State University of New York, Stonybrook, New York
183. Harold Lasswell, Law School, Yale University, New Haven, Connecticut

184. Quentin Ludgin, Research Triangle Institute, Durham, North Carolina
185. Robert Marden, 30 Kendall Common Road, Weston, Massachusetts, 02193
186. Harold Mendelsohn, Radio TV Communications, University of Denver, University Park, Denber, Colorado
187. Joyce Mitchell, c/o Center for Behavioral Studies, 202 Junipero Serra Blvd., Stanford, California
188. Alfredo Nazario, Commissioner of Labor, c/o Governor La Foratleza, San Juan, Puerto Rico
189. Jiri Nehnevajsa, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania
190. Peter Nordlie, Human Sciences Research, Inc., McLean, Virginia
191. Kenneth Olson, 1000 Connecticut Avenue, N.W., Washington, D.C., 20036
192. A. B. Park, Agricultural Research Service, U.S. Department of Agriculture, Washington, D.C.
193. Charlton Price, Stanford Research Institute, Menlo Park, California
194. Enrico Quarantelli, Disaster Studies Programs, Department of Sociology, Ohio State University, Columbus, Ohio
195. James L. Rice, Department of Sociology, University of Maryland, College Park, Maryland, 20742
196. Donald Riddle, College of Police Science, 235 East 20th Street, New York, New York, 10003
197. David Riesman, Department of Sociology, Harvard University, Cambridge, Massachusetts, 02138
198. Fred Riggs, Center for Behavioral Studies, 202 Junipero Serra Blvd., Stanford, California
199. Herbert Roback, Holifield Subcommittee, House of Representatives Office Building, Washington, D.C.
200. Everett Rogers, Department of Sociology, Michigan State University, East Lansing, Michigan
201. Robert H. Salisbury, Department of Political Science, Washington
202. William H. Schmidt, Harvard School of Public Health, 55 Shattuck Street, Boston, Massachusetts, 02115
203. Theodore Schuchat, National Press Building, 1346 First Street, N.W., Washington, D.C., 20004
204. John Seeley, Department of Sociology, Brandeis University, 415 South Street, Waltham, Massachusetts, 02154
205. Roberta Sigal, Department of Political Science, Wayne State University, Detroit, Michigan
206. Jerome Snyder, C-209, Atomic Energy Commission of U.S.A., Germantown, Maryland
207. Howard Stanton, c/o Albizu, P. O. Box 1118, Hato Rey, Puerto Rico
208. N. Storer, Social Science Research Council, 230 Park Avenue, New York, New York, 10017
209-211. W. E. Strope, Office of Civil Defense, Department of the Army, Washington, D C.
212. John Stroud, P. O. Box 296, Ojai, California
213. Johny Takeshita, Center for Population Studies, 1225 South University, University of Michigan, Ann Arbor, Michigan
214. Dwight Waldo, Institute of Governmental Studies, University of California, Berkeley, California, 94720

215. Arthur Waskow, Institute of Policy Sciences, Peace Research Institute, 1329, 18th Street, N.W., Washington, D.C., 20036
216. Leon Weaver, 2005 Yuma Trail, Okemos, Michigan
217. Edward Wellin, Department of Anthropology, University of Wisconsin, Milwaukee, Wisconsin
218. Brad Westerfield, Department of Political Science, Yale University, New Haven, Connecticut
219. Richard White, 46 Orchard Street, Belmont, Massachusetts, 02178
220. Aaron Wildavsky, c/o Department of Political Science, University of California, Berkeley, California, 94720
221. Harry Williams, Southern Regional Education Board, 130, 6th Street, N.W., Atlanta, Georgia
222. Charles Windle, SORO, 5010 Wisconsin Avenue, N.W., Washington, D.C. 20016
223. Bryce Wood, Social Science Research Council, 230 Park Avenue, New York, New York, 10017
224. Richard E. Wright, N.A.S.A., 575 Technology Square, Cambridge, Massachusetts, 02139
225. Frank Zeidler, 2921 North Second Street, Milwaukee, Wisconsin, 53212
226. Allan Zenowitz, Great Barrington, Massachusetts
227. Captain Basil Henry Liddell Hart, States House, Medmenhom, Marlo, Bucks, England
228. Donald Allen, Department of Sociology, University of Southern Florida, Tampa, Florida, 33620
229. Henry Winthrop, Department of Sociology, University of Southern Florida, Tampa, Florida, 33620
230. Ronald Burton, Department of Sociology, University of Southern Florida, Tampa, Florida, 33620

Internal Distribution

72. M. C. Bell
73. S. B. Bobrow
74. W. J. Boegly, Jr.
75. C. V. Chester
76. G. A. Cristy
77. L. Dresner
78. H. F. Gaydos
79. J. H. Gibbons
80. C. M. Haaland
81. C. H. Kearny
82. J. S. Levey
83. M. B. McKee
84. C. Nader
85. D. B. Nelson
86. K. Nelson
87. L. Nelson
88. A. F. Shinn
89. J. W. Strohecker
90. R. A. Uher
91. A. Wilcox
92. P. Wilcox
93. C. J. Williams

External Distribution

94. Harold Knapp, Institute for Defense Analyses, Arlington, Virginia
95. Professor Laura Nader, Dept. of Anthropology, University of California, Berkeley, California
96. Otto L. Nelson, Jr., New York Life Insurance Company, 51 Madison Avenue, New York, New York 11000
97. Ralph Spear, Public Administration Service, 1775 Massachusetts Avenue, Washington, D. C.
98. Shields Warren, Director of Laboratories, New England Deaconess Hospital, Boston, Massachusetts
99. Wayne Thompson, Vice President, The Dayton Company, Minneapolis, Minnesota