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NATIONAL FOUNDATION FOR SOCIAL SCIENCES

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HEARINGS
BEFORE THE
SUBCOMMITTEE ON
GOVERNMENT RESEARCH
OF THE
COMMITTEE ON
GOVERNMENT OPERATIONS
UNITED STATES SENATE
NINETIETH CONGRESS

KANSAS STATE UNIVERSITY LIBRARIES

FIRST SESSION

ON

S. 836

A BILL TO PROVIDE FOR THE ESTABLISHMENT OF THE
NATIONAL FOUNDATION FOR THE SOCIAL SCIENCES IN
ORDER TO PROMOTE RESEARCH AND SCHOLARSHIP IN
SUCH SCIENCES

JUNE 2, 6, 7, 20, AND 21, 1967

PART 2

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NATIONAL FOUNDATION FOR SOCIAL SCIENCES

FRIDAY, JUNE 2, 1967

U.S. SENATE,
SUBCOMMITTEE ON GOVERNMENT RESEARCH,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee, met pursuant to notice, at 10:10 a.m., in room 3302, New Senate Office Building, Senator Fred R. Harris (chairman of the subcommittee) presiding.

Present: Senators Harris and Hansen.

Also present: Dr. Steven Ebbin, staff director.

OPENING STATEMENT OF THE CHAIRMAN

Senator HARRIS. The subcommittee will be in order.

The Subcommittee on Government Research is today continuing hearings on S. 836, "A bill to create a National Foundation for the Social Sciences," which, together with 20 other Senators, I introduced in the Senate last February 6. This set of hearings will extend throughout the month of June and into July. We will hear testimony from some 50 witnesses from various disciplines within the social science community.

I agree with almost every witness who has appeared before our subcommittee that Federal funds for the social sciences are too small in comparison to the need and the amount of funds available for research support in the other fields of science.

I would like to reiterate for purposes of emphasis, that S. 836 has been introduced in order to achieve not only an increase in the funds available for social science research, but for the purpose as well, of bringing to the social sciences the added visibility, recognition, and prestige necessary to give impetus for development.

The mail we have received from social and physical scientists in all parts of the country has been overwhelmingly favorable in its support of a new and separate foundation for the social sciences. Among those who support this legislation, but who are unable to appear at these hearings because of other commitments, are a number of eminent leaders in the social sciences, including, for example, such recognized scholars as Margaret Mead, Henry Steele Commager, Arthur Schlesinger, Jr., Daniel P. Moynihan, William Anderson, Roger Hillsman, John Plank, Lindsay Rogers, Kimball Young, Pitrim Sorokin, F. Stuart Chapin, and Stanley Hoffman. Without objection, with will place in the appendix of the record a paper by Dr. Margaret Mead. (See app., part 3, p. 782).

Every single witness who has appeared before this subcommittee to date has substantiated the pressing need to increase Federal expenditures for social science research and scholarship. Not one witness felt that the present structure for research support is entirely satisfactory. Every one of them felt that the social sciences have great and unrealized potential for making significant contributions to our understanding of the social problems that challenge our Nation and our world. All felt a great national need exists for additional basic social science research, untied to the operating concerns of the mission-oriented agencies of the Federal Government.

The question, it seems to me, boils down to not "whether," but "how"—not whether we need more and better social science research, but how best, from a Federal institutional standpoint, to achieve this. Though good suggestions have been made for adjustment in its provisions and precise language, S. 836, creating a National Foundation for the Social Sciences, is, I believe, the best way to achieve these desired results.

Whether or not that is ultimately held to be true. I believe that we will make a real contribution in this subcommittee in increasing the support, by whatever manner, for social science research and scholarship, and to that point I might say that therefore each witness who has already appeared and is scheduled to appear, is making, I think, a real contribution.

Our first witness is Dr. Kingsley Davis.

Dr. Davis, would you come forward?

Dr. Kingsley Davis is chairman of the Division of Behavior Sciences in the National Academy of Sciences. He has a very distinguished background. The staff has prepared a brief biographical sketch concerning Dr. Davis, which without objection we will place at this point in the record.

Biographical Sketch: Dr. Kingsley Davis

Chairman, International Population and Urban Research, University of California, Berkeley; University of Texas, A.B., 1930, M.A., 1932; Harvard University, M.A., 1933, Ph.D., 1936.

Smith College, Northampton, Massachusetts, instructor in sociology, 1934-36; Clark University, Worcester, Massachusetts, assistant professor of sociology, 1936-37; The Pennsylvania State University, University Park, associate professor of sociology and chairman of department, 1937-42; Princeton University, Princeton, N.J., associate professor of anthropology and sociology, 1942-48; Columbia Univ., N.Y., director of Bureau of Applied Social Research 1949-55, professor of sociology, 1952-55; Univ. of Calif., Berkeley, professor of sociology and Director of International Population and Urban Research, 1955—Consultant on population studies, Conservation Foundation, 1951-54; vice-president of Population Reference Bureau, 1952-55, trustee, 1952—; U.S. Representative, U.N. Population Commission, 1954-61. Member of National Committee on Marriage and Divorce Law, American Bar Assoc., 1950-53, of U.S. Ad Hoc Committee on the International Biological Program, 1963-64, and of Committee on the Sonic Boom, American Academy of Arts and Sciences, 1964-65, Member—American Sociological Association (President-1959); Population Association of America (President-1962-63); American Association for the Advancement of Science (fellow); and others. Publications—*World Population in Transition*, American Academy of Political and Social Science, 1945; *The World's Metropolitan Areas*, University of California Press, 1959 (with Roy Turner, Richard L. Park, and Catherine Bauer Wurster); *India's Urban Future*, University of California Press, 1962; *The Urban Revolution*, Random House, in press; and others.

Senator HARRIS. Dr. Davis, we are very pleased you are here. It is good to see you again.

We will be pleased to hear from you at this time.

TESTIMONY OF DR. KINGSLEY DAVIS, CHAIRMAN, INTERNATIONAL POPULATION AND URBAN RESEARCH, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIF.

Dr. DAVIS. Thank you, Senator Harris. I am glad to be here. I have previously discussed with Mr. Ebbin the possibility that I might—since my remarks are not fully prepared, in final shape—submit a final statement later for publication.

Senator HARRIS. Without objection, that may be done.

Dr. DAVIS. Speaking as an individual social scientist actively engaged in teaching and research, I wish to say, at the start, that I am in favor of the establishment of a National Social Science Foundation along the lines outlined in S. 836. The social scientists of the Nation, present and potential, are deeply indebted to Senator Harris and to the entire subcommittee for the foresight, clarity, and thoroughness that characterize the consideration of this measure. Regardless of the ultimate legislative outcome, the role of social science in relation to the Federal Government will have been greatly clarified by the discussions. If a separate foundation is eventually created, it can potentially ((if properly handled) give the United States a unique source of strength by helping to accelerate and deepen our understanding of human societies.

My reasons for favoring a separate Social Science Foundation all relate to the peculiarly equivocal position of social science in comparison to other scientific fields. On the one hand, systematic inquiry into social phenomena seems to promise a great deal. We are beset by all kinds of social problems, and we naturally think that these can be solved by a scientific approach, as has been the case with medical and technological problems. On the other hand, we are perpetually disappointed that social scientists do not really give us the solutions to social problems, or, if they do, they do not give us the right ones. The source of these contrary attitudes is, of course, the fact that the social disciplines deal with human beings—that is, with ourselves, and in particular with our groups, attitudes, customs, and aspirations. But regardless of its sources, the ambivalence toward social science makes its public support and encouragement inherently more precarious than that given to the natural and physical disciplines. The fields of social inquiry therefore need every means that can be found to strengthen their hand against obstacles to scientific objectivity, both from within and from without their own ranks. One important means for accomplishing this would be a separate federally supported foundation. Indeed, in my opinion, the social sciences need a separate foundation more urgently than the natural sciences do.

As against this distinct need, I am unable to find a single counter-argument that will stand up under scrutiny. The objections so far voiced in these hearings—the arguments that an artificial wall would be erected between the natural and social sciences, that interdisciplinary work would be stifled, that other social science programs would be jeopardized that social science would be made politically more vulnerable, or that the new foundation would be viewed as merely a camouflage for military research—all seem to me to be weak when examined in the light of past experience. At most they would become

true only with the worst conceivable handling of the new Foundation, but every governmental institution is capable of being mishandled. One must build into the proposed Foundation's structure specific safeguards against abuse and mishandling—safeguards all the more necessary because the organization will be dealing with social science; but the predicted disadvantages are, in my view, far outweighed by the great advantages of having a separate foundation that can face squarely and openly the peculiar problems of social inquiry in a national society. Such a foundation can effectively bring out the human and social aspects of problems that are too often viewed simply from a technological standpoint. It can provide the highest intelligence in defining scientific priorities in fields whose importance is undeniable but whose criteria of relevance are often blurred and disorganized. It can help develop and maintain, on a national scale, facilities required for adequate social research.

Let me emphasize that my view is not that a Social Science Foundation would have an easy time. The very difficulties that dog the social sciences will dog the Foundation too. This is why every facet of the legislation setting up the new institution must be examined with extreme care to avoid as many potential snares as possible. Such a foundation, if it is to prove effective, cannot be a carbon copy of a foundation for the natural or physical sciences. If it could be, there would be no need for setting it up. It must be a new institution especially tailored to meet the peculiar problems of social science.

Below I shall give in more detail my reasons for favoring the creation of the proposed Foundation.

THE DISTINCTIVE NATURE OF SOCIAL SCIENCE

In the hearings before this committee there has been recognition that the social sciences are somehow different from other sciences, but the conception of just how they are different has not, in my opinion, been accurately stated. The view has been advanced that they are "lagging behind" the other sciences, and that this means that "our technological knowledge is running ahead of our social knowledge." The implication drawn is that we must deliberately advance the social sciences so that they can "catch up" with the others, at which time we shall presumably be able to solve social problems in the same way as we solve technical and medical problems. Such reasoning seems to me to be fallacious, and should not be the basis for recommending a Social Science Foundation.

If social science is lagging, we have to ask how and why? Often the lag is attributed to the fact that the social disciplines are "youthful," but this simply begs the question, For why should they be so "youthful" when speculation about social matters is many centuries old and when much newer disciplines such as molecular biology and genetics are not thought of as lagging but rather as being in the forefront of scientific advance? Alternatively, the lag is ascribed to the complexity of social phenomena, but as long as any branch of knowledge contains unknown frontiers, as every field does, its ultimate complexity remains indeterminate. Modern biochemistry with its enormously complicated molecules, seems more complex than any social science;

and modern geophysics, with its magnetohydrodynamic motions and reversals of geomagnetic fields seems quite complicated to an economist or sociologist. Sometimes it is said that the social sciences lag because they deal with human beings, and human beings are unpredictable; or because they cannot perform experiments. But in fact human beings are quite predictable, and social science literature is full of reports of experiments.

It is necessary to ask how the social sciences lag. The answer is that they do not lag in their knowledge of scientific method. It is not that "they do not apply mathematics," or "do not adopt an experimental approach." Mathematics is widely used in the social sciences, sometimes to an absurd degree; and statistics is more commonly used in them than in the so-called hard sciences. It is not the knowledge of the methods themselves that is lagging, but rather the freedom of the social scientist to apply them. The limitation on the use of experimental methods, for example, is not due to the social scientist's ignorance of experimental method; it is due to the fact that human beings do not like being treated as guinea pigs. In other words, the key to the problems of the social disciplines, and the key to their distinctiveness, does not lie in "youthfulness," "complexity," or "ignorance of scientific method." It lies rather in the fact that social science gets entangled with the control mechanisms of a society. The operation of a social system depends on its members carrying in their heads notions of what people ought or ought not to do, and enforcing these norms by punishing violation and rewarding effective performance. Their consensus on these matters is buttressed by common belief in supernatural beings, interpretations of alleged facts, and cause-and-effect assumptions. Every society is thus pervaded by an evaluative attitude of praise and blame, of accusation and justification; and much of its intellectual activity consists in elaborating and rationalizing the evaluations. When groups differ in their consensus on what ought and ought not to be, they use up enormous quantities of psychic energy and paper bolstering their own case and tearing down that of their adversary.

Any attempt to study social behavior from a strictly disinterested, analytical point of view thus suffers from two handicaps that do not afflict the study, say, of the geology of the earth's mantle. First, since the social scientist himself shares and conducts his life with reference to the basic sentiments, attitudes, and political issues of his social milieu, he finds it exceptionally difficult to view them dispassionately. He is tempted, often unconsciously, to use the mantle of science for persuasion or propaganda, distorting the truth under the guise or illusion of pursuing it. Second, insofar as he adopts the role of the scientific observer toward other members of his society, he risks arousing their hostility. Not only is he likely to question the unfounded faiths and rationalizations by which they justify their conduct, but he is likely to be accused of cynicism, "capitalistic objectivism," "Marxist materialism," "racism," or any of a thousand other things by both sides in controversial issues. Human beings can always understand a clash of opinion over the rightness or wrongness of some line of conduct, but they cannot understand or appreciate an analysis of it which ignores that question. The nearest people can normally come to con-

ceiving a scientific attitude toward social relations is to think of it as a willingness "to hear both sides" or "to get the facts before deciding." The purpose is not to understand society, as a natural scientist would understand a termite nest or a buffalo herd, but to prove what is morally right or morally wrong about some form of behavior or projected policy.

Consequently, there are few rewards for disinterested research on present-day societies. The rewards tend to go to social philosophers and propagandists, who reinforce the rationalization of one group or another, or to highly applied researchers who simply accept surface problems as popularly defined without questioning the unconscious assumptions that make the problem trivial. For instance, on the propagandist side, a professor who paints big business as a predatory monopolistic group is sure to get a hearing from liberals, just as one who paints labor unions as a predatory monopolistic group will get a hearing from conservatives. Again, on the "applied research" side, an investigator who finds out from a properly chosen sample of people how often they saw a doctor during the past year is going some knowledge of medical care, and he may be well paid, but he is not contributing much to the science of society; whereas a demographer studying the causes of longrun declines in the death rate may be making a fundamental investigation but getting no support at all. The rewards for superficiality and opportunism tend to have a disorganizing effect on the social science profession, and this is compounded by an ambivalent self-image as well.

Actually, the public's stereotype of the social scientist—a stereotype with a large grain of truth—is that he is *not* a disinterested analyst of social phenomena but an impractical idealist or liberal. The reasons are interesting. In the first place, social scientists, even more than most other kinds, are in universities and are thus relatively sheltered from the practical affairs and insecurities concerning the rest of the community. They are therefore inclined to favor humanitarian but costly public policies. In the second place, social scientists are habituated to thinking about social matters in a more rarefied and verbally sophisticated way than ordinary people, often carrying in their heads some utopian scheme in terms of which they condemn the real society. Such principles as racial integration, legalized abortion, free speech, religious tolerance, sexual freedom, guaranteed economic security, permissive child rearing, and cooperative marketing come to be regarded as the sorts of things that social science "advocates." Many social scientists in fact construe their role as that of "critics" of society, which in practice tends to mean critics of those who are well regarded by, or at least successful, in the community at large. They thus themselves reject the idea of disinterested scientific analysis, a fact which does not escape the attention of the general public.

The value of science lies in the power it gives to predict and control. In the social realm, however, control is vested in the public at large and their political and administrative representatives. It follows that the social scientist cannot himself control the materials which he studies to the same degree that the physicist or biologist can. He is everywhere more limited by outside authority. It is considered sensational when a totalitarian government bans Mendelian genetics or insists that its

physics be "Marxian." It is less sensational when a dictatorial regime fires an economist for "reaching the wrong conclusions," or condemns a sociologist for "assigning atheistic readings to students." The pressure in a democratic country are less direct than in a dictatorship, but they are nevertheless present. It is difficult in some cases even to get access to necessary information for social research, because of predetermined social attitudes. For instance, in the United States the Census Bureau is not allowed to ask a question on religious affiliation, and the Bureau has been under pressure to drop the usual question on race; and in many States it is impossible to obtain data on illegitimate births, despite the importance of the illegitimacy problems. In short, what the social scientist studies and talks about has implications for social control, but the official channels of control are not likely to yield to this "authority." He himself often succumbs to advocacy and conflict, confusing his role as a citizen with his role as a scientist.

If what I am saying is true, it follows that the so-called "lag" of the social sciences is not likely to be made up. The difficulties of these fields are inherent in their very nature, and are not due to "immaturity," "complexity of subject matter," or "ignorance of mathematics and the experimental method."

Yet the social disciplines are potentially of much value to society and in some cases have already proved that value—for instance, in avoiding severe economic depressions, measuring unemployment, projecting population change. If so, then the strategy of the Government should be to accomplish the following: To strengthen the tradition and rewards for disinterested and basic social research, quite apart from immediate social issues; to provide means for critical evaluation of social research, especially that done by governmental agencies or with governmental funds, in order to weed out scientifically inadequate, spurious, or deceptive work; to take leadership in seeing that attention is focused on crucial theoretical and methodological problems at the expense of trivial and inconsequential work; to help educate the public and the authorities to the peculiarities, limits, and real hazards of social science, thus providing some insulation of social scientists from direct public pressure and yet protecting the community against possibilities of fraud and abuse; and furthering both the technical and the professional training of social scientists. A judicious policy of development and support in these fields, done with a realization of the special difficulties they face, can potentially give the social disciplines a role much more commensurate with the obvious importance of the subjects with which they deal.

These are all things that fundamentally, in my view, the social scientists must do for themselves. Other kinds of scientists cannot perform these tasks for them, nor can pure administrators or nonscientists do them. The reason is simple: in fields of science, as in any learned profession, individuals capable of judging competence are those who are themselves competent. In the last analysis, the aim of scientific development is to attain greater and wider excellence in each realm of knowledge, and the only people who can implement and judge such progress are those who themselves are in the forefront of development. It is for this reason that I see the creation of a new foundation, established *for* social scientists and *controlled by them*, to be eminently

desirable. This view will be further substantiated by analyzing the major arguments against such a measure.

THE ARGUMENTS AGAINST A SOCIAL SCIENCE FOUNDATION

One frequent objection to the creation of a separate foundation is that it would artificially destroy the linkages between the social and natural sciences. I certainly agree with the thought behind this objection. There is no sharp boundary line between the various branches of scientific inquiry; one connects with another in ways that become more numerous as knowledge is deepened. Also, many theoretical problems and nearly all practical issues have both social and nonsocial dimensions. Often the social aspects of a practical problem are overlooked or ignored in an effort to deal with it from a purely technological point of view. It would therefore be a great mistake to put obstacles in the way of linkages between social and natural scientists.

But such linkage can best be accomplished from strength rather than from weakness. Administrative autonomy need not, and does not, imply anything concerning fragmentation of knowledge itself. In a university we do not put the social sciences under the biological sciences in order to "integrate" the two branches of knowledge, nor do we put engineering under physics and chemistry because engineering obviously uses both of these sciences. It is felt, instead, that the most satisfactory linkages among sciences are attainable by the most intensive development of each major branch itself, and this is most likely to be achieved with each branch being given freedom to develop itself. As a matter of fact, one of the obstacles to scientific growth in university curriculums is the tendency of old fields, through their administrative control, to prevent new fields from attaining administrative autonomy in their own behalf. It is too much to expect that the adepts in one field of knowledge will promote the interests of people in another field. The difficulty is not solely a matter of "selfishness." Many individuals in an administrative role will bend over backward to help those in another field, but an organization should not depend on altruism, because not all individuals will be of that frame of mind, and if an organization depends on it, it will depend on nonaltruism, too. Furthermore, even with the best will in the world, the people in one branch of learning will not know what the best interests of those in another branch are and will not know how best to pursue those interests. Much of the parochialism of scientists is unconscious. As a consequence of lifetime work within a particular discipline, they acquire habitual ways of looking at the world and formulating problems. When they bring these into a position of wider administrative control, they tend unconsciously to apply them in someone else's sphere where quite different habits prevail due to the nature of the subject.

My experience has taught me that natural and physical scientists are prone both to underrate and to overrate the social scientists. They inevitably have a layman's view of the latter's work. Their reading in the social disciplines is of a popular rather than a technical character. They are apt, therefore, to give great credence to a superficial or literary treatment which they have happened to read, and to remain ignorant of the technical literature dealing with the same topic. For

this reason, social scientists often find their "hard science" colleagues quite gullible and uncritical in their convictions about social and economic subjects. At the same time, the natural and physical scientists, often quite unconsciously, are patronizing toward their poor relations in the social sciences. They sometimes assume that when a problem in one of these fields is dealt with in language they cannot understand, it is due to the obstinacy of the author in making something inherently simple seem complex. No one expects a technical paper in biochemistry to be written so that a layman can understand it with one reading, but too often this is what is expected in behavioral science. An opposite form of condescension is found in the natural scientist's occasionally expressed feeling that the social sciences are at best only quasi-scientific. Although he may have never used any more mathematics himself than sophomore algebra, he may be quick to say, erroneously, that the social sciences do not use much mathematics. Actually, many branches of these disciplines use more mathematics and statistics than many branches of natural and physical science.

A separate social science foundation would have every reason to cooperate with other scientific agencies, but it would do so with the confidence and strength derived from controlling its own affairs. It would not be dealt with by them as a stepchild, nor would it have to wait for others to take the initiative for the advancement of its own constituent disciplines. Its existence would certainly raise the issue of who would cultivate certain fields that inherently link different levels of scientific analysis—fields such as behavioral genetics, human demography, animal sociology, social psychiatry, and human ecology. Some of these interstitial fields are at present underdeveloped, despite their great interest. A Social Science Foundation would not necessarily be the right place to pursue them independently, but it would help to make sure that, wherever they were pursued, their behavioral and social aspects would get the fullest and most qualified consideration.

A closely related objection is that support of a separate Social Science Foundation would take money away from existing social science programs in other agencies—programs that are progressing satisfactorily. Again, I would agree with the thought behind the objection but would differ concerning the prediction it implies. I would certainly not wish to see the National Science Foundation's budget for social science reduced, nor would I wish to see the National Institutes of Health diminish their support of behavioral research and training. Similarly, on the private side, I would be dismayed if the work of the Behavioral Science Division of the National Research Council were curtailed, or that of the long-existing Social Science Research Council. However, the Nation is committed to encouraging private as well as public effort in scientific development. There seems no possibility that a National Social Science Foundation would interfere with the work of NRC or SSRC, for these draw on and represent the social science community in the latter's private capacity, and a part of their function is precisely to deal with Government agencies, especially those concerned with research and training in social science fields.

The real threat, if any, would be to existing governmental programs in social sciences; but I feel that three circumstances cancel the

likelihood of danger. In the first place, the level of support of basic social science by the Federal Government is currently so slight that there would be no reason for cutbacks simply by virtue of the creation of a special foundation. In the second place, one of the major purposes of a Social Science Foundation would be to open up new opportunities for the Nation in its intelligent reliance on social knowledge. Successful performance of this function would greatly enhance the demand for work in the social disciplines and hence for diversified Federal support of them. In the third place, the existence of a Social Science Foundation would allow the other Federal agencies now giving support to this field to do so in a more specialized way. For example, since the National Science Foundation is primarily oriented to the natural and physical sciences, it could use its present or an enlarged social science budget mainly for programs that require collaboration, or linkage, between social and nonsocial phenomena. Human geography, for example, and substantial parts of demography and economics might well continue to be supported, and in fact be expanded, under the aegis of NSF. Given the range of social science and its extremely complex linkages with the natural and physical sciences, it is almost inconceivable that everything in social science would be done in one foundation. Instead of trying to cover all aspects of social science, the National Science Foundation—and, for that matter, the National Research Council and the National Institutes of Health—adopted a carefully planned specialized approach in keeping with their main activities.

Another argument advanced against the proposed Foundation is that a separate organization would increase the political vulnerability of Federal support of social science. In putting the social disciplines together in one foundation—the argument runs—one would expose them to direct public attention. Since these disciplines deal with sensitive public issues and are at best barely tolerated, to subject them more intensively to public pressure would be disastrous.

This argument is interesting, but in my view it is shortsighted. It is wrong both in principle and in the prediction it makes. If the Nation is to develop and utilize social science, it will have to face squarely the question of how to live with this field. The proper institutional mechanisms will have to be worked out and frankly supported. There is no doubt about the uneasy tension that prevails between objective social knowledge and the society that is the object of such knowledge. I have already alluded to that problem. But the first nation which breaks through the barrier and manages to put social science on a footing at least as sound as that of the natural sciences, will be way ahead of every other nation in the world. I would like to see the United States be that nation, and I believe that it can be. However, if the peculiar difficulties presented by social science are to be met in new and creative ways, it will not be done by pussy-footing and pretending. If the only way we are going to support social science is by hiding it under some other cloak, scattering it here and there so it will not be noticed, I for one will regard our social science policy as a failure, both from the standpoint of scholarly development and from the standpoint of national interest.

It is precisely because a separate foundation would bring social science into the open—into the focus of governmental and public

attention—that it will be conducive to putting this aspect of knowledge on a new level of excellence and usefulness. Admittedly the problem is a knotty one, but somehow it must be solved if we are to be the masters rather than the victims of our progress in other fields. Doubtless the character of social science will have to be better understood by the public and by leaders in particular, but the solution will not come by exhortation. It will come only when the proper organizational machinery is found for giving social science as firm an institutional base as any other major part of our collective life has.

CONCLUSION

The general need for social science research in our complex society in a turbulent world is unquestioned. Most problems are social in character—that is, they have social causes as well as social consequences. If cigarettes cause cancer, it is not simply because they contain noxious substances, but also because human beings smoke them. If human populations are growing too rapidly, it is not because the perfect contraceptive does not exist but because people want children. The question at issue, then, is not the importance of social science but the best way of giving it Federal support. I believe that one beneficial means for doing that would be a Social Science Foundation.

We have to face the remote possibility, however, that such a foundation would end up by blocking rather than facilitating the advancement of objective social science. Whether or not this would be the case depends a great deal on the structure and management that the new organization would have, and the nature of its relation with other social science agencies. With reference to the latter point, I feel that, in scientific support, as in most other endeavors, monopoly is not conducive to success. For this reason, I should like to see a continuation of basic social science sponsorship in other organizations such as the National Science Foundation, the National Academy of Sciences, the Social Science Research Council, and the National Institutes of Health. In fact, I fear monopoly far more than I fear overlapping functions. The blight that monopoly would probably have is particularly great in the social sciences, because of their close connection with political issues and because of their greater difficulties in letting objective discoveries speak for themselves. My estimate, however, is that the monopoly danger is not great, and it certainly is not great if a deliberate effort is made to avoid it.

The connections of existing Federal agencies with social research are highly ramified, and many of these stand to be strengthened rather than weakened by a Social Science Foundation. For instance, the Federal Government generates most of the data used by social scientists who deal with American society. The Bureau of the Census, the National Office of Vital Statistics, the Department of Agriculture, the Bureau of Labor Statistics—all are involved in the process of collecting information about the American people. A Social Science Foundation could not possibly displace them in these activities, but it might well lend support to the basic research interests that these agencies have but which are sometimes difficult for them to justify. It could

speak for the social science community—more strongly than can be done now—to encourage the collection of types of data most useful in social science analysis, thus balancing the sometimes overpowering outside pressure to put emphasis on data useful mainly for administrative, legal, or commercial purposes. Often the data-collecting agencies of the Government are subjected to attack by special interest groups to delete information, and there is no very good mechanism at present to counter such shortsighted maneuvers in behalf of social scientists generally. Thus a mutually fruitful partnership between the new Foundation and the existing Federal agencies would seem both possible and probable.

With respect to the internal organization of the proposed Foundation, a potential danger is the creation of a bureaucracy in which persons with obsolescent skills are supposedly fostering progress among those whose skills are up to date. Such a development is sufficiently threatening to require the greatest care in developing a structure capable of insuring the Foundation against it. Some elements of such a structure are the following: Maintenance of control of the Foundation in the hands of social scientists active in research and teaching; evaluation of projects only by persons of excellent and presently extant scientific reputation in the field in which the project falls; impartial access of all age groups to project funds and staff positions; staff rotation with sufficient rapidity to avoid obsolescence of skills. Let me comment on some of these points briefly.

Other than rather vague reference to "due consideration" to be given to nominations made by professional social science organizations, in section 4(b), the bill as presently written makes no reference to how the governing board is to be composed. There appears to be no statement as to how many social scientists will be on the board, and there seem to be no mechanisms provided for social scientists to control staffing so as to insure current competence on the part of those who actually direct the work of the Foundation. Since the Foundation would be primarily for the advancement of basic social science, it must in the last analysis depend on the individuals who are in the forefront of research in the social science branches. The only way their judgment can be guaranteed to guide the policy and operation of the Foundation is to give them that role. Any other arrangement is a violation of the central character of science as the most exacting of all professions.

Due to the rapidity of scientific progress, anyone who remains for more than 3 or 4 years in a purely administrative capacity tends to become obsolete. For this reason, it is not only necessary to recruit staff members from among those who are actively pursuing research, but also to return them to it. I think we have to admit that this is more important in a social science establishment than it would be in a physical science organization. In the latter, a pure "administrator" may be useful, but, if so, it is precisely because he does not know anything about the substance of what is going on. Since, in social fields, each layman feels that he knows the answers, it is virtually impossible for an individual to have administrative authority without acquiring the illusion that he has scientific competence as well.

In order to insure against a tendency toward civil service routine and genteel gerontocracy, provision might well be made for a review

or evaluation of the work of the Social Science Foundation. This would be made by a panel of competent social scientists, perhaps once every 3 or 4 years. One element in the review might be a sample survey of the impressions and experiences of working social scientists throughout the Nation, with respect to the Foundation's performance.

A competent panel, representative of the best brains in the social science community, might also perform the function of setting forth (on a provisional basis) the highest priorities in social science development for the next few years. Repeated every 3 or 4 years, this would in effect constitute the most critical review of policy by facing up to the priority question and hence the criteria of relevance. Much work in the social sciences is trivial. Although the issue of relative worth can be left simply on an ad hoc basis, by letting project-review panels decide on the relative merit of proposed studies, there is additional merit in having a competent survey of the directions in which these ad hoc decisions are moving, and whether or not they foot up to an entirely satisfactory policy.

In sum, I strongly favor the creation of a separate Social Science Foundation. The present bill to accomplish this is one that seems desirable, but I would like to see more attention given to the possible ways of organizing the Foundation so as to adapt its organization to the peculiar difficulties and dangers involved in the set of subjects it will have under its wing. The adaptation is critically important with respect to the public at large and with respect to other agencies and branches of the Federal Government. It is also critically important with respect to the social science community. The bill as currently written has excellent provisions—including, especially, the emphasis on basic research and scholarship, rather than applied problem solving; the recognition of the fundamental value of comparative research on other peoples and nations; the stipulation of independence from operating agencies; the requirement that all research findings be made freely available; and the representation of all major branches of social science in the governing board of the institution. Building on these, the committee will, I hope, be able to develop additional structural features that will help maximize the Foundation's effectiveness.

Senator HARRIS. Dr. Davis, thank you very much. I think you have mentioned about every fear that has been expressed concerning the establishment of a separate Social Science Foundation. I think you have met those fears and objections very well in your testimony. You have made some very good suggestions about how this bill might be improved or amended. And you have raised some questions about the effect of some of its provisions, which I can assure you we will take into account in our deliberations on it—some of the suggestions you have made have already occurred to us, and some have not. But we will consider them very carefully.

I really do not have anything to add or to ask you to add by questioning. I think your testimony has been very complete.

Senator Hansen, a valued member of this subcommittee, is here. He may have some questions or comment.

Senator HANSEN. First of all, let me compliment you, Dr. Davis, on an extremely lucid and meaningful presentation. I was delighted with what I heard you say.

I came in, I think, after you had begun your testimony. I will be very much interested in reading your complete statement.

I noted that you made some specific suggestions that I am certain the committee will want to consider for inclusion in the bill or possibly by amendment to the bill. I believe you spoke about a need that you felt for strengthening the traditions and rewards in the social sciences.

Dr. DAVIS. Yes. Recognition and rewards for basic research in these fields.

Senator HANSEN. You also spoke about—

Dr. DAVIS. We receive no Nobel prizes in the social sciences.

Senator HANSEN. You also spoke about the need, as you recognize it, for taking leadership in focusing attention on important problems.

Dr. DAVIS. Yes. I think the question of priorities is a very important one. It is a much tougher one than in the natural sciences. And I don't think it should be ducked by saying that any piece of social research is of equal importance with any other piece. And I would hope that a national foundation would face the problem of priorities in some way. It doesn't need to rule out any particular kind of work completely, but it must say in effect what is most important to spend money on, and what is less important.

Senator HANSEN. Well, I guess you are touching on the other point that I noted that is a critical evaluation of the program.

I think it would be helpful certainly for all of us to consider what you have said. I am sure that we will be doing that. Chairman Harris has and I gather from what I have heard, that you have as well, already summarized the opportunities and the concerns as well, that have been expressed by others. I think we are developing interest in an area that has not been given due attention and consideration so far, and as is usually true when we are sailing uncharted seas, there are those who see storm clouds ahead as well as those who see distant shores ahead. And I think you have performed a real service in calling attention to some of the opportunities that are before us.

I note, too, that you express some concern about placing more red-tape, more obstacles, in the way of the social scientists in trying to accomplish some of the objectives they may want to pursue. You spoke about the provision in the bill that would require that foreign countries be appraised of studies that we might be supporting and you mention some possible ambiguity in the 2-year prohibition against former Federal employees changing hats, or going from one job to another, in and out of government.

Dr. DAVIS. Yes. I was mainly worried—this comes back to my grass-roots point—that outstanding researchers who are asked to sit on study panels to help decide which projects merit support—which is an excellent mechanism for keeping things in the hands of practicing social scientists—or who serve as temporary consultants in other ways, will then be regarded as employees.

Senator HANSEN. I think you followed up, in that context, by pointing out if a person is out of this field for any length of time, his interest may wane, and possibly, too, there may be developments that would pass him by, so as to make him less effective than he might otherwise be. Is this essentially what you were saying?

Dr. DAVIS. There is the problem, for instance, of representation of social scientists on the governing board. The bill, as I read it, does not

specify how many of those would be behavioral scientists, and how many not. Then there is the staff of the foundation who would presumably be behavioral scientists. I would favor a system whereby, if at all possible, you avoided building up a large permanent staff. It would be better to have organization measures that provide for staff turnover, with people coming in from the active fields for a while, not staying so long that they lose contact with basic new developments. After one has spent a year or two with pleasant dinners and talk all day long, it is very hard to get back into active work, and it is very hard to avoid some feeling of one's own importance. One tends to develop the illusion that one has a magic ability to make important scientific decisions without participating in the actual work of investigation or keeping up with the technical literature. Any features of the foundation which can keep it closer to the operating professions, the people really doing the research and thinking, will be beneficial. I do not pretend to know all the ways in which this can be done. It is a problem that should be studied carefully, especially for an organization being set up to develop the social sciences.

Senator HANSEN. Well, I am groping, too. And I think I would like to express a concern that may reflect a thought that is in many persons' minds. And that is—I am certain there will be those who will view this sort of proposal with misgiving, suspecting that government, or a particular administration, may be trying to build up justification for certain policies, or certain concepts. I think anything that can be done to achieve as much objectivity as possible, and to keep the control of the program in the hands of the true researcher certainly would be moving in the direction that I think is indicated. Do you share that view?

Dr. DAVIS. Absolutely.

Dr. HANSEN. Any way that can be done I think ought to be seized upon and ought to be implemented, because I can certainly well imagine there will be great misgivings as to what may be the true objective of government support and a board that will supervise in general the activities of the organization and the spending of money.

Thank you, Mr. Chairman.

Senator HARRIS. Thank you, Senator Hansen. I want to ask you one other thing, Dr. Davis.

You mentioned the stereotype, which many people have, of the social scientist, and the lack of understanding of the social sciences by those who are not social scientists about what social scientists do and can do and what they cannot do.

It seems to me that is probably the toughest hurdle this bill faces insofar as its eventual passage insofar as the general public is concerned.

I think the other objections can generally be met.

But I have had the feeling as I have studied the operation of a whole range of Federal programs that have to do with social action—the Peace Corps, the Bureau of Indian Affairs program, our health programs, education, urban programs, the whole field of urban problems, population control and the foreign aid program—that I have had the increasing conviction that we have a woefully weak knowledge base which is necessary for the success of those programs, to accomplish

our goals. And I think almost anybody working in any of those programs would be very quick to agree with that.

Jack Vaughn, the Director of the Peace Corps, testified before this subcommittee that we just do not know enough about human resource development, and he used as an example, when he said:

The best way I can exemplify that is the American Indian in this country, concerning whom we have had a government program for years and years, and yet he is at the very bottom in almost any statistical indicator.

Now, it seems to me that one of our difficulties is being able to say in advance what sort of things might be accomplished, what sort of problems might be attacked, that are not now being attacked, or that might be attacked better.

Your particular field is in population, urban matters.

I wonder—could you possibly identify a subject or subjects that you think offer potential for improving our useful knowledge or methodology in this field?

Dr. DAVIS. Well, I believe that this should be said; on many matters of policy, there are naturally opposed points of view, which are not opposed because of lack of knowledge, but because people want different things. There is just no denying it—they have different goals. And even when they agree on a general goal, they may still disagree on means, because they have a predilection for one means or prejudice against another. This is what makes social science much more difficult than natural science—with the latter you don't get universal agreement, but people usually agree that for reaching a given goal the means can be turned over to the scientist or the engineer. In the social sciences one is much nearer public evaluations always.

It seems to me the best approach for a National Science Foundation is to make it very clear that this Foundation is not for the determination of policy in any sense—it is for the research that bears on policy—and to make it clear from the beginning, too, that this will inevitably get into some people's hair, and make provision for that. It should be clear in advance that research relevant to public policy is going to be irritating to some group at some time. Each group needs consensus to get into operation, and to get agreement it uses all kinds of persuasive techniques. Consequently, a group does not necessarily want some cold analyst to come along and examine critically the cause-and-effect relations that it has assumed in its ideology and on which its consensus is based. However, there is no doubt that groups must, in their thinking, take account of the real world. Since they do make cause-and-effect assumptions, if you inject social research into the situation, you will influence their goals and their use of means. It may not happen all at once, but it will eventually. And this is the real value—that we get our policies more determined in terms of realities and real relationships than in terms of stereotypes, myths, and wishful thinking.

If people understand that studies are made which may bear on policy, but which do so not only in the sense of providing objection but relevant knowledge, and that nobody in the Foundation is attempting to determine the policy, and if this definition of the task is implemented in the very structure of the Foundation, then I think the venture will be on firm ground. If this message can be gotten across to

the public and to the leaders generally, the Foundation will succeed, I think, and the eventual benefits will be considerable. As the input of real scientific knowledge becomes greater, and as it is seen to be useful, not in determining who is wrong but in giving the knowledge that any group may utilize, the Foundation will make its own way, and it won't have to worry too much about appropriations later, or too much about mistrust. But you can see why it is so important to have the structure defined in such a way as to preclude partisanship and special pleading.

Senator HARRIS. Let me ask you this about your particular field.

For example, you are chairman of International Population and Urban Research at the University of California at Berkeley. Now, the problems in our major cities are horrendously difficult, and becoming increasingly more difficult.

Now, for example—is there sufficient knowledge about the forces that cause people to move to big cities or has there been sufficient research on the question of whether or not such forces that do cause people to move into the large cities can be blunted, or should be blunted, or changed or should be changed. Or on another subject: People move into certain kinds of living complexes in urban areas. Do we know what kind of psychological impact, if any, that has on people and what effect, if any, it has on their behavior? Or, do we know enough about population, the different rates of population growth, say, in an urban area as compared with a rural area, and the reasons for similarities or differences? Are any of those questions important? Or are there other particular subjects in your field that are exciting to you?

Dr. DAVIS. Let me take your questions in order. I think that in this area, as in many others, we have far more knowledge than is now utilized. A part of the problem is the need for a diffusion of social science knowledge more widely than it now gets diffused. I think we have a very good notion of why there is migration out of rural areas, and into cities. Urbanization always accompanies economic development. As you get modernization of agriculture, you free labor to move elsewhere. And the lower grades of labor, which are left unemployed or receive comparatively low wages, go to cities. As the industrial technology expands, it can pay higher wages and outbid the rural areas for labor. People move to the cities.

Senator HARRIS. Rome had exactly the same problem, as you know.

What I am asking is—is that an inexorable and irreversible kind of movement, or are there ways the Government can or should be involved in changing that?

Dr. DAVIS. I was coming to that. This is precisely the sort of question which you get into where people have quite different goals or desires. Some people like cities, some people do not like them. Most of our moralities, or religions, were formed under rural conditions. We take for granted assumptions that rural conditions are fine. And much of the literature then is against cities.

The question really boils down in part to a question of fact as well, and that is what do cities really do to people in ways that would be considered significant. And as you can see, this ranges all the way from their economic life to their social and family life, and it raises then a whole host of questions, many of which have been studied.

Sometimes what happens in cities is attributed to cities when it really should be attributed to the development of industrial civilization generally. There is a tendency for the farmer in present-day industrial society to become much more like his urban brothers than he was previously when he was only a peasant. He is now, as you know, a capitalist and operator. To start a farm in the Midwest, for example, will take considerable capital these days—more capital than to start an urban business in many cases. My own view is that probably the effect of urban living, *per se*, is exaggerated.

With reference to the kind of living accommodations that are desirable, this depends on whether you are talking about the people who inhabit those accommodations or from a more general, collective point of view. It does happen that individuals pursuing their own particular individual interests do not always promote collective welfare. In my field of demography, this is quite apparent. We have roughly in this country the number of children we want as individuals, *per family*. For the Nation as a whole this may be too many, because it is giving us very rapid population growth. And today, because there are so few people left in the countryside, the cities are growing almost exclusively because of the total population growth, rather than because of rural-urban migration. And I happen to believe that many of the problems of our cities have their roots in this continued rapid population growth.

If you want a comfortable city, get one that has not grown too much for a long time rather than one that is growing very rapidly. And coming from California, I am well aware of the problems that growth presents to cities.

Senator HARRIS. What kind of social science questions or problems in specific would you suggest need greater attention or effort?

Dr. DAVIS. I am afraid that an answer to this tends to follow one's own lines of interest.

Senator HARRIS. That is what I expect. But you see, by the time we listen to some 50 social scientists, I perhaps might have a wide spectrum of views.

Dr. DAVIS. I didn't go into the study of human population because I thought it was an insignificant subject. I went into it because I thought it was highly important. And I do believe, along with President Johnson, that rapid population growth throughout the globe is one of the major issues facing the world. It is in the cause-and-effect analysis of how this growth comes about and what it does to nations and communities, that one can get beneath the level of slogans and superficial formulations of what needs to be done.

I would say, for example, that maintaining peace in the world looks extremely difficult as a long-run proposition if nothing is done about the population. To try to control belligerency on the one hand and not control some other things that vitally affect people's interests, and the relation of one collectivity to another, seems to me rather futile.

Senator HARRIS. You seem to be talking about action. Do you feel that—

Dr. DAVIS. I am talking about the relation of knowledge to action. It is never my feeling that any science, and least of all social sciences, are divorced from considerations of policy. I think they are very close to considerations of policy.

Senator HARRIS. Can we benefit by further research in subjects which are related to population?

Dr. DAVIS. I think we can.

We can benefit on research that is related to present population policies. Those are not being researched adequately at the present time in my estimation. Part of the task of research is to examine the assumptions with which action and policy are undertaken, to see if those assumptions are really based on fact, if they are true.

The other part is an evaluation.

India, for example, has had a population policy now longer than any other underdeveloped country. However, the Government has not been getting accurate information in sufficient degree to evaluate what is being done. We have no way of judging, as yet, whether they have accomplished anything or nothing, on the basis of present information.

And here again Federal social science establishment could be of considerable benefit. There is worry in the Government now, as you know, about how to determine what effect efforts are having and how to evaluate them. This raises a methodical question which social scientists have been familiar with for a long time, but very frequently there is not enough momentum, not enough power on the social science side, to get across the message of the importance of evaluation, which must be built into the project before it starts.

It is very hard to evaluate a policy later on, after it has already run out its program of action. You must put into it from the start the basis and terms of reference on which you are going to evaluate it later. There are numerous ways in which a social science foundation, supported by the Federal Government, could be of great assistance throughout the whole Federal structure, precisely because it focuses attention on the social sciences and what they in particular can do. I would hate to see it take a remote, completely academic point of view that had nothing to do with what the Federal Government is undertaking. As long as its contribution is from the research and scientific side, as long as it is not telling anybody what is right and what is wrong or undertaking to determine policy, its practical usefulness can be great.

Senator HARRIS. Senator Hansen?

Senator HANSEN. On that point right there—I think you are talking about some of the things that are of deep concern to many people. I am disturbed, or anxious at least, over what might result insofar as any Federal direction is concerned. I would say this, really, just to express my fears.

We might approach a problem, a problem of world population, from the standpoint of what will best serve America.

Now, it could be contended that if we want to continue a position of prominence, of relative supremacy throughout the world, than we ought to do all those things which would encourage an expansion of population in this country, and to encourage control of population in other nations. And you could turn around, and if you were approaching it objectively enough, concerned about world peace, you might say maybe this is not the approach we ought to take at all.

How would you—in your last statement there—insofar as not denying that there is an interest on the part of the Government in these

studies—how would you reconcile these possible divergent points of view?

Dr. DAVIS. You suggest an excellent example.

For one thing, the relation of population policy to national interest is an aspect that is often conveniently overlooked in discussing population matters, population policy, and yet it is one of the most important factors in actual determination of population policies.

Here is my point.

If there is a definition of national interest, so that it is operational, and one can thus do research related to it then it is possible to study the relation of population change to national interest. That is what a social scientist would contribute. Whether or not the national interest is actually pursued is not up to the social scientist as a social scientist. He is a citizen like everybody else, and he can vote, but he is not empowered by his special knowledge to tell other people what they ought to do. All he can do with his implements and tools, as I understand it, is to show the casual relationship.

Issues can, of course, be phrased so that they are not researchable. It is very hard to deal with problems scientifically unless they are stated in such a way as to come back to the real world and its cause-and-effect relations.

In the case of population, one of the things that has had considerable research done on it, for example, is the interrelation between the rate of population growth and economic development.

It may well be that if a nation states as one of its prime interests economic development, both for political and consumption reasons, then it has this body of factual material to go on. It can learn what population growth is going to do. Within a margin of error, it can find out what it is going to do to the demand on the budget for schools, for health services, for housing, and for other consumer needs. This is a research contribution. It does not, however, determine that some policy must be followed. It may say that, to reach a given goal, a certain means is necessary, but whether one wants the goal or not is not up to the scientist but up to the citizens and their officials to determine.

There are people who pay no attention to national interests, and there are people who consider that national interest is something to be sought for above most other things. These preferences will lead to quite different policies, given the same set of facts.

My feeling is that governments and citizens should know as many of the cause-and-effect relationships that occur in the real world as possible, so that when they do formulate policies, they are not formulating them on the basis of myths.

In Latin America, for example, it is well known that a common attitude is that they have vast lands not fully settled, and that they need more people. The truth of the matter is, however, that economic production is now not mainly a function of human muscle. We gave that up a long time ago. We use our heads now—to utilize energy and resources for production. And what is much more needed, for national economic development, is training and skills with which production can be maximized.

If social research can dispel myths about how social systems work, this may be a considerable advantage in each nation's conduct of its affairs.

Senator HANSEN. Do you anticipate any problems in giving as much latitude as would be useful and desirable to social scientists in studying the problems, not only of people in this country, but in every other area throughout the world, and trying to preserve the comity between nations insofar as apprising another nation of the purpose of the study and trying to inform other countries as completely as we can precisely what it is we are seeking to accomplish, or what facts we are seeking to develop?

You spoke, as I remember, Dr. Davis, that you felt that this was one of the difficulties of the job, this redtape—that as much of that as could be cut away would be desirable.

Dr. DAVIS. Well, from a practical point of view, there now exist many relationships, friendships, ties, all kinds of contacts, between foreign social scientists and American social scientists. And these are in the last analysis the real basis for cooperation. It is in these terms—conception of a common problem, something that people are interested in on both sides—that I think the best opportunities are afforded for cooperation in developing comparative social science.

Much of what is being done by their own social scientists is not known to governments. The problem is how to keep the important informal contacts and relations going, and yet not permit projects to get out of hand to the point where some foreign country is offended. For that reason, it seems to me, the best approach is to build on the situation that already exists, and have a policy that has maximum flexibility rather than a preordained formula.

For instance, dealing with one nation is not just like dealing with another, and therefore a common formula that applies to all nations will tend to get in the way in some cases, or maybe not even be sufficient in others. And here I would think that the control mechanisms might better be in other agencies of the Government, such as the State Department, than in this Foundation. That would be my feeling about it.

Senator HANSEN. Thank you.

Senator HARRIS. Thank you very much.

Our next witness is Dr. Aaron Wildavsky, chairman, Political Science Department, University of California, Berkeley, Calif.

Dr. Wildavsky, we shall be interested to hear your presentation. The staff has prepared a biographical sketch of Dr. Wildavsky which I will place in the record at this point.

Biographical Sketch: Dr. Aaron Wildavsky

Chairman, Political Science Department, University of California at Berkeley. Brooklyn College, B.A., 1954; University of Sydney, study under Fulbright Grant, 1954-55; Yale University, M.A. 1957, Ph.D., 1959.

Oberlin College, Oberlin, Ohio—Instructor, 1958-60; Assistant Professor of Government, 1960-62. University of California, Berkeley—Assistant Professor, 1963-65; Associate Professor, 1965-66; Professor, 1966—. Military service: U.S. Army, 1950-52. Member—American Political Science Association, American Society for Public Administration. Writings: *The Politics of the Budgetary Process*, Boston: Little Brown and Company, 1964; *Presidential Elections*, with Nelson Polsby, New York: Charles Scribner's Sons, 1964. Revised Edition, 1967; *Leadership in a Small Town*, Totowa, New Jersey: Bedminster Press, 1964; *Dixon-Yates: A Study in Power Politics*, New Haven: Yale University Press, 1962.

TESTIMONY OF DR. AARON WILDAVSKY, CHAIRMAN, POLITICAL SCIENCE DEPARTMENT, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIF.

Dr. WILDAVSKY. As a sociologist, my colleague, Kingsley Davis, is a very good student of the politics of organizations.

I just came back from an extended stay in Israel last night, so I have not had a chance to prepare a formal statement. I would like to talk a little while, and then send you my formal paper.

Senator HARRIS. Without objection, that may be done.

Dr. WILDAVSKY. The scientific enterprise is based on an act of faith. The scientist invests himself in the situation as he tries to understand and shape the world. He is part of what he studies. He can hardly begin to act without ultimate faith in the value of his enterprise. I think it is entirely fitting in this context that the Congress of the United States should commit itself to the proposition that knowledge shall help man prevail.

Our greatest problems are with ourselves and other men. We would betray our heritage as well as our humanity if we did not believe that the systematic application of intelligence could improve our condition. We would be less than men if we did not experience the joy that comes from the deeper understanding of our relations in society. I take it as accepted, then, that we are mutually committed to the desirability of supporting the social sciences.

The greatest need, in my opinion, is for basic support of social science research. This means space and facilities for research; computers geared to social science needs with trained personnel to operate them and to give sound advice to users; centers for survey research in each major region of the country with continuing surveys so that opinion on emerging events and new ideas for research may be smoothly merged with normal work; programs to train students and technicians in appropriate methodologies during the academic year and in special summer seminars; grants for programs to retrain social scientists periodically; fellowships for graduate and postgraduate study and for undergraduate research during summers; and more.

Another great need is for grants in support of research. Part of the funds should be given to academic institutions in order to carry on such projects as they deem advisable. Part should be used for direct support of individual researchers. Emphasis should not only be on the acquisition of new knowledge but on the formalization and development of what is already known. Mature scholars should be given the opportunity to take time to read and think without tying their labors to a specific piece of research.

The basic principles guiding this support should be diversity, controversy, full disclosure, and respect for professional canons of inquiry. Diversity is essential in many ways. The most immediate payoffs will come from supporting institutions already strong. They have a large share of the talent; they produce the best students; they service the entire Nation through the quality of their research; they spread their graduate students in positions around the Nation. But it is also desirable to create new centers of strength in social sciences. Our belief in federalism as an operative principle of our Government requires this

action. The need to deal with local and regional problems reinforces this course. The necessity of retaining capable faculty in less prestigious institutions absolutely requires additional support. While institutional grants should be spread around the country, it would be wrong to take geographic criteria into consideration for grants to individual scholars. Judgment by professional peers as to competence should be the sole consideration.

Diversity in approach is also important. No single method or school of thought should be allowed to prevail. We are far from certain as to the best lines of inquiry. We wish to encourage experimentation. By having projects examined by a cross-section of scholars in the field, diversity should be protected. But there are other safeguards—one has already been mentioned—that can be built into the legislation and its implementation.

Through support for a large number of institutions there will be a greater probability that diverse lines of inquiry will be followed. Another safeguard lies in preserving the research support given to individuals by operating agencies of the Government. It may well be that in order to deal with applied research it is necessary first to answer the most basic questions. So basic research of a varied character will be carried on for this reason. At the same time, a Government research foundation should give consideration to policy-oriented research. Otherwise a departmental or bureau line may determine the entire course of research into certain problems. The intellectual promise of policy research may be as great as that of basic research or may turn into basic research. On similar grounds individual researchers should not be wholly dependent on academic institutions for support. Diversity will be better maintained if individual researchers can apply to a Government research foundation.

Actions taken to secure diversity should also help gain support for controversial projects. If one center of support does not like a project, another may. It is difficult to imagine a vigorous social science that will not examine touchy problems. A decision by Congress to give greater support to social science must mean acceptance of controversy. It must be understood that not everyone will approve of the projects and that some will inevitably suspect the results as biased. If we investigate the conditions of liberty, for example, we might possibly be dismayed at what we find in our own country. If we study allegiance to the political system, there may be revealed what appear to some to be disturbing trends or what others will interpret as unwarranted complacency. The place of Congress in our national life, the impact of various civil rights groups, poverty, and crime are among many subjects that social scientists will want to study with support from a governmental social science research program. Timidity would be self-defeating. I believe that Americans have a creative capacity for self-criticism and self-examination that will enable Congress to support this principle.

There are, I might say parenthetically, many types of projects that are of great interest and, without being exhaustive, I might mention a few here.

One is, What does it take to have a democracy? You talk about foreign aid. The thing we would most like to send countries would be a

little box containing a recipe for democracy. About the only thing you can say of foreign aid now is that what would be in the box is a little note that says you must have 200 years' prior experience, and then you will be all right. And we don't have anything else with which to fill up that box.

I believe that people should have some control over their destiny, and while this may make me appear somewhat culture bound, I would export recipes for democracy, if only I knew what they were.

In our own country, we are interested in political participation. We have never had a good study here of who participates and why and the conditions of participation. We could make great studies in the United States of political development. We have here 50 American States. They are large enough to make it interesting to work on them. When you have a statistic from a State, you actually know it refers to something in the world, unlike many foreign countries. And you hold certain variables—like certain aspects of culture—constant, and yet the States are in quite different stages of political and, particularly, economic development.

We are interested in many cases, as is this committee, in problems of reorganization and reform, of what difference it makes to have one kind of institutional framework or another, and very little research is done. Despite the fact that one hears that the executive establishment grows in power and authority, the number of researchers going into the most remote foreign principality far exceeds those who study the Presidency, or those who study any major department of our Federal Government. I don't believe there are five people in the United States today who are studying, in an empirical modern social science sense, any aspect of the Presidency.

In the same way, I think if I were a Congressman, I would sponsor in-house research on how to make myself more effective. The usual literature has it that Congressmen ought to pay attention to great policy problems and should not mess around with small details. It may be that given the limitations on the time of Congressmen, and the way that Congressmen work and their sort of incremental, pragmatic character, this is a recipe for impotence. Congressmen are not willing to create revolutions every day, and they do not want to change the basic policy of the Government without serious reflection. It may also be that they get into large policy problems through small matters. It would be interesting to explore rationales for other strategies.

I have tried in the field of interest to me—budgeting—to suggest some ways that Congressmen might want to make themselves more effective. I think that Congress, which is a rare institution in the world—a legislature that actually has some power—should study its own history. You worry about appropriations. In the history of the United States, Appropriations Committees have been organized quite differently. There have been combinations of appropriations and substantive committees themselves. There have been a whole variety of different appropriations committees for different agencies. If one knew a little bit about the consequences of these different organizational arrangements, we might more intelligently approach some future problems here.

One hears about the poverty program. Various people run around the country saying they have organizational Meccas—"If you only

follow me, at my \$10,000 per lecture, I will show you how to turn the community upside down."

Who has ever made a study following these people around? What happens 2 years after they go? What happens 3 years after they go? And so on.

And I could ask—for instance, to think of the Israeli situation—what kind of research do we have on the problems of small powers? How do they commit large powers to their defense? Is America interested and would it be interested in the future, if small powers get nuclear weapons, in having allies? Maybe if small powers have nuclear weapons, we would define small powers as countries that can never help you, but only get you into nuclear wars.

I could go on, but that is enough.

Now, to continue—

Senator HARRIS. Very well done.

Dr. WILDAYSKY. Scholarly freedom and openness go together. A social science research program should support only open, unclassified research. Scholars may well wish to contract with operating agencies to do classified or secret research. Indeed, scholars have every right to refuse to publish results they think will do more harm than good. But the social science program itself must adopt the principle of full disclosure. This principle should provide assurance to all that free research is being carried on.

To avoid confusion, I would be opposed to having the new Government research foundation—that's a euphemism before we discuss its organization—contract to do work for other Government agencies. If you want to have this, establish some special office through which this can be done. It would be completely wrong (in view of the rather lamentable growth in recent times of a sort of left-wing McCarthyism) to enact prohibitions that would prevent social scientists from serving their country as their conscience dictates. All that can be asked of social scientists is that free research not be used as a guise for other activities. If you are going some place, and you say you are doing some research for yourself, it ought to be true.

It should be evident that the program envisaged here will require far more support than has been the case in the past. The level of financial support will have to move from 25 or 30 million a year to well over 100 to 200 million. I hope that you will adopt a "both/and" rather than an "either/or" approach toward the allocation of financial resources. Difficult choices must, of course, be made at most conceivable levels of support. If the amount is set too low, however, I am convinced that we will all regret it. The program will become a trial to Congress and a scandal among social scientists. It must be possible over a few years to support both the new great institutions and those that would like to become great.

At Berkeley, for example, there is just a tremendous lack of research facilities. One of the many reasons we have troubles with students is that it is very difficult for professors to get together with them—there is literally no place. I have recently visited the University of Texas at El Paso, an institution that deserves a great deal of support. If the Congress is put in the position of saying that if Berkeley gets it, El Paso doesn't—or the reverse—this will become a terrible

trial to the members, and it will become a disaster among social scientists. What we have to say is that if we are going to do this, we have to be able to do both of those things. And if not, okay: then let's not have this kind of program, and go into those programs where we have adequate funding to do it on an intelligent basis.

The most difficult question concerns the form of organization for the social science program. Through what forms can the principles we desire be best protected at the highest level of support? My first inclination would be to go with what we have. I would change the name of the NSF to the National Physical and Social Science Foundation in order to make clear the change in emphasis. I am quite troubled by this whole matter. I would like to throw the matter back on you and say if we had better research on organization theory, we might have a much better way of answering this question. I should also say truthfully that if I had been here instead of in a very interesting country, I would have talked to a lot of people before I came, and would have had at least a little bit of intuitive sense of relationships.

The NSF has an excellent reputation for what it does. Its interest in social science is growing. No doubt as these hearings continue it will grow even more. It has experienced personnel and tested procedures. I took a look at the quality of its advisory personnel among political scientists, and I found it excellent.

So it seems to me that a basic argument you will have to make with your colleagues is this: Generally, one is against a proliferation of new agencies. What rationale does one have for creating a new one?

The first argument would be that the social sciences are so different from the natural sciences as to require a separate existence. I believe that on philosophical grounds this is a dubious point of view, though there is a good deal of controversy about it in the literature. The subject matter of social science is different from natural science, but the ethos, I think—the spirit of inquiry—is quite similar; and I would say that the problems of reflexive predictions, self-fulfilling and self-defeating prophecies do not in, my opinion, create any insuperable difficulties.

Matters of personal choice, faith in certain alternatives over others, crises of conscience, are not peculiar to the social sciences. They have afflicted the physical sciences just as much. We try to convince our peers in the social sciences, much as they do in the natural sciences; but of course our subject matter for reasons outlined by Kingsley Davis and for other reasons, is more recalcitrant. If politics is harder than physics, as Bagehot said, I see no reason to subject its research to a lesser scrutiny. On the contrary, it requires more scrutiny.

This line of reasoning may be interpreted to mean that the different subject matter of social science requires different methods of approaches. No doubt this is true in part. We try to hypothesize and verify, but in different ways and by using different means. So what? So is physiology different from physics. Our differences are greater, but need they demand a different organizational home? Now we are close to the nub of the matter. Presumably it would be maintained that natural scientists, who are predominant in the NSF, would impose wrong or unnatural or unduly restricted criteria upon the social scientists. I don't know.

One might doubt it in one sense if one imputes to them a reasonable degree of sophistication. On the one hand, social science is considered a black art. There are these men, you know, working with machines, manipulating elections, determining what everybody will do, through subliminal means. You get up at a certain time, and you eat what they want, and you have certain opinions. On the other hand, you are saying it is worthless, and you don't know anything, and you never will know anything, and all the rest. And, of course, nothing like this is true.

Naturally, the NSF has begun cautiously in the social science field supporting projects that it can understand through its natural science background. It has, however, been slowly branching out, and its limitations may in part be due to self-selection among social scientists who perhaps wrongly choose not to apply to it. The question is: What would happen if the NSF had its name changed, if it were given a strong mandate in new legislation, and if certain other conditions (which I will talk about later) were fulfilled?

One possibility is that this committee should sit as a watchdog on the NSF, and if it did not do what we think it should do, then a new social science foundation should be created.

Another argument would be that the NSF would provide lesser access to professional organizations of social scientists than would a new organization devoted to social science alone. No doubt. But I am far from certain that it is desirable for governmental organizations to become the captive of a single type of clientele. My impression, for example, is that the Bureau of Land Management has served the public rather better than did the old Grazing Service, that had a much more restrictive clientele, and had great difficulties, and was, in fact, captured. The professions—mine included—have their biases, and inordinate demands that need to be modified.

It has been said that the NSF would not support controversial projects for fear that doing so would jeopardize the rest of its activities. This is what we would call a proverbial problem: Look before you leap; but he who hesitates is lost.

You could say that social scientists would be less likely to shrink from controversy. Yet, exposed alone in the glare of attention you don't know.

You could say: Why should the NSF, for one-tenth or less of its work, jeopardize its activities to support unpopular projects on the Presidency or something like that?

You could also say that since natural science is going to be supported anyway—and there really is very small likelihood that if you don't like some social science project, you are going to cut the Government out of natural science research—this would be a better and stronger home.

In my opinion, the strongest interest group organization in American life, and the most successful by far since the end of World War II, is the National Institutes of Health. One of their favorite tactics is to begin new and weaker institutes under the auspices of older ones.

Supposing you consider the problem of funding in organizational terms, would the NSF tend to treat the social sciences as a poor

relative? Would it cut the social scientists back first when difficult and trying decisions have to be made?

You could say, "Well, they do not care about social science, so they will cut it." But there are arguments on the other side. Social science, being much less expensive, will be a smaller part of the total. They could not achieve very large cuts that way.

Moreover, it may be in the interest of the NSF to build up its social science division on the grounds, first, that this is desirable in itself; second, that it will add to the agency's coverage and prestige; third, that it will add support from more groups; and last—but I don't think least—that would be the best way of heading off a separate organization.

I think the best argument for a separate social sciences foundation would be that it would make clear the commitment essential for its success. There would be no hiding behind the NSF. There would be no opaque film shielding support for the social sciences behind other organizations. Maybe the same thing could be achieved by changing the name of the NSF.

Maybe you would find it very difficult to get a prominent social scientist to head up a social science division within NSF, and maybe it would be a lot easier to get personnel for a new organization. On the other hand, if the new organization is subject to severe attack, it may be difficult to recruit anyone whatsoever.

So thinking about it as late as this morning, I have been trying to weigh the pros and cons. Usually economists talk about decisionmaking under uncertainty. I don't think we are uncertain; I think we are mostly ignorant here.

And so I have just one final idea for your consideration. You have really two alternatives: either to go with a separate organization, or to really give a big push to something in the National Science Foundation.

An important question is how interested the NSF is in this, beyond the strategic point of heading off a separate organization. So I think one point would be to ask the NSF to come in with a new program itself, along the following lines:

- (1) Change in its name (to National Physical and Social Science Foundation);
- (2) A social scientist at its head;
- (3) A commitment to seek increased funds along the lines that this committee and social scientists are interested in; and
- (4) Hiring of social scientists in various divisions.

For example, natural scientists sometimes have great difficulty understanding what our computer needs are. If a mathematician deals with an infinite series of numbers, they are all there, or in some sense they are not there or will some day be there if you can count. But for us there is always missing data. And so the kind of programs we need—the kind of memory storage and so on—may be different. We would need a commitment to hire people who have sensitivity to social science research, not only in the social science branch, but in all the supporting branches. And I think that what you might do is ask the NSF to commit itself to a program of this kind, or to see what they want to commit themselves to in writing. You would have a better idea of

comparing that with the alternative of a National Social Science Foundation.

Thank you.

Senator HARRIS. Thank you for a very stimulating and helpful statement. Particularly did I enjoy and appreciate your listing of the kinds of things that might be looked into if we had additional support for social science research. And also for a very perceptive listing of the kinds of searching questions that this subcommittee has to consider as it decides what sort of organizational framework increased Federal support for the social sciences should come under.

Senator Hansen?

Senator HANSEN. I have one question.

I was very much stimulated, let me say, first of all, by your presentation.

What way do you think we could best further social science research?

Dr. WILDAVSKY. Since I have spoken about the need for acknowledging that some of this will be controversial, and understanding this from the beginning so that you will not have the kind of problem you had in the poverty program—where a program is proposed and it is all right, then all of a sudden the world is crumbling around your ears. Nevertheless, there are large parts of what I am suggesting that really should not be and are not basically controversial, because what they require is a commitment that social science is important. Well, if it is important, you need facilities for it. A great deal of good could be done for us if we had much better places in which to work, if there were facilities for getting professors and their students together—a great deal of research is done in teams. Even an individual social scientist is likely to work with various technicians and students. There is an absolutely appalling lack of such facilities.

I can go on at considerable length—for example, the Survey Research Center in Michigan and its connection with the Detroit area survey. There are a continuing body of surveys going on. Why should that be the only area of the country which is serviced in this particular way? There are hundreds of things of interest to the widest diversity of social scientists that could be done. You have a trained organization; they really know what to do.

One thing, by the way, might be that your constituents would not be bothered by so many different polling organizations, and that they might learn to have a little more confidence in the professional ones established in the various areas of the country. I do not know how far you want me to go on. But we need and are trying to develop different methodologies. We do not quite know what the best approach would be to many different kinds of problems. It would be highly desirable that our students should be better trained than we are, and that we should not leave them worse off than we were. As it is, if one doesn't take some time out for reflection and study, you are superannuated in some way, you are behind the times very quickly.

There is controversy, say, in social sciences about quantitative methods. And it is mostly all nonsense. I look forward myself to the day when everyone will have a minimum literacy here, everyone will know some statistics, a little mathematics, both the strong points and the weak points. Then, since everyone will have it, you will not dis-

tinguish among people, and you won't say that one is good because he took a course in calculus, and another is bad because he cannot read a table. But you will ask the usual questions—what fruitful ideas does he have, is his mind interesting, does his work have ramifications for a whole variety of disciplines—and so on.

But there are many things that are needed to develop the base for conducting meaningful social science research, that do not now exist. One could spend a considerable amount of money all over the country, and not just in the major institutions, before one even came to a controversial project. This, in fact, should be the greatest expenditure. Then you could have programs for individual project research that would, for instance, help assure Congressmen that the kind of research done by the agencies is not the only kind of research that goes on.

Senator HANSEN. Thank you, Doctor.

I do have just one suggestion before I go, Senator Harris. I think the four points that you just enumerated here in your imposing presentation ought to be asked of the National Science Foundation in order to complete this record. It seems to me that they are pertinent and they are very valid. I would suggest that they be directed to the National Science Foundation Board, and we get responses to them.

I won't try to repeat them, but I was impressed with them.

Senator HARRIS. Very good. Dr. Wildavsky, I know what an inconvenience this has been in many ways for you to get here in time for these hearings. I am especially grateful for your testimony and for the efforts you have made to be here to give it.

Dr. WILDAVSKY. Thank you very much.

Senator HARRIS. Thank you.

We will now have to recess for lunch. We will resume our hearings at 2 o'clock this afternoon.

(Whereupon, at 12 noon the subcommittee recessed, to reconvene at 2 p.m. on the same day.)

AFTERNOON SESSION

Senator HARRIS. The subcommittee will be in order.

Dr. Carter, will you come forward?

Our first witness this afternoon is Dr. Launor F. Carter, senior vice president, System Development Corp., Santa Monica, Calif. Without objection, we will place in the record a biographical sketch concerning the background of Dr. Carter, whom we are pleased to welcome at this time.

Biographical Sketch: Dr. Launor F. Carter

Senior Vice President, System Development Corporation, Santa Monica, California. B.S. 1936, University of Washington, Seattle; Master of Science 1939, University of Washington, Seattle; Doctor of Philosophy (in Psychology) 1941, Princeton University; Executive Training Program—Certificate 1960-61, University of California.

Chief Examiner, Washington State Department Social Security Merit System Office, 1937-38; Personnel Technician, Social Security Board, Washington, 1940-41; Personnel Technician, Adjutant General's Office, Department of the Army, 1941-42; Officer, U.S. Air Force (highest rank, Major), 1942-46; Research Psychologist, Aero-Medical Laboratory, Wright Field, 1946; Assistant and Associate Professor of Psychology, University of Rochester 1946-52; Director of Re-

search, Human Research Unit No. 2, Fort Ord, California, 1952-55; Chief Scientist, U.S.A.F. 1962-63.

**TESTIMONY OF DR. LAUNOR F. CARTER, SENIOR VICE PRESIDENT,
SYSTEM DEVELOPMENT CORP., SANTA MONICA, CALIF.**

Senator HARRIS. You have a prepared statement, I believe, Doctor Carter?

Dr. CARTER. Right.

Senator, with your permission I will read the statement, since it is very short. And, I must say I am very pleased to be with you today. I thought we had an excellent session this morning, most constructive. I was trained as a psychologist and have been deeply involved in research. I might add that in my own company I have been director of research and then manager of the research and technology division. I appear before you today—

Senator HARRIS. Excuse me just a second. Does your statement go into what the System Development Corp. is and what it does?

Dr. CARTER. No, sir. But I would be happy to tell you.

Senator HARRIS. Could you?

Dr. CARTER. Yes. We are the largest software organization in the computer industry. A software organization in the computer industry deals with computer programs, with system analysis, with training of personnel to use computers and information processing systems. Much software—that is a bad term but it is the only one we have—much software is developed by the computer manufacturers themselves, IBM, Univac, CDC, et cetera. There are, however, a fairly large number of independent software producers. We started out as a division of the Rand Corp., a nonprofit study group, and got into this business very early in the air defense development surrounding the SAGE system.

Senator HARRIS. Is it a nonprofit group?

Dr. CARTER. Our organization is a nonprofit group, yes sir. Most of the organizations in the industry are profit, proprietary corporations.

Senator HARRIS. Good. All right. With that preface, then, you may proceed.

Dr. CARTER. All right, sir.

I appear before you today in support of S. 836, a bill which provides for the establishment of a National Foundation for the Social Sciences. Senator Harris, when you spoke before the Senate in introducing this bill, you expressed my own sentiments so well that I can do no more than elaborate on several points you made. It cannot be overemphasized that the most important and pressing problems facing our civilization are those involving human beings and the organizations they have built to serve their needs. Our understanding in the physical and biological sciences has progressed at a remarkably rapid rate. We now have the basic scientific and technical knowledge to enable our society to supply most of the physical and material needs that should make our country a rewarding and useful place in which man can live. At the same time, we see around us problems of poverty, ignorance, and war—problems which are not to be attributed to lack of understanding of the material

or physical aspects of civilization, but rather to our limited understanding of our own human and organizational problems.

As we have reason to know, it is not enough to discover methods of releasing the power of the atom when we have so little knowledge of the human beings and societies that must control this power. It is these kinds of problems that threaten the future of our civilization. They are the ones on which we should be placing the major emphasis and the creative genius of our best intellects. It seems to me that S. 836 is a first modest, but essential, step in this direction, and I give it my whole-hearted support.

In the paragraphs which follow I wish to consider a number of arguments in favor of the proposed foundation, as well as to comment on several which are used as arguments against the foundation.

1. SOCIAL SCIENTIST'S ASPIRATIONS NEED RAISING

As has been well documented, the large proportion of support for research and advanced development has been given to the physical and biological sciences. Social science scientists have generally not aspired to the level of support which is required to develop the basic knowledge that can lead to a frontal attack on the many social problems facing our Nation. Generally, social scientists have worked as single individuals doing research within the limited resources available for small studies as part of university academic departments. They have been traditionally content with limited resources for individual study, for travel to collect data, or for relatively minor experimentation. It is my belief that this type of limited attack on the various basic problems in the social sciences is not sufficiently productive and that large, well-financed, and carefully organized projects must take the place of small, individual efforts. Social scientists will only make this transition to project research if they believe that sufficient support is available to undertake such efforts. The Social Science Foundation could help in raising social scientists' aspirations.

2. SOCIAL SCIENTISTS NEED SPOKESMEN WHO WILL PRESENT THEIR NEEDS AND ASPIRATIONS TO THE ADMINISTRATION AND TO CONGRESS

Within the present organization of the Office of Science and Technology, the National Science Foundation, the research establishment of the Defense Department, or the Department of Health, Education, and Welfare there are no social scientists who hold responsible senior positions and have as their mission the presentation of the case for extensive social science research. While it is true that there are social scientists holding senior positions in some of these agencies, they are not primarily devoted and dedicated to furthering the cause of social science research; rather their orientation is to the overall mission of their agency. Since the social sciences are so comparatively less well developed and understood than the physical and biological sciences, it is important that their needs and potential receive relatively greater support than some of the other scientific and research areas. Able spokesmen in physics, chemistry, biology, and other natural science

areas have risen to the top of the administrative structure in many parts of the scientific establishment of the Federal Government; naturally, their viewpoint is based on the experiences and backgrounds of their particular area of expertise. While their goodwill toward the social sciences has been evidenced often, it is essential that respected senior members of the social sciences profession be in key positions in Government so that the role and potential contribution of social science can be forcefully presented in administrative councils. The establishment of the Social Science Foundation would represent a major step in this direction.

3. SOCIAL SCIENTISTS NEED TO HAVE ACTIVE MANAGEMENT RESPONSIBILITY FOR SOCIAL SCIENCE RESEARCH

Those of us who are acquainted with the head of the Office of Science and Technology, the Director of the National Science Foundation, and the Deputy Secretary of Defense for Research and Engineering hold them in the highest regard, yet it is true that these gentlemen's background and experience are in physics and chemistry. The organizations they administer are staffed largely with personnel from the natural sciences. It appears to me that in supporting social science and in making decisions regarding the nature of social science research, it would be proper that senior social scientists have primary responsibility for such decisions and that they be required to defend their actions before the administration and Congress. If social scientists have primary responsibility for the destiny of Federal support for social science, then it will be possible to attract personnel to Government of the same high caliber and stature as has been the case in the physical and biological sciences. The establishment of an independent Social Science Foundation would be a step in this direction.

4. BETTER PEOPLE NEED TO BE ATTRACTED TO THE SOCIAL SCIENCES

It is often asserted that the better people are attracted to those areas of scientific specialization where there is great national interest and where resources allow them to undertake the kinds of studies which will make important contributions to intellectual understanding. Recent material published by the Educational Testing Service shows that the natural sciences and social sciences attract equally good students as far as verbal aptitude is concerned, but the social science students fall significantly low in quantitative ability. I have an extensive table that demonstrates this in the paper from which I draw this material.

I believe this lack of numerical aptitude hinders the development of a true research-based social science. In view of the importance of the social problems facing us, we should be attracting the best students into the social sciences, but this is not happening. If the Government shows its interest in and support of the social sciences over a sufficiently long time, it is probable that the quality of personnel entering the social sciences will be improved. The establishment of a separate Social Science Foundation and its support of the social science field would be clear evidence of the Government's great concern, and should draw a higher quality of graduate students into the social sciences.

EXHIBIT 1

*Verbal and quantitative aptitude test scores of graduate school candidates*¹

Major field of candidates	Number of candidates	Average verbal score	Average quantitative score
Natural science:			
Mathematics.....	4, 778	559	668
Physics.....	3, 472	589	695
Biology.....	3, 096	518	525
Chemistry.....	3, 557	551	640
Zoology.....	1, 110	546	560
Total.....	16, 013	555	633
Social science:			
Anthropology.....	353	619	529
Economics.....	2, 241	546	581
History.....	5, 367	569	495
Political science.....	2, 476	582	528
Psychology.....	5, 696	565	529
Sociology.....	1, 606	532	477
Total.....	17, 739	564	520

¹ Adapted from Harvey, P. R. and Marco, G. L. Aptitude and advanced test scores of 1963-64 national program candidates by undergraduate major fields. Graduate record exam. Special Report No. 65-3. Educational Testing Service, Princeton, N.J., 1965.

5. THE LEVEL OF FUNDING FOR THE SOCIAL SCIENCES NEEDS TO BE RADICALLY INCREASED

The Research and Technical Programs Subcommittee of the House Committee on Government Operations has just published a very comprehensive, four-volume report on the level of funding and Government activities in the social sciences. The material in this report should be of great interest to all concerned with the establishment of a Social Science Foundation. Because of the wealth of material contained in that report, it is not necessary to review here the relative emphasis and level of funding between the social sciences and the natural and biological sciences. Generally, the level of support for the social sciences is between 5 and 10 percent of the level of support in other scientific areas. The total level of Federal support of social sciences is around \$325 million, with over half of this representing funds coming from the U.S. Office of Education for research in education. I emphasize that. It is not in social science. It is in education. So, the figure is really very considerably inflated.

In 1966 the National Science Foundation supported social science activities to the extent of \$29.7 million out of a budget of \$466 million, or 6.4 percent. In this respect it is important to note that the National Science Foundation lumps together all of the social sciences; that is to say, economics, political science, sociology, anthropology, social psychology, et cetera, into one category to arrive at the total of \$29 million. But, in the physical sciences each science is treated separately; thus, mathematics receives \$45 million, physics \$50 million, chemistry \$40 million, astronomy \$24 million, et cetera. In other words, the level of support of the social sciences considered collectively was less than that of a number of other single disciplines in the physical sciences. If one were to assume that the level of support for basic research and theoretical study in the various fields was in proportion to the need and rel-

ative lack of development of a particular field, one would think that the support for social sciences would be larger than for the physical sciences where the sophistication of theory and the level of understanding is so much higher than it is in the social sciences. Yet it appears that we put out major support in those areas where our understanding is highest rather than in those where it is lowest and needs the greatest improvement.

6. THE COST OF EXPERIMENTAL SOCIAL SCIENCE STUDIES IS HIGH AND INCREASING

It is often argued that social science research is relatively inexpensive. At one time this was the case, but modern empirical social science is expensive, if properly done. Empirical social science depends on the collection of data in the field and the extensive analysis of such data. At times it involves experimental manipulation, which, if done in real-life situations, is quite expensive. The cost of collecting survey information on any large representative population runs into thousands of dollars. The maintenance of large data banks by modern information processing techniques costs hundreds of thousands of dollars a year. The possibility of maintaining such data banks has only recently become possible through advances in information processing technology. If social scientists generally are to properly exploit the potential of the new technologies which have been developed for empirical social science research, the level of funding available must be increased manifold. The Foundation should play a critical support role in such new research activities.

7. HISTORICAL AND THEORETICAL SOCIAL SCIENCE NEEDS SUPPORT

At the present time, there are only modest sums available to support social science research which is oriented toward empirical investigations, but there are only minute funds available for the support of those social scientists whose orientation is essentially historical and theoretical. Their ability to achieve such simple things as adequate library support, clerical support, or even time from their teaching duties is often very limited. They need to have a source of funds which will be available to satisfy the important contributions that these individual scholars make to the integration and synthesis of historical events and the building of theory from empirical social science research results.

As the committee is well aware, there are a significant number of social and natural scientists who oppose the formation of a separate Social Science Foundation. I would like to consider two of the arguments which are commonly advanced in opposition to the establishment of a Social Science Foundation.

a. It is stated that: Good ideas in the social sciences receive adequate support now

It is often argued that any social scientist of repute who has good ideas receives adequate support under the current levels of funding. There is some truth to this assertion, and it represents a contradictory dilemma regarding the social sciences. It is true that many social scientists are being supported by the National Science Foundation, the Na-

tional Institutes of Health, and the Defense Department. This funding is at a level which is reasonable in terms of their current needs and current conceptions of support requirements to perform social sciences studies. I would argue that this phenomenon is a result of the fact that for many years social scientists received next to no support and thus were unable to plan or think in terms of experimental work truly adequate to the phenomena they were studying. There are many important theories in the social sciences having to do with delinquency, crime, housing, urban affairs, social organization, disarmament, et cetera, that have never been attacked with the vigor and intensity with which they should be attacked because funds were simply not available to allow researchers to undertake a long-range, intensive study of these areas.

In addition to the habits and conditioning of social scientists, there is the additional fact that with our current organization for the support of social scientists, the major administrative decisions regarding the level at which social science should be supported is made, not by social scientists, but rather by people who have been trained in other areas. And this sometimes includes those who are disdainful of social science research because it does not meet the high standards of exactness to which they are accustomed in their own discipline. Again, I would say that it is important that the Government actively foster the most rapid advance of social science research that is possible. It should actively champion the development of much greater social science competence than has existed in the past, and to do this the establishment of a Social Science Foundation would form the basis of an important stimulus to students, administrators, and scientists in this area.

b. It is argued by some that science should not be fractionated

There are also those who contend that it is unwise to set up a separate foundation for the social sciences on the grounds that the National Science Foundation has established a social science division, that it is giving increasing support to this Division, and that with adequate support from the administration and Congress, the National Science Foundation will increase its attention to this area. My experience with the National Science Foundation indicates that all of this is true and that the Director and Deputy Director have the best of intentions regarding the support of the social sciences. Nevertheless, the National Science Foundation, with its historic orientation in the physical and biological sciences, cannot furnish the dedicated and focused leadership which the social sciences need. The social sciences should have their own protagonists in the highest levels of Government, simply because the development of a powerful understanding of our social problems is a matter of the first importance.

Related to the problem of fractionating the sciences, it is sometimes asserted that the social sciences, the biological sciences, and the physical sciences should all be under the same roof, since they represent the totality of the scientific discipline. To the extent this argument is based on mere propinquity, it does not stand careful scrutiny. The contribution of the physical and biological sciences to most social science is relatively small, since most of the social sciences are relatively unrelated to new development or new advances in the physical and

biological sciences. On these grounds there is little pragmatic reason that they should be held together under one administrative structure.

In summary, Mr. Chairman, it is my belief that the arguments in favor of the establishment of a Social Science Foundation greatly outweigh the arguments opposing such a foundation. I hope that Congress will act favorably on S. 836.

I would like to conclude by mentioning a related, but in some ways larger concern; namely, I have slowly come to the conviction that the Federal Government needs to have an overall organization concerned with higher education and the natural sciences, the social sciences, and the humanities. It appears to me that these matters of education and advanced study are assuming greater and greater importance in our society. This fact needs to be recognized by the establishment of a major department of Government concerned with the balancing of priorities and support of higher education and of the basic research and theoretical studies undertaken in the intellectual disciplines. It may appear contradictory to support a separate Social Science Foundation in one breath and in the next to express a need for greater integration among the activities mentioned above. I do not believe this to be the case because certainly in any major amalgamation of the many separate Government activities in this area, the social sciences would be a major unit of any such organization.

I have recently been following the development of support for higher education. The various programs of the Office of Education, of the National Science Foundation, and now of the Defense Department under Project Themis, seem to need greater coordination and integration than they appear to be receiving. Likewise, we need an integrated national policy with regard to financial and facility support at institutions of higher education and other research and development organizations. I have particularly in mind the problems associated with adequate information processing support and adequate library support. As a result of SDC's extensive studies in the document handling area and my membership on the President's National Advisory Commission on Libraries, it appears to me that we do not have an adequate focal point within the Federal Government for the formulation of policy guidance and support in these important areas. Thus, Mr. Chairman, I would like, not only to support the establishment of a National Social Science Foundation, but to express the thought that the Congress might well concern itself with the larger problem of overall integration and coordination in the area of our national educational, intellectual, and research establishment.

Thank you, Mr. Chairman.

Senator HARRIS. Well, thank you very much, Dr. Carter. I wanted to ask you about your statement where you say:

There are many important theories in the social sciences having to do with delinquency, crime, housing, urban affairs, social organization, disarmament, et cetera, that have never been attacked with the vigor and intensity with which they should be attacked because funds were simply not available to allow researchers to undertake a long range intensive study of these areas.

As you noticed this morning, I was interested in identifying with some particularity what subjects offer promise or potential for increased effort in the social sciences and I wonder if you might be able to particularize on that statement or on any part of it.

Dr. CARTER. Yes. You can pick almost any one, it seems to me. They are major problems and there are major conceptions about what you ought to do to deal with these various problems.

Senator HARRIS. Maybe I did not make it clear this morning. I am not sure that I did, but I think a person, an average citizen, might say, "Well, what do you mean," you keep saying we need more support for social science research and they ask, "Well," like what?

Dr. CARTER. Sure.

Senator HARRIS. And, I think you and I have some ideas about that but I think we need to establish some kind of record about what sort of potential there is.

Dr. CARTER. Well, let me take an example. We have a great deal of concern about unrest on college campuses, for instance. We had the gentleman from Berkeley here today and in some ways they have led the publicity if not total fact of the problem on the college campuses. Now, what are we doing to study that problem in any depth? There happens to be at Stanford University Nevitt Sanford who has a study on human development which is focusing on problems of the developing student in the Stanford context. Previously he did studies at Vassar and he is one of the few authorities in this country who are studying in detail and depth problems of developing students.

Now, it just seems obvious to me that we need many more studies about what is the relationship between the kinds of experiences the students have in college and the kinds of people they grow up to be.

Another example in the same area. As you know, in southern California we have one of the concentrations, the paradoxical concentrations, of very conservative thought in certain parts of southern California. One wonders why is it that with the high concentration of engineering and scientific talent and the highly technical society that we have in certain parts of the aerospace industry, we have going right along with that some of the most conservative thought that one has in the country.

Now, is there a relationship? I do not know. I personally would like to study this but I work on too many other things.

Senator HARRIS. I think it is very interesting. I was in a South American country recently. I will not mention the country, but I talked to two different people, both of whom should be very knowledgeable and were in a position to have good insights. One said that students who are leaders of some of the more rebellious activities on a university campus in that country grow up to become not of very great importance as citizens, once they graduate. Another person told me, and he has equally good credentials, that by and large, the great majority of their public officials and parliamentarians were people who had first been student leaders and leaders of student movements on university campuses. Well, I would be very interested to know which is right.

Dr. CARTER. Kingsley Davis this morning mentioned that in fact there is a good deal of information that has been collected. Studies of students on college campuses have been going on, oh, I guess since Ted Newcomb's day at Bennington, which was in the 1930's. So, we have a fair amount of information but we do not have any definitive good theories in this area. It is very important, for after all, our

Nation depends in the end upon the attitudes and points of view of the people who go through the school system and I think particularly the educated, the better educated.

Senator HARRIS. You have done a very careful analysis of the arguments for and against the establishment of a separate National Social Science Foundation and I think you pretty well identified the objections and fears which some people have quite sincerely stated. There is one point that I wanted to ask you a little more about. You said, in your statement: "It is argued by some that sciences should not be fractionated". And that there should be greater encouragement of interdisciplinary effort. I am not quite sure I understand what your precise answer to that argument is.

Dr. CARTER. I am sorry I did not make it clear. It seems to me there are two arguments involved here. One is that the National Science Foundation offers an adequate home now for the social sciences. I want to make it clear that I think that Dr. Haworth and Dr. Wilson are, you know, doing all they can but they are in the long tradition of national science in the sense of hardware-type work and the National Science Board is by and large composed of physical and biological scientists. I think it is highly unlikely they are going to break out of that mold. You know, in theory they can but it is extremely hard to change significantly well-established institutions and so I tend to argue that in spite of their good intentions, they are not about to change and that, therefore, you really need a Social Science Foundation which will stand on its own feet, be run by its own kind of people, and state its own case before the Congress and the administration, rather than to try to be swept under the cloak, the cover of the National Science Foundation. But, I do want to be careful to say that I think that these gentlemen, whom I know personally, are people of the highest dedication to science generally.

Senator HARRIS. I join with you in that.

Dr. CARTER. Now, my other point was that it is sometimes argued that we ought to keep all of science together. It is one big thing, that we all use the same empirical methods, we all use the scientific methods, we all use quantification, empiricism, dependence on fact, on reason, this sort of thing. This is true, but I do not think this is any really very good argument that you should not have separate sources of support or separate sources of judgment about what are the better things to support among the various sciences. It seems to me this issue was really solved a long time ago when the Social Science Research Council was set up and the National Science Research Council was set up. There has been this split. It exists in most universities. It exists in the professional organizations. And, I do not understand now why we suddenly have to all be together when it looks as though there might be a new foundation set up.

Senator HARRIS. Two last points. One, I wonder if you could refer to the table which was appended to your statement and which we placed in the record (exhibit 1, p. 296) entitled "Verbal and Quantitative Aptitude Test Scores of Graduate School Candidates" and tell us what conclusions might be drawn from those figures.

Dr. CARTER. Yes, sir. I think the conclusions are very clear. These scores are the scores, as you can see, which were achieved by 16,000

to 17,000 candidates going into graduate school in the natural sciences and in the social sciences. The verbal score is a measure of the ability for reading comprehension, for verbal expression, for manipulation of verbal concepts. Those students going into graduate school in the natural sciences and in the social sciences do about equally well on such measures.

On the other hand, in the quantitative area, those going into the physical sciences do very much better than those going into the social sciences. It means that essentially the population of graduate students going into the social sciences is qualitatively inferior on quantitative material to those going into the natural sciences, and they do not make up for it on the verbal side, where they are about equal.

I think that the main point I want to make about this is that we ought to be drawing the best people into worrying about our most important problems and I think Congress and the administration have a responsibility to structure an elan, the climate, in such a way that you try to draw the better people, through their voluntary selection, into the social sciences.

Senator HARRIS. And, is it your feeling that a separate National Social Science Foundation might give added prestige to the social sciences and would provide that kind of climate?

Dr. CARTER. Yes. I feel there is little doubt of that. It seems to me the whole history of the National Science Foundation being so cautious for so many years will never be able to equal the vigor that a good going Social Science Foundation would be able to give this field.

Senator HARRIS. Secondly, I want to comment on your last point, that we need better coordination of various programs having to do with support for higher education, and I join with you in the contention that this is not inconsistent with the establishment of a separate National Social Science Foundation. It happens that that point is the subject of other hearings before this same subcommittee. We are involved with hearings concerning Government research policy as it affects higher education and economic development, and I have come to the conclusion that the various program we have, as for example, Project Themis, which you mentioned, are just too fragmented and uncoordinated. They do not allow sufficient planning on the national level and they do not encourage sufficient planning on the local level, because each pretty well goes its own way. So, in those other hearings, I think we perhaps will come up with some recommendations in line with the general statement you have made.

Dr. CARTER. Fine. If I might, sir, just comment along this line. Two years ago I had the pleasure of heading a study for COSATI, which is the Committee on Science and Technical Information of OST, Dr. Hornig's office, and we have a book published on this subject in which we were trying to establish the Federal Government's needs and responsibilities for document handling, the dissemination of the knowledge that is locked in so many musty library cases. I am now on the National Library Commission, concerned with this same problem. There is not in the Federal Government a proper—in my opinion proper—focus of coordination or policy formulation in these important areas, and I think it is of first importance for the Congress and the administration to address itself to how it is going to deal with

the management from the—from almost a national resource point of view of the very important results coming out of scientific and intellectual study.

Senator HARRIS. Thank you very much, Dr. Carter. You have been patient to stay on until the afternoon.

Dr. CARTER. It was a pleasure, sir.

Senator HARRIS. We appreciate it.

Our next witness is Mr. Geoffrey C. Hazard, Jr.

Professor Hazard is a professor at the University of Chicago Law School, and executive director of the American Bar Foundation.

Without objection we will place in the record a biographical sketch concerning him.

Biographical Sketch: Geoffrey C. Hazard, Jr.

Professor, University of Chicago Law School, Chicago, Illinois. B.A. 1953, Swarthmore; LL.B. 1954, Columbia. Admitted—Oregon 1954 and California 1960.

Practice in Oregon 1954-57; Deputy Legislative Counsel, State of Oregon 1956-57; Executive Secretary; Oregon Legislative Interim Committee on Judicial Adm., 1957-58. Associate Professor—California at Berkeley 1958-61; Professor 1961-64. Professor, Chicago since 1964. Executive Director—American Bar Foundation since 1964. Visiting Professor—Michigan 1963. Subjects—*Civil Procedure*, Legal Process, Introduction to Law, Trial Practice, Legal History, Equity, Constitutional Law, Federal Jurisdiction.

Senator HARRIS. We welcome you here and we will be glad to hear from you at this time.

TESTIMONY OF GEOFFREY C. HAZARD, JR., EXECUTIVE DIRECTOR, AMERICAN BAR FOUNDATION, CHICAGO, ILL.

Mr. HAZARD. Senator, I am very flattered to have the opportunity to speak to you and hope it is useful.

I have submitted a written statement and I don't see any reason to reiterate that. It is not very long. I hope it is reasonably clear.

Senator HARRIS. All right. Without objection we will place in the record the entire statement, and then you may add to it or excerpt from it as you desire.

Mr. HAZARD. Well, I think I would like to just touch on a few points perhaps brought to mind by listening to some of the things I heard here.

My background in social science is very new. I have been trained as a lawyer. I have been a practicing lawyer and aide in the legislative process in Oregon and in California, and indeed our present research operation is really oriented to what I call the problem-havers. That is, the people who come to us who are policymakers of the bar and the people that talk with them, and they say that our institutions exist in a sense to serve their interests. They say there is a terrible problem with judicial administration. The calendars are overcrowded. They say the crime problem is going up, or what about ocean resources, what about the problems of confidentiality, or computer-collected individuated files of individuals. Or they come to us concerning the operation of prosecutor offices in criminal law. What about due process in juvenile court, the things covered in the *Galt* case just handed down. They come to us about the compilation of laws in international trade, international trade transactions.

You don't have any idea what the documentation is. They come with questions about the legal structure of economic development for underdeveloped countries—the problem of having a capital structure that will work, commodity exchange that will work, transportation system that will work, a municipal corporation law that will work.

We get inquiries from people that say the municipal law of the city of New York is a godawful mess. Isn't it the case that function is being terribly distorted by the structure? They have got to do certain things in a certain way because of the particular combination of program structures, the tax boundaries. They can't move. New York in a sense is a disastrous failure of public corporation law, and the same is true in many respects with education law. They say that the Illinois education law is a complete mess that creates all kinds of problems. For example, you can't merge districts because of the bonding problems. You have weird powers in the State superintendent of education to direct things to be done or not to be done, so that school program becomes inflexible or subject to strange kinds of controls, and so forth.

I recite these should somebody want to know what needs to be looked into. When you begin to look at it from a problem-havers orientation, the first thing you notice is that the amount of usable information is incredibly low. The social research problem is not what to do but where to begin.

The gap is incredible. I think every Senator knows this, because the debate is nothing except an attempt to cover the gap of ignorance. When you know what the situation is, there isn't any debate. Just take any of the questions I have mentioned. If it is serious enough to excite a raised eyebrow in the Senate of the United States or any State legislature, it is a subject about which we don't know very much.

Having said all that, I think it is important to recognize that social science or any science is not a commodity as to which we can ask whether we have enough of it. In some Aristotelian sense there is never enough knowledge and it would be nice to know about all kinds of things. It is therefore kind of a silly question to ask about the adequacy of levels of support. We could quadruple the support, multiply it by 10 times. We did that in biological science since 1947. I suppose the rate of support in biology has gone up 25 times, and yet we are told, and in some sense rightly, that the level of support in that science is inadequate.

I can only say the comparative figure speaks for itself. We are putting nickels and dimes in social research compared with the requirement to have an intelligent educational policy, for example.

In terms of topical selection for investment in social research, I think it is fairly easy. Ask what social problems have been important for the last 50 years. Education policy has been important for the last 50 years. The problem of race policy, the business of integrating American society, has been important for 50 years. Urbanization has been important for 50 years. Transportation policy has been important for 50 years. So has trade policy. You could pick out eight or 10 topics important 50 years ago and important today. You can pretty well be sure they will be important 50 years hence.

So the question is how much more light do we need? My impression is, again from a problem-havers perspective, we need an awful lot

more. For example, we can't figure out why the rate of appeals in the Federal circuit courts is going up, and yet that is a very simple question compared to a lot of questions that the public has to deal with.

Now, on the other hand, we should recognize the weaknesses of social science. I don't buy the notion that the "hard" scientists have disdain for the social sciences because the social sciences are unexact. The skepticism about social sciences, more likely proceeds from hard scientists' feeling that many social scientists are sort of proposition-mongers and not really self-skeptical about the propositions of fact or provable theory that they propound. The laboratory is a very rigorous discipline, and if you can't see it in the microscope, it isn't there. And if you can't produce and manufacture an experiment that will test the theory, the theory is pure speculation. In the social sciences it is so difficult to verify a proposition that it is very easy to slide over into making propositions that can't be verified. Some social sciences are dominated by guys playing a kind of propositional badminton instead of applying really hard concepts of what is known.

I include law in this. I am not picking on social science as an outsider but as an insider. It is really pretty sloppy. The cure of this sloppiness is long-term investment—not 3 years, but decades, as Willard Hurst of Wisconsin has said. You have to build slightly more adequate teachers who will then build ones still slightly better in the next half generation, and so on. It is a very slow additive process and the waste rate is terrific.

The fact is that the number of really first-class minds in social science—in all its disciplines—is relatively modest. We need far more hard-headed, skeptical, scientifically minded people to think about social problems. Social problems are vastly more complicated than the problems of physics or even biochemistry.

Finally, I would like to talk to this business about coordination of research. I think it is important to coordinate operating programs. In a school with a standard process to which students are subjected—for example, Civil Procedure I, which is what I teach—one can plan operations just as you can plan the manufacture of an automobile. You know what the event is going to be. You have a complex operation; you need coordination: You wouldn't have each mechanic hammering away on automobiles as though all by himself.

But when you get into the idea—general business—research—the problem is quite different. Would anybody think of trying to coordinate dress design in the United States or coordinate automobile design or coordinate architectural design?

Senator HARRIS. I think what we are talking about here is, and perhaps Dr. Carter and I didn't make it sufficiently clear, I think we understood each other, that we are not talking about coordinating research. We are talking about coordinating the various types of Federal programs for supporting higher education.

Mr. HAZARD. I agree with that when you are talking about coordination of program, although I put it in a footnote: It is possible to over-coordinate; if anybody doubts it, look at the University of California. You can pay a terrific price for coordination and a lot of organizations, not excluding General Motors, I might say, have had to pay their price and then get themselves straightened out and decentralize. This is a familiar organizational problem.

There is a difference between coordinating programs such as aids to higher education, education being a relatively finite process, and coordinating research, which is not such a process. And I think it would be a disaster to try to think of coordinating social science research. It would be a disaster to try to think of coordinating physical science research, but I think even more so in social science. In the end the testing place for ideas is competitive exposure.

These must be competition. Funding agencies get styles—the people that are there, their intellectual traditions, their interests, and so forth. We can get money from some Federal agencies for some kinds of things where the exact same design would be laughed out of court in another agency. Yet I don't have any doubt that the same proposal has neither gained nor lost in its stature for having gone in one door rather than another. There ought to remain many doors. I wouldn't expect the National Science Foundation to cease all social science because another agency is created that also has social science. It couldn't stop if it wanted to, unless they wanted radically to restrict their program.

This set of disciplines, the social sciences, needs its friends. You have got to institutionalize support for them if you want to get serious about it.

Well, I think those cover the main points in addition, such as they are, to the ones that are in the statement.

Senator HARRIS. And very well covered, indeed. I appreciate that.

What about the—my own background, my undergraduate background, is in the social sciences, mainly political science, but my advanced degree is in law. The research in law school that I knew about was primarily through my association with our own law review. There was research—

Mr. HAZARD. Essentially doctrinal analysis.

Senator HARRIS. Yes; and on rather precise legal questions.

Mr. HAZARD. Yes.

Senator HARRIS. What sources of funding are there for a law school such as yours and for its faculty and students to do research on these kinds of questions?

Mr. HAZARD. Very bad, Senator. One of the nice things about the kind of doctrinal research you and I are talking about is that it sharpens the mind. It clarifies in one's sense for literary analysis and behind that the propositional analysis. It is good stuff, but it doesn't get you much beyond what you can find in the library. The more serious problems we have are those out in the real world—social processes, the economic structure, the cost structure, and so forth.

When you talk about money for that kind of research, what we call institutional or empirical research in law and legal process, it is pretty depressing. Ford has invested money in that area which by and large we haven't spent very intelligently. We are getting better at it. Ford has dumped \$3 million in institutional research in law and now we have maybe a dozen people or two who really have the perception, training, and experience such that they could seriously be called social scientists. Ford has been the leader here, as they have been in so many things.

The Russell Sage Foundation has helped in very important and very interesting work. The Sage Foundation has done conspicuously well in endeavors to build interdisciplinary work. They don't put a sociol-

ogist and a lawyer in a room and say, be friendly. What they try to do is to get two people each of whom has a direct interest in a problem, and then get them talking to each other. It goes along beautifully, and you really can do some quite interesting things.

Carnegie also has had some interest in this type of research. A lot of State legislatures and, more recently, some city governments have started wondering whether they might be helped by such research.

Aside from the fact of inadequacy of outside resources, research in legal processes is impeded by the intractability of inside professional conceits in the law school. We are so good at doctrinal analysis that we are resistant to the idea that brilliance of intuition ought in any way to be qualified by going out and finding out what really happens. It is kind of cheating to find facts. And the whole pressure in the law school world is to preserve the integrity of that Socratic process that shows we are all so smart a priori. The evidence for this is the law status that researchers have in law school. In the law schools, such as Columbia, Harvard, Yale, Michigan, Chicago (my own school), Berkeley—and those are pretty good law schools—the research people are all second class citizens. The people who are primarily investigators as distinguished from pedagogues don't have first class status.

We badly need this kind of sociological research. A legal problem sooner or later can touch on any social science. There is an economic dimension to every legal problem. There is a sociological dimension to every legal problem. There is a psychological dimension to every legal problem. There is a political science dimension to every legal problem. It all depends on which aspect of the thing you want to look at.

Law-trained people can be very, very good at this. Their capability in part arises, paradoxically, from the fact that the one method we learn in law school, which is how to look up cases and statutes, is irrelevant. We have no methodological commitments. We aren't survey men. We aren't econometrician men. We aren't computer men. We are people, who say, what is the problem? It gives us a kind of freedom from the domination of methodology. Methodology in science is not a credo, but a tool that ought to be fitted to the problem. The tendency in social science is to find out a problem that can be plugged into an assumed methodology. Sometimes I think social scientists have kind of a methodological machine: you stick in a problem and grind it through and the answer has to be appropriate—that is nonsense.

Also, lawyers are very proximate to the really smelly social problems. A law man can't easily withdraw into a taxonomic game of labeling. He is professionally sucked into grim reality. Reality is a great discipline, because in the end reality is the test in law and it is the test in science. That is what science is—what ideas correctly, as distinct from incorrectly, describe our environment.

I don't mean to be chauvinistic about this because I think contrariwise, social science has a great deal to tell law, as I have been finding out the hard way.

Senator HARRIS. Well, you have certainly given me a broadened dimension into the discipline of law and the kind of contribution it can make as a social science. I always felt when I was in law school, particularly in what for me was a very depressing study of criminal

law, that there is just almost no dialogue between the psychologists, for example, and lawyers in that really difficult area of mutual concern.

Mr. HAZARD. Yes.

Senator HARRIS. So it seems to me that if we had an additional source—I stress additional source—for funding in the social sciences, that it might do something in the field of law as it can and must under this bill. It might, as well, stimulate greater interdisciplinary efforts within the social sciences themselves.

Mr. HAZARD. Absolutely, and I might say one other thing. I taught at a very large university, Berkeley, before I came to Chicago. Chicago is somewhat smaller. One of the really nice things about it is that you get interdisciplinary contact over the lunch table. You have the economist's perception and you have the sociologist's perception, the political scientist's perception. They just raise a whole new set of possibilities. That is the engine of science—a set of possibilities that just might give you a little better comprehension of what this phenomenology is all about.

Senator HARRIS. Thank you very much.

(The statement previously referred to follows:)

STATEMENT BY GEOFFREY C. HAZARD, JR., EXECUTIVE DIRECTOR, AMERICAN BAR FOUNDATION

The idea of creating a National Foundation for the Social Sciences seems very sound and very timely. By any standard, the sums currently invested in social science research are modest, perhaps even parsimonious. At the same time, contemporary social processes—from learning processes in the elementary schools to control systems for air pollution—are increasing in complexity and in years ahead will continue so to increase at probably a geometric rate. The time has long since passed when we can try to deal with these processes on the basis of tradition, informed common sense, practical wisdom (including the practical wisdom of legislators and other government officials), or sheer hunch. These techniques of decision will continue to be necessary, to be sure. Social science is so inexact, and will continue to be so inexact, that at best it can inform or illuminate policy-making. But it can do that, and we should make investment in social research with that goal in mind.

It is important to recognize this last point: Neither in our lifetime, nor in our children's lifetime, will social science be a substitute for policy-making by traditional government process. Social science is therefore not what it is often feared to be, a threat to the proper political sovereignty of duly constituted policy-making bodies. It is not such a threat at least if those bodies are prepared to open their minds to new evidence and new possibilities for comprehending the social order and its functioning. On the other hand, unless systematic, substantial and continuing social science research investment is made, the inexactness of our comprehension of our environment will continue. Given the certainty that our social environment will become more complex, our relative ability to deal with our environment may actually decline in the absence of increased investments in the study and analysis of social processes. Funding and encouraging a higher level of social research is surely now a social necessity.

A second general point to be recognized about research is that it involves enormous amounts of waste. A distinguished atomic scientist is said once to have remarked that social science will come of age when there is recognition that in it, as in the natural sciences, about ninety percent of all effort comes to naught. The reason for wastage in research is very simple: In its very nature, any given research project is an attempt to build a product no one has ever built before. If a research job has been done before and done well enough to be satisfying, it doesn't need to be performed again. All attempts to build prototypes are expensive, and the less the new endeavor resembles a previous one the greater the risk of mistake and failure. Truly worthwhile research work cannot avoid this difficulty. At the same time truly worthwhile research involves high sustained investment. Because the political burden of sustaining and defending a program

that is high in cost, risk and waste is very heavy, the burden can probably best be carried if distributed. A new National Social Science Foundation would help in this regard.

A third point is that there ought to be multiple sources of funds for social research. There is presently available a good deal of private money for this purpose. There are also a wide variety of funding sources in task-oriented agencies of the federal government. Presently, however, there is no source in the federal government that is explicitly concerned with research outside the context of particular task orientations. Sometimes such research is called "basic research," although this term often creates as many difficulties as it resolves. At any rate, the creation of an alternative source to which social researchers could turn for support, that did not require their adherence in some form or another to the task orientation of an operating agency, would greatly expand the flexibility and opportunities in social research.

Moreover, it seems irrelevant to say that the federal government is already spending money for social science research. Only simplistic notions of economy and correlation of function imply that all activities that can be fitted under a single topic heading ought therefore to be fitted under a single agency. This may make sense in operations, but it makes no sense whatever in research, where the very goal is creation of competitive ideas. A new entry in that competitive production would be intrinsically valuable and probably would help provoke better performance in task-oriented social research programs.

The foregoing is as full a response to question No. 3 in the Subcommittee Chairman's letter of May 5—the adequacy of the present level of federal support available for research in the social and behavioral sciences—as I feel qualified to make. By earlier letter, I addressed the fifth question the Chairman has raised—specific comments and recommendations concerning S. 836. I want to say a few words about the other three points to which the Chairman referred in his letter.

The first question concerns the problems that have arisen concerning federal support of social and behavioral science and the effects that such support has had on those social sciences.

It is very difficult to say much on this subject except from one's own personal experience. I will therefore confine my remarks to that experience. I should say that our experience is relatively modest, both because our organization is young in years and because the magnitude of its research with government funds is not very great. On the other hand, we have dealt with several agencies, specifically the NIMH, the National Aeronautics and Space Administration, the Office of Economic Opportunity and, most recently, the National Highway Safety Bureau.

By and large, our experience has been very good. The officials with whom we have dealt have seemed to be informed, reasonably flexible in their attitude and sympathetic to the kinds of problems that are involved in trying to do good research. I really have only two points of criticism, and these are advanced without any sense of vehemence. The first is the usual problem of multiple review and red tape. Some of the agencies seem to be made up of so many layers that a proposal takes a long time, and sometimes quite a beating, between the point where it originated—with people who pretty well knew what the problem was about—to the point where it gets approved, in the hands of people who are removed from the substantive and methodological problems that are involved in the particular project. This sort of difficulty is compounded where the agency has to worry about getting clearance from some other agency, as for example where clearance has to be obtained from the Bureau of the Budget on the content or method of research. I suspect these difficulties are in large part the result of agency reaction to congressional and public criticism of specific types of projects. The reaction takes the form of layering buffers of precaution. The price of precaution is the stifling of flexibility in operations: The public and the Congress should recognize that we can pay a very high price for trying to *avoid* blunders. That price is the overhead cost to all projects that is involved in stacking up multiple review. We could aim for a better balance between boldness and precaution than we presently have.

The second complaint is one perhaps peculiar to a research organization that is legally oriented. The fact is that very few of the research evaluating and granting people we deal with are well acquainted with legal processes, let alone legally trained. Most of them are, as no doubt they should be, professionally

trained in social sciences such as sociology, economics and psychology. We find this creates difficulties from time to time.

Each discipline has its own language, its own intellectual traditions and styles of life. Each discipline has its own "in" group of recognized leaders. When one is trying to deal with some other discipline, these characteristics all create obstacles to communication and decision. Specifically, I sometimes get the impression that our proposals would encounter far less difficulty if they were written in the language of the social science discipline that predominates in the agency receiving the proposal and if they were "certified" by a recognized professional on our staff who was in that discipline. That is, I think the sources of difficulty with some of our negotiations arose not out of inadequacies in our proposals—though some of them certainly had such inadequacies—but in the unfamiliarity of the point of view and the terminology that was reflected in them. This difficulty, aside from creating a certain amount of inconvenience and frustration, is disturbing because I think people trained in the law who are interested in research have a great deal to contribute both theoretically and practically to social research.

Another problem regarding federal support of social and behavioral science is the question of value judgments and policy judgments. Most social sciences aspire to what they regard as true objectivity, and all of them as far as I am aware insist they manifest such objectivity in their research. While I have no doubt this view is sincere, the idea of "objectivity" in social science research is a very subtle and complicated matter. This subtlety and these complications are not as fully appreciated either in social science or in the funding federal agencies as they might be. The simple fact is that no social science can be "objective" in the sense that its findings on any given line of inquiry are of wholly neutral significance. If a social problem is wholly neutral in its significance, I really doubt that anyone with much curiosity or intellectual enthusiasm would want to study it. And if a problem does have social significance, anything of any substance that is said about it is going to be controversial from someone's point of view.

The way to deal with this problem is to recognize it rather than to deny that it exists. And this recognition ought to be forthcoming in Congress and the public as well as in the funding agencies and in the social science disciplines themselves. Until we are willing to be more candid and mature about the value-laden implications of most social science research, we will probably continue to engage in the sort of rhetorical charade that now goes on: The "consumers" of research—policy-makers—contend that it is loaded in the sense that it is stacked according to the predilections of the researcher, while the researcher protests that he is wholly disinterested and that his product is also. The truth of the matter is that social research usually is not loaded in that it is slanted, but is very often loaded in that it has significant and perhaps explosive implications. One has only to consider, for example, the responses that would emerge from *any* set of results of a study of capacity for learning of abstract propositions as a function of ethnic characteristics.

I turn now to the second specific question to which Senator Harris' letter invited attention. This is an evaluation of existing procedures for government grants and contracts for research. Some of my remarks above are germane to this point. My only additional thought would be this:

Federal research funding is overly dominated by project research as contrasted with sustaining program research. Any science, to be fruitful, depends upon the building up of ideas and information block by block over long periods of time. The discoveries of modern physics are not the product of the inspired genius of a few contemporary individuals, nor the result of massive programmed efforts of discovery. Rather, they are the product of continuous but unscheduled inquiry over the last three centuries, characterized recently by more energy—perhaps one might say more frenzy—of effort and interest. One should not expect more from social science, which has to deal with far more complicated problems than physics.

If the process of scientific development naturally occurs in the way just described, it is a mistake to try to engineer its development in any sort of rigid way. The very idea of project research implies a clarity of objective and a predictability of production that are simply impossible in any true science. The more basic the inquiry, the more true this is. If there is one general criticism of federal policy with respect to research grants, therefore, it is that it is

dominated by the concept of projects to the exclusion of sustaining grants for the development of research institutions.

It is of course true that much of what takes the form of project grant and project contract research is in fact a sustained program of inquiry, consisting of one project connected to another over several years or several decades. Many "project" programs, that is to say, amount to sustained institutional research support even though they take the form of project grants. The question of form has important consequences, however. It affects the way manpower is organized and deployed and the way problems are formulated and explored. Conducting a program of sustained research in the form of project research involves unnecessary costs. The effort to achieve the supposed economies of proceeding from well-defined project to well-defined project is probably penny wisdom with pound foolishness. In long view perspective, it might well be more economical to devote more resources to sustained institutional programs of research, leaving the institutions fairly free to develop their lines of inquiry, rather than to rely so heavily on project research.

This brings me to the final question, No. 4 in Senator Harris' letter, which is what Congress can do to improve the relationship between social science and the government. I suspect the best way this relationship could be improved would be for Congress directly to commission a good deal more social science research for itself than it now does. It is my view that Congress as an institution of government has lost ground, as compared with the Executive, in large part because it refuses to equip itself with the technical and intellectual resources necessary to deal effectively with the complex problems of government policy-making. The scale of research resources available to Congress is minuscule. This starvation diet of information has much to do with the relative weakness of Congress in policy-making. Beyond this, and this is the specific point in mind, if Congress more pervasively used social science resources for its own purposes, it would have far better comprehension of both the possibilities and the limits of social science technique by whomever it is commissioned.

I think the same general point holds, with more modification, with respect to other agencies of government. Unless you do research yourself or work closely with somebody who is doing research on problems you are interested in, it is simply impossible to understand what scientific research in social problems can do, and also what it cannot do.

Senator HARRIS. Our concluding witness for today is Dr. Peter Rossi. Dr. Rossi is director—

Dr. Rossi. Wrong. Formerly.

Senator HARRIS. Formerly director—we are flexible here. We can change you immediately.

Dr. Rossi. It changes from month to month. It is a very mobile profession.

Senator HARRIS. Formerly director of the National Opinion Research Center, University of Chicago, presumably employed at something or other, gainfully, at present.

Dr. Rossi. Well, I am practically the only unemployed sociologist in the country.

Senator HARRIS. Without objection, without touching on the present, unless he desires to do so, we shall place in the record a biographic sketch concerning the past, and we are pleased you are here.

Biographical Sketch: Dr. Peter Henry Rossi

Professor and Chairman, Department of Social Relations, The Johns Hopkins University; formerly Director, National Opinion Research Center, University of Chicago. B.S. 1943, College of the City of New York; Ph.D., 1951, Columbia University.

Columbia University, New York instructor in sociology and research associate, 1950-51; Harvard University, assistant professor of sociology 1951-55; University of Chicago, professor of sociology 1955, National Opinion Research

Center, Director 1960 to present. Member—American Sociological Association, Sociological Research Association, American Association for Public Opinion Research, American Civil Liberties Union, International Rescue Committee. Writings—*Why Families Move*, Free Press, 1966; (with Robert A. Dentler) *The Politics of Urban Renewal*, Free Press, 1962.

TESTIMONY OF DR. PETER HENRY ROSSI, PROFESSOR AND CHAIRMAN, DEPARTMENT OF SOCIAL RELATIONS, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD.

Dr. Rossi. Thank you. It is very flattering to be invited.

I have prepared a statement. It is too long to read here so, with your permission, I will just touch upon some of the major points which I made in that statement.

Senator HARRIS. All right. For the record, then, without objection, we would like to place the entire statement in the record, and then you may excerpt from it.

Dr. Rossi. I think that, as far as the amount of funding for the social sciences is concerned—at least those portions of the social sciences with which I am most familiar—the amount of funding at the moment is about as much as we can presently absorb. There is almost full employment in the social science field, at least those social sciences that I do know. The problem is not one of unused resources, but one of a maldistribution of funds among various types of activities.

There is also a problem concerning the ways in which funding is made available for social science research of various kinds. There are, furthermore, very important social science activities which are at the moment being inadequately funded. As I say, there is a certain amount of undercapitalization of social science research.

As my first point I would like to comment on research procurement. Research contracts for Federal agencies in many cases are entered into along the same lines as the procurement of shoes. Given the custom-made character of a great deal of social science research, this type of contracting turns out, I think, to do a disservice both to social sciences and to the contracting agencies involved. I wanted to stress this because it seems to me that there needs to be some place in the Federal Government which can serve as a resource to which agencies who are not familiar with social science research can go for advice on how to procure social science research of high quality and at a reasonable price.

The second point I want to make is that the purposes for which funds are given do affect the activities of social scientists. Existence of money for a particular purpose produces research in that area, or at least applications to do research in that area. I think what we need more than anything else at the present time is not more money, but more money which is free from the pursuit of particular interests or particular purposes.

I, therefore, see the proposal for a National Social Science Foundation as a means of providing more support for what we come to call basic research, or what I think it really turns out to be, research which follows interests to which social scientists are for some reason or other strongly committed as opposed to interests which arise outside the social science. I do not mean to imply that I am opposed to social

science research being used for applied purposes, but that there should be a little bit more slack in the research funding system for social scientists to pursue their own particular purposes.

Thirdly, I want to turn to the theme of undercapitalization of the social sciences. It seems to me that the undercapitalization occurs in several areas. For one thing, the capital costs of social science departments in universities and in nonprofit research organizations are very badly served by existing social science programs in the Office of Education, the National Institutes of Health, and the National Science Foundation, not to mention the contracting agencies. It is somehow expected that universities and research organizations are going to provide the capital costs of buildings, space, equipment, and the like, and that the research projects which are financed by the organizations of the Federal Government are marginal costs to the institutions involved. As things stand now, research is such an important source of funds for at least the major universities, that they are no longer marginal but central activities for which capital funds are very difficult to obtain.

The costs that go into brick and mortar are one type of capital funds. There is another very extremely important capital cost which goes into a different type of activity, or seemingly different, at least, from the natural sciences. A research organization in the social sciences consists of people, of an organization, division of labor, of persons who can coordinate their activities to pursue a large-scale piece of research or to bring together in one spot data which can be used for a variety of purposes. The capital cost of a research organization, of maintaining this division of labor plus the data banks, psychological laboratories, the staffs, in short, which make it possible to conduct research on the scale and of the relevance that Mr. Carter talked about earlier which is, it seems to me, badly missing in present programs.

In present programs there is some degree of support for these activities and for bricks and mortar, but far short of the need. Grant programs apparently act on the assumption that somehow or another the universities and research organizations are going to come up with capital funds from someplace else. And the more money these programs pour into social science, the more critical becomes the shortage of capital funds.

These are also certain types of activities which are very important for the further development of social science but which at the moment are undersupported. For example, the funds available for the support of graduate students, not merely from the point of view of supporting their tuition and maintenance, but also to support their thesis research so that theses do not turn out to be, as is often the case, fatuous exercises in piddling problems.

For example we need to experiment with new forms of graduate education. In my field of sociology, training is built upon a model of graduate education which is primarily humanistic in its origins. The model does not take into account the fact that research enterprise in the social sciences has changed drastically in the last 30 years. It is now a cooperative job. It does involve the expenditure of resources, the purchase of services, and the like, and we do not take that into account in the way we fund graduate studies. As a consequence, graduate

study tends to be very prolonged. It takes about 8 years to get a Ph. D. in the social sciences, and in some fields considerably more—for example history.

The way in which social science research is funded at the moment I think does some injustice to younger people. The National Science Foundation, for example, and the National Institutes of Health, give out funds for projects and they base their judgments, to some large extent, upon the promise of these individuals and, of course, persons who have already produced have a great deal more promise than those just about ready to produce. We need funding agencies which will take risks with young scholars.

There is another type of high risk activity which is also badly under-financed, what I have come to call "firehouse" research. There are many marvelous opportunities to do social science research on problems which are of considerable social importance, the opportunities for which arise once or twice in a decade, and for which at the moment there is no easy way of getting support.

For example, what happens during some major upset in the society or in a community is of critical interest to the understanding of social life. The National Opinion Research Center and several other groups of social researchers immediately went out and studied the impact of the assassination of Kennedy on the American population. The study was conducted the week after the assassination and finished quickly. We found that there were virtually no funds to support the research. Perhaps it was a trivial problem? It was an interesting piece of research.

We are not quite sure exactly how it fits into a theory, let us say, of American society, but it was a unique opportunity at least of which we managed to take advantage and perhaps to which social scientists of the future can refer to develop a theory concerning what are the major values in American society which when violated produce such a tremendous impact upon the American population.

There are a number of rather risky and controversial topics about which the existing social science funding agencies show some degree of timidity, at least as far as support is concerned. Up to very, very recently we couldn't get any research done on major aspects of racial integration in America. Both the private foundations and the Federal agencies just stayed away from it in droves. Since 1965 it seems to be back in fashion and we now can get research on race relations financed. However, for the period between 1955 and 1965, we have very little information on the remarkable changes which took place in the political and public opinion climate of American society. From the point of view of future historians, the interplay between congressional legislation, Supreme Court decisions, and public opinion is lost forever.

That brings me to another type of research which I would like to see supported and for which there is at the moment very little in the way of support, long-range social accounting. I know that there are movements afoot now to set up some form of social accounting for the United States. I expect that within the next 2 or 3 years some sort of social accounting, some periodic assessment of the social aspects—as opposed to the economic and demographic aspects—of American society, will get under way, but it won't touch, I think, some of the

interesting and perhaps seemingly silly, topics in which I am interested.

For example, I am interested in the happiness of the American population and that looks like a "silly" topic from a layman's viewpoint. The arguments against studying happiness are obvious: who can measure happiness? Everybody's happiness is a little bit different, and so on. But these objections are superficial ones for we have actually made considerable progress in the study of a variety of human feeling and emotions. I would like to see the social accounting move into the measurement of such things as satisfaction with or alienation of the American people from work or general happiness, satisfaction with their—

Senator HARRIS. Excuse me. Alienation of the American people from what?

Dr. ROSSI. Work. That is to say, as we move into different arrangements—

Senator HARRIS. Maybe there is some psychological reason why I don't hear that word. [Laughter.]

Go ahead.

Dr. ROSSI. I think as a society we are fundamentally committed to work. When we find people who are alienated from it, who don't get very much in the way of satisfaction from it, we tend not to hear it.

There are I think three types of research, three types of functions which social research can perform which seem to me to be terribly important. The first is the social bookkeeping and social accounting research. And I don't think that the National Social Science Foundation ought to move into this area except in a developmental sort of way. Development of the measures of social accounting ought to be relatively free from operating considerations. But the maintenance of social accounting, once set up, could be transferred, it seems to me, to an operating agency of some kind, perhaps the Bureau of the Census.

A second important function is the evaluation of programs—

Senator HARRIS. May I interrupt to say that we have before us, perhaps you know, a bill on precisely that topic by Senator Walter Mondale of Minnesota, which is called the full Opportunity and Social Accounting Act of 1967 (S. 843).

Dr. ROSSI. Yes.

Senator HARRIS. And we are going to have a seminar on the 26th of June sponsored by this subcommittee on that bill which raises some rather difficult and complex questions that have to be answered, but it is a very interesting subject.

Dr. ROSSI. It certainly is, and I think you are perfectly right. It raises all sorts of interesting and complex questions.

For example, the operational implications of social accounting. Does this lead to a manipulation of the society? Aren't there some things we should not know? Perhaps there is a social function to ignorance that this provides more flexibility in society and in its social policy that if we knew everything. But I don't have that much of a high regard for the present state of social science to feel that at the moment if we had social accounting, we would know everything.

But to go on with the second function of research, the evaluation of social programs of one kind or another, here it also seems to me that

a National Social Science Foundation could play an important role in setting standards for the evaluation of social policy programs conducted by Federal agencies. It is, I think, one of the criminal aspects—criminal perhaps may be too strong—one of the sorry aspects of the present poverty program lies in the fact that we know so very little about the way in which it is working. Mr. Hazard said that Headstart doesn't work. There are at least 20 different pieces of research, some of which says it works and some of which says it doesn't, but the research is of uneven quality and we only know, at least I only know from my brief investigation of these researches, that the results come out differently. But we don't know precisely how they were conducted. Setting standards for the evaluation of social programs so that we can reasonably evaluate their impact over a period of time seems to me to be important. This is a function which social research at the moment is ready to perform.

We know how to evaluate programs and we know how to set up the experimental designs and surveys which will produce evaluations of considerable use.

And then finally the third function is to perform research to answer social scientifically oriented analytical questions. For example, what are the relationships between an institution like the family and our present occupational structure? There are at least four or five different sociological theories which say that the present organization of the family and our occupational system are to some degree contradictory.

Senator HARRIS. Can you tell us lawyers a little more about what you mean?

Dr. Rossi. All right. Let me put it this way. Let me take a quotation from Kingsley Davis, a paraphrasing of a quotation by Kingsley Davis, and that is that we cannot be an egalitarian society without destroying the family.

This sounds like a very outrageous statement, but what he is really saying is that once you have a family system in which both parents and children are located in the same household, that whatever advantages the parents achieve on their own will tend to be passed on to the children and hence there is built into a society an inequality of opportunity by virtue of the fact that parents take care of the socialization of their children. And this is an interesting historical footnote. The first labor party in the United States, the Workmen's Party in New York in the early 19th century, came out for free education through boarding schools, for precisely this reason. If you have free education at elementary, secondary, and college level but take children away from their parents, then you can very radically mix up the opportunities from generation to generation.

Now, that is a very radical solution, I don't think one which is at all acceptable to the present generation of parents, or at least it wouldn't be acceptable to me as a parent, but if Kingsley Davis' statement is correct, then we have to think then in terms of what types of institutional arrangements can we set up which will tend to homogenize opportunities, not bring everybody down to the same level but raise those who have less opportunities by virtue of their family background as compared to those who have more.

Analytical questions of this sort often do not immediately appear to have policy implications, at least when they are first stated by a

social scientist. As I stated it originally, the relationship between the occupational system and the family does not seem to have any immediate consequence. But in the long run, understanding of the relationship between the family and occupation—the roles that people play outside the family as opposed to the roles inside the family—can have very important policy implications for educational systems, for the type of spatial arrangements between work and residence, and the like.

I have a 19th century optimistic view that social science is going to help us in the long run and that the long run is not so long away, perhaps by the end of this century.

Those are, I think, the major points which I made in my paper.

Senator HARRIS. Well, very good ones, I might say. I think you raise a very important point in your prepared statement when you question whether or not the time is ripe for social sciences to take on the vulnerability of a separate status. I think it is. You hope it is. And that is one of those things we are going to have to decide on the basis of intuition, I suppose.

Dr. Rossi. Well, I had firmer convictions on this score until I read the previous testimony, that Dr. Ebbin supplied me. When I saw my learned colleagues being concerned about the vulnerability of a National Social Science Foundation, I began to worry about it, too. I know that some of the research projects that I have been engaged in have attracted some degree of congressional attention. For example, one of our researches supported by the National Science Foundation was concerned with the prestige of occupations. We studied the prestige of Senators and Congressmen along with 200 other occupations. If that rather innocuous enterprise can attract attention and perhaps produce unfavorable repercussions—it didn't in this particular case—then what would all the social science projects all put together in one little lump produce?

I think the answer to this question is that times are changing. The fact that there are so many Senators who are making strong presentations in favor of such a National Social Science Foundation is quite impressive. Not only do we have enemies, but we also have friends. Obviously the outcome of an attack upon a National Social Science Foundation is not clear. Social scientists tend to be born losers, at least in their attitude at the moment. If we, I think, hold our heads up a little bit higher, we may see our sympathetic friends as well.

Senator HARRIS. The sponsorship of this bill in the Senate, which includes 21 out of 100 Members of the Senate, which is, I think, rather unusual—we started off with no bill and no hearings and then that many people joined in its sponsorship—which includes such men as the majority leader, Senator Mansfield, of Montana; the minority whip, Senator Kuchel, of California; the secretary of the Democratic conference in the Senate, Senator Robert Byrd, of Virginia; the ranking minority member of this subcommittee and parent committee, Senator Mundt; the Senator from New York, Senator Robert Kennedy, and others. That kind of support from people with rather varying viewpoints on many social problems, I think, indicates the feeling that if we are to get at some of these new and different social problems of our day, we are going to have to be innovative and original, and I am convinced, therefore, controversial. That is why I am in-

interested in seeing an organization to support social science research, a new organization, created. I think we have to make clear in the record we make in the Senate, in these hearings and in any committee report we are to issue in support of such a bill, that it was our intention that it would involve innovation and originality and, therefore, controversy, and I think the suggestion made about a separate endowment within the National Social Science Foundation for high risk kind of research is certainly worthy of our consideration.

Well, I want to say this, that despite the fact that I came into Washington this morning at 3 a.m. from Oklahoma and nevertheless not only stayed awake during your testimony and the others we have heard this afternoon, but was very much stimulated and excited by what you said, and the enthusiasm with which you said it, is a tribute to you and to the ideas that you expressed and the excellent way in which you express them. That is also true of the others we have heard from today, and we are very grateful to you.

Dr. Rossi. Thank you.

(The statement previously referred to follows:)

STATEMENT BY DR. PETER H. ROSSI, PROFESSOR OF SOCIOLOGY, UNIVERSITY OF CHICAGO

Since World War II, the social sciences have received increasing recognition for the part they can play in helping to advance our understanding of the human aspects of our world and in helping to solve the massive problems which face the men of our times. S-836 and these hearings are important symbols of this growing recognition. As a social scientist I cannot help but feel pride in the higher public status of the social sciences, even though it is quite possible that public recognition has run ahead of the performance of social science.

The amount and sources of federal support for research in the social sciences have been authoritatively documented for you in previous testimony. Whether the amount available is adequate or not is a much harder matter to document: Systematic surveys have yet to be taken which would show that there is any unused capacity in the form of social scientists who are not presently doing research but who would do so if additional funds were available. My own knowledge arising out of talking to colleagues in the major centers of social science in the country would indicate that there is little unused capacity. Obviously, my own experiences are not without bias. To begin with, I speak primarily as a sociologist with some acquaintance with psychology and political science, but with very little knowledge of activities in the fields of economics and anthropology, let alone history. Hence, when I refer to the "social sciences" in this memorandum, I mainly mean those branches of social science with which I am most familiar. Secondly, there are ample indications that some research goes unfunded. For example, I know that each year there are applications to the National Science Foundation and to the National Institutes of Health which go unfunded. Some of these applications are worthy of support; many are not. The question is what is the proportion of worthwhile research projects which go unsupported because of lack of adequate funding in the federal agencies presently supporting social science research? And, is that proportion very large?

Another question one may raise concerning my assessment that social science research funding is adequate concerns whether there is any unused capacity outside the major universities and research centers which could be profitably employed, perhaps in the lesser schools. My impressions are that there is very little such unused capacity, but then my sampling methods are not very rigorous.

In my view, the important issues lie elsewhere, in the *ways* in which funds for social science research are channelled and the *purposes* for which such funds are given. Some of the federal agencies fund social research in fashions which unduly influence the activities of social scientists, and there are at least several types of activities which do not receive enough funding in the present setup.

Some agencies attempt to procure social science research in the same way that they buy paper for their mimeograph machines. Only very rarely can research

be specified in sufficient detail that competitive bidding can lead to the most efficient researcher. Almost every social science research project is so much a "custom made" product that to attempt to specify in great detail a proposed project leads to fatuous descriptions. Under those circumstances, two researchers or two research organizations bidding against each other can produce ranges in costs which cover the same skimpy specifications but vary widely in quality and hence in price. I have seen research contracts let to researchers and organizations which did not have the capability of fulfilling the contract according to general social science standards but which could fulfill the skimpy specifications set out by the contracting agency.

I have seen other research organizations badly hurt by attempting to fulfill contracts which were so vague in their specifications that the contracting agency could demand almost endless amounts of additional work because it was impossible to determine from the wording of the contract when the work involved would be completed. The standard procurement contract which is used by agencies in buying social science research is in most cases inappropriate to the task in hand.

Obviously these last remarks apply primarily to applied research contracts in which a federal agency attempts to get research accomplished on some rather narrowly defined topic. It applies particularly to federal agencies which have not had much experience in financing research and which do not have properly trained and experienced social science staff who can tell a shoddy product from a well-executed one. It would seem to me that such agencies could benefit a great deal from having some intermediary organization which could command the proper social science expertise to help them both in the letting of contracts and in determining when a contract had been fulfilled. I do not think that this was one of the major functions you had in mind for the National Social Science Foundation to assume, but it could help in the same way that the National Research Council has helped some agencies to find properly qualified contractors to accomplish applied research in a variety of areas.

It is quite easy to demonstrate seemingly that social scientists lack strength of character. Our research activities are to some extent related to the amount of funds available. Research in the social aspects of medicine was not a major field in sociology until the National Institutes of Health made funds available for research in this area. Nor was poverty a favorite research topic until the Office of Economic Opportunity started its research program. But the blandishments of funding agencies are only part of the story of how research activities are affected by monies available. Social scientists are also citizens and thereby affected by the impact of social problems in much the same way as other interested and educated citizens. In our research interests, we show the same shifts of attention that are shown by legislators and public leaders. When these shifts are accompanied by funding, the interests of researchers as citizens and researchers as consumers of research funds happily coincide. This is not to say that there were no social scientists who were waiting, so to speak, for funds to become available to study the poor and our health care system, but merely to say that social scientists in their interests are affected by the currents of opinion among informed publics.

It is hard to say categorically therefore that the availability of funds for research in particular areas distorts the emphases of social science research from a more ideal pattern that would exist if funds were available freely for research on topics that would arise "spontaneously" out of the immanent interests of social scientists. I am convinced that there is some degree of distortion, but then without more funds available on a free-choice-of-topic basis, I cannot estimate whether this degree is excessive or not.

I do not wish to give the impression that I am opposed to applied research. For one thing, I have great difficulty distinguishing between applied and basic research in the social sciences. Fundamentally, the distinction seems to hinge on whether the researcher had the idea and then financed it (basic research) or whether some agency had the idea and then found a researcher willing to undertake it (applied research). The distinction lies not so much in the nature of the research as in the prior commitment, if any, to the research on the part of the researcher. I am also in favor of applied research because I think such research can help in providing information of use in the formation of social policy and in the evaluation of social policy in action.

Nevertheless, I am convinced that the advance of knowledge in the social sciences (as in other fields) rests more heavily on the work of men working on

topics of interest to them than on men to whom research is merely a mode of professional advancement, a summer salary, or a substitute for a fundamental commitment. The social science fields as a whole go along with this opinion as shown in the higher desirability of research grants as opposed to contracts and in the higher desirability of grants from those agencies and private foundations in which the intrinsic merit of the research counts more in the awarding of grants than the topic on which the research is proposed. I think it is generally conceded that a grant from the National Science Foundation is regarded as the most prestigious grant given by federal agencies and that the Carnegie Corporation and the Rockefeller Foundation stand at the head of a list of private foundations.

The establishment of a separate social science foundation dedicated primarily to the support of basic research in the social sciences can only provide another incentive to self-directed researchers. Of course, very little would be gained if the funds for basic social science research now channeled through the National Science Foundation were to be rechanneled through the new foundation. Assuming that such would not be the case, I would expect that grants from the new foundation would equal or exceed in prestige those from the National Science Foundation.

The point I want to make here is that the more money that will be available for basic social science the more social scientists will be rewarded for pursuing those leads and topics which would eventuate in the richer and deeper development of the social sciences. A National Social Science Foundation would aid in fostering such a trend.

Another topic which I am sure that other social scientists testifying here have touched upon concerns capital investment in social science manpower and facilities. The training of Ph.D.'s in the social sciences is a long process and there are many who fall by the wayside. On the average it takes about eight years beyond the bachelor's degree for a man to obtain his Ph.D. and in some fields the dropout rate in graduate school is more than 50 per cent. This does not mean that those eight years are spent necessarily in intensive study and apprenticeship training: many graduate students do a lot of teaching and research before they get the degree. Nor does it mean that all students who drop out should have been retained: Many do not have the talent to pursue a research degree even though they had enough talent to get high grades in their undergraduate days. The process of graduate training in the social sciences is protracted because a large proportion of students have to work in order to support themselves through graduate training and many drop out because the initiative and self-direction required to obtain a research degree takes some time to develop.

The fellowships and traineeships provided by the Office of Education, the National Institutes of Health, and the National Science Foundation have all helped to move some students more rapidly through to the completion of their degrees, but the social science fields are not as well supported in this respect as the biological sciences and the physical sciences. More fellowships and traineeships would free students to move more rapidly towards the completion of their degrees and entry into the labor market as teachers and researchers.

We also need support for experimentation in graduate education. Graduate education in sociology today, for example, still follows the model of the Ph.D. in the humanities. We expect the student to take courses, design his own research, learn most of his research techniques while doing his dissertation, and then finally write a long description of his work as the final proof of his worthiness to join the Elect. The structure of graduate training does not adequately reflect the fact that most social science research today can scarcely be accomplished by an individual but that an understructure of subprofessionals is necessary for much of the major work. Most dissertations end up as piddling exercises which contribute little to knowledge and little to training the social scientists to work within the context of cooperative endeavors that characterizes important segments of social science research today.

Training grants and fellowships implicitly accept this outmoded model of graduate training in providing mainly for the tuition and maintenance of graduate students but without funds for their research activities. The costs of dissertation research at the present time are borne mainly by the student himself or by research projects (which ordinarily have budgets which do not recognize such expenses as legitimate ones). There is therefore a considerable need to capitalize better the full costs of graduate training recognizing that research in the social

sciences ordinarily is no longer a matter of reading in a good research library but involves expenditures of time and energy as well as purchases of services in the collection of original data from experiments and surveys. At the present time the best training is given by bootlegging funds from research projects to cover the dissertation expenses of graduate students. Such activities need to be funded separately.

Social science research is undercapitalized. You have heard much testimony to the effect that research funds given to universities produce considerable pressures on limited space and other facilities. I want to emphasize this point. Funds are needed to provide the laboratory and office space within which social science research is conducted. The overhead allowance on research projects is insufficient to cover the real costs of research, let alone to provide institutions with the ability to accumulate enough surplus to expand their physical plants and other facilities. To be sure there are capital grant programs in both the National Science Foundation and the National Institutes of Health, but these programs require the procurement of matching funds, often difficult to get and unavailable.

Behind many of the grant policies of federal agencies and private foundations is the implicit view of research as marginal activities to universities and research centers. As a marginal activity, research can be conducted by a professor or researcher without much in the way of additional capital costs to be borne by the host institution. This may have been an accurate view in the days when funds for research were scarce, but today when the budgets of some departments I know of are upwards of 80 per cent composed of research funds, research is no longer marginal: It is the other activities which are marginal. The federal agencies and private foundations have to take this altered state into account: Else they will run universities (especially private ones) and non-profit research organizations slowly into bankruptcy.

There is another kind of capital investment for which there is very little provision in existing programs. Most social science research is labor intensive and requires little in the way of hardware (compared to the physical and biological sciences). Investment in organizations consisting of trained personnel on the professional and subprofessional level is the kind of capital investment which would increase considerably the research potentiality of social sciences. As an example, consider a sample survey organization which has the capability of conducting national surveys. The capital investment represented by a national sample, a highly trained interviewing staff, computer programmers and technical staff is of the order of one-and-a-half million dollars. (I estimate that it would cost this much to build an organization *de novo*.) Sample survey organizations have managed somehow to accumulate this capital investment at the cost of running at more than capacity or from the scarce resources of their host universities. This fact more than any other accounts for the existence of only two such survey research centers at the present time.

Support for the basic costs of organizations—data depositories, psychological laboratories, computer installations, sample survey centers, and the like—is at the moment virtually non-existent. Most such organizations skimp along on allowances from tight university budgets or by overworking their personnel. A program of basic support for such organizations would go far towards releasing manpower for more productive endeavors.

While there are plenty of funds for social science research, some parts of the social science community suffer from a disability in obtaining such funds. Perhaps the most seriously undersupported portion of the social science community are its young men and women. Review committees of federal agencies and private foundations ordinarily take into account the proven capability of the investigator in making research awards. Young men and women just fresh from graduate training suffer in the "competition" because their capabilities are yet to be proven. I would like to see funds especially earmarked for the young social scientists, providing them with a protected "market" in which to look for research support.

The present granting and contracting federal agencies have not yet worked out ways of supporting a type of research which could prove to be very fruitful but which requires great flexibility in financing. I have in mind research which takes advantage of sudden and often unanticipated events to study their impact on individuals and social systems. For example, a number of researchers and research organizations immediately went into the field after President Kennedy's assassination to record the impact of that event on the American population.

But, none of the federal funding agencies were able to move fast enough to support the research and most of the costs of the research were borne by the researchers and their institutions. For some, this was a serious burden. Although there is some tradition of support for research on natural disasters, there is none for research on the impact of man-made important events. We know extremely little about the processes which lead to the formation and change of opinions and attitudes outside of the laboratory situation partly for this reason.

Nor is there much supportive sentiment for long-range studies of the sort which would enable social scientists to assess the impact of massive social changes. For example, our knowledge of the considerable changes in attitudes on the part of whites towards civil rights for Negroes comes from less than a half dozen surveys conducted between 1942 and 1965. We can guess that Supreme Court decisions and congressional civil rights legislation profoundly affected the climate of public opinion on this topic, but we are not sure whether government action follows public opinion or leads it. Nor do we know much about changes in attitudes towards work among the labor force although we speculate considerably concerning how the new technologies are affecting worker satisfactions.

Certain topics of research also tend to be slighted. For example, it was almost impossible up until very recently to get research support for work on any aspect of racial integration. With the passage of the Civil Rights Act of 1964, federal agencies suddenly awoke to responsibilities which they did not feel previously. Similarly, although we are reputed to be a very religious country and pride ourselves on our pluralistic national origins, research on religious behavior or on ethnic groups are at the moment left to the private foundations to support. Indeed, the Office of Education thought it was taking a very bold step when it gave my colleague, Andrew Greeley, and myself a grant a few years ago to complete a study begun under a Carnegie Corporation grant to study the differences between Catholic adults who had attended parochial schools and Catholic adults who had attended public schools.

In short there is need for some risk funds to be expended on young persons and on potentially controversial areas. It is in this connection that I have the most doubts about the National Social Science Foundation. Visibility may mean vulnerability. Greeley's and my grant to study the effects of parochial schooling could be overlooked in a long list of grants given by the Office of Education and partially disguised in the title, "A Study of the Effects of Value Oriented Education," but how would it fare in a list of studies supported by the National Social Science Foundation?

I suspect that concern over vulnerability is the major reason why many social scientists have not shown more enthusiasm for the proposed National Social Science Foundation. At some point social science will have to stand on its accomplishments, but there is some uncertainty whether we have reached that point yet. My own opinion on this score is that we have not completely explored the organizational mechanisms which would guarantee the integrity of a separate social science foundation. The decision-making processes employed by the National Institutes of Health and the National Science Foundation impress me as an important device for insuring that the various disciplines involved play critical roles in the allocation of funds. Yet we need more than this mechanism alone, for the National Institutes of Health was one of the agencies which did not dare to support research on racial integration in a period before Congress spoke its mind so forcefully in the Civil Rights Act of 1964. Perhaps an endowment earmarked for the National Social Science Foundation's use in support of high risk research may be the mechanism.

I noted in reading some of the previous testimony before this subcommittee that one of the arguments against the National Social Science Foundation concerned the fostering of interdisciplinary approaches in funding agencies which support a wide variety of fields. This seems to me to be a relatively poor argument. The amount of interdisciplinary research fostered by the existence of the National Science Foundation or the National Institutes of Health would seem to me to be virtually negligible. Indeed, I have had research applications shunted around a variety of suboffices in the National Science Foundation because either the approach or the subject matter did not fit clearly into one or the other specific disciplinary programs. Interdisciplinary research arises from the initiative of researchers more than it comes from the programs of these two funding organizations, especially when their research funds are given mainly upon the application of the researcher.

Striking a balance from my ambivalences, I come out more in favor of a National Social Science Foundation than opposed. I hope that such a foundation would give some attention to the problem of increasing the capital investment in social science research, in providing support for the social science researcher who is committed to research on some topic of great interest to him, and in providing special support for the young social scientists and for research on controversial topics. I especially hope that the establishment of such a foundation will demonstrate the ability of social science to stand by and for itself on the basis of its contribution to knowledge and its concern for the human condition.

Senator HARRIS. These hearings will now recess until 10 a.m., June 6. (Whereupon at 3:35 p.m., the hearing was recessed, to reconvene at 10 a.m., Tuesday, June 6, 1967.)

NATIONAL FOUNDATION FOR SOCIAL SCIENCES

TUESDAY, JUNE 6, 1967

U.S. SENATE,
SUBCOMMITTEE ON GOVERNMENT RESEARCH,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room 3302, New Senate Office Building, Senator Joseph M. Montoya presiding.

Present: Senator Montoya.

Also present: Dr. Steven Ebbin, staff director.

Senator MONTOYA. The subcommittee will come to order.

The Subcommittee on Government Research of the Senate Government Operations Committee is today continuing hearings on S. 836, a bill to create a National Social Science Foundation.

Our subcommittee chairman, Senator Fred R. Harris, is required to be in Oklahoma today because of the unexpected death of Mr. Ned Shepler, editor and publisher of the Constitution-Press, in the Senator's hometown of Lawton, Okla.

Our first witness today will be Dr. Warren E. Miller, Inter-University Consortium for Political Research, Ann Arbor, Mich.

Without objection, we will place in the record at this point a biographical sketch concerning Dr. Miller.

Biographical Sketch: Warren E. Miller

Inter-University Consortium for Political Research, Ann Arbor, Michigan, B.S., Oregon 1948; M.S. 1950, D.S.S. Syracuse, 1954.

Study Director Public Affairs, Survey Research Center, Michigan, 1951-54; Assistant Professor Political Science, California, 1954-56; Michigan, 1956-58; Associate Professor, 1958-; Program Director Survey Research Center, 1959-; Research Associate, 1956-58; Assistant Program Director, 1958-59. Social Science Research Council, Research Grant, 1958; Fellow, Center for the Advanced Study of the Behavioral Sciences, 1961-62. General Rapporteur, International Political Science Association Congress, Paris, 1961. U.S.A.A.F., 1942-46. Member of: American Political Science Association; American Psychological Association. Publications: Political Behavior; Empirical Political Theory of the Operation of Political Systems; Methodology and Techniques of Quantitative Analysis of Political Data. 'Socio-Economic Analysis of Political Behavior' (Midwest J. Polit. Sci.); Co-Author, "The Voter Decides" and "The American Voter".

Senator MONTOYA. Dr. Miller, you may proceed with your testimony. You may either submit your statement for the record and then give us a résumé of your testimony, or you may read it, as you wish. We will leave it up to you.

TESTIMONY OF WARREN E. MILLER, INTER-UNIVERSITY CONSORTIUM FOR POLITICAL RESEARCH, ANN ARBOR, MICH.

Mr. MILLER. Thank you very much, Senator Montoya. If I may, I would like to submit the written statement for the record.

Senator MONTOYA. Without objection, it will be received.

Mr. MILLER. I would like to comment, rather than provide a summary, in an attempt to emphasize the problem as I understand it in my own perspective.

It seems to me that, at least in that part of the social science world that I know best, there has been a revolutionary change in the modes of research, in the conceptual and theoretical bases of research, but even more, in the technology and in the nature of the necessary organization of social research. The problem that I face most often as a research scholar and a research administrator is attempting to carry out the kinds of research that are appropriate in magnitude for the problems that we are trying to deal with, with resources for research that are much more appropriate to the research technology of two or three decades ago.

What I have in mind is this: It seems to me—and I want to be understood as speaking by and large only for my fellow disciplinarians in political science, because that is the area of presumed competence—it seems to me that the political scientist has been sufficiently preoccupied with the major questions of the nature of Government and politics, the democratic process, the whole host of crucial socioeconomic problems that have political manifestations or political implications, throughout the entire history of the discipline. However, from one perspective, at least, one can say that we have been intellectually pretentious without really being able to match these pretensions with the scholarly research that we have carried out.

The problem of the political scientist—and this I think is often shared with the other disciplines in the social sciences—is one of attempting to comprehend extremely heterogeneous, massive, complex phenomena; namely, the sum total of human society. Our techniques of observing and recording observations, of measurement, of trying to grapple with the immensity of the phenomena that we are confronted with, reflect methodological problems that are now amenable to a social science technology. But too many practitioners, and too many of the elements of society supporting social research, have not recognized that in order to comprehend the diversity and complexity that we are concerned with, we need social organization—the research organization. We need the implementation of kinds of research projects that have by and large been foreign to political science, and indeed, have not been characteristic of any social science until the last 10 or 20 years.

One of the major beneficent consequences of the Second World War was that of creating a new social science technology, demonstrating the adaptability of many of the techniques that had been used in agricultural economics, for example, to the study of social phenomena. But we have not been able to harness that technology. We have not been able to design the kinds of research that would be commensurate in scope with the problems that we are trying to solve, the problems that are subject of our research efforts.

So I am here today very largely out of a sense that there does need to be a very major rethinking of the nature of social science research and, stemming from that, a major reorganization, I would think, of the support for social research. The opportunity that is presented by the possibility of a National Social Science Foundation seems to me to be an important opportunity, one that could very well have important ramifications for the support of social science elsewhere in Government, and, in some ways even more crucially, important implications for the role of private foundations and their support for social science research.

My concern is fundamentally a concern with the gap between that which I think we are prepared to do intellectually, that which is possible now to do technologically, and that which, on the other hand, on the other side of the gap, we are able to do because of the way in which support for social science is currently organized.

Senator MONTROYA. Dr. Miller, do you feel that there is a lag in research in the social sciences because there has been no central direction or no organization charged with bringing about proper coordination and proper direction?

Mr. MILLER. I think, Senator, the one note here that I would clearly not accept is the idea that what we need is more centralization. I think that in response to the design for a Social Science Foundation presented in the bill, there is a good deal of concern throughout the academic community, a concern which I share, that the new institution be created to increase the number of sources of guidance, the number of sources of support, rather than to centralize, rather than do anything to diminish the present diversity. I think it is less a matter of central organization and more of a matter of a common need in a number of settings for a rethinking of what should go into the organization of social science research.

I would hope, for example, that a National Social Science Foundation could be a model for the mode of supporting social science in the private foundations. Reform there is as much in order as new organization for research support might possibly be within the Federal Establishment.

Senator MONTROYA. Is there not another advantage that could be derived from this type of bill—namely, that once we initiate a national governmental organization, money will become available for these very important projects of which you speak?

Mr. MILLER. This is a point of view that I have certainly held for some time, feeling that in addition to the very practical manifest results of having a separate entity responsible for a new and significant portion of the support of social research, the symbolic nature of the role of the Social Science Foundation, I think, would be important.

Senator MONTROYA. Would you say that the social sciences have been relegated to an orphan status as far as funding is concerned by the different institutions of this country?

Mr. MILLER. No, I do not think that I would.

Senator MONTROYA. I mean in comparison with the other sciences?

Mr. MILLER. Here again, I think I would object only in the sense of saying I do not think they have been "relegated." I think the clear

utilities of the natural and physical sciences, their very prominent role in national defense and in the national economy, simply have led to an appropriate level of support, where there has not been a comparable recognition of what could be done in the social sciences. Relatively speaking, I think the social sciences have gone virtually unfunded.

Senator MONTOYA. Well, would you say there has not been appropriate recognition because of lack of appreciation or knowledge of what the social sciences can do in our society?

Mr. MILLER. In part, a lack of recognition of what can be done, and yet here I feel a little bit defensive, because certainly within political science, those who share my particular orientation have spent 20 years now proclaiming what can be done.

But we have not spent an equal amount of time providing the organizational support, the monetary support, the infrastructure needed to do that which can be done. I think there has been too little attention given to the question. How do we now do it—what is now needed in order to realize these grand prophecies?

Senator MONTOYA. You mention in your statement that there is a dire national need for research in the social sciences. Could you suggest some of the projects or types of projects you have in mind?

Mr. MILLER. Let me, if I may, Senator, mention two kinds of enterprises, and take, if you will, your use of the project orientation as a major point of departure. We have had one of the major resources of social science develop in the form of survey research. It has provided an ability to do, in a fashion quite analogous to many of the studies of the Bureau of the Census, studies of national populations through the use of confidential interviews based on the sample survey.

Yet the only two academically based organizations in the country equipped to carry out this sort of research on a national scale were organized immediately after or immediately before the Second World War. For 25 years, there has not been support for another major organization. This does not reflect an absence of need; it reflects the immensity of the problem of organizing this kind of social research. One answer that I would make would be that there are a whole host of research organizations and research facilities that need funding in the very near future.

Now, many of these are not the facilities that are familiar in the natural and physical science context. They are not all brick and mortar and hardware. They are very often social organizations, creating, for example, a survey research center that has sampling statisticians, that has people trained in the techniques of interviewing, that has data processing personnel, maintained just as one maintains by analogy a computer.

I think the creation of State survey research organizations, support for additional national survey research organizations, support for any of the burgeoning social science data archives is one part of the picture. There are many kinds of institutional support that are now needed.

I think then one can go on and say also the very concept of continuing support for institutions, research organizations able to respond to the ad hoc interests of the social scientists, will, through these same institutions also make it possible to execute kinds of research projects

that go considerably beyond the present capabilities of any of the social science supporting agencies, whether private foundation or governmental foundation.

Now, the kinds of projects that I have in mind are these, and let me just give you projects that we in fact are interested in finding support for at the present time: Through my role with the inter-university consortium, I have been working with one group of 11 scholars who primarily are interested in the study of State governments and State politics. They are planning research while sharing the sense that too much of our preoccupation has been with the national scene, that much more needs to be known about the functioning of the legislature, the political party, and the electorate at the State level. They would like very much to mount, as their first significant comparative study of State political behavior, a 10-State study. They would like this study to include a sample survey of the electorates in each of the 10 States. They would like to include data on administrative, legislative, and judicial materials from the States. They would like to have systematic research-oriented contact with members of the party organizations in these States. You put all these together, draw up a very conservative estimate of costs, and you come to something like three-quarters of a million dollars.

This is a project on which now they have spent some time attempting to fund, as they will spend more time in the future, simply because of the magnitude. It is a project that does demand large support because it is a complex program of research, because that which is being researched is complex.

Or another example: At the end of this month, I will be attending a conference at Princeton, where we are attempting to organize another major research effort. The consortium, using its good offices on behalf of research scholars, is attempting to organize a multinational study of the role of the constitutional court as a political institution capable of providing political stability for Western society. Here again, if this study is even to be begun, it means a very major creation of a research organization of scholars and their supporting personnel on a level that is atypical of the type of research that is supported in political science.

Generally, as one starts to cut across different units of government, whether they be States or nations, as one starts to try to comprehend within even a single unit of Government the various major institutions, we begin to define projects of a new scope that have now become reasonable.

One of my personal research concerns has been with the study that was initiated in 1958, which I hope will soon see the light of day. This study, for the first time, brings together material from the voting record of Congressmen and from confidential interviews with Congressman, with comparable materials from their constituents. For the first time, we are starting to see in this study, and many others that our colleagues are doing, the kind of research design which says you do not simply do a public opinion poll and consider this to be the beginning and end of modern political research. You start systematically studying the various agencies, the various institutions, and in combination so that one can look simultaneously at representatives and at the represented, at the multiplicity of relationships that form

the political process. It is studies of this scope that illustrate the projects that I see as very, very difficult to support at the present time because we do not have the research facilitation that has to exist prior to their execution.

Senator MONTOYA. Is this consortium, of which you are director, a novel approach to this type of research?

Mr. MILLER. As far as I know, at the time of its organization it was completely unique in social science. We have discovered, and it simply illustrates our parochialism, we discovered after the fact that similar organizations have existed around the Mount Palomar Observatory, around the Atomic Energy Laboratories at Oak Ridge, and so on. The difference between those cooperative organizations, in which a number of universities come together to use a common research facility, and the consortium is that the consortium started with a very similar notion of making the resources of the Survey Research Center at the University of Michigan available to a wider set of research scholars and students across the country but, after 2 or 3 years, the objective changed markedly, and now the consortium is interested in creating new research resources.

Senator MONTOYA. Who are parties to this consortium? Are the parties universities?

Mr. MILLER. Yes; the membership in the consortium is institutional. There are currently, I think, 96 universities. Of these, approximately 75 are American universities and colleges. We have about 10 Canadian members, and about 10 others scattered around the world.

Senator MONTOYA. Well, do you agree that the difficulty in launching more extensive research by social scientists lies in the fact that the type of research for which the social sciences have a need does not lend itself to productive return, whereas in the physical sciences, there is a profit incentive in the end, and therefore, funding becomes easier to obtain from the private sector? Would you agree with that statement?

Mr. MILLER. I suspect that in many ways, this is true, yes. Thinking of our experience at the survey research center, it has been difficult for my colleagues, for example, in the economic behavior program, to derive sustained support for their work from business. Political science has very little in the way of a commercial product. We can find Senators and Congressmen, and even occasional presidential candidates, who are very much interested in the product of survey research. In some areas, public opinion work now does have a commercial value that is providing an increased base of support for some survey work. But fundamentally, those of us in political science do not have a salable product in the narrow sense of the term. We think it is a product of inestimable value for those who are concerned with the operation of governmental institutions, but this does not mean that the immediate motive for profit is very effective.

In fact, I would even extend this, if I might, Senator, and argue that one of the difficulties in funding political research, say with the private foundations, is that the foundations are too much concerned with manning the barricades, too much concerned with an immediately useful product. If you can propose research that has to do with immediate social action or immediate political reform, political amelioration, fine, because here you are now proposing a commodity as the product of your research.

But if you say, no, we really are not ready for this yet, or no, I simply have a different set of objectives that have more to do, if you will, with basic research, one finds it very difficult to locate support for basic political research in the private sector of the Nation.

In recent years the National Science Foundation has been almost the only location for such support for basic political research.

Senator MONTOYA. As a matter of fact, you find very little support for this type of research in the State legislatures, because they do not understand the nature of the research and what it might do for humanity.

Mr. MILLER. I am afraid that is true. Here again, one has—what, now, 10 or 15 years ago—the idea of a State survey research laboratory set up at the University of Wisconsin. One did have there the legislature supporting with appropriations this sort of organization. But it still stands virtually unique. In the last few years, there have been attempts to create similar organizations in Illinois and Missouri. But, by and large, this is not in the kind of research venture that promises the State legislature an immediate return or solution to the State's political or socioeconomic problems, and therefore—perhaps not that directly therefore, but as a consequence—there has not been substantial State-based support for social research.

Senator MONTOYA. Whatever support the political scientists get from the State legislature has to come in through the back door under the name of general appropriations for the university?

Mr. MILLER. This is, in the case of the State of Michigan, almost entirely true. We do find funds, but even here, I would point out that we find funds less often out of general support moneys and more often out of the overhead funds that have accrued, by and large, through Federal contracts in other parts of the university. I think it is very difficult to trace any direct support given to the work of my colleagues in political science back to the statehouse in Lansing.

Senator MONTOYA. In other words, the social scientist has had great difficulty in selling the idea of the need for research to the taxpayers, because our society has failed to comprehend that there is a need for understanding the relations of men one with the other.

Mr. MILLER. And in part because we have argued that one can and must do these things, but we have not really done an awful lot in the way of producing results.

I really think, again, that the question of the actual product in contrast with the promise is the crucial question. I think the economist clearly has been much more fruitful in producing results that demonstrate the utility of the discipline. The sociologists, now are providing demonstrations in some areas. But once again, as one thinks, for example, of the problems of race relations, it is really astounding to discover that even though we have known for a good number of years how to do significant research and have maintained that, yes, our research will enable man to live better with fellow man, very little of the research that would make that possible has in fact been accomplished. In part, it has not been accomplished because, in order to accomplish it, one needs research of a scale and scope that has been impossible to carry out.

So that I think it is really a combination of these. It is very hard to sell a product if you in fact are not doing very much to produce the

product, and it is hard to produce a complex product if it rests on a very expensive base. And I think there has not been, even on the part of the social scientists, a proper appraisal and appreciation of how expensive the base must be if one is going to do the significant research, speaking of the problems of human relations, you are referring to.

Senator MONTGOMERY. Mr. Miller, the inter-university consortium idea has interested me very much. I understand that you have a statement explaining this consortium. If you do not mind, we will insert it as part of the record.

Mr. MILLER. I would be delighted.
(The document referred to follows:)

EXHIBIT 2

INTER-UNIVERSITY CONSORTIUM FOR POLITICAL RESEARCH

The Consortium was created in 1962 as a new development in academic organization. It is committed to the several objectives of an inter-disciplinary, inter-university research and training facility. These objectives include:

- 1) creating an archive of multi-purpose data that will serve a variety of research and training needs;
- 2) developing computer-oriented systems of data management and information retrieval designed to maximize the utility of data archives for the individual scholar;
- 3) developing training programs shaped to enable scholars to make optimal use of the archival data;
- 4) providing a staff of professional and technical personnel to achieve these primary objectives; and
- 5) supporting cooperative efforts to expand the total set of resources through the development of other major data archives and centers for training and research.

The organization

The Inter-university Consortium for Political Research is a partnership between the Survey Research Center of the University of Michigan and some ninety-five universities, colleges and non-profit research organizations in the United States and abroad. Activities are based on joint decisions made by the Survey Research Center staff to the Consortium and the Council of representatives elected by the member institutions.

Finances

The activities of the Consortium are financed from several sources. The operating budget, approximately \$300,000 per year, is supplied by annual subscriptions by the member institutions. Training is currently supported by foundation grants, both private and governmental, of about \$125,000 per year and by contributions from the University of Michigan equaling \$55,000 per year. Archival development has been supported largely by grants that have totaled some \$2 million during the first years of operation. Future annual expenditures may be expected to maintain the current pace (with membership fees contributing somewhat more than 30 per cent) through the period of resource development.

Activities

1) *Training.*—The Consortium summer program is designed to encourage the diffusion of basic training to member institutions while offering unique work through its own constantly changing courses. Intensive inter-disciplinary work for historians, political scientists, sociologists and other social scientists is provided through a set of eight-week courses. Experience in data processing and the analysis of data in individual or small group projects complement the formal lectures and discussions in most of the courses. In addition to the core work in methodology and research techniques, the summer program normally includes one or two research conferences for senior research scholars.

2) *Providing data for research and for teaching.*—Data collected and organized by the Consortium serve a variety of purposes. They constitute source ma-

terials for specialized collections maintained by member institutions, they are used directly in both faculty and student research, and they are widely used in both graduate and undergraduate teaching. The Technical Services staff provides a full range of data processing services including special computations and data processing for members with limited access to data processing facilities. The level of use of the data continues to mount, and it is impossible to project any quantitative measure of support that will be given to research and training on local campuses in the future. The potential value of the data may be suggested by crude estimates of the "replacement cost" of the data resources: the first phase of Consortium archival development released data that were originally collected in projects costing a total of well over \$1.5 million; over the next decade optimal growth will rest on the investment of an additional \$3-4 million to create a comprehensive library of multi-purpose data.

3) *Consultation.*—Faculty research, student theses, curricular revision, and the growth of local data archives and data-processing facilities are increasingly supported by the professional, technical, and administrative personnel sustained by the Consortium operating budget. These activities are carried out as the staff strives to eliminate the variety of technical barriers and administrative inhibitions frustrating research and teaching.

Goals

Given the completion of archival development and the maintenance of an innovative training program, two major goals of the Consortium will have been achieved: with the modern techniques and economies of data transmission, any scholar will have direct, personal access to the richest stores of data ever assembled for the social scientist. In some large measure, the past inequalities in distribution of such resources among universities and colleges of varying stations and with differing commitments will have been overcome. Participation in the cooperative venture that is the Consortium may, in a relative sense, disadvantage the wealthy and well-placed university capable of supporting a diversified program of graduate training and faculty research on its own. It seems more appropriate to emphasize the absolute advantage that is accruing to the entire social science community as new and essential resources are brought into being in a manner calculated to enhance the capacities of all.

In the domain of training in methodology and research technique, the Consortium will offer advanced work for which there are too few teachers to staff even the largest institutions. It will continue to offer specialized training to selected students from schools where the economics of education might otherwise militate against opportunities for such work. The experience of the past few years argues that the Inter-university Consortium for Political Research can combine the rewards that come to the traveling scholar with the opportunities that traveling data can afford the scholar or teacher at work on his own campus.

Senator MONTOYA. Thank you very much, Doctor.

Mr. MILLER. Thank you very much, Senator.

(The prepared statement previously referred to follows:)

STATEMENT BY WARREN E. MILLER, PROGRAM DIRECTOR, SURVEY RESEARCH CENTER;
EXECUTIVE DIRECTOR, INTER-UNIVERSITY CONSORTIUM FOR POLITICAL RESEARCH;
AND PROFESSOR OF POLITICAL SCIENCE, THE UNIVERSITY OF MICHIGAN

Mr. Chairman, although I am speaking as an individual research scholar and teacher of political science, my perspectives have been heavily shaped by my organizational roles. Over the past years the major positions I have occupied have been those of Professor of Political Science, Program Director of the Political Behavior Program of the Survey Research Center, University of Michigan and Executive Director of the Inter-university Consortium for Political Research. Both as a research scientist and as a research administrator I have become accustomed to developing general conclusions out of the specific material with which I work. Consequently I would like to begin by describing some of the experiences that lie behind the general conclusions of my testimony today.

During the entire 20 years of its existence the Survey Research Center has been committed to the execution of basic, programmatic, social research. It is an organization conceived and staffed to permit the scientific study of significant problems as they are found to exist within significant populations of people. In the domain of political behavior the largest single interest of the past 15 years

has been in the study of electoral behavior. Our work has consisted predominantly of the conduct of national sample surveys of the electorate before and after our biennial national elections.

Over the past 10 years in particular my colleagues and I have devoted a too large portion of our time to the problem of funding this series of basic election studies. The cost of these studies, as with the cost of much scientific research, is high. The magnitude of the study should be commensurate with the magnitude and the complexity of the phenomena being studied. Where the interest is in the behaviors of some 110 million people constituting the eligible electorate, even the most modest study becomes, by traditional social science terms, a very major undertaking. Across the eight elections beginning with 1952, we ultimately succeeded in mounting three very major studies in 1952, 1956 and 1960. In 1958 and 1964 because of limited financing the studies were of a more limited scope than we would have desired. In 1954, 1962 and 1966, although we were able to maintain small data collections focused on the core materials, the amount of information collected was indeed very limited. The collections that were carried out were made possible only because of our ability to piece together small sums from a variety of sources.

In none of the eight years were we able to conduct a study with the sample size that would have been appropriate. Where we would ideally like to have a sample of 5,000 to 10,000 people to represent the national population, virtually every one of our studies has had to be carried out with a sample of less than 2,000. We have also been very seriously limited in our ability to carry out crucial methodological research. Although problems of measurement and analysis are usually anticipated prior to launching a study, a choice is often forced between using scarce resources to carry out necessary methodological research or using the same limited resources to carry out the substantive research. The latter option means that one has to make the best possible guess about the methodological solution and then proceed to get on with the work.

Limited support for this one program of research has had two major consequences. In the first instance the talent and skill of research personnel have been diverted disproportionately into the search for funding. A very large fraction of the time of senior researchers is spent not in the design, conduct and exploitation of research but in seeking support for the projects. Quite apart from the drain of intellectual energy, the second major consequence of uncertain funding has been that we have been almost totally unable to plan the sequence, the developmental features, of our work that would really make it programmatic. Even with the best of schemes guiding a series of studies, the realities of uncertain funding limit the ability of the scholar to plan precisely for a sequence of studies that will build one upon the other. The result of this has been again to force an unwelcome choice between two alternatives. Once a series of studies has been started there is a commitment to continuing the same measures so that time series analysis becomes possible. The fundamental need to insure comparability of measurement across time thus bakes one into a given series of data collecting activities and forecloses the possibility of changing, of innovating, of seeking new leads, of searching out new problems, because the attempt to change to alter the established format can be carried out only at the expense of ceasing to maintain the basic study content.

The larger significance of the problem of funding this one program of research is that it has stood virtually alone, responding to the many interests which the social science community has in the analysis of national electoral behavior. And this is clearly not a comment on any lack of interest on the part of the social science community beyond the confines of Ann Arbor. Indeed the interest in our program of election studies was fundamentally responsible for the creation of the Interuniversity Consortium for Political Research.

The Consortium was organized at the initiative of the Survey Research Center in 1962. It was created in order to find a device for making the data generated by the election study series available to graduate students and faculty members who wanted to be able to use the technology and methodology of modern behavioral science in the study of political problems. The Consortium consists of a partnership between the Survey Research Center of the University of Michigan and some 95 member institutions—colleges and universities across the nation and representing five foreign countries as well. The Consortium came into being very largely because we had inadvertently developed a monopoly on the study of national electoral behavior. Whatever our problems of funding to

insure continuity and the appropriate scope and complexity of research, there had been a virtually total inability on the part of the remainder of the national community of interested political scientists, political sociologists and historians to mount independent efforts that would meet their own research needs in the study of national political phenomena.

The original goal of extending the research and training facilities of the Survey Research Center Political Behavior Program to colleagues and students around the country, if not around the world, was met within the first two or three years of the organization's existence. Subsequently it has seemed most appropriate to take advantage of this organizational innovation within the academic society and seek new objectives responding to the interests of additional scholars within the social science community. From one point of view the Consortium has been actively engaged over the past five years in creating a demand for new research resources and facilities by spreading the technology of modern behavioral research. The success of the first phase of our operations has now created a vision of what might be accomplished if the technology that has been available to the social scientists for the past two decades were indeed properly harnessed, supported with the appropriate research organization and given the necessary funds for operation.

The response to the Consortium's own program of activities has been both enthusiastic and generous. In terms of support, the 95 member institutions are now contributing almost \$300,000 a year to maintain the organization and its services. The development of data resources has been very generously supported by the National Science Foundation; including grants now in force, the Foundation has channeled approximately \$1 million into the development of data resources needed for the study of contemporary and historical political America. Private foundations have also contributed very significantly to the growth of the Consortium. The organization was launched with a grant from the Edgar Stern Family Fund. The Social Science Research Council made it possible to initiate some of the programs that were subsequently taken over by the National Science Foundation's Special Projects Program. More recently the Ford Foundation has allocated a half-million dollars to the future generation of data resources. The Ford grant is being used primarily to make the congressional legislative record, beginning with the continental congresses, available to the research scholar.

Although the Consortium is now receiving almost two-thirds of a million dollars each year from the various sectors of society, a better measure of the level of support is provided by the contrast between the support being given and the magnitude of the task in prospect. In appraising the resources available for social science research, it should be noted that our nation through its normal bookkeeping activities provides substantial assistance to a number of the social science disciplines. In particular the economist has benefitted from the very extensive national accounting that has been carried out over the years for the purposes of business and government. On a somewhat more modest scale the sociologist has benefitted from the data collections maintained by the Bureau of the Census and by a number of public and private agencies that need basic social science data for their own administrative, programmatic activities.

Political scientists perhaps feel more acutely than some others the need for a gross change in the magnitude of social science support because the society has not been as lavish in its provision of basic research materials for members of our discipline. However expert political scientists may be in exercising the arts of politics, they have been singularly unsuccessful in influencing, for example, the collection of basic data through the Bureau of the Census that would be as useful for their purposes as the data now collected are for the purposes of the economist or the sociologist or the businessman or the governmental administrator. One measure of the problem is provided by the fact that until 1950 there was no single source of American election statistics compiled with sufficient accuracy and completeness to serve the interests of social science research. At that point the Governmental Affairs Institute, under the capable direction of Mr. Richard Scammon who was subsequently appointed Director of the Bureau of the Census, undertook a biennial compilation of such data that has subsequently been published under the heading *America Votes*, with some six volumes now providing a good source of contemporary American data. Much of the Consortium's archival activity has been devoted to extending that record back into the earlier years of the 20th century and now back to the 19th century.

The interest in creating data banks filled with historical material is by no means simply an antiquarian's interest. One very major objective is provided by

the social scientist's concern with the problems of newly developing societies around the world. On many fronts today we find ourselves preoccupied with the question of the way in which political institutions develop in new societies. We are, of course, aware that our own society started with essentially one-party politics. We know that politics developed ultimately into the competitive system that is the American two-party system. However, to be able to analyze that development, to be able to trace the mobilization of the electorate and the establishment of our basic political institutions, one needs data that simply have not been available to the social scientist. In yet another area, many of us today are disturbed about the ability of a modern mass society to respond to the large question of public policy that must be faced and decided through the mechanisms of democratic self-government. The historical record contains more information than has been used. The information has gone largely unexploited because of the sheer physical task of assembling data on such events as state referenda on major questions of public policy. It is possible to know much more than we now know about the functioning of democratic processes and political institutions, and the knowing need not wait on the next dramatic crisis. The alternative, however, is to do a much more exacting job of using the information that past experience has provided.

More generally, one prescription for the self-knowledge that is vital to the democratic society relates to the utilization and implementation of the concept of the natural experiment. Many of the differences between social science and natural science have to do with the limits on experimentation and observation that are appropriate where the phenomena being studied are human beings. Quite apart from questions of whether the ingenious laboratory experiment can really represent man in his natural surroundings, questions of both ethics and validity can be resolved much more often than has been the case in the past if one utilizes the natural course of events as though they are the elements of an experiment to be described and analyzed. On the one hand this means, now somewhat belatedly, seeking to retrieve the fugitive documentation concerning past events in American history. With this end in view there is currently great enthusiasm for the development of data banks or data archives based on the resurrection of materials from past decades. The other prospect is that of generating new data by research on contemporary phenomena. In either case, the sheer amount of information sought must be almost infinitely larger than it has been in the past. In neither case will the traditional study based on a class of college sophomores or located in the researcher's own community, sites which simply happen to be conveniently at hand, suffice as a surrogate for a study of the national society, national institutions, the processes of national political life. The entire problem is, of course, complicated (or enriched) by virtue of the fact that our politics are the politics of a nation organized on federal principles. There is not only the need for attention to national phenomena but also for attention to the 50 sets of phenomena that characterize activities of our states. Given the nature of contemporary society the problem is further extended by the existence of the many urban metropolitan centers that have their own problems of social, economic, psychological organization under the governing rubric of entities that are only partially dominated by state and federal government. If one is to study a society on a scale commensurate with the complexities of that society, we must be prepared to do national studies, state studies, metropolitan studies. And, as every observer of contemporary city problems is aware, even the least of these three dimensions is complex almost beyond belief.

Today there are only two academically-based research organizations competent to execute studies on a national scale. My own home institution, the Survey Research Center at the University of Michigan, and the National Opinion Research Center affiliated with the University of Chicago. On the state level recent years have seen the development of a handful of state survey research facilities. One based at the University of Wisconsin, Madison, a second at the University of Missouri at Columbia, a third now getting under way at the University of Illinois in Champaign-Urbana. Resources for state-based analyses have been supplemented somewhat by the existence of commercial public opinion organizations in states such as California, Iowa and Minnesota. Nevertheless today major centers such as New York, Pennsylvania, Ohio or even my home state of Michigan are not equipped to do a systematic study of the evolving problems of social, economic and political life of the state. On the metropolitan level, there are again very few installations regularly prepared to undertake major studies

of the life of the city The Detroit Area Study at the University of Michigan is a notable exception. More generally the pattern is one of extremely inefficient and wasteland ad hoc creation of research organizations to exclude one-shot studies of a city, usually embracing only one particular problem sufficiently critical to merit attention of those who can provide the funding.

The technology of social or behavioral science developed over the past two decades is adequate to the systematic study of many major problems of our society. The ability of an academic discipline to exploit the technology of social science depends however upon the existence of social organization. It depends upon the existence of research facilities, research organizations that are equipped to handle the manifold tasks involved in the conduct of large-scale social research. The social scientist has remained too long a prisoner of the tradition of the library-bound scholar. The growing awareness that it is indeed technically possible to study real life more directly and more systematically has not resulted in the major change in social science research that is now possible.

Mr. Chairman, with respect to the five questions posed in your letter of invitation let me attempt to summarize in my response some of those perspectives that seem to be more or less unique to my own experience and less repetitious of the many pieces of testimony already offered before your Committee. First with regard to the general problems arising concerning federal support of social and behavioral science research and the effect of these problems on the social sciences in general. Here I would identify three problems, two closely related and a third somewhat distinct. The first two problems are the Scylla and the Charybdis of the social science research navigator. They exist, respectively, in the mission-oriented research mandates held by some funding agencies and in the unitary concern for basic research which guides others. First, with regard to the policy-oriented research needs of the funding agency, I have been struck over the past months by a dramatic irony presented in the case of the recent exposures of Central Intelligence Agency activities. Many of my colleagues throughout the country have, as I, been unsettled to discover that apparently quite legitimate intellectual endeavor has been covertly supported by funds from CIA. The response has frequently been one of moral outrage and indignation. I find the irony to lie in the fact that many of us who fear the subversive pressures of a CIA have been quite willing to bend our statements of research interests and research objectives to conform to the prescriptions laid down by other potential funding agencies. In my own case I have at times been tempted to wonder whether the study of perceptions, values and attitudes pertaining to national elections might not properly be described as having a very direct relevance for the mental health of society. I have supposed that if my research were mentally healthful research it would be eligible for the funding that has been used by so many different social science colleagues across the country. In other instances I have been asked to demonstrate that the proposed research would either man the barricades more efficiently, or, that it would remove the need for the barricades. The rejoinder that we are at this point pursuing objectives that are much more basic than the application requested has thereby denied us access to funds.

It is, of course, perfectly appropriate for an agency with a particular action program to use its funds in the furtherance of that program. The larger point is that one who makes his living seeking research support rapidly discovers that in virtually every place outside government, and most places within, research funds are available only within the context of pre-established guidelines or programs of research. The classic phrase is "I'm sorry. Your research seems to be extremely interesting, we wish there were some way we could support it, but it doesn't fit any of the programs of research that we are now supporting." The consequence of research support being provided largely by action-oriented agencies has been the subversion of at least the intellectual honesty of scholars submitting research proposals. I am afraid the subversion goes further than that. Objectives that are clearly without relevance for the mission of the agency are eliminated from proposals. Other objectives that are dubious are de-emphasized, and whether the de-emphasis in the initial proposal writing continues to be a de-emphasis through the project is not, unfortunately, always an open question. Those of us who have perhaps too much practice in the art of raising funds recognize the technique of bootlegging one's basic scientific objectives into a proposal that is read by the sponsoring agency as doing that which they are commissioned to do.

The companion problem is posed by the demand for research that is purely, completely, and wholly *basic* research. The disutility of the terms basic and ap-

plied has one of its major consequences when one starts to define that which is basic as that which can have no obvious relevance for application. Unfortunately I am afraid the definition of basic also becomes a matter of orthodoxy too often not out of intellectual conviction, but out of bureaucratic need for protection against possible subsequent criticism from Congress. Let me come back to this under the heading of the fourth question you posed. In any event these two problems have in common the fact that they impose essentially bureaucratic and political criteria on the evaluation of scientific research. The research scholar must either couch his proposal, and indeed shape his work, to make it apparent that he is directly serving the mission-oriented function of an agency, or, in the other context, he must carefully obscure the fact that his work might be considered to be controversial or politically sensitive, relevant to the interest of active partisans involved in society's decision-making processes. I am less concerned about the question of whether these are proper postures for the funding agencies and I am more concerned about the impact which such postures have on the behavior and the values of the social scientist who is seeking funds for projects generated out of his own definition of the nature of scientific inquiry.

A third general problem that I would mention here is of a completely different order. Although I did not elaborate this theme in my opening comments, our work at the Survey Research Center has in recent years turned very heavily away from an American focus to a focus on cross-national *comparative* research. In large part this occurs because of the same needs that have driven us to an interest in historical American data. We are searching for other contexts, other situations, other circumstances in which we may find one or more crucial tests for theories and hypotheses. Instead of waiting for future events to unroll as natural experiments and provide us with the testing ground for current ideas, we tend to look to other societies that are more or less definably different from ours and seek research contexts that provide some of the variability in crucial elements of the research design needed to permit a testing of the concepts and theories involved. The interest in comparative research is for other colleagues in other subfields of the discipline of political science more a matter of intrinsic interest. The study of comparative politics has for many years provided a focus for a substantial number of political scientists.

The nature of most of the past federal support for social and behavioral science has produced a serious problem for those who share these interests. The tradition of individual scholarship, combined with the head start which American social science has had on the rest of the world in the period following World War II, has created a major diplomatic problem of significance for the national interest as well as for the continuing development of comparative research. With perhaps more innocence than should be credible, the American social scientist working abroad has created a situation in which he has been accused—and with some propriety—of engaging in a form of neo-colonialism. This activity has taken the form of an American research enterprise descending singly or simultaneously on several countries, carrying out a major data collection, and then retreating to the United States, data in hand, to carry out the analysis and subsequent scholarly publication. The unhappy pattern has been one in which this enterprise does not engage the active support and cooperation, to say nothing of the full collegial integration of the peers who could be involved in the various national settings. The relevance of this for your Committee's deliberations, Mr. Chairman, is that the end of innocence and the sophisticated, or, indeed, the simply human awareness of the inadequacy of this mode of operation has not replaced the activity with the sort of collegial cooperation that might be expected of fellow scientists in different national settings. Insofar as federal support is gained for comparative research, the restrictions placed on activities of the foreign collaborator have frequently made it almost impossible to involve him as an equal in the study unless he has unusual access to support within his own country. Stringent restrictions on support of travel by foreign nationals provide one of the most common points of irritation here. On a much larger scale, the inability to fund at least a portion of a very expensive data collection abroad may seriously hamper, if not indeed hamstring, the conduct of a comparative research project. While it is certainly true that there are many situations in which it would not be desirable from the side of either participant to have the total expenses borne by the American participant, it is equally true that there are many situations in which greater flexibility in utilizing funds would greatly facilitate not only the execution of good research but the development of better international relations

between the participating countries. In the face of today's world problems, the political scientist is certainly not alone in seeking forms of research support that do not hamper the conduct of research because of policy considerations, however meritorious, extraneous to the conduct of the research.

If I may I would like to combine my responses to the second and third questions (An evaluation of the adequacy of existing procedures for government grants and contracts for research in the social and behavioral sciences; and adequacy of the present level of federal support available for research in the social and behavioral sciences). From some important perspectives the question of the adequacy of level of support can be answered only if one has a clear sense of the urgency of the need for better and more research in the social and behavioral sciences. If the society's need is limited the level of support is adequate. If the need is defined in terms of the knowledge that could be accrued or in terms of the possible or probable relevance of that knowledge for contemporary social, economic and political problems, then one cannot but argue the need is indeed great. The current level of federal support is totally out of keeping with the support needed to mount social science research on a scale at all commensurate with or appropriate to the magnitude of the problems being studied.

Neither of the two standard criteria for evaluating the current level of federal support seem to me appropriate nor persuasive. In the first instance I am always distressed and seldom surprised when social science support is compared or contrasted with natural and physical science support. There is no question but that a sense of equity is offended. On the other hand, there is little question but that sheer numbers of personnel involved do provide some rationale for the present allocations. Nevertheless the question of whether the man-for-man allocation is appropriate, given the current stage of social science or given the costs or values of social science research, is a quite separate question. I am also quite unimpressed by the various totals that are added up to demonstrate the sheer amount of money which the federal establishment presumably gives to the support of the behavioral science. Again I speak with anything approaching detailed knowledge only for the field of political science. And yet here I am struck by how little of the research being done in the name of behavioral science will ever find its way into the methodological or substantive literature of the discipline. In part this is the result of work done for the military establishment that remains classified. In part this is the result of work which however important in application and the resolution of social or economic problems is work that cannot be characterized as basic research worthy of discussion in professional journals or other major professional publications.

This assessment of the adequacy or the inadequacy of levels of support is of course at the same time a commentary on the existing procedures for providing that support. Procedures that rely fundamentally on the values and commitments of the granting agencies, and employ only in a final screening process the criteria of the scientific community, are not procedures calculated to enhance the growth of a relevant social or behavioral science. At the same time it should be noted that almost all of the criticisms I would level against the procedures for federal grants and contracts should also be leveled against private foundations as well. As with the policies that motivate the decision to provide support in the first place, the procedures have seldom been developed out of a practitioner's understanding of the nature of contemporary social and behavioral science methods and techniques. Sustained support for major programmatic research efforts can scarcely be assembled with procedures that are created for the support of single small-scale projects. Research which can be carried out only through the continued existence of large-scale research organizations can scarcely be supported through programs with procedures that contemplate only the support of single individual research scholars.

In response to your fourth question (what Congress can do to bring about proper relationship between social scientists and the government, and how such a relationship should be structured), there are of course a number of things that Congress could do to improve the relationship between social scientists and government. One major activity could well center on improving the ability of the present governmental data-producing agencies to serve the needs of the social scientist. The Bureau of the Census, for example, could well be moved to increase the amount of information relevant to basic social science research that is collected either in the decennial census or in any of the many interim studies that it conducts. I am mindful of the effort that has had to be exerted in order to include

such simple identifying information as congressional district on data collected at a level below that of the whole county. Once congressmen became aware that such district information might indeed have relevance for their own political decisions, the collection has become a part of the operation of the Census Bureau. Prior to congressional intervention, such information was not collected and it is consequently now virtually impossible to reconstruct the elementary information concerning such things as the impact of urbanization on congressional elections and the congressman's political position in the metropolitan district. Another point that has become very salient for the social scientist has to do with the basic collection of information on religious affiliation. Although in the earlier part of the century such information was collected frequently in special censuses, it has now, for a number of years, been impossible to collect any definitive information that gives one even a reasonably accurate statement of the dispersion of religious affiliates throughout the country on even a county-by-county basis. Insofar as religious loyalties constitute one of the basic orientations for American society, the analysis of the role of religion in American social, political and economic life should be an important element of social research. And yet because this information is no longer collected by the Bureau of the Census, the social scientist interested in the study of national populations has no federally supported data source for his use at this time.

These are two examples that require somewhat more innovation than would be true for the organization of data that is the basic goal of a national data center. Data have been organized by various departments and agencies of the national government for their own use, or frequently for the use of politically important outside groupings, but virtually never for the use of the social scientist. The impetus for a national data center has not come from people who have any interest in disclosing confidential data or impinging on the individual's rights to privacy, but rather, in part, from social scientists who see the kinds of data that are available in one or another part of the national establishment as being relevant for their pursuit of basic research. If these same data or their counterparts could be made available in data collections generated by the social scientist, much of the demand for a national data center would subside. In the absence of *de novo* data collections, the interest is very much in utilizing those data already being collected as a matter of administrative routine.

Apart from increasing the flow of data from the federal establishment to the social scientist, or organizing these data for better access by the social scientist, Congress could also take steps to improve the climate in which data are collected with grants from those funding agencies within the federal establishment interested in basic research. I am particularly mindful of the fact that the National Science Foundation has had to draw many of its lines in terms of anticipated congressional reaction to subsequent research activities rather than in terms that might be dictated by responsible members of the academic community. Proper exercise of legislative oversight is, of course, not at all in question. The question is whether or not the determination as to the value of the research project should be made by those best equipped to make the determination, including fellow scientists, or whether it should rest largely with administrators or congressmen who may frequently be motivated by interests other than those of dedication to social science. Unless some buffer is provided against political intrusion on federal grants, there is virtually no form of federal support to social science that will be less deleterious than the present support from mission-oriented agencies or private foundations that make research conditional on conformance to prescribed interests originating outside the research community.

I may well be accused of seeking a situation that is totally unrealistic. It may well be that the conditions of freedom for intellectual inquiry which I seek cannot be found under the aegis of federal support for social science research. And yet I make the arguments without fearing that a subsequent review would determine that social science has been socially irresponsible in its use of the nation's resources. Although there are some individuals who would still maintain today that the scientist is free of all value boundaries in the conduct of research, I think the predominant view is much more sensibly one that recognizes that the social scientist has a responsibility and an accountability both to himself and to society. Certainly insofar as political science is concerned it is perfectly clear that the major topics of research are topics that reflect a burning concern with the state of the nation, a critical awareness of the need for strong political institutions to meet ever more serious and threatening challenges. I do not fear

the irresponsibility of the social scientist who is free to pursue the studies that his understanding of his discipline suggests; I do fear very much the demands that are made on social science without commensurate support for social science research.

The justification of a major change in the scale and nature of federal support for social science research is not easy to summarize. A full appreciation of the enterprise that would be supported rests on a recognition that behavioral science research methodologies, research methods and research techniques are creations of the past two decades. Much that has been said during these decades about the promise of behavioral science has been a statement of faith about what the future can hold rather than a description of what social science has actually produced as a useful commodity for today's society. In the past few years, however, there have been increasing demonstrations of the utility of social science research that give credence to the conclusions. At the same time that overly optimistic statements concerning the contribution of social science have been justly criticized, there has been a grotesque lack of appreciation of what is needed in the way of financial support, in the way of innovative social organization, in the way of major institutional contribution to social science research if it is to live up to its promise. A measure of the problem is seen in the fact that no new national survey research facility has been developed within the past twenty years. Both the Survey Research Center at Ann Arbor and the National Opinion Research Center at the University of Chicago date back to the time of World War II. Some modest innovations have occurred in the creation of a survey research center at the University of California at Berkeley, the development of a state research laboratory at the University of Wisconsin, and there are of course innumerable smaller research installations that have sprung up across the country. But none of the latter have been organized on a scale appropriate to the continuing systematic study of problems having to do with metropolitan, state, or national life.

If I understand the provisions of S-836, I would have only one major criticism to offer. I do not find any provision in the bill for the support of research training. I feel this omission particularly keenly inasmuch as one of the major functions of the Consortium at the present time is to provide methodological research training for a too large proportion of the social science fraternity in general and political science in particular. While I am quite willing to grant that the organizational innovation that is the Consortium makes it possible for many schools to obtain specialized advanced graduate training in research methodology at a bargain basement price, I am nevertheless appalled to think that the courses that we offer regularly in our summer program bulk as large as they do in the professional training of academic political scientists who are interested in behavioral research. I am also impressed in the context of our ongoing experience with the Survey Research Center at the extent to which continuing research operations are needed to provide an efficient base for the training of future research scholars. This again is a circumstance that reflects one of the strengths and values of the research organization and promises a side effect that is seldom found in the individual research project. Only when a departmental faculty has a dependable flow of research activity can participation in that activity be made an integral part of graduate training. In the natural and physical sciences the laboratory assistant who becomes the research scholar of the future is a common feature. In the social sciences, where far too much research has been library research or the introspection of the individual scholar, the research assistant has seldom had the same rich opportunity to learn the workways of the scientist. Over the years at Michigan we have attempted to use our research activities as a platform for the training of our own graduate students. In the course of pursuing the dual objective of research and training we have been very much struck by the tension that exists if there is not a separate funding for the purposes of training. Although the research project does provide an unparalleled opportunity to learn how to do research, at the same time the bulk of the activity is devoted to an end product that is best served by having skilled personnel perform tasks that they have performed in the past. Trained research personnel are better research colleagues than are neophytes. The price of training while in the process of doing is a price that can be borne if one has the support directly and overtly provided for the training function. I think the bill for a social science foundation would be strengthened very substantially if overt recognition were given to the dual nature of the intellectual enterprise which involves not only

the creation of new substantive knowledge but also the training of those who are to produce the next generation's innovations in theory and understanding.

Insofar as the proposal for a social science foundation implies a new status for social science research, a new concept of the nature of the social scientific research enterprise and of the needs for its support, I am thoroughly in favor of the proposal that your bill puts forth. I would conclude my prepared statement on the note sounded by Secretary of Labor Wirtz as he raised the basic question of the intended nature of behavioral sciences research in the future. I would agree that if there is no change in perspective, that if we presume that all that is needed is doing what is now done only somewhat better, then there is no need for organizational innovation within the federal establishment. If, however, one has a different concept of the scale of research that is needed, an understanding of the institutional contexts that must be created for the research, a comprehension of the magnitude of the problems that the research is intended to confront, then I think the very least that can be suggested is a major innovation in the creation of support from the federal establishment.

Senator MONTÓYA. Dr. Dankwart A. Rustow, the School of International Affairs, Columbia University, is our next witness.

(The biographical sketch of Dr. Rustow follows:)

Biographical Sketch: Dr. Dankwart A. Rustow

School of International Affairs, Columbia University, New York. Political Science, Berlin, Germany, December 21, 24; Istanbul, 1942-44; B.A., Queens College, New York, 1947; M.A. Yale, 1949; Social Science Research Council Area Research Training Fellow, 1949-50, Ph. D.

Associate Professor of Political Science, Oglethorpe, 1950-52; Assistant Professor of Politics, Princeton, 1952-57; Associate Professor, 1957-59; Research Associate Center for International Studies, 1955-59; Associate Professor International Social Forces, Columbia, 1959-63. Professor of International Social Forces, 1963—.

Member of: Senior Staff, Brookings Institution, 1961-63; Fund for the Advancement of Education; Faculty Fellow, Lecturer, Istanbul & Roberts College, American University of Beirut, 1954; Hunter College; Visiting Assistant Professor, Columbia; Visiting Associate Professor, Yale; Visiting Professor, Heidelberg, London, M.I.T. Consultant RAND, Department of State, Twentieth Century Fund. Research Secretary, Study Group Defense Middle Eastern Council of Foreign Relations; Political Science Association; Middle East Institute of Comparative Government and International Relations, especially the Near East, Asia, Africa and Europe. "Politics of Compromise"; "Politics and Westernization in the Near East"; "A World of Nations"; co-author, "Politics of the Developing Areas".

Senator MONTÓYA. Welcome before this subcommittee, Dr. Rustow. You may proceed as you wish.

TESTIMONY OF DR. DANKWART A. RUSTOW, PROFESSOR OF INTERNATIONAL SOCIAL FORCES, SCHOOL OF INTERNATIONAL AFFAIRS, COLUMBIA UNIVERSITY, NEW YORK, N.Y.

Dr. Rustow. Thank you, Mr. Chairman.

I should like to make it clear from the outset that, although my views may be shared by many fellow social scientists, I do not presume to speak on behalf of any institution or organization. Rather, I should like to testify as an individual with some 18 years of experience as a researcher and teacher, primarily in the fields of comparative politics and international relations.

I have a brief prepared statement, and with your permission should like to read it. I shall, of course, be glad to answer any questions you may have.

Let me begin by congratulating you, Mr. Chairman, and Senator Harris, and your colleagues in the Senate on having formulated S. 836. I find myself in full sympathy with what I take to be the objectives of the bill. The benefits it will bring will depend in some measure on its implementation and also on the place which this program will take among other programs of federally sponsored research. But, details aside, I am convinced that the establishment of a National Foundation for the Social Sciences will answer an important and urgent national need.

There has been an impressive development in all the social sciences in this country since World War II, but our needs continue to outstrip past accomplishments and present resources. Our rapidly expanding knowledge of man's relation to his physical environment—our progress in science and technology—is making unprecedented demands on our knowledge of man's relation to man. The Federal Government has been playing a major role in financing research in all fields of knowledge. But, Mr. Chairman, as Senator Harris pointed out in his speech on the Senate floor on February 6, total Federal support has been \$6.5 billion in the natural sciences but only \$250 million in the social and behavioral sciences—a ratio of 26 to 1. Also, Project Camelot and recent publicity about some of the activities of the Central Intelligence Agency have dramatized some incongruities of long standing in the pattern of Federal support for the social sciences.

There has been some support of research and training in the social sciences through agencies such as the National Science Foundation and the National Institutes of Health. Let me make clear that I have the highest regard for these organizations and for the kind of research they have sponsored. I should like to think of the National Social Science Foundation as taking its place alongside these sister institutions rather than replacing any of the present social science activities of NSF or NIH.

What concerns me is the large proportion of Federal support for social science research that has come from the operating agencies of the Federal Government and particularly from the Military Establishment. This type of support has been especially prominent in those fields with which my own work has been concerned, that is, of political and social science research on foreign areas and international affairs. It is my considered opinion, Mr. Chairman, that this heavy operational and military involvement in basic research in the social sciences has been a major disservice both to the social sciences and to the national interest.

Once again, let me make myself clear. I think it is entirely proper for men from the academic world to serve as consultants or advisers to the executive branch, and I am proud of having served myself on various occasions as a consultant to the Department of State and to the RAND Corp. which, as you know, does much of its work on contract with the U.S. Air Force. I also appreciate that certain types of day-to-day operational research must be carried on under direct sponsorship of agencies such as the Pentagon, AID, and the Department of State. Finally, I am wholeheartedly in favor of all departments of the Federal executive making full use of the best of social science research. My point is precisely that Federal funds ought to be spent in

such a way as to produce the best possible quality of basic research in the social sciences and that many of the present procedures are ill-designed to achieve that objective.

There is, first of all, the obvious incongruity of basic social science research conducted under any form of military sponsorship. This is likely to lead to the kind of diplomatic embarrassment that befell Project Camelot; yet the issue goes much deeper. It may be quite appropriate to have natural science research conducted under military or AEC auspices. But in the social sciences, the operational requirements of preparation for war are not readily reconciled with the scholarly requirements of the advancement of knowledge. It is profoundly offensive to all professional canons to have basic research in social science conducted under a code name, no matter how high-flown or well-sounding that code name.

Sponsorship of social research by military or other operating agencies, furthermore, is likely to lead to a serious distortion of research interests. The problems that weigh most heavily on the minds of officials of the Department of Defense—and rightly so—are not likely to be those problems most fruitful for basic research in the social sciences. Here I am not drawing any distinction between pure research on the one hand and practical application on the other. Social science knowledge is always potentially useful knowledge, and I believe that the most basic new knowledge will turn out to be the most widely useful in the longrun. But the key words are “in the longrun.” Any search for shortcuts, any forced attempt to discover fundamental new knowledge that at the same time must have immediate shortrun application, is likely to prove self-defeating.

Let me give you a concrete illustration, Mr. Chairman. As you know, there has recently been a great deal of research at our universities and other research centers on such subjects as insurgency and counterinsurgency, internal war, and the role of the military in the domestic politics of foreign countries; and most of this research, I believe, has been financed from Pentagon sources. But it may well turn out that the most significant research, and in the longrun the most practically applicable, would deal not with these problems of political disease, as it were, but with the conditions of growth and with the healthy functioning of civilian and representative institutions of government.

It is also difficult, if not impossible, to reconcile the requirements of sound planning for social science research with the standard practices of contracting of the military and other operating departments. There is the question of competence of government officials in drawing up meaningful specifications for basic social science research. There is the problem of time schedules. Contract money typically has a time limit of 1 year or a few years, and therefore does not enable an academic institution to make tenure appointments. Yet the best researchers in the social sciences are precisely men on tenure in our leading universities who typically can take research leaves only 1 year out of 3. There is finally the matter of allocation of scarce scholarly time between current research and the training of future researchers. Let us assume that a major military research contract such as Project Camelot does attract the best-qualified talent in that

particular field—which is certainly the most favorable assumption possible. By taking these men away from their students, such a contract may in fact lead to a serious curtailment of the supply of qualified researchers a few years hence.

Let me sum up my objections to some of the current methods of Federal financing of social science research by giving a hypothetical illustration. Suppose that some recent international crisis has drawn the Federal Government's attention to the country of Ruritania. In due course, the head of some Government office who has not the time to ferret out or read the half-dozen scholarly articles on the politics of Ruritania, instead approves a quarter-million dollar research project on the subject. Contract specifications are then drawn up by minor officials in the procurement division who have little notion of how research is conducted or how knowledge is obtained. The money appropriated might pay the salaries of 10 first-rate specialists on Ruritania for 2 years—but it turns out that there are only three such specialists in the entire United States. And precisely because they are good scholars, they hold tenure positions at leading universities, can obtain private foundation funds for their research, and hence lack any material incentive to take on a Government contract. Because they are good scholars, too, they are likely to feel repelled by the naive concepts and the clumsy jargon of the specifications. The contract therefore goes to a second- or third-rate institution and to scholars who have little competence in Ruritanian politics. The additional staff that inevitably must be recruited will have even less competence. Whatever the research procedures followed, the results are likely to be far below normal scholarly standards. If some of the researchers are sent abroad, they will in addition make a bad name for American social science—and hence impede the work of the three bona fide Ruritania specialists on their next trips to the field. With a bit of ill luck, they will complicate the task not only of social science but of American diplomacy as well.

If my picture is correct, it seems clear that no amount of reviewing of contracts by officials in the State Department's Bureau of Intelligence and Research will safeguard against these dangers. On the contrary, the additional paperwork and negotiation involved is likely to keep good scholars further away from Government projects.

Let me emphasize that the evils I see are not caused by Government sponsorship as such, but rather by the type of procedure that I have tried to describe. The dangers can be avoided, and opportunities for high-quality research can be maximized, I believe, by adopting three principles for all Government-sponsored basic research in the social sciences. First, the initiative for the formulation of research projects must come from the scholarly side. Second, the allocation of funds among such research proposals must be in the hands of groups of people who are themselves well-qualified social scientists and experienced researchers. Third, there should be an emphasis on projects by individuals, by small groups, or established institutions, rather than by far-flung organizations set up newly and ad hoc.

I should hasten to add that there are several programs under military or partially military sponsorship that have in effect worked on those principles in the past—some of the work of the Russian Research

Center at Harvard, the work of the Center of International Studies at the Massachusetts Institute of Technology, and of the social science division of the Rand Corp., being prominent examples. These organizations have consisted of first-rate scholars, their work has not been dependent wholly on Government funds, and their prestige has been such that in any negotiations for contracts with Government agencies it was their collective scholarly judgment rather than some uninformed bureaucratic judgment that could in fact prevail. But I submit that these have been rather exceptional cases, and that the operations of SORO and the vicissitudes of Project Camelot have perhaps been more typical of what one has a right to expect of militarily sponsored social science.

Mr. Chairman, I should like to conclude by commenting briefly on some of the provisions of the bill before your subcommittee.

I am concerned about the modest size of the authorization provision under section 13. I said before that I do not believe that the new foundation should replace the social science programs of the National Science Foundation or of the National Institutes of Health. Rather, I should envisage the new NFSS as a senior partner within the future pattern of Federal financing of research in the social sciences. In this way, a pluralist rather than a monolithic structure will emerge, and personally I would see in such a pluralist approach an important incentive to innovation and a strong guarantee of independence in scholarly activity.

But to become a senior partner in this new pattern, the National Social Science Foundation must be established from the beginning on a larger scale. The NSF in fiscal 1965, I understand, spent approximately \$19 million on the social and behavioral sciences, the NIH as much as \$56 million, and the Departments of Defense and Agriculture approximately \$26 million each—"The Use of Social Research in Federal Domestic Programs," Staff Study, Committee on Government Operations, April 1967, pt. I, pp. 26-28). In view of these figures, and considering that total support for social science research is far from adequate, I should have thought that \$50 million rather than \$20 million would be a more appropriate figure for even a modest beginning for a National Social Science Foundation.

I also should like to see more explicit emphasis in section 6 of the bill on the needs for training of future researchers. I am not clear whether section 6(3) as now worded makes possible programs of fellowships for graduate students in the social sciences at our universities; yet such program are badly in need of strengthening and enlargement.

Finally, I realize that the detailed procedures for the awarding of grants and the like will have to be formulated by the future Foundation itself. I should hope that the Foundation would adopt procedures similar to those of the NSF, the NIH, and private organizations such as the Social Science Research Council; specifically, that the Foundation would make grants only in response to unsolicited projects by qualified researchers or established research institutions, and that all awards would be recommended by panels of qualified scholars in the various fields of specialty on the basis of competitive submission of such projects. I would see in such competition among projects an essential guarantee of high quality in research. I should hope, moreover,

that the Foundation would be careful, in accepting funds from other Government agencies under section 7(b), not to distort the basic research priorities which appropriate panels of scholars may have recommended, and that these funds, too, would be expended on unsolicited projects competitively judged by panels of experts.

Mr. Chairman, I said at the beginning that I found myself wholly in sympathy with the objectives of your bill. With adequate financing and appropriate procedures, I believe that the establishment of a National Foundation for the Social Sciences can be a major turning point in relations between the Federal Government and the research community. It can contribute significantly to raising the quality of federally sponsored research. It can safeguard the integrity and autonomy of the individual social scientist and of his profession. It can insure a more adequate supply of well-trained researchers in the social sciences in the future. In all these ways, it can make a major and urgent contribution to the national interest.

I shall be glad to answer your questions. Thank you.

Senator MONTOYA. Doctor, in your statement you expressed a fear that there might be—well, I'll quote from your statement—

I should like to think of the National Social Science Foundation as taking its place alongside these sister institutions rather than replacing any of the present social science activities of NSF or NIH.

If I understand from Senator Harris, his bill is designed to establish a completely separate institution and which would not be subservient to or absorb any of the activities that are being carried out by these other institutions to which you refer, such as the National Science Foundation and NIH. But the fact that you have brought up the point, I think, warrants providing the legislation with such a legislative history as to preclude this possibility.

Dr. RUSROW. Yes. Well, if I may elaborate on that for a moment, I think my point in that section was not only organizational; I realize that the new Foundation is not meant in any sense to replace any of the activities of the others. My point also was financial or budgetary. Some of my colleagues with whom I have informally discussed the problem are skeptical of the proposal for a social science foundation, because they are afraid that existing support of the social sciences by the NSF or by the NIH will cease, not through any legislation specifically directing that it cease, but simply by a reallocation of funds. Really, the point was more budgetary than organizational.

Senator MONTOYA. You also pointed up the modest authorization which is requested here. That is a result of the hesitancy of Congress to authorize new programs at the beginning unless those who are proposing the expenditure of funds can justify the work which can be done. So the beginning always has to be very slow in these things.

Dr. RUSROW. Well, if \$20 million is meant to be a pilot operation with a view to future expansion, I entirely approve of the idea. I just wanted to let you know that here is one social scientist who thinks that more than twice that sum of money could be usefully spent right from the beginning.

Senator MONTOYA. I am particularly interested in the observations which you have made for the necessity of scientific evaluation of all projects and the establishment of priorities of projects by scientists

rather than by so-called bureaucrats. You did not use the word, but that is evidently what you meant.

Dr. RUSTOW. I said "Government officials" in one place and "bureaucratic judgment" in another. I think we are both agreed on the problem.

Senator MONTROYA. I think this is a very healthy point and I think this principle should be spread all through Government and that we might be able to save some money if it were adopted. There is a lot of wasted funds for scientific research because administrators rather than people knowledgeable in this type of research have been making policy. Would you agree with me on that?

Dr. RUSTOW. I certainly agree, Mr. Chairman. And I would say generally that I am not complaining that the Federal Government is not spending sufficient sums of money on social science research or what passes for social science research. My complaint is that the Federal Government is spending it with the wrong hand, is spending it unwisely, and wasting it on some activities and therefore not spending enough on the right kind of activities. I think that the main problem is that good research can only be done by qualified researchers and you have to use research opportunities that are available substantively as far as the subject matter is concerned and for which qualified researchers are available. These availabilities may not coincide with the issues that happen to be burning on the hands of officials in the Pentagon, and this disparity is perfectly natural. This is no criticism of Pentagon officials. They have their job to do, but their job is national security and defense, it is not primarily social science. It seems to me that, in a far-flung organization like the Federal Government, we should make more use of the standard principle discovered by Adam Smith 200 years ago; namely, the division of labor—each one specializing in his own competence. It seems to me that there is a need, as Senator Harris said, of civilianizing social science research.

Senator MONTROYA. Thank you very much, Doctor.

Our next witness will be Dr. John Buettner-Janusch.

(The biographical data on Dr. Buettner-Janusch follows:)

Biographical Sketch: Dr. John Buettner-Janusch

Departments of Anatomy and Zoology, Duke University, Durham, N.C. Ph. B., Chicago, 1948; S.B., 1949; A.M., 1953; Ph. D., Michigan, 1957.

Instructor of Anthropology, Utah, 1953-55; Assistant Heredity Clinic, Michigan, 1955-57; Instructor, Wayne, 1956; Research Assistant Physical Anthropology, 1957-58; Assistant Professor of Anthropology, Yale, 1958-62, Associate Professor, 1962-65; Associate Professor of Anatomy and Zoology, Duke, 1965-67, Professor, 1967.

Member: AAAS (Fellow); American Anthropological Association (Fellow). Publications: Human Genetics, Primate Biochemical Genetics and Cytogenetics; Population Genetics and Social Structure.

TESTIMONY OF DR. JOHN BUETTNER-JANUSCH, DUKE UNIVERSITY, DURHAM, N.C.

Dr. BUETTNER-JANUSCH. If I may be permitted, I would like my preliminary statement to be put in the record without my reading it.

Senator MONTROYA. Without objection, it will be put in the record.

Dr. BUETTNER-JANUSCH. My preliminary statement was largely an attempt to answer some of the questions Senator Harris put to me. I

probably overemphasized in that statement some of the problems I see in social science research is in the development of significance of social science research for Federal Government.

Let me begin my other remarks by stating I am a physical anthropologist and am thereby a social scientist by way of accident, perhaps, for my own research is largely biological.

I want also to state that I am quite in favor of and in sympathy with the aims of the bill and I believe that a National Foundation for the Social Sciences will be a proper and important activity of the Federal Government.

Now, to get down to some practical comments, I want to state that I think there is one great need for the advancement of research in social sciences and it is a five-letter word spelled m-o-n-e-y. We need money for the training of graduate students and postgraduate students and we need it very badly. It is almost impossible for us to attract first-rate graduate students into the social sciences, or at least into many social sciences, at the present time because of the competition of the well-padded scholarships that are present in chemistry, in physical chemistry, in biochemistry, in anatomy, et cetera.

Secondly, we need money for basic research and I am in agreement with some of my colleagues who testified today and others who state that basic research projects in social sciences should originate with the academic or scientific community and should be judged by panels of experts drawn from that community.

Third, I think there is a great need of money for travel for social scientists, for travel to international meetings and for travel to foreign countries in which they wish to perform research. Anthropologists, for example, must do a good part of their research in distant parts of the globe. I think that, to a certain extent, it has been difficult for anthropologists to find proper financing for their research because there has been a tendency to look upon money spent abroad, on research as well as on other matters, as somehow or other damaging the economic competence of the United States.

In other words, what I consider a problem irrelevant to the problem of research has been drawn in here. The restrictions placed upon the expenditures of funds abroad has in some cases made it difficult for proper anthropological research to be funded and carried out.

Finally, I think the Congress should provide money for institution-wide grants to develop training facilities, new departments, new buildings to house departments, if necessary. I can speak with some passion on this at present, for the institution at which I am presently residing has no anthropology department and one of our greatest problems in developing one is to find the financing for the people, the housing, the research facilities required by anthropologists.

I would like to close these brief remarks by pointing out that one of the greatest problems I see in the present financing of social science research is the gimmicky approach that has to be used by many social scientists. If you will look at the way in which the National Science Foundation portions out the social science research money, you will find that a great part of it goes to archeology because, to a large extent, archeologists simulate certain superficial characteristics of the so-called hard sciences. They use computers, they use statistics. They

have real pot sherds to lay out on the table in front of us. They have real data, not merely feelings, opinions, et cetera, that one finds when one wishes to research the way people relate to each other and to their institutions. This deplorable trend began 15 or 20 years ago and continues. I think the sooner that at least one aspect or one segment of the social sciences becomes independent, with an independent Federal foundation behind it, the sooner the social sciences will not only receive the autonomy and respect they deserve from their academic colleagues, but the sooner we will have better and better social science research.

I shall be very happy to answer any questions you wish to ask.

Senator MONTOYA. Dr. Buettner-Janusch, this committee has been concerned with the orphan status, so to speak, of the social sciences under the National Science Foundation. Is it your opinion that the autonomy that is provided in his bill will elevate the social sciences to a greater level of recognition and therefore more productivity?

Dr. BUETTNER-JANUSCH. Yes, it is indeed my opinion that the orphan status of many segments of the social sciences will be much improved, if not eliminated, by this bill. Furthermore, the autonomy and research productivity will be greatly improved if the social scientists can compete on an intellectual level with their peers for funds and for the approval of projects rather than trying to convince physicists and chemists that their work is scientific.

Senator MONTOYA. What has been your experience concerning the availability of support from the private sector for social science research projects?

Dr. BUETTNER-JANUSCH. Wherever I have had any experience with this, with foundations such as the Rockefeller or Ford Foundations, the support has seemed to me to be very much tied to immediate practical ends for policy-oriented programs. Now, I do not wish to argue that social science research should not be oriented toward policies of one kind or another. But as one of my colleagues here said this morning, a great deal of the funding or at least the atmosphere around the funding in some of the private foundations is such that we have certain immediate problems we must get to work on today and we are going to give you some money if you will work on this problem rather than the things you, yourself, are interested in.

Senator MONTOYA. Does not that narrow the result too much?

Dr. BUETTNER-JANUSCH. Of course it does.

Senator MONTOYA. So the kind of research that you think should be helped by the Government is the research that has long-range application?

Dr. BUETTNER-JANUSCH. Oh, I am perfectly in favor of applying the results of research, but I do not think the most productive research problems in the medical sciences, biological sciences, physical sciences, or social sciences, come from saying we must now cure cancer or we must now improve race relations; how do we do it? What one does is set up, shall we say, committees of experts who wish to solve social or medical problems and then go to the work done in basic research, and find out how all these things tie together.

What I am trying to say is one is not going to solve the terrible problem of cancer by setting up a foundation to cure cancer, but by setting up money to support research in the basic biological sciences.

But this does not mean that I disapprove of the application of basic research to practical problems. They are to a large extent two separate activities and must at least be thought of as two separate activities, even though they go hand in hand in many cases and they are very hard to separate.

Senator MONTROYA. Thank you very much, Doctor.
(The prepared statement previously referred to follows:)

STATEMENT BY DR. JOHN BUETTNER-JANUSCH

PROBLEMS

Science has at least two aspects—it is on the one hand disinterested, the aims of science are knowledge for its own sake; on the other hand science aims to help mankind in some manner or other. The behavioral and social sciences are often suspect, for the kinds of research performed and the sorts of problems attacked imply practical applications to areas of life that deeply affect people. These potential applications affect behavior, relations to institutions, relations between individuals, one's personal sense of security, and normal views of the world. It is very disconcerting and sometimes terrifying to read an anthropological or sociological account of one's own community. There are many well known examples. I believe that financial support from agencies other than the National Institutes of Health or the National Science Foundation creates an aura of suspicion about the motives of the persons engaged in such research.

My colleagues in certain countries in which I have worked and in which I wish to work again have told me over and over they do not believe that the number of Americans engaged in research in what they call the human sciences can possibly be anything but spies of one sort or another. It does not matter whether or not their evaluations are objectively, factually true. The fact that trained people come with fellowships or research support from the Department of State, the Department of Defense, or some other agency does not assuage such suspicions. Indeed, it arouses suspicions. Nonetheless, much research in social science, particularly in foreign countries, is often taken as a cover for spying or for the manipulation of people for the ends of the Federal Government. I do not know if the effects of such suspicions have been deleterious or not. Certainly in the U.S. the Camelot case and research into voting patterns or into rural education have adversely affected opportunities for future research. I personally consider that these suspicions pose relatively minor difficulties, and I believe that in the not to distant future we will be past the stage in which every social scientist is considered to be a spy by his foreign colleagues.

The major difficulty, I think, is that many people who become involved as subjects, interviewees, or even observers of many research projects that social scientists conduct suspect that their lives will be manipulated by some monolithic agency once the results have been gathered. For example, it is almost impossible today to conduct a study of the relationships between racial background and education without arousing the suspicion that the researcher is part of the advance guard of a governmental agency that is going to force some radical change in the traditional patterns of education, housing, or social life. The fact that these changes may indeed result from such research is irrelevant; the difficulty is that the research conducted by social scientists very often concerns subjects about which people have very strong feelings. People usually do not have strong emotional attitudes toward protein structure or atomic nuclei.

Another important problem in my opinion is that governmental agencies, particularly ones charged with promoting research in the sciences, feel that social scientists, and other scientists for that matter, must give advice and solve practical problems. I do not believe that a major portion of social science *research* funds should be given to projects aimed at solving specific social problems. There is applied science, although I myself, am convinced that there is no such thing as, for example, applied anthropology or applied sociology. Social and medical problems exist. We attempt to solve them by a combination of art, skill, technique, intelligence, and experience. And such art, skill, technique, intelligence, and experience come from the advances made in pure sciences—anthropology, economics, zoology, biochemistry, etc. I further believe that the application of scientific knowledge is not necessarily best made by the scientists doing the research.

Social scientists believe, and they have experience to support this belief, that they cannot hope to receive research support from existing agencies, the National Science Foundation, the National Institutes of Health, unless they take on the protective coloration of the so-called hard sciences. Thus the social sciences have sought to emulate the superficial characteristics of the physical and biological sciences. I personally believe the reason such extensive support is given archeology by the National Science Foundation is the superficial similarity, the close analogy, that can be made between the way archeologists gather and handle data and the way biologists and chemists do. I happen to think it is a false analogy. Archeology is no more autonomous, no more coherent a science than sociology, political science, or economics. Archeology just happens to use techniques that seem familiar and "scientific" to geologists, physicists, and biologists. The trend to support heavily those segments of social science that have a degree of familiarity to other scientists has had at least two effects that I consider undesirable. First, it has driven many social scientists into contract and applied research with results that are sometimes deplorable and always bad for the development of science. Second, it has led to the development of an attitude of mind among many social scientists that I deplore. They imitate what they believe are the characteristics that enable the physical and biological scientists to obtain large grants. They sell out their own science and masquerade or try to masquerade as "real" scientists. Originally the National Science Foundation should have been able and now should be able to support research in the social sciences. The funds available to the National Science Foundation should be increased to allow more support for more research in all the sciences and the social sciences should be included.

COMMENTS ON FINANCIAL SUPPORT AND PROCEDURES FOR OBTAINING SUPPORT

The levels of support and the kinds of projects that have been given support have always seemed to me to be excellent. The National Science Foundation and the various segments of the National Institutes of Health have provided funds and support for various kinds of extremely worthwhile research in social science. The lists of grantees compare favorably in quality with the lists for the so-called hard sciences, the physical and biological sciences. I do believe that in support of social sciences there are some inadequacies that might be remedied. There is not enough support. I believe that an increase in funds for fellowships for graduate students and for postdoctoral students, those who need experience in research and in teaching, is warranted. There is a need for generous support for senior people in all the sciences, but very particularly in the social and behavioral sciences. Programs such as the National Science Foundation Senior Faculty Fellowships should be strengthened and expanded. It would be very desirable to have some procedure whereby social science oriented grant requests could be channeled into some segment of the National Science Foundation or the National Institutes of Health or possibly the proposed National Foundation for the Social Sciences, so that research projects and individuals could be evaluated by their peers and by an organization devoted to the social sciences. The agencies having funds that are used primarily to support biological, physical, medical, and other kinds of research are not doing what might well be done for the social sciences. I do not think that contract research for specific projects supported by cabinet level departments or other governmental agencies are a good way to advance knowledge and advance social sciences.

My major objection to the present system of obtaining financial support from the National Science Foundation or the National Institutes of Health is the apparent emphasis placed on excessively structured research proposals and overly detailed budgets. Despite this objection, I personally have not been inhibited by the present system.

The Congress could establish a foundation such as the National Foundation for the Social Sciences. This foundation would operate to the benefit of social scientists and social science disciplines in the same way that the National Science Foundation and the National Institutes of Health have operated. If such a foundation be established, the independence of the universities and the scientists must be recognized and guaranteed. The programs supported by such a foundation should be separate from policy making research programs of other agencies of the government and should be kept separate. Applications for research support, for fellowships, for building funds, and for special travel funds should be judged by one's peers in science.

RELATIONS BETWEEN SCIENTISTS AND GOVERNMENT

I am of the opinion that the relationship between the government and all scientists, not merely social scientists, should be arranged so that the maximum freedom be given individual scholars of merit and minimum supervision be exercised by the agencies providing the funds or by the branch of the government that authorizes the agencies to provide the funds. Any such freedom structured into the relationship between scientists and government is a risk for everyone involved. The risk is worth taking. For every mistake that will distress the Congress or the agency or the academic community, a large number of productive scholars will be produced and worthwhile work will be done.

I do not believe the best possible way to set up the relationship is to pump vast sums of money into committee conducted research, into programmatic research, or into project research. I believe the greatest good will come if research funds are awarded to individual scholars more or less in the manner in which the National Science Foundation awards research grants. I believe that universities or other research or academic institutions should receive the funds and oversee their expenditures, but good people with good ideas, not universities, should be supported.

Universities should receive large general financial support from the National Institutes of Health and the National Science Foundation, but support of this sort for universities should come through overhead on grants and through special programs for research support for a university as a whole. I hope the day never arrives when a faculty must apply to its own university for the funds that now come from the National Science Foundation and the National Institutes of Health. The fact that the scientific community judges the quality of research proposals and accomplishments keeps stagnation and local blindness from holding back research in important areas of science.

I would like to see the maximum amount of money provided by the Congress for individuals to travel. I would particularly like to see more support for foreign travel to enable scientists to attend meetings, to work in laboratories with their colleagues, and to work in field situations in other parts of the world. Travel is broadening in every conceivable way. It is difficult to measure the way in which travel and experience in other countries broaden one's research perspectives, skills, productivity, etc. Work abroad is an essential part of many social sciences.

I would like to see the day when we can take ourselves with less seriousness and can simply sit down and say, "On the record, here is an intelligent man who has produced some first rate papers, some excellent work in his field. He is productive, he is apt to be good with graduate students. He wants to run off to Africa or India or the American Southwest or South America and work out some ideas about social problems, social structure, or economic theory." Let him go. Support him. Make it possible for him to go with his family if he has one. Do not financially penalize people because they are academicians and because they wish to contribute to the stability of our society by maintaining their intrafamilial relationships.

S-836

The aims of S-836 are splendid. The mechanisms proposed to carry out its provisions seem sensible, for they follow, in general, the excellent system set up by the National Science Foundation. But I would like to raise two questions. First, is a separate foundation necessary; would it not be better to expand the National Science Foundation to incorporate the very desirable ends included in the bill? I cannot answer that question. Second, are the social sciences ready for the degree of autonomy implied by this bill? I discussed this question with several of my senior colleagues in Sociology and Anthropology. We all wondered if these fields are sufficiently mature and developed not to make a mess of an independent foundation. We still have before us horrible examples such as Project Camelot. Not all of the blame can be laid at the feet of the contracting agencies. The ineptness of social scientists played a part. Again I can only raise the question, I cannot answer it.

Senator MONTGOMERY. Dr. William Nelson Peach, University of Oklahoma.

Welcome before the committee, Dr. Peach.
(The biographical data on Dr. Peach follows:)

Biographical Sketch: Dr. William Nelson Peach

Faculty Exchange, University of Oklahoma, Norman, Oklahoma, Economics. A.B., Loyola College, Maryland, Ph. D. Johns Hopkins, 1939.

Instructor, Economics, University of Texas, 1938-42; Assistant Manager, Research & Statistics, Department, Federal Reserve Bank, Texas, 1942-44; Assistant Professor of Economics, Texas, 1946-47, Associate Professor, Syracuse University, 1947-49.

Advisor, University of Pennsylvania-International Co-operative Administration Project, Pakistan; Special Consultant, Select Committee Small Business, U.S. House of Representatives, D.C., 1960; With International Co-operative Administration, Africa & Yemen, 1960; Advisor, Agency International Development, D.C. 1961. Member of: American Economic Association; American Finance Association. Publications: National Income and Resources; Basic Data of the Economy of America and Pakistan; Principles of Economics.

Senator MONTROYA. Do you have a prepared statement?

Dr. PEACH. Yes, sir, but I would prefer it were placed in the record without my having to read it.

Senator MONTROYA. Without objection, it will be inserted as part of the record.

You may proceed with whatever comments you may wish to make.

TESTIMONY OF DR. WILLIAM NELSON PEACH, PROFESSOR OF ECONOMICS, UNIVERSITY OF OKLAHOMA, NORMAN, OKLA.

Dr. PEACH. I would like to make just a few comments, Mr. Chairman, and then try to answer any questions you may ask.

First, I am speaking as an individual and not for the University of Oklahoma.

I think that this foundation for the social sciences is long overdue and I am very glad to see a bill such as this. I think it has many very fine provisions in it. I think everybody recognizes that research in the United States in the past couple of decades has been very lopsided, dominated as it has been by requirements of defense and space. I think the new foundation ought to be truly national in scope, and by that, I mean that it ought to be participated in by social scientists in various fields and throughout the United States. I think one of the most important things that we have to do in setting up a foundation of this kind is to make sure that it does not become dominated by what I call the academic Mafia of Harvard, MIT, Chicago, Berkeley, Stanford, and perhaps a few others.

Senator MONTROYA. I notice you excluded Yale.

Dr. PEACH. Different persons will want to include their own institutions or they will want to exclude them. But I think it is pretty generally recognized that there is a Mafia and I think that they do have as much control over research money as the other Mafia does over gambling and other types of pleasure industries.

Senator MONTROYA. There is a provision in the bill for geographical allocation.

Dr. PEACH. Yes, sir. I would like to suggest along that line that some kind of provision be inserted that not more than 60 percent of the funds in any 1 year be given to the top 20 percent of the institutions. That would still not say that each percent of the population ought to get a certain percent of the money, but it would prevent it from being as concentrated as it has been in the past.

I think that one of the really beneficial things that will come out of a foundation like this—they will, of course, find out things, but I think the most beneficial aspect will be to increase the number of persons in the social sciences who are engaged in research. I think there are thousands of these people around the country and with a modest amount of financial assistance, I think they could get into and we could increase manifold the number of persons who are qualified to do research. I think that research can be undertaken anywhere in the United States.

I am very happy to see that the bill provides for a separation of the social science research from the military, the CIA, the State Department, and similar activities, because I think the new foundation ought to sponsor research which would be accepted, both in this country and overseas.

Thank you.

Senator MONTOYA. Thank you very much, Dr. Peach. Do you have anything else to say?

Mr. PEACH. That is all I have.

Senator MONTOYA. Thank you very much.

(The statement previously referred to follows:)

STATEMENT OF DR. WILLIAM NELSON PEACH

My name is W. N. Peach. I am a member of the Department of Economics at the University of Oklahoma, Norman, Oklahoma. I wish to make the usual disclaimer that the following remarks are mine and do not necessarily represent those of the University of Oklahoma. I have, however, discussed the bill with many colleagues.

I am here to testify in support of S. 836 and feel that it is long overdue. As earlier witnesses have testified, our lopsided emphasis on federal support for defense and space oriented activities has meant that social science research personnel are in short supply. I think if we are going to look back on federal sponsorship on social science research after a decade or two of operation, the most important test will be the effect of the government's program on increasing the number of social scientists who are engaged in research. I do not mean by this to downgrade their particular findings which may be very significant, but the most important aspect to me seems to be the pressing need for a rapid expansion in the manpower pool.

Surely one of the most important areas for study in social sciences during the next few decades will be how to make our major cities livable. If we are going to spend a trillion dollars during the next few decades on our cities, we should begin now to do the research that will make this spending effective.

I will return to the manpower supply later but first I would like to make a negative comment. If the new Foundation For Social Sciences is to be truly national in scope, one thing that must be avoided is a take over of the new foundation by the Academic Mafia. I am referring particularly to Harvard, Massachusetts Institute of Technology, The University of Michigan, The University of Chicago, The University of California at Berkeley, and Stanford University. It would be difficult to demonstrate statistically that the Academic Mafia has greater control over federal research funds than the other Mafia has over gambling and other types of pleasure industries. But it will, I think, be even more difficult to demonstrate the opposite. I doubt if there will be any serious takers for such a project, especially in the absence of federal funds to finance it. The Academic Mafia is quite right in boasting that they have a larger number of qualified personnel and better research facilities than many other institutions. But it may be suggested that any area with the benefit of billions of federal research dollars available could have the same or similar manpower and facilities. Indeed, I suspect, with these billions, the world's finest research could take place in the jungles of Africa. It seems to me that the Senate might strengthen its statement of intent to make the new foundation truly national in scope, and I hope it will give consideration to appropriate limitations on the percentage of funds available that are awarded to individual institutions and geographic

areas. The scandalous concentration of research money in a relatively small handful of institutions has had the effect of making them a separate Academic Elite. This is not intended as criticism of this handful of institutions. Much excellent work has been done, but the practice has resulted in relative starvation for the very large number of other institutions who are not members of the "fraternity."

There is a considerable pool of manpower currently available for social science research in various fields. Given a reasonable amount of federal financial support, this pool can be rapidly expanded in about the same way that the manpower pool in the fields of engineering, physics, mathematics, etc. have been expanded in the past decade or two. Most of the people in the social sciences in colleges and universities are unemployed three months out of the year (summer) or they teach summer school for a few weeks with above average teaching loads and frequently at lower rates of pay than the low rates they receive during the academic year. A high percentage of these people could work on research projects part-time during the academic year and full time during the summer months. There can be a substantial interchange of social science faculty among colleges and universities during the long session and during the summer months. Such an interchange could provide an opportunity for thousands of persons in social science fields an opportunity to use better library facilities at larger universities and give them an opportunity to get the cobwebs and administrators out of their hair.

One of the universal criticisms of government sponsored research is the continuous pressure for progress reports. Reports are, of course, needed, but it is to be hoped that they can be substantially reduced and kept to a minimum.

During recent years there has been some sponsorship of social science research by military agencies. It seems to me this is a highly undesirable development, viewed domestically and world wide. Military agencies throughout the world and throughout history have been by nature destructive. That is their mission in society. On the other hand, it is to be hoped that social science research will make contributions toward a better way of life for mankind. I would like to point out also that social science research supported by military agencies is likely to be suspect, regardless of the nature of the research and the findings. Military and related agencies (including the Department of Defense, the Department of State, the CIA, and the USIA, and others) have need for information about activities in other countries. Sometimes by stretching the definition, this kind of collecting is called research. It is recommended that to the extent necessary these agencies collect data on an "in-house" basis and that activities carried on under the sponsorship of the Foundation for Social Sciences be distinctly separate from them.

In earlier testimony much has been said about the desirability of organized, coordinated research in the social sciences. This suggestion I think, has real merit, but it is to be hoped that some part of the activities of the foundation will be made available for "miscellaneous" research. If the administrators of the new foundation decide that research in six areas should be emphasized during a given year or two, the program should be sufficiently flexible that an individual with a worthwhile idea whose project happened not to fall within the given categories could still apply for financial assistance.

I am in complete agreement with Mr. Thomas L. Hughes, Director of the Bureau of Intelligence and Research of the Department of State when he testified:

"A new institution created to support basic social science research should be divorced from the immediate policy needs and operating missions of any Government agency. It should, for example, be prohibited from conducting classified research. Although many Government agencies, including the Bureau of Intelligence and Research in the State Department, must sponsor classified research due to the sensitive nature of the subject or the data used, such research is better done by the operating agencies that have need of it and secure procedures for handling it. Thus I am happy to see that section 10(b) of S. 836 specifically prohibits the foundation from conducting classified research."¹

Senator MONTAYA. The next witness will be Dr. Henry King Stanford, president of the University of Miami.

¹ Hearings before the Subcommittee on Government Research of the Committee on Government Operations, U.S. Senate, 90th Cong., 1st sess., on S. 836. A bill to provide for the social sciences in order to promote research and scholarship in such sciences, February 7, 8, and 16, 1967. Part 1. Printed for the use of the Committee on Government Operations, U.S. Government Printing Office, Washington: 1967, pp. 131, 132.

Biographical Sketch: Dr. Henry King Stanford

President, University of Miami, Coral Gables, Florida. A.B., Emory University, 1936; M.A., 1940; M.S., University of Denver, 1943; Ph. D., N.Y. University, 1949.

Instructor, Emory Junior College, Valdosta, Georgia; Instructor, Emory University, Georgia; Assistant Professor, Georgia Institute of Technology; Instructor, N.Y. University; Director, School of Public Administration and Professor of Public Administration, University of Denver; President, Georgia Southwestern College, Americus, Georgia; Director, University Center, Georgia; Assistant Chancellor, University Systems of Georgia; President, Georgia State College for Women, Milledgeville, Georgia; President, Birmingham-Southern College.

Member, Phi Beta Kappa; Phi Sigma Iota; Pi Gamma Mu; Omicron Delta Kappa; Kappa Phi Kappa; Rotary; Chairman, Community Colleges, Southern Association of Colleges and Schools; Director, N.Y. University, ICA Group, University of Ankara, Turkey. Listed in Who's Who in America.

Senator MONTOLA. Dr. Stanford, you may proceed as you wish. Do you wish to read your statement or present it for the record.

Dr. STANFORD. Mr. Chairman, since this statement has already been filed with the committee, I would prefer to summarize it rather than subject you to the trial of hearing me read it word for word.

Senator MONTOLA. I have read your statement. It is a very good statement, and without objection it will be made a part of the record at this point. You may proceed with your summary, Doctor.

Dr. STANFORD. Thank you, sir.

**TESTIMONY OF DR. HENRY KING STANFORD, PRESIDENT,
UNIVERSITY OF MIAMI, CORAL GABLES, FLA.**

Dr. STANFORD. Perhaps much of what I will say will sound like an echo of that which has been presented to you by previous witnesses. I am sure that the academic community is greatly appreciative of the large amount of funding which we have all received for the physical sciences. Our University of Miami has benefited tremendously by the enactments of the Federal Government over the last two decades which have brought money to the medical school which is enabling us to become really one of the Nation's distinguished medical centers, that has enabled our Institute of Marine Science to develop into one of the world's foremost centers for exploration of the sea. We are very grateful for all this assistance, which in turn, has helped our Nation. So when I say that I think we have lagged in our support of the social sciences, it is by no means to be interpreted as ingratitude for the very significant role the Federal Government has played in the development of the physical sciences and biological sciences on the Nation's campuses.

However, Mr. Chairman, we do need a better balance, and I think this statement can be supported by the realization that man is more than just a biological organism. He is inextricably related to the human and physical environment around him and it is time, in our opinion, that Congress established a foundation which can provide funds for the systematic examination through trained intelligence of the social and behavioral sciences of man's relationship to man and of his interaction with his physical environment.

May I touch briefly upon two examples of social problems that need to be examined by our universities and could be supported, we think, quite advantageously by such a social science foundation.

The problem of urbanization.—I hardly need to belabor the plight in which our cities now find themselves. None of us needs to be told about urban problems. We all experience them directly and repeatedly. Miami, I believe, is truly "a city beautiful." Yet, as I drove out to the airport this morning, I had reason for concern over how long it can claim this distinction: the clogging that is experienced on almost every arterial highway going in and out of Maimi; smoke from the Everglades attesting to the mishandling of our precious water resources; long blocks of decrepit housing and deteriorating business establishments. Lest the chamber of commerce harass me when I get back, I hasten to repeat that Miami is far less advanced toward urban blight than are most other megalopolises in our country. But this does not reduce the hurt that one feels on seeing this lovely area, which has always prided itself on the beauty of its landscape and the purity of its air, succumbing to one after another of the problems that are so greatly afflicting urban areas elsewhere.

Our south Florida area is a striking example of the pressures raised by growing urbanization in this country. The census of 1960 showed the net Florida population increase from 1950 to 78.7 percent, the highest in the Nation.

This growth was entirely taken up by urban growth. Obviously, growing urbanization produces conditions that make for greater and greater human stress. When man is confronted with adverse environmental conditions, most of his own making, it is more difficult to live a satisfying life. I was greatly impressed with the *Future Environments of North America*, a publication of 1966, and also with the work of Hansel Selye, the Canadian researcher who has done so much work on the effect of stress upon man. We spend billions of dollars to learn something about the relationship between man and viruses and very little, relatively, to establish the man-man or man-nature relationship.

We need to look at urban problems and their effect on man through the eyes of the trained social scientists. We need to study continuously the effect of the environment upon man. We have not been able to do this on our campuses across the country. We have not had the necessary funds. So it is with great hopes that we contemplate the possibility of a National Social Science Foundation that will parallel the National Science Foundation. Only through such a step can the impetus be given to the study of urban problems around us that is so greatly needed.

The second problem to which I want to address myself for just a moment is the problem of "the transfer of technology."

I heard a good talk the other day—by the way, it was down in Tobago in the West Indies—a talk by the head of the University of Puerto Rico, Dr. don Jaime Benítez, who devoted some portion of his talk to "the explosion of ignorance" in the "overdeveloped" countries. I liked this very much. It was a clever way of pointing up the complacent, somewhat pharisaical attitude we of this country have when we look toward the underdeveloped, assuming that what is best for them is the adoption of our own way. I think the adoption of many of the methods which have brought material blessing to the United States is appropriate, but must they have all that has ac-

accompanied the great technological revolution and evolution in this country?

Well, some of the leaders in the so-called underdeveloped or, to use an euphemism, the developing nations, do not think so, and it behooves us to study more carefully than we have ever done before the kind of a culture which has developed in these countries and to make sure that we are not simply trying to transplant something that has flourished in this country but cannot take root in these developing countries because the soil is so different. I could use that both figuratively and literally, the last phrase.

We have learned very little about our relationships with the underdeveloped. I, myself, was privileged to lead a U.S. technical assistance program related to higher education in Turkey some years ago. We sallied forth with the smug conviction that the particular university with which we were concerned needed, among many things, the development of a legal research institute comparable to those found in our own distinguished universities. Someone also assumed that, since a key reporting system had worked so successfully in the United States, it ought to be transported to Turkey. Well, that was the beginning of the undoing of some preconceived notions. Our people had failed to realize that the system of *stare decisis* was unknown or practically unknown in the legal operations of Turkey. And so it was with other of our assumptions. Perhaps the most constructive thing we actually accomplished was the simplest, and one that we had not anticipated. We developed a standard typewriter keyboard for the Turkish language. They had never had one before in Turkey; so a group of Americans, working with Turkish colleagues, studied the frequency of the usage of the letters in the Turkish alphabet. They devised a keyboard where the most frequently used letters are in the center where the strongest fingers do all the work. This is unlike the standard American keyboard where the most frequently used letters are at the ends where the little fingers have to do the work. They also adapted the keyboard to synchronize vowels and consonants. The keyboard could be applied to any typewriter in the country at very little cost and with great benefit to office procedures. This was a case where western technology proved transferable, but only after it was adapted to local conditions.

I mention this personal experience in order to illustrate the need for an understanding of the culture of a country before a program is begun if we are to make the most profitable use of the time of American specialists, both from the standpoint of the target country and from the standpoint of the United States.

Let me cite another area which is of even greater concern to me now, even though I am nostalgic always when I think about Turkey because of the wonderful friendly relations I developed with my Turkish colleagues. This is the Caribbean. In many respects, this body of water is almost an inland sea of the United States. It constitutes one of the main doors between the North American continent and South America. It is a vital link between our two continents. From the strategic standpoint it is of the utmost significance. As a trade area, it has always been of great importance. In the realm of politics, I think we can all agree that the Caribbean has been the scene of some of our greatest failures.

Within its bounds are U.S. territories that do anything but credit to our policies and programs concerning other peoples. We know what happened less than three years ago when a situation in the Dominican Republic became so chaotic as to lead to our—I use these adjectives advisedly—our humiliating and politically costly military intervention. Less than 5 years ago, the Caribbean was the scene of one of the greatest military crises ever to confront this Nation and the world. Within the Caribbean are some of the most impoverished people and some of the most backward states. And there is a godly quota of violent anti-Americanism.

In addition to everything else, in the Caribbean is a full-fledged member of the Communist bloc. It has always been a puzzle to me why Cuba would be the first American state to go Communist. Let us hope it will be the last. We have always kidded ourselves by quoting the old bromide, "Nobody ever became a Communist on a full stomach." And this without regard to the fact that Mao Tse-tung and Khrushchev always looked pretty well fed. We have assumed that somehow economics plays the determining role in a Communist revolution—that if people have enough to eat and have a good standard of living, they will not go Communist. Well, Cuba gives the lie to that fatuous statement, because, of all the Latin countries, Cuba was one of the most highly developed economically: it was the most nearly like us in the United States. Yet something went wrong. What was the cause? I do not know that I have the answer. I am not sure that anyone has the answer yet. We at the university are trying to ascertain this through our Center for Advanced International Studies and, more particularly, through a Research Institute on Cuban Affairs. This is the kind of information which the universities of our country desperately need to turn out for the welfare of our country, for even its survival. A National Social Science Foundation, I think, will do us all a great advantage in encouraging and even subsidizing this kind of study.

Well, I could talk about the Caribbean endlessly. As I mentioned, I attended a conference in Tobago not very long ago. It was a conference of the heads of Caribbean universities, called by the vice chancellor of the University of the West Indies, and included from North America the University of Miami and the University of Florida. We met for about 3 days to talk about our common interests and problems, how we in concert might make a joint attack upon these problems. The conference only underscored to me the need for trying to mitigate the explosion of ignorance in the overdeveloped to which I alluded a moment ago.

There are two main objectives which I see for a national foundation for the social sciences. One is to finance the postgraduate education of trained social scientists to an order of 10 times the number we now produce; and two, to subsidize research and investigation of such problems as ecological impacts, human ecology, resource planning, arid land use, preservation of the cultural patrimony, processes of urbanization, impact of the city upon the countryside, and so on.

As to operation, I think the pattern established by the National Science Foundation would be quite appropriate. Sometimes we hear the Federal Government criticized vigorously for its "control" of the university campuses. I have never found any undesirable control or

even attempts at control by the Federal Government in the University of Miami. Sometimes I am asked what we would do if Federal money were not available to finance new programs and activities, whether this money does not serve to entice us into doing things we would not undertake if left to our own devices. This is an important question, but it is one that each institution must answer from the standpoint of its own institutional integrity. For my own part, as president of the University of Miami, I have no reservations regarding the constructive effects of Federal assistance to our research and study programs.

So I have no qualms over an extension to the social sciences of the methods by which the National Science Foundation has assisted the natural sciences. I think our social scientists should, of course, be free to initiate proposals and to have these evaluated by a panel of their peers. I am not averse to having the National Social Science Foundation propose certain research projects which have a great national interest and need, and perhaps requiring mobilization of a range of social scientists including social scientists on a number of campuses. However, the procedures of the National Foundation for the Social Sciences would need to differ from those of the National Science Foundation, since scientists, the social scientists' work, is culturally based.

As I note in my statement, heart disease is heart disease, whether in Miami, Albuquerque or New Haven or Stillwater; and the speed of light has the same application, whether in Billings or Little Rock. But the problems which social science must solve vary significantly from region to region. The Miami area is subtropical—indeed, in many ways, tropical; bilingual; and heavily influenced by its marine environment; its status is an entrepôt between the Caribbean and the United States and its dependence upon air transport. It is thus quite different from the Chicago area or the Boston or the Oklahoma City.

The National Center for Social Sciences should pursue its work on the principle of variant patterns. It is advisable that perhaps a number of regional study centers be established in the social sciences to reflect this need for a varied approach.

The work of the social sciences is to study how men live with each other and how men live in their environments. Everywhere today, the problem of human aggregates and of rapidly changing technologies is spinning off vast social and economic problems. Some of these are well on the way to becoming desperate. The proposed National Social Science Foundation can be an instrumentality of government looking toward the amelioration and solution of such problems.

Thank you very much, Mr. Chairman, for this opportunity to appear before you and endorse this very significant proposal.

Senator MONTOYA. Dr. Stanford, has your university launched any studies of the reactions of Latin American populations?

Dr. STANFORD. To any particular development?

Senator MONTOYA. Political reaction. You have a lot of Cubans there.

Dr. STANFORD. In Miami, yes; the Center for Advanced International Studies has just completed for the Department of Health, Education, and Welfare a very comprehensive study of the impact of the Cuban immigration upon the Miami area. This has not been publicly

released, because it has only recently been submitted to the Department, but I anticipate in time that there will be a public release of this and it will reveal quite thoroughly what this impact has been.

Speaking offhand and as a layman—I have not participated in this study nor read the results of it. I think it is a great tribute to the people of Miami and to the Cubans themselves that there has been an amalgamation of this population with so relatively little difficulty. Fortunately, the Federal Government has assisted the absorption of these young people, the children of the Cuban immigrants, into the school system by making allocation of funds available to the Dade County public school system. But it has been, I think, a remarkable accomplishment of a number of diverse elements that so many Cuban citizens have been absorbed quietly and with so little friction into the Greater Miami area.

As a matter of fact, I have said frequently that from a certain standpoint Castro is probably the best thing that has happened to Miami. We have received from Cuba large numbers of professionally distinguished people, businessmen, people who have taken readily leading roles in Miami business, professional, and cultural life. The University of Miami has assisted in this transition by offering courses for Cuban physicians and Cuban teachers. More than 1,000 Cuban physicians have been retrained at the University of Miami and have become licensed to practice medicine in the United States. They are practicing all the way from Maine to California, if you can imagine a Cuban practicing medicine in Maine.

The university school of education has assisted teachers in becoming accredited, licensed to teach. The law school has done the same thing for lawyers, although I must say it is a little more difficult to train a lawyer than a doctor, because the human body works the same way in Miami as in Havana, but not necessarily the legal system.

Our work on the Cubans in the Miami area is, of course, only one of a great many research projects we are carrying on for Latin America. I might point out, for example, that we are developing what is doubtless the leading national center for research in the whole of the Caribbean area.

Senator MONTOYA. Do you think there is a need for a study by U.S. social scientists of the behavioral patterns of the Latin American people so as to develop better relationships between our countries?

Dr. STANFORD. I certainly do.

Senator MONTOYA. Do you not feel that there is a lack of understanding on the part of the American people of the Latin American people and vice versa?

Dr. STANFORD. I do; and I would add even a third statement. I think there is a lack of understanding by Latin Americans of their fellow Americans. We in this country have unfortunately taken the attitude that they are all alike, failing to realize that, say, more than 50 percent of the people who live in South America do not speak Spanish. Yet we talk about this great Spanish-speaking continent. I, myself, am an example of how we have tended to look toward Western Europe. I majored in history, but did not bother to take Spanish, because my interest was in the diplomatic history of western Europe from 1870 to 1914. German was a second major. If I had known 30 years ago that I would

be living in a city where you see signs "English spoken here" I might have taken some Spanish.

Senator MONTÓYA. Has it occurred to you Doctor, that here in America, we have a unilingual society? All minorities that have come here have severed their language ties with the mother country except those who have had language ties with Spain. Now, in the West, all the Spanish names still retain their language ties; they speak Spanish.

In New Mexico, for instance, the people came there in 1590 and thereafter. They still speak the language of the 16th century. It is really only a minority in this country which has retained its tie with the mother tongue from whence they came. This is very unusual.

But why is there an antipathy here in America against foreign languages?

Dr. STANFORD. I would think, just to add this before I answer the question, the French-speaking people of Louisiana are reported to continue to speak Cajun French. But this may be passing out, whereas Spanish is not.

I think the failure of this country to continue to support linguistic variations comes from, one, the isolationism of our past, and two, from the predominance of English as a world language. Our people have too long and too often regarded it as unnecessary to learn a foreign language, because English was the *passe-partout* to any kind of social intercourse abroad.

Senator MONTÓYA. Well, you travel through the Scandinavian countries and Germany and some of the other countries of Western Europe and English is the second language now. It is taught at the high school level and you go into any store and there is usually a clerk who can speak both languages, the language of the country and the English language. Now, the reason that I mentioned it to you is that you are so close to Latin America and Miami has so much influence on Latin Americans, I thought you might have some advice as to how we can alert this country to the need for study of the Spanish language on the part of the citizens, because I predict that, within 15 years, we will be so close to Latin America economically and commercially and will be so interrelated with Latin America that the Spanish language will be an almost necessary vehicle of communication.

Dr. STANFORD. I agree with everything you say. We ought to stress Spanish more; it ought to become one of the key languages taught in our public school system, in our colleges and universities. However, I think, sir, we have made a great deal of progress in the study of languages in America over the last 10 years. Fortunately, the National Defense Education Act and its successive amendments have made funds available for our developing the teaching of languages in a way which was impossible in the past.

Let me reminisce just for a moment about an experience I had in Leningrad, which underscores what you have to say about the teaching of languages in Europe generally. When I arrived at one of the 10-year schools in Leningrad several years ago, I asked to hear an English-language instruction. I was taken to a class in which people between the ages of 12 and 14 were studying English. It was a third-year language class and they were studying the disjunctive question in English. I am not sure I had known what the disjunctive question in

English was until I got to Leningrad—"You do play football, don't you?" That sort of thing. The use of it was superb. The teacher had never been out of Leningrad and her English was excellent. They then led America in language instruction. But I think we are catching up, with the assistance which our colleges have had from the Federal Government.

To go back to your question about Spanish—of course, living as close as I do to Latin America and living among the many Cubans in Miami, I cannot exaggerate the importance of the study of Spanish. I feel so strongly about it in fact that both my wife and I are pressing at a rather late date to learn it as thoroughly and quickly as possible.

Senator MONTOLA. Thank you very much, Dr. Stanford, for your wonderful testimony.

(The statement previously referred to follows:)

STATEMENT OF DR. HENRY KING STANFORD, PRESIDENT, UNIVERSITY OF MIAMI,
CORAL GABLES, FLA.

Mr. Chairman, I welcome this opportunity to appear before you to testify in behalf of S-836, "A Bill to Create a National Foundation for the Social Sciences." I am Henry King Stanford, President of the University of Miami, Coral Gables, Florida.

As an educator, I strongly support this bill. I feel its initiators are to be highly commended. And I earnestly hope it will be acted upon favorably and with all speed by this Committee and the Congress.

I am well aware, Mr. Chairman, of a tendency of witnesses who appear before congressional committees to speak in terms of great urgency, to strike notes of alarm if this or that action is not taken. Yet with all deliberateness, I am going to take just such a tack with you this morning. For it is my considered opinion that the need for help for research and training in the social sciences is crucial to the nation, and that the hour is already far too late.

Over the past twenty years the Congress has adopted a wide range of legislation making possible direct and indirect federal support of the physical, biological and medical sciences. Enormous sums have gone to the exploration of outer space and inner space; to the study of the ocean, the land, and the atmosphere; to the study of man's physical and mental ills; to the creation and utilization of new techniques and facilities for scientific and technological research and development.

I would be the last to decry the largesse of the government in these areas. I am convinced that every step taken toward an increase in our national capabilities in science and technology has been a wise step, and that the dollars spent have been small in terms of the dividends yielded. Rather than any reduction in efforts along these lines, I would urge they be expanded at as rapid a rate as possible, and at least as rapidly as the growth of the gross national product, since progress in science and technology is so largely responsible for that growth.

My own university is much the greater because of federal assistance in the physical and biological sciences. Our Medical School is by way of becoming the nucleus of one of the nation's foremost medical centers principally because of help from Washington. Government contracts and grants have contributed immeasurably to the development of the University of Miami's Institute of Marine Sciences, which now ranks among the top handful of such institutions in the world. And both the Marine Institute and other divisions of the University will greatly benefit from the National Oceanographic Research Laboratory which the Environmental Sciences Services Administration of the Department of Commerce recently decided to locate in the midst of our university community.

But the time has come, Mr. Chairman, for a better balance. As science and technology have steadily gained strength, the social and behavioral sciences have lagged behind. It is now a national imperative that purposeful and energetic measures be taken to further that exploration of man and his society without which research into the physical and biological world may well turn out to be meaningless.

Man is more than a biologic organism incidental to a universe of linked physical processes. His life has purpose, meaning and value. Indeed, he possesses, by being man, the three inalienable rights: life, liberty and the pursuit of happiness. Today Americans—no less than the rest of the peoples of the world—live on the brink of a crisis in which the threatened reaction between increasing numbers of humans and their degraded environment can, inevitably, deprive them of their liberties and, if not of their life, then of any reasonable opportunity to pursue it with a degree of happiness. Unless we begin rapidly, intensively, and intelligently to examine the man-man and the man-environment relationship we will, sooner than almost anyone seems to think, pass a point of no return for the existence of viable community life. The most substantial tool that the Congress can call upon for this examination is the trained intelligence of the social and behavioral sciences and the way to forge that tool lies in S-836.

To demonstrate to you both the crisis and a possible avenue to solutions I have selected two examples of the massive and complex social problems which we must work out if we are to continue as a nation. These particular problems are ones to which we are devoting prime attention at the University of Miami, and ones on which we are attempting to bring to bear University-wide resources, as distinct from the resources of a single discipline or group of disciplines. The first of these problems is that of urbanization; the second, that of the transfer of technology.

I. THE PROBLEM OF URBANIZATION

The problem is: How can men live decently and responsibly in cities?

It has been said that "Men were not made to live in cities." It would be more accurate to say that "The cities have not yet been built in which men can live." It is improbable that within our lifetimes such cities will be built; but it is not improbable that, beginning now, keen and diligent analysis and follow through can make existing cities, conurbations and megalopoli fit habitations for that 70% of our population which, the 1960 census stated, live in cities.

This, of course, would merely be holding the line, for the growth of our cities both old and new is close to incredible. Each year the state of California adds some 600,000 people to its population as immigrants. Each month California must build one large town and each year one large city just to provide housing alone. In addition this new population demands jobs, water, electric power, schooling and highways, hospitals and political participation.

In my own state of Florida the same census of 1960 gave us the highest net population increase—78.7%. One no longer speaks of Miami as a city but as the hub of a growing "conurbation" running from the Palm Beaches to the Florida Keys. Florida, as well as California and other states, must constantly attempt to reshuffle urban-industrial frameworks in order to handle the explosive social problems generated. By the end of this century the United States will have a population of one third of a billion people. They will be competing with seven billion other people on this planet for food and fibre. The odds are that these future Americans will be drinking water recovered from the sea or which has passed through some other human being within the past few months or days and will be living in an environment largely denuded of familiar flora.

Within these cities men will continue to suffer as they suffer now from continual stress. Mechanization, crowding, polluted air, water and food and an ever rising noise level can well lose us the capacity to enjoy life and the means of controlling social actions. The human upon human impact will be formidable. The vision of a society, perpetually ill from stress, existing in a degraded landscape is no figment of the imagination. For the degradation of the landscape I refer you to that remarkable symposium *Future Environments of North America* (The Natural History Press, Garden City, N.Y., 1966). And for the sick society I refer you to the work of men like Hans Selye—who has demonstrated that stress is a measurable entity and that illness can be a loss of harmony between a man and his environment—and Nobel Laureate René Dubose of the Rockefeller Institute who believes that illness arises as a result of a multiplicity of environmental factors. It is striking that the magnificent work of the national foundations and organizations which support investigation of specific illnesses such as stroke, cancer, and heart disease, has no parallel for the investigation of the social environment in which we all live and the supervening problems of stressful living. We spend billions to establish the man-virus relationship and very little indeed to establish the man-man or man-nature relationship.

The establishment of these latter relationships, it goes without saying, is enormously broad gauged. We have found at the University of Miami that our effective work on urban problems requires the investigation of the total human complex. Therefore in our continuing study of the problems of the Southeast Florida Metropolitan area we have joined our ecological scientists together, as a team, with our social and behavioral scientists. Our faculty and research staff trained in social psychology, demography, metropolitan government, law, cultural anthropology, public and private management, economics and econometrics, education, and transportation, have joined forces with our people trained in medicine, the biological sciences, marine sciences, and the micro-environments of soil, water and air. This total group which is engaged in a coordinated but multi-faceted study of the urban area in which our university is located acts as a bank of knowledge and skills upon which any individual worker in the group can draw in his study of a particular segment of the problem. However, this bank is, so to say, lopsided. Thanks to the foresight and generosity of the Congress we have strong capabilities for studies concerning the air, the water (both salt and fresh), the soil, the fauna and the flora of the region; and, when added capabilities are required, we can with relative ease get the support necessary to acquire them. But the work of the vitally needed social scientists who study the human side of the equation necessarily lags far behind because national support for either their training or their research has not been forthcoming. The matter adds up to something like this: The nation spends generously—one might say lavishly—to comprehend a material world which might as well and may well become, empty of man. Because of this lack of foresight, the ability of my own university and of other universities in other urban areas to investigate and understand the problems of urban civilization and to halt its decline and begin its regeneration are critically deficient.

The problems presented by men living together in larger and larger aggregates is by no means the sole interest of the social scientists. But it is a significant part of that interest and, most importantly, that part which significantly affects the destiny of the United States. Our knowledge of man's milieu now runs far ahead of our knowledge of man's highest and best use of it in the common interest. Until the one matches the other it takes no prophet to foretell that our social problems will become increasingly destructive of us all including the destruction of that very environment the physical attributes of which we study so avidly.

Intermixed with other problems of urban life is the problem of the continuing existence of our free institutions. The premise of our American democracy has always been that within our pluralist national community the majority rules but that the majority may not prevent the right of any minority to become the majority through democratic means. The existence of new kinds of mass media and of new forms of political pressures serve now to confuse issues and to imperil these premises. These pressures and confusions are a part of the contemporary environment and if our institutions are to remain healthy we must keep a constant comprehension of the social environment to adapt to our institutional needs that which is worthily within our tradition and at the same time to protect our institutions from all shades of totalitarian assaults.

II. THE PROBLEM OF THE TRANSFER OF TECHNOLOGY

In those areas of the world which we call "undeveloped" and in which almost two-thirds of the human race live, man has been placed out of dynamic balance with both his environment and his society. Technological advances, increases in population, urbanization, the abuse of resources, faltering social, political and economic leadership have resulted not only in poverty but in an upset of the social, political and spiritual values of the people. Add to this the fact that contemporary media of communication enable men to compare themselves not with past generations but with others of their kind who enjoy a better life and the result is, quite obviously, a continuing instability manifested in discontent and increasing violence.

The United States, in response to a mix of self-interest and humanitarian feeling, has dedicated itself to assisting the peoples of this "hungry half of the world" to achieve for themselves the decent and responsible life which all men want and deserve and which we wish for them. This purpose of the United States should be noted, came late in time—whether in fact too late remains to

be seen. As Warren Wilhelm pointed out in the October 1966 issue of *Fortune*, "It traces back only to 1949. Prior to President Truman's Point Four speech in that year, the U.S. Government had no official policy whatever toward economic development . . . In 1949 the Harvard University libraries contained not a single book on economic development that by present standards would be considered even remotely adequate."

In Dr. Wilhelm's view encouraging progress has been made in the few brief years since Point Four was enunciated, so much so that good reason exists for optimism for the future. I would, however, strongly disagree. We have indeed spent great sums of money, and in most cases with good results. But with rare exceptions we have not accomplished that which must be accomplished if modernization is to become a reality in the backward regions of the world. We have not succeeded in generating a self-sustaining developmental process within the societies themselves.

Why is this so? I would argue that the answer is quite simple: We know far too little about the societies in question. We know much about techniques and technology, and about how they work in our own milieu. We have thought that we could proceed as in getting a lawn started in a tropical area; that all we need do is transplant bits and pieces of ourselves and sit back and wait for a verdant growth to spread and flourish of its own volition.

What we seem not to understand is that an established culture can make proper use of outside techniques only if it adapts and not adopts them. And in the process of adaptation those who would assist must have the most intimate and emphatic understanding of the traditional way of life of the host. As the United States seeks to help other peoples progress, it must accept that the decent and responsible life we wish for them must come within the framework of that which exists. The work of U.S. engineering and technical specialists in the developing countries is and will doubtless continue pretty much a null until U.S. social scientists have, through study and research, come to understand the communities in which and with which the technicians have to work—the communities which this work aims to change.

I would like, Mr. Chairman, to cite the Caribbean area as an outstanding case in point. I select this area first, because of the intimate knowledge and the long and intimate connection with it developed at the University of Miami, and, second, because it is currently the object of a major University-wide study and research program being carried on under the aegis of our Center for Advanced International Studies.

The Caribbean is extremely important to the United States. Physically, it is almost an inland sea of this country. Strategically, it constitutes one of the main doors to the North American continent and it is of course the vital link between North and South America. As a trade area, it has always played a significant part in our economic life, and its potential for the future appears vast indeed.

In the realm of politics, however, the Caribbean has been the scene of some of our greatest failures, and the source of some of our greatest headaches. Within its bounds are United States territories that do anything but credit to our policies and programs concerning other peoples. The Caribbean has produced the only example of a free nation "peacefully" entering the ranks of the communist community of states, albeit under a dictator without a popular mandate for this course. It is the locale of some of the bitterest anti-American feeling in the world. Less than three years ago, the situation in one of its states became so chaotic as to lead the United States to a humiliating and politically costly military intervention, and an intervention which has yielded no guarantees that conditions in that state will be any better in the future. Less than five years ago the Caribbean was the scene of one of the gravest military crises ever to confront this nation and the world. Within the Caribbean are some of the most impoverished of peoples, and some of the most backward states.

I would sum all this up by saying, Mr. Chairman, that nowhere on this globe does the United States have a greater stake in the orderly development of societies, and in the achievement of those stabilities that in this day and age can only come with such a development, than in the islands and tidelands of the Caribbean.

Yet we are doing very little—ridiculously little—to help the Caribbean lands and people to get moving. We have aid and related missions operating, but we are working in the same murky mist of ignorance of the cultures and traditions

and social structures that has marked our efforts in the past. And, I submit, we are working largely in vain. We are still trying to transplant, without essential knowledge and understanding of the soil and the environment with which we must work.

Let me illustrate with a literal example a transplanting exercise. One of the most pressing needs of some of the Caribbean islands is food. A possibility that has struck the experts is the introduction of the sweet potato which, growing in the poorest of soils, forms a staple and enduring food source. Such an introduction, however, takes more than the botanist and the agronomist. It will change patterns of land ownership and land use, patterns of marketing and processing, patterns of education, patterns of habit, patterns of society and patterns of politics. The comprehension of the established patterns and how they may be most agreeably changed with the full consent and cooperation of the people involved, demands the prior and continuing work of the social and cultural anthropologist, the linguist, the expert in community organization, the scholar in developing political forms and other social scientists. Unless we have an intimate knowledge of the culture within which we work and the parameters of fruitful change possible within the culture the technological transmission of such a simple little thing as the sweet potato, far from being a blessing, can become a curse.

The same sort of situation is true with regard to fish and fish products. Fish, about which we know a great deal and are constantly learning more, would obviously seem part of the answer to the food problem for islands surrounded by waters in which fish abound. But because of cultural factors, about which we know little and are learning little, some of the most impoverished of the inhabitants of these islands will not eat fish, or will eat only imported canned fish, or will not change the primitive ways in which they catch and process and market fish.

In these and scores of similar situations in the Caribbean we seem at the mercy of forces beyond our control. Despite the very best of intentions and the most earnest of efforts nothing lasting seems accomplishable. I do not believe, however, that this is indeed the case. I believe that people free to determine the course they will follow will make intelligent choices once they are aware of the implications and are able to explore the consequences of alternative courses of action. But this is not possible if our knowledge of ourselves and our knowledge of them is imperfect. We have a tool at hand in the social sciences which we must fully use if we are to approach a solution to the problem of the transmission of our technology for the betterment of life in this area of such critical importance to us.

I would make another point about the Caribbean and of our needs to bring to bear on its lands and peoples all of intellectual resources we can command. The Caribbean is a fantastically rich laboratory for the study in microcosmos of the wide range of situations, problems and needs, as well as cross influences and conflicts—internal, intra-regional, and international—that mark the developing world generally. Whether one is concerned with a high or low rate of population growth, a newly independent or long-established country, a society in transition or a society mired in stagnation, a Soviet satellite or western commonwealths and colonies, any one of a variety of race mixes and relationships, varying degrees of foreign influence and dependencies, a political system at almost any point on the spectrum from democracy to socialism, an advanced or a primitive educational system, any and all can be studied in microcosmos in the Caribbean, either by itself or comparatively. All that is needed is an ability, which means trained people and financial support, to utilize the social as well as the physical sciences in the study process.

Having so far tried to set forth, in terms of examples, one domestic and one foreign problem that, each, demands for solution, knowledge and understanding that can come only from the application of the technique of the social sciences, I would like to return briefly to the general crisis that is upon us and to the ameliorating role that can be played by the social scientist. Society is moving, inexorably, toward a complete change in its physical surroundings. In areas of maximum development, i.e., the United States, we can now see much main indicators of change as waste product stock piling, vital resource exhaustion and human overcrowding. We can also see that a similar crisis, and worse, in other countries demand, if only for our own survival, the skillful adaptation of United States technologies to alien social situations. There will have to be a complete reevaluation of our urban civilization. This can only be done in the total terms

of social ecology. The near future generation may be forced to make the decision whether to preserve the environment or to live in a completely man-controlled environment. It is therefore essential that we understand:

1. The feasibility of the one over the other based upon studies of man's immediate tactical effect upon his local ecology and extrapolations of this effect in long-range terms.
2. The possible reactions of man to changes that appear essential.
3. The formulation of new and viable techniques for social interaction.

Studies necessary for identification, analysis and planning these three particulars must be supported in a manner equal to the support we now give to our scientific and technical needs. We can no longer proceed without provision for the present and future non-material needs of our society. Else we are going to continue to grow as an urban people pressing relentlessly upon our natural and human resources without essential social understanding and proportion.

Under this circumstance, I feel I cannot too strongly urge that the Congress proceed with the establishment of a National Foundation for the Social Sciences analogous to the great national organizations that give support to the medical, biological and physical sciences. What use is it if we conquer disease but not know how the healthy survivors can manage to live with each other? To what avail are the technical applications of federally supported science if the citizen, presumably amply supplied with the techniques for a better life, cannot form viable metropolitan governments, solve the problems of human interaction, establish adequate systems of education or learn to live beneficially with their natural habitat? We must learn to interpret behavior and function in entire communities and societies. To do this we must balance the present pattern of federal support which gives billions for science and pennies for man. Just as the physical and biological scientists have been granted the time and funds to probe the physical environment so must the social scientist be granted proportionate support to probe and to find answers within the human environment.

In establishing a National Foundation for the Social Sciences the Congress can emulate the excellent patterns it has already established in the National Science Foundation or in the National Institute of Health. A foundation responsible to and endowed by the Congress subsidizes the advancement of knowledge through both the training of specialists and the subvention of broad scale research—the latter of which may be either problem or mission oriented. The proposed National Foundation for the Social Sciences should be structured to do two broad things:

1. To finance the postgraduate education of trained social scientists to an order of ten times the number we now produce.
2. To subsidize research and investigation of such problems as: ecological impacts, human ecology, resource planning, arid land use, preservation of the cultural patrimony, processes of urbanization, impact of the city upon the countryside, the adaptation of technology to human need, the evaluation of alternative economic choices, environmental administration, regional planning, systems analysis in metropolitan management, analysis of foreign societies, etc.

Problems which have arisen in the past between the Federal Government and the social scientists have, to some degree, been the product of misunderstanding and, to a large degree, to the absence of an open federal foundation openly working within an open society. I would suggest that almost all of the conflicts that have arisen would be solved if the social scientist, like his colleagues in other disciplines, were placed in the position of proposing research to a National Foundation which would, in the appropriate manner, analyze his proposal through a panel of his peers and act in accordance with the best judgment. In every case where the Foundation authorized a large or small project the results and purpose of the investigation would be open.

This would completely eliminate the unease numbers of social scientists have felt when commissioned to work upon projects which, innocent and desirable as they might be, could be construed to have an element of secrecy and in which the scientist comes to regard himself as not properly a scientist but an agent.

The academic profession, for all its imperfections, guards its freedom of work and openness of results most jealously. This freedom will be preserved by a National Foundation where the social scientist himself makes the free choice of offering a proposal. At the same time the foundation should not be barred from requesting problem-oriented cooperation from social scientists—that is, from making the determination that certain specific studies must be accom-

plished and requesting proposals or commissioning social scientists to engage in such studies. The Senate, in its deliberations, may well consider the report of the House of Representatives Sub-Committee on Research and Technology Programs in which some of the faults of present government subsidized social science research are reviewed, in order to eliminate the possibilities of these in the future. Indeed, that House report itself may well not have been necessary had a National Foundation been in operation.

The National Foundation for the Social Sciences will have to differ in one respect from the other national foundations. The work of the social scientist unlike the work of other scientists is culturally based. Heart disease is heart disease whether in Miami, Albuquerque, New Haven or Stillwater. And the speed of light in a vacuum is the same whether in Billings or Little Rock. But the problems which we must solve and which I have sketched will vary significantly from region to region. The Miami urban complex is sub-tropical, indeed in many ways tropical bi-lingual, heavily influenced by its marine environment, its status as an entrepot between the Caribbean and the United States and its dependence upon air transport. Its problems will vary from those of a metropolitan area more homogeneous in population, located in an arid or semi-arid or a mountain area and heavily influenced by the mineral and agricultural lands around it. In the same manner the area from New England to the Gulf Coast through the plains and mountains to the Pacific Coast will have sufficient significant cultural variation.

The National Foundation for the Social Sciences should pursue its work on the principle of variant patterns and establish a number of regional study centers in research for the social sciences according to the sharply divergent patterns.

The work of the social sciences is to study how men live with each other and how men live with their environments. Everywhere today the problems of human aggregates, and of technologies is spinning off vast social and economic problems. Some of these may become desperate. The proposed National Foundation for the Social Sciences will be that instrumentality of government looking toward the amelioration and solution of such problems.

Thank you, Mr. Chairman.

Senator MONTOYA. We will stand in recess until tomorrow morning at 10 o'clock.

(Whereupon, at 11:35 a.m., the subcommittee recessed, to reconvene Wednesday, June 7, 1967, at 10 a.m.)

NATIONAL FOUNDATION FOR SOCIAL SCIENCES

WEDNESDAY, JUNE 7, 1967

U.S. SENATE,
SUBCOMMITTEE ON GOVERNMENT RESEARCH,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 3302, New Senate Office Building, Senator Fred R. Harris (chairman of the subcommittee) presiding.

Present: Senators Harris and Hansen.

Also present: Dr. Steven Ebbin, staff director.

Senator HARRIS. The subcommittee will be in order.

Our first witness today, in continuing our hearings on S. 836, a bill to create a National Social Science Foundation, is Dr. Carl Kaysen, director of the Institute for Advanced Studies, Princeton University. Concerning him, without objection, we will place in the record a biographical sketch.

We are very pleased you are here and will be happy to hear from you at this time.

(The biographical sketch of Dr. Kaysen follows:)

Biographical Sketch: Dr. Carl Kaysen

Director, Institute for Advanced Studies, Princeton University; A.B., University of Pennsylvania, 1940; Postgraduate Columbia, 1940-42; A.M., Harvard, 1947, Ph.D., 1954.

Researcher National Bureau for Economic Research, 1940-42; Economist, OSS, 1942; Junior Fellow, Society of Fellows, Harvard, 1947-50 Assistant Professor, Economics, 1950-55; Associate Professor 1955-57; Professor 1957-61; Associate Dean, Graduate School of Public Administration, 1961-; Lucius N. Littauer Professor of Political Economy. White House and Bureau of Budget; Deputy Special Assistant to President Kennedy for National Security Affairs. Department of Defense, Department of Commerce, Civil Defense Administration, Department of Justice. Served as Captain Air Intelligence, USA, 1942-45.

Member—American Economic Association, Econometric Society, American Academy of Arts and Sciences, Phi Beta Kappa.

TESTIMONY OF DR. CARL KAYSEN, DIRECTOR, INSTITUTE FOR ADVANCED STUDY, PRINCETON UNIVERSITY, PRINCETON, N.J.

Dr. KAYSEN. Thank you, Senator Harris. Shall I just read this statement? It is very brief.

Senator HARRIS. Yes, that would be fine.

Dr. KAYSEN. My name is Carl Kaysen. I live at 97 Olden Lane, Princeton, N.J. I am director of the Institute for Advanced Study in Princeton.

I am an economist by profession, and before assuming the directorship of the institute this past year, I was professor of political economy at Harvard University where I had been, in one capacity or another, for 20 years.

I am testifying here as an individual social scientist giving my own views on the bill to provide for the establishment of a National Foundation for the Social Sciences, S. 836, which has been authored by Senator Harris and others.

The proposal to create a National Social Sciences Foundation seems to me to be based on an assessment of the need for increased support of basic research in the social sciences that is just and economically sound.

It reflects two judgments which I share. The first of these is that increased research in the social sciences can make a contribution to solving the problems of our society, by making the democratic governmental process operate on the basis of more information and better understanding. The second is that it is an appropriate function of the Federal Government to support such research. I think it may be of some use to the committee to indicate why I hold these judgments to be correct.

As to the first, it seems to me there are two main points to be made: one is that the social sciences are capable of gaining objective knowledge which can be used to make more informed and more effective decisions about social policy by all who participate in the policy process—various branches of the Government, private institutions, citizens as individuals.

This proposition seems to me sufficiently clear to need relatively little debate. However, I think we can take one example from the field of economics which illustrates the proposition. This example is the long-continued expansion in output and employment over the last 6 years, even though we are conscious today of the pause in this expansion and are troubled about just what correct policy should be in this pause. I think it is clear that the improvements in both theoretical understanding of the dynamics of the economy and of our ability to forecast the movements of the economy in detail and with a high degree of quantitative precision—though one that still falls short of what might be desirable—that have made this expansion possible, have resulted from the economic research of the last generation. Some of this research was, in fact, financed by Government directly; some of it was made possible by the Government's contribution in providing basic statistical information; most of it, of course, was, in fact, supported by universities and private foundations. Further research can lead to further improvements in understanding and further increases in our predictive powers; some of this research may be quite expensive. Should it be successful as on the average and in the long run we have every right to expect, it will be well worth its cost.

The second main point under this proposition is that, in fact, we will use the knowledge. I think it is the genius of our democratic society that, on the whole, we do act rationally, and we do apply what can be learned to the problems of social policy that we face. I do not assert that this happens instantly or automatically or inevitably, but merely that we have in the past shown a large capacity to learn from what-

ever source, whether from the commonsense interpretation of our experience or from organized science, and to apply our learning through the political process.

The case for Federal action in the support of research in the social sciences is the same as the case for Federal action in the support of research in the natural sciences. The increase in the stock of knowledge, and the creation of a body of trained professionals who can discover and apply that knowledge are both so valuable to the whole society that there is a recognizable Federal governmental responsibility to see that what can be done is done. I think it is clear that to date this recognition has been translated into practice much more adequately in the case of the natural sciences than in the case of the social sciences. The hearings that the committee has already held have recorded recognition of this discrepancy, and I see no need to add more than to say that I agree with the proposition that a good deal more support for the social sciences would be desirable.

However, one word of caution does seem in order. I think it is a mistake to believe that there is an instant and inevitable connection between new fundamental understanding and the social application of that knowledge. Sometimes the understanding itself is difficult to attain, as is the case, for example, in the whole problem of learning. This, of course, is not my own field, and I cannot speak on it with expertise, but it seems reasonably clear to me that we are very far from possessing a fundamental understanding of the variables which govern the range of what an individual can learn and the rate at which he can absorb new knowledge. Further, even when we have valid new knowledge, there are often significant obstacles to its applications. The social scientist may be able to provide an objective statement of what the consequences of a particular action will be. However, the question of whether these consequences are desirable or undesirable on balance is not one which is a matter of scientific determination, but rather one of political evaluation. That being so, the question of what is done is always a political question, and the application of particular kinds of knowledge must wait until the social decision processes will permit it. Nonetheless, in spite of this caution, my own faith in the fundamental rationality of a democratic society, and, for this reason, my confidence that investments in new knowledge will be rewarded, remains.

Despite my strong agreement with the purposes of the bill, I am not clear in my mind whether the instrument proposed—namely, the creation of a National Foundation for the Social Sciences—is the best one. My own preference, though not a strongly held one, would be for an enlargement of the existing National Science Foundation specifically to include support of the social sciences, and changes in the personnel and expansion in its appropriation to make it possible to discharge its new responsibilities. There are two fundamental reasons for my preferring this path. First, I think that intellectually science is a unified enterprise; we should think of it as such; and any organizational arrangements that go in the other direction are bound to have undesirable effects. The usage in which the word "science," when not otherwise qualified, tends to mean "natural science" is peculiarly English. On the Continent, the corresponding term is used to cover

the whole range of organized intellectual and scholarly activity, and I think this is a tradition that it is desirable to keep vital. It is true, of course, that we already have a separate Endowment for the Humanities, but I do not see in this a reason further to divide the intellectual universe by a separate Foundation for the Social Sciences. Further, this division would have its practical consequences, and the academic institutions who would be the main clients of the Foundation would find it easier to deal with fewer rather than more instrumentalities of Government in seeking research support.

My second reason is one I put forward with some diffidence, but in all honesty, I do not wish to conceal it. Without any lack of confidence in the capacities, intentions, and good will of this committee, I fear that a separate Social Science Foundation may be vulnerable to the winds of political controversy than would a single national foundation covering the whole range of sciences—natural and social. I know that you yourselves are conscious of the need to support investigations whose results are bound to be controversial if they are interesting, and I am sure that large numbers of your colleagues—in both Houses—outside this committee share that consciousness. Nonetheless as an outside observer, it is my own belief that a larger enterprise with a broader scope would be a better instrument for insuring the desired result: that Government could continue to support social science research, without seeking to tread only in politically safe areas, and avoid controversy.

Senator HARRIS. Thank you very much, Dr. Kaysen. I appreciate your presence and I certainly appreciate your testimony. I certainly agree with you, as you know, when you say in your statement, "The first of these"—you are talking about two judgments, which are being jointly and independently made:

The first of these is that the increased research in the social sciences can make a contribution to solving the problems of our society, by making the democratic governmental process operate on the basis of more information and better understanding.

The second that you say is:

That it is an appropriate function of the Federal Government to support such research.

And again you say:

I agree with the proposition that a good deal more support for social sciences is desirable.

Now, I would ask you how you would respond to a person outside the social sciences who might ask, "What sort of contributions or what sort of problems might be solved by additional research in the social sciences?"

I think that is a question we are going to have to answer ultimately, whatever organizational framework might be developed for greater support for the social sciences.

Dr. KAYSEN. Well, let me give two examples from economics to which I can speak with some confidence. I mentioned in my statement the contribution that economic research has made to fiscal and monetary policy and the management of aggregate demand. We still have a long way to go. We can make pretty good predictions, but if we

knew more we could make better predictions, both with a shorter period of gestation and perhaps with a longer horizon, to predict further ahead. Now, this does depend on sometimes quite fundamental, quite academic, and what in the first instance would seem quite abstract research. You are probably familiar with the large project that has been going on with National Science Foundation support under the aegis of The Brookings Institution. It is a quarterly econometric model of the U.S. economy in much greater detail than has ever been made before. It is novel in a great many respects. One of its novelties is that it involves the joint work of a large team of economists drawn from many universities and The Brookings Institution. This in itself—and I digress here—is a quite important novelty. In the past a great deal of social science research in general, and economic research in particular, has been done by single individuals sitting in their studies, or going into the library.

Some things are best done this way, but there are a great many important problems which just cannot. Just as the natural sciences have discovered, they need big instruments and they need big teams and the social sciences are discovering the same thing. In the particular case example I mentioned, the instruments, of course, is the electronic computer. The model has more than 150 equations, and the interrelations of the parts of the models are too complicated to be figured out analytically, they must be simulated on a computer.

At our present state of understanding of the sectors of the economy and the interrelations of these sectors, there are a great many deficiencies in the model. One important deficiency is that it took 5 years to generate it and by the time it was generated it was several years out of date. Those who have worked on it have made some predictive runs with it. These runs have showed deficiencies, which are now in the process of being corrected. This is the natural learning process. But, today, the Brookings model cannot be used for current policy predictions. We would have to be able to update it faster than we now know how to do, in order to make it usable for this purpose.

Or, to take another point, which I was discussing with a group of colleagues yesterday, the statistical techniques which underlie the assembly of the parts of this model, so to speak, are rather novel, and people are in disagreement as to just which technique should be used. This disagreement essentially reflects ignorance, and until more work is done, so that there is more understanding, the issues will not be resolved. Now, this is, I think, an example of a very substantial project which has already been funded on a large scale. I do not have the exact figures in mind, but we are talking about half a million dollar order of magnitude. Further work could usefully be funded at an even larger scale, and thus would provide knowledge that is both theoretically interesting to the professionals, and of practical usefulness in a fairly short time. I cannot predict whether further work on this model would make something useful for policy predictions or in 2 years or 5 years, or even 10, but I am quite confident that it will move in that direction.

Senator HARRIS. Well, I also agree with you that if we are to have proper funding of social science research we are going to need some changes in present governmental organizational structures. I think

that can best be done by creating a new National Social Science Foundation, specifically including support for the social sciences in its jurisdiction and bringing in new and fresh personnel. I believe you said we need changes in the personnel of the NSF and an expansion of its appropriations. What do you mean by changes in the personnel?

Dr. KAYSEN. I think it is clear that if that path were chosen—and, of course, it is a different path than you yourself are proposing, Senator—if that path were chosen, it would be desirable to have somebody in the rank of Deputy Director who is a social scientist at a minimum. I think at some future date it might be just as appropriate to consider having a social scientist as the head of the National Science Foundation as a natural scientist, which is something we would not think of now—

Senator HARRIS. Why not?

Dr. KAYSEN. Well, I am not saying we should not, I say I do not think we would because the Foundation is strongly oriented to the natural sciences that the choice naturally goes in that direction. I happened to be in the Government when Dr. Waterman retired and the question of who his successor should be was discussed, and I listened to some of those discussions. Everybody who take part in the discussions simply assumed that the man they were looking for should be a natural scientist. I think the history of the enterprise and its traditional orientation runs in that direction. The material you yourself have developed in the course of hearings, shows the relatively small emphasis the Foundation gives to social science.

Now, I am mindful of the fact that these same points can be made the basis of an argument that it will be hard to make this organization change its behavior, and the efficacious way to do new things is to create a new organization. I think there is a lot of merit in that argument. Yet I am not persuaded in this case because I think the arguments that I have made outweigh it. However, this is a judgment I do not hold with great passion; it is a close judgment, and this is essentially where I come out on it. I can understand a set of arguments which comes to a difference balance, and which would emphasize more the proposition that to do a new task it is desirable to have a new organization that is oriented toward that task.

Senator HARRIS. Well, I appreciate very much, Dr. Kaysen, your testimony and your responses to questions. I am grateful you are here and we appreciate it very much.

Dr. KAYSEN. Thank you, Senator.

Senator HARRIS. Our next witness is Dr. Samuel P. Hayes. Dr. Hayes is president of the Foreign Policy Association of New York City. Without objection, we will place in the record a biographical sketch concerning him.

Biographical Sketch: Dr. Samuel P. Hayes

President, Foreign Policy Association, New York, N.Y. A.B., Amherst College, 1931; Ph.D., Yale, 1934; Graduate Study, University of Chicago, 1937-38; Fellow, Social Science Research Council.

Assistant Professor of Psychology, Institute of Human Relations, Yale, 1931-34; Instructor, Psychology, Mt. Holyoke College, 1934-37; Faculty Department of Economics, Sarah Lawrence College, 1938-40; Market Research, Young & Rubicam, Inc., New York City, 1940-42; Various Positions U.S. Government,

1942-45, 1948-51, Washington, Algiers, London, Scandinavia, mainly for Foreign Economic Administration and State Department; Associate Director, Marketing and Research Division, Dun & Bradstreet, Inc., New York City, 1945-48; Chief Special Technical and Economic Mission, Indonesia, 1951-52; Assistant Director Mutual Security Agency, Far East, 1952-53; Director, Foundation for Research on Human Behavior, 1953-60; Lecturer, Economics, University of Michigan, 1955-57, Professor of Economics, 1959-62; Director, Center for Research on Economic Development 1961-62; Consultant, Peace Corps, 1961-62; President, Foreign Policy Association, 1962—. Consultant to President's Task Force on Foreign Economic Assistance, 1961.

Member of: Committee on Educational Interchange Policy; American Statistical Association; American Psychological Association; Society for International Development; American Economic Association; Council Relations; Phi Beta Kappa, Sigma Xi; Fellow, AAAS.

Author: *Evaluating Development Projects*, 1966; *An International Peace Corps*, 1961. Editor (with others): *Some Applications of Behavioral Research*, 1957. Contributor to and author of books and articles in professional publications.

Senator HARRIS. I believe, Dr. Hayes, you have a prepared statement. We appreciate your coming and will be pleased to hear from you now.

Dr. HAYES. Thank you, Mr. Chairman. May I follow the precedent of reading my testimony here, and make minor changes as I go along?

TESTIMONY OF DR. SAMUEL P. HAYES, PRESIDENT, FOREIGN POLICY ASSOCIATION, NEW YORK, N.Y.

Dr. HAYES. Mr. Chairman, my name is Samuel P. Hayes. I am the president—which in this case means the chief executive officer—of the Foreign Policy Association. My statement today is, however, simply an expression of my individual views. The Foreign Policy Association itself has taken no position on matters of interest to the Subcommittee on Government Research of the Committee on Government Operations.

My views are based on some 35 years of social science research, teaching, translation of research findings for use in administration, and the administration of programs that draw heavily on social science research. Nine of these years were spent in the service of the Department of State and foreign aid agencies, including 3 years in North Africa, Western Europe, and Southeast Asia.

The Foreign Policy Association itself provides a major example of program administration that makes important use of the findings of social science research. FPA is a research consumer rather than a research producer. It stands to benefit if support for such research is increased. The hundreds of organizations that work with FPA will likewise benefit.

The Foreign Policy Association is a private, nonprofit educational organization, operating throughout the Nation. It is nonpartisan and is prohibited by its bylaws from taking positions on issues of national policy. It attempts, through education, to build a wider and deeper understanding of the major issues of foreign policy confronting the United States, and to help develop an informed, thoughtful, and articulate public opinion on such issues. It has no members except its board of directors, and carries on its work with a staff of about 100, of whom about 45 are professional educators. For the most part,

FPA works with other organizations to help them improve their present educational activities or undertake new ones. Each year, FPA works with hundreds of national and local organizations, including voluntary associations, religious groups, university extension services, schools, world affairs councils, and so on. In many communities, there is close cooperation between FPA and the television and radio stations and the newspapers. Millions of people are reached by FPA's cooperative programs with the mass media, and hundreds of thousands participate in discussion groups which use program materials prepared by FPA and distributed by cooperating organizations.

In the preparation of its program materials, FPA draws heavily on the international relations research of university and other research centers, as well as on official sources, in order to describe fully to its audiences the principal alternatives available to U.S. policymakers. Obviously, the more and better the research going on, the richer the resources on which FPA can draw, both for use in its own programs and to help raise the quality of programing carried on by its hundreds of cooperating organizations.

FPA has a direct interest in a second type of social science research. Just as business and government organizations rely on behavioral research for guidance and evaluation of their operations, so also FPA and its many cooperating organizations need solidly based information on the current content and quality of public thinking about international relations, at various age levels—preferably obtained by national sample surveys, repeated periodically—about the sources of information drawn upon by people of different ages and characteristics; about the relationship of international attitudes to personality and upbringing; about personal influence and group dynamics as they affect attitudes and cognition; about the various ways of expressing international attitudes and views, through communications to government, demonstrations, voting, opinion polls, actions toward foreigners and foreign goods, and so on; and about the relations between public opinion and national formulation and implementation of foreign policy. FPA and its allies are educating for citizenship. We are, of course, only one of a number of influences on foreign policy opinion and behavior. But to do our job as effectively and as efficiently as possible, we need to know as much as we can about the task that confronts us, about our own success in performing this task, and about the impact of other influences upon public opinion and behavior in international affairs.

While I have thus far been explaining FPA's interest in more and better social science research, of two main types, I must repeat that I am appearing here as an individual. My views naturally reflect my experience at FPA. They also grow out of my earlier experience with other organizations, including the Federal Government.

I should like to state three general propositions, and then to expand upon one of them.

First, in my opinion, the present level of support for social science research is inadequate. This is true for all sources of support—university, foundation, business, and government. As a consequence, we know far less about the nature and functioning of our own and other societies and their interrelations than we should; and most organizations,

whether business, governmental, educational, or other, do a less successful job than they might otherwise be able to do.

Second, even the data, concepts, and generalizations that have been developed in the course of social science research are inadequately utilized to guide the operations of government, business, educational, and other organizations. The situation in many of these organizations is similar to that of the farmer who rejected the overtures of the county extension agent, saying, "I don't need any more ideas about farming. I already know how to farm much better than I'm doing."

Third, both inadequate financial support and inadequate utilization of findings stem—at least in part—from the failure of social scientists, on the one hand, and agency administrators and staff personnel, on the other, to learn enough about each other to be able to communicate effectively. Hence they are unable to concert their different efforts effectively in the common good. They might reinforce each other. Instead, much of the time they are like two trains that pass each other in the night.

It is this third point that I should like to elaborate because, in my view, it would not be enough to set up a new foundation simply for the purposes of expanding the financial support and improving the coordination of social science research. To be of maximum value, such a foundation should also provide leadership in bridging the worlds of research and action in those fields where social science has a contribution to make. It should help educate administrators in the approaches, concepts, methods, potential contributions, and limitations of social science. It should help them define their problems in terms susceptible to social science consultation and investigation. It should also help to educate social scientists in the problems, concepts, procedures, and frames of reference of the administrators. And it should help the social scientists design their research and present their findings in ways of maximum value to administrators.

This is not to suggest that all, or even the major portion, of the research supported by a new foundation need be problem-oriented research, tied to operational needs. Some is likely to be, and should be, for government agencies and other institutions in our society have a legitimate need for social science assistance in solving their operating problems. In such problem-oriented research, the need for the bridging activities suggested above is obvious. But even for basic research, there is a bridging function to be performed. Research that is quite basic in its conception can turn out to have practical implications. And if potential users collaborate in its design and in the analysis and interpretation of its findings, this may increase its immediate practical value without reducing its contribution to scientific advance.

The natural sciences are in a very different situation from the social sciences in respect to their need for "bridging" assistance. And this, to me, is one of the telling arguments in favor of a separate foundation to support the social sciences. The potential consumers of natural science research are ready and waiting. They are avid for new discoveries. The National Science Foundation, the National Institutes of Health, NASA, and other supporters of natural science research don't have to sell anyone on the proposition that such research can have large pay-offs, nor do they have to act as "translators" between producers and

consumers of natural science research. There are hundreds of thousands of engineers of myriad varieties, of physicians, of architects, of city planners, of scientific farmers, who identify problems that need research study and who reach out for new research findings that they can then apply directly in their own activities. Bridging the worlds of research and action in the natural sciences does demand some effort, of course, but there is strong interest on the action side, and there are multitudes of "translators." A foundation supporting natural science research can limit its activities to support and coordination.

In the social sciences, the situation is very different. There are relatively few "social engineers" to help with the job of translation and bridging. Educators, administrators, and professional staff in business and government, lawyers, diplomats—the logical "consumers" of the findings of social science research—are frequently most skeptical about the value of such findings. They are unlikely to seek help from the social scientists. They are rarely involved at the stage of definition of the research problem and in the design of the methodology. And they find it difficult and unappealing to try by themselves to interpret the results in relation to their own activities.

We often hear it said that "everyone feels that he is an expert on human nature." Experts aren't so likely to seek guidance as nonexperts are. And it is psychologically harder to accept a new idea about human nature than to accept a new one about the nature of matter. In all candor, the evidence for the latter is likely to be more unambiguous than for the former. Moreover, the social scientists themselves haven't done a very successful job of "selling their wares" to many of those who could make good use of them.

Mr. Chairman, with your permission I should like to make reference here to several published studies of the general problem of utilization of social science in government and business. I will not read off the titles, but it may be useful to the committee to have this set of references together.

(The material referred to follows:)

- Graham, Milton D., *Federal Utilization of Social Science Research: Exploration of the Problems*. Washington, The Brookings Institution, 1954.
- Hayes, Samuel P., Using Behavioral Science Effectively in Development Aid Agencies. *Philippine Journal of Public Administration*, 1964, Vol. 8, No. 1 (Jan.), pp. 3-9.
- Leeds, Ruth I., and Smith, Thomasina Jo., *Using Social Science Knowledge in Business and Industry*. Homewood, Ill., Richard D. Irwin, Inc., 1963.
- Likert, Rensis and Hayes, Samuel P., (Editors), *Some Applications of Behavioral Research*. Paris, UNESCO, 1957, esp. Chapter I, Behavioral Research: A Guide for Effective Action; and Chapter VIII, Relating Behavioral Research to the Problems of Organizations.
- Likert, Rensis and Lippitt, Ronald, The Utilization of Social Science. Chapter 13 of *Research Methods in the Social Sciences* (edited by Leon Festinger and Daniel Katz), New York, N.Y., The Dryden Press, 1953.
- Orlans, Harold, *The Use of Social Research in Federal Domestic Programs*, Washington, D.C., House Subcommittee on Research and Technical Programs, 1967.
- , *Effective Use of Social Science Research in the Federal Services*, New York, Russell Sage Foundation, 1950.
- , *Papers and Reprints on Utilization of the Behavioral Sciences* (Mimeographed), Stanford, Calif., Institute for Communication Research of Stanford Univ., 1956.
- , *Social Science for Industry*, Stanford, Calif., Stanford Research Institute, 1953.

Dr. HAYES. Unlike the natural sciences, the social sciences need a great deal of help in educating both "producers" and "consumers" of research to take full advantage of the other. A National Foundation for the Social Sciences should therefore, in my opinion, be quite different from NSF. It should assign a substantial portion of its staff and expend a significant portion of its resources on bridging and translation functions. I should personally like to see this recognized in the basic legislation, perhaps by adding to section 6 of S. 836 a fifth paragraph along the lines of the following:

(5) promote the utilization of social science research in Federal Government agencies and elsewhere by advice and assistance in the recruitment and training of personnel, by conferences and training seminars on the application of new research findings and on the need for new studies, by advice and assistance in contracting for consultants and research studies, and in other ways.

Mr. Chairman, with your permission, I should like to place in the committee files a memorandum on "Using Behavioral Science in AID," which I prepared and which elaborates further on the ways in which utilization of social science in a governmental agency or other organization can be promoted.

In summary, Mr. Chairman, it is my personal view that substantially increased governmental support for social science research is desirable; that governments, business, education, and other organizations have much to gain from fuller utilization of present and future social science research; and that major attention needs to be given to building better communication between researchers and those in policy and action agencies, with the twin objectives of increasing the pertinence of research to action, and increasing the utilization of research findings in action programs. For these reasons I personally support the establishment of a National Foundation for the Social Sciences.

Mr. Chairman, thank you very much for the privilege of appearing before your committee.

Senator HARRIS. Thank you, Dr. Hayes, for a very excellent statement. I have read also the appendix which will be placed in the record, detailing AID's experiences with behavioral science. I think it is a very good statement and one which shall certainly be helpful to this subcommittee in its deliberations.

I am very much impressed by your comments concerning the need to bridge the gap between research and application in the social sciences and I like the recommendations that you made for amendment to this bill, and I can assure you that that will be given very serious consideration by this subcommittee.

I do not have any other questions to ask you. I think your statement is a very complete one. Do you have any further comments that you want to add at this time?

Dr. HAYES. I think I would only add a comment on a specific part of the area of support for social science research, having to do with research in the so-called policy sciences, of which foreign policy is obviously one. Here, while I am sure that substantial increased Government support can be used, would be appropriate, and would be sought by organizations in this field, it is, as we all know, a very delicate field in which those who do the research do not want to feel any

hindrance, any guidelines, anything else that might affect or influence the conclusions that they might want to reach. In fact, for certain kinds of studies I think a number of organizations would say, "We do not want money from the Government under any auspices." It does seem to me that for many of these studies an institution such as the one you suggest, which would be a buffer, in effect, between agencies which have a direct policy interest say, in our field, such as the Department of State, and the researchers themselves, would go a considerable distance to meet this problem. I would think that many organizations would find it a good deal easier to accept funds for policy research from an intermediary of this kind than from one of the Government agencies directly interested in the policy.

Senator HARRIS. Thank you very much, Dr. Hayes.

Dr. HAYES. Thank you, Mr. Chairman.

(The material referred to previously follows:)

USING BEHAVIORAL SCIENCE EFFECTIVELY IN THE AID PROGRAM

1. AID employs people, to work with other people, to bring about change in people.

AID therefore continuously faces questions about the behavior of people and how to change it. Such questions arise:

a. In analyzing the development needs and reviewing the development programs of cooperating nations;

b. In selecting and designing the strategies and instruments of international cooperation in development; and

c. In the internal administration of AID itself.

2. The special interest and competence of the behavioral sciences (particularly psychology, sociology and anthropology) lie in analyzing the behavior of people and prescribing measures to change it.

3. Yet, AID and its predecessor agencies have taken little advantage of the resources of behavioral science, except in Community Development.

In contrast, business makes wide use of behavioral scientists both in planning programs and in administering staffs. The Peace Corps, too, has made effective use of behavioral scientists.

4. AID would benefit greatly by fuller use of behavioral scientists in connection with all three aspects suggested in Paragraph 1 above.

5. Although relatively few behavioral scientists are suitable, interested and available to work full-time on AID's problems, substantial help could be obtained by:

a. Direct employment of a limited number of behavioral scientists, in functions additional to Community Development;

b. Greater use of behavioral scientists as consultants and on advisory committees;

c. Seeking a greater degree of behavioral science competence on the part of all AID staff, through selection and training procedures and closer contact with professional societies and publications;

d. Interesting more behavioral scientists in the planning and operating problems of AID, and supporting more behavioral science research;

e. Involving more foreign behavioral scientists in national development research, planning and operations.

STATEMENT OF DR. SAMUEL P. HAYES, PRESIDENT, FOREIGN POLICY ASSOCIATION

A. THE PROBLEM

Successful economic development in most nations requires changes to take place in the people there—not simply in their knowledge and skills but, more important, in their motivations and attitudes, and in their social and political relationships. Saving and investing, inventing and innovating, initiating and leading, administering and communicating, effort and supervision, analysis and objective prescription, all are behaviors that depend on individual motives and decisions, and all must change if development is to accelerate.

Moreover, if nations are to work together to promote the development of one of them, strategies and instruments of cooperation must be selected and designed to maximize the results desired and minimize costs and unwanted side effects. This means analyzing people's attitudes and behaviors toward each other and towards various policies and instruments.

Finally, a principal requirement for successful cross-cultural operations is that the people involved, on both sides, be selected, trained, organized and led with particular attention to the special psychological, social and political complexities of the functions and situations in which they are involved.

Bringing about changes in people, through other people, is essential to AID's success. Yet AID—like the cooperating agencies in host countries—has been relatively isolated from the behavioral scientists who have been intensively studying how to bring about changes in people through other people. (The "behavioral sciences" most relevant here are social and industrial psychology, industrial and rural sociology, cultural, social and applied anthropology, and those parts of economics and political science concerned with empirical studies of individual behavior in contrast to abstract principles and relationships.)

Behavioral scientists have been extensively employed in business, government and educational organizations to help guide both program and administration. For example, Humble Oil employs on a full-time basis more than 100 Ph.D's in psychology (AID has only one). They are engaged in market research ("program"), personnel research and administration, management and organization, and so on. Others are employed as part-time consultants. The Peace Corps has made considerable use of behavioral scientists. It is not just the employment of behavioral scientists that is significant in such organizations. Most significant is the pervasive effect on management thinking and performance which both results from, and is symbolized in, this employment.

Shouldn't AID use more behavioral scientists in planning and administering its own program? The answer seems obvious, although there are limits to the availability of suitable behavioral scientists, and behavioral problems can't be solved simply by passing the buck to the scientists. But, clearly, AID could benefit by greater use of behavioral scientists than it makes at present.

If AID should decide to take greater advantage of the behavioral sciences, how could it do so most effectively and economically?

This general question has two principal parts. First, what aspects of AID activity involve questions which behavioral science might help answer? Second, what ways of working with behavioral scientists seem most promising for AID? These questions are discussed below, and are followed by a short history of the past utilization of behavioral science by AID and its predecessor agencies.

B. AID ACTIVITIES INVOLVING BEHAVIORAL SCIENCE QUESTIONS

Behavioral science would appear to have some contribution to make (1) in analyzing the development needs and in planning the development programs of cooperating nations; (2) in selecting and designing the strategies and instruments of international cooperation in development; and (3) in the internal administration of AID itself. AID's effectiveness depends not only on what is done, but also on how it is done, of course.

1. Development Planning

Development plans vary greatly in their economic and financial sophistication. A few are sophisticated in their manpower planning. Almost none are sophisticated in any explicit consideration of needed psychological, sociological and political changes.

And yet, practical development planners know very well that changes of these kinds are prerequisite to economic and financial improvement. So they either make decisions about them anyway, on a "seat-of-the-pants" basis, or else they abdicate this responsibility, hoping that "natural forces" will bring about needed changes.

These decisions can be better based. The reasons for high birth rates, the reasons why some techniques of family planning are more popular than others, the reasons why some techniques for promoting family planning are more successful than others, can be determined by collection and analysis of behavioral data.

Motives to save and to invest in different financial modalities can be similarly analyzed. So can occupational and geographic mobility, the relationship between land tenure and agricultural innovation and productivity, and the contribution of

public housing to political morale. So can perceptions of job opportunities, determinants of employment morale, attitudes towards the government (and toward its claims and its contributions), the extent of rationalism, and the drive for achievement.

Having determined the present character of such attitudes, motives, perceptions and habits, and having analyzed their relationships to the kinds of individual behavior needed to accelerate economic development, it then becomes possible to prescribe the governmental (or other) actions which are likely to change the attitudes, habits, etc., in the desired directions.

This is not a job simply for the wise public official, aided by well-trained economists, lawyers and other experts in the familiar terrain of public administration. Transforming a society is a highly complex task. All kinds of talents are called for. And the talents of behavioral science have been notably absent.

Of course, prescriptions depend on reliable generalizations about relationships, and such generalizations depend upon analysis of empirical data. Yet, data are generally scanty and unreliable. How can a behavioral scientists base sensible advice on non-existent data?

In the behavioral sciences, the procedures for developing recommendations are much similar to those in economics, where the same problem of inadequate data exists. On the one hand, one must use such data and insights of trained observers as one can obtain. To some extent, one can "borrow" data, relationships and insights from other, similar cultures. And, on the other hand, having identified the needs, one can institute the collection of pertinent new data, so that future planning will improve over present planning.

The central point here is that successful national development demands changes in people—inside their minds as well as in their relationships to each other. Many such changes come about as the result of political and economic measures, as course. But political and economic measures can fail if their human impacts are not adequately foreseen. And there are ways of bringing about certain kinds of psychological changes independently of, more efficiently than, and effectively reinforcing, the economic and political measures taken. Thus, education (including adult education), communication through the mass media, organizational campaigns, religious participation, and other non-economic and non-political measures can be used to accelerate development. And most of the economic and political instruments available can be made more effective by careful analysis of their behavioral impacts. It is obvious that some will produce greater psychological and social changes in the desired directions than others will.

Finally, just as national governments must be responsible for their own development planning, so also is there much to be gained if the behavioral scientists and other experts working on a development plan in the first instance are nationals of the developing countries. There aren't a great many, of course. Yet, while those in aiding agencies can play important roles in suggestion, analysis and review, there is a limit to what outside behavioral scientists (or any other outside experts) can do.

2. Planning of Development Cooperation

Even newer than national development planning is planning the forms of development cooperation. The former appraises trends, sets goals, chooses national instruments and establishes national policies. The latter chooses and designs the instruments and establishes the policies to govern *international cooperation* in developing activities.

Here again there are behavioral science questions. How can the greatest and longest lasting effects *on people* be obtained from different kinds of capital projects, from technical assistance, from program loans, from the "servicio" device, etc.? Are loans really more "disciplinary" than grants? What is the evidence?

Similarly, what are the attitudinal obstacles to private investment abroad, and how can they be overcome? What effects on local entrepreneurship are produced by the widespread success of foreign private enterprise in an unindustrialized country with an unsophisticated population? Are local businessmen challenged, stimulated, eager to adopt tested management techniques? Can the situation be so structured that these effects do result?

Are multilateral arrangements really more effective than bilateral in some situations? When and why?

What are the advantages and disadvantages, and how can the former be maximized and the latter minimized, in providing American (or UN) personnel in

the quite different role situations represented by advisors, teachers, practitioners, or actual executives? Does the Peace Corps make a major impact on local attitudes? How much and how should aid be publicized in the receiving country?

There are many questions for behavioral scientists here. And they are particularly inviting questions for the international collaboration of scientists of the cooperating nations. Clearly, the success of cooperative endeavors is of interest to both sides. Both sides should therefore study the instruments and policies employed, to determine if, in fact, the interests of both sides are being served. Interests need not be identical, of course, to justify and engage the attention of behavioral scientists from both sides.

3. *Development Agency Management*

Given decisions on the changes needed to developing nations, and given decisions on the instruments and policies to be used for development cooperation, there remain questions of management and organization of the administrative apparatus of the host nation, of the aiding national or intergovernmental agency, and of such joint agencies as may be set up.

The principal behavioral science questions here have to do (a) with the selection and training of personnel for service at headquarters and in the field, (b) with leadership, organization and management of each agency, and (c) with public communication at home and abroad.

All these areas of administration have been extensively studied by behavioral scientists in this country, and less extensively by behavioral scientists abroad. The kinds of data and analyses needed to improve administration are well-known. And there are many practitioners and consultants in this field.

C. BRINGING BEHAVIORAL SCIENCE TO BEAR ON AID'S PROGRAM

Given this range of questions important to AID, which behavioral scientists might help answer, the operational question is, what means are available to bring about an increasingly fruitful relationship between behavioral science and the U.S. foreign aid program?

In general, the principal means would seem to be direct employment of behavioral scientists (including consultants), providing other staff with some behavioral science knowledge and sophistication, using advisory committees, and guiding and financing behavioral research.

Enthusiasts sometimes advocate employment of behavioral scientists in every important mission overseas, in each important geographic unit, and wherever else in AID it is important to make analyses and decisions concerning the human behavioral objectives, strategies, barriers and impacts of AID—in other words, throughout the program process. Secondly, they advocate the employment of behavioral scientists abroad and at home in the area of personnel administration—selection, training, evaluation, adjustment, motivation, and so on. Direct employment of behavioral scientists on the scale indicated poses some real problems, however.

Despite the considerable recent growth of interest in economic development, behavioral scientists who are professionally competent, suitable and available for the employment suggested above, especially as advisors on program, are few and far between. Most behavioral scientists are more interested in research and teaching than in application, anyway, and often more suited to the academic life. Government service is not very attractive, given the many opportunities for employment in the universities, foundations, etc. Some have espoused "liberal" causes and don't relish "security" investigations. And the frequent changes in philosophy and administration of foreign aid agencies, coupled with the continuing antipathy of many in Congress, discourages many about the likelihood of their advice having any continuing effect. Finally, government agencies naturally go after the "big names", partly to "get the best", partly to protect themselves from Congressional criticism. Yet the "big names" are in extremely short supply and are usually too busy to give much attention to a new and possibly unfamiliar set of problems (where they may feel they should advise the big names in the agency, who themselves are too busy to consider such technical advice seriously and implement it imaginatively!). And "big names" in science are usually the evidence of top research competence (and interest)—which does not necessarily imply top competence in practical advice.

Most behavioral scientists with pertinent training are committed to academic careers, and see an assignment abroad as an interruption—or possibly primarily

as a chance to collect some data wanted for their own purposes, not AID's. Few can get "leave" easily for more than a single year, and almost none for more than two years.

The ones available at any one time are likely to be specialized in a discipline or in a geographic area different from that needed. Their loyalties and personal discipline are often to their scientific field, to their university, or even in a host government or institution, ahead of AID. They may feel that "academic freedom" justifies disregard of U.S. policy or interest. The host government, moreover, may look with suspicion on an unfamiliar role, which they find it difficult to understand or evaluate. Most important, an employee must work as a member of an AID team. He can't be given sole decision-making authority, even if he is the only professional in his field. An academic behavioral scientist may find it difficult to share decision-making with others; and they may find it difficult to share with him—unless they have a considerable acquaintance with his discipline anyway.

In summary, there aren't many behavioral scientists available, suitable and willing to be hired; and there are real problems in using such highly specialized personnel effectively. If some can be found for overseas posts, so much the better. And even a limited number in key spots, primarily in Washington, could make a major contribution in the two kinds of functions indicated.

D. AN ACTION PROGRAM

Taking into account the difficulties of extensive direct hire by AID of behavioral scientists, here are practical steps for bringing some behavioral scientists into AID, and for bringing more behavioral science to bear on the AID program and administration.

1. *Employment of behavioral scientists abroad:*

a. Behavioral scientists who are expert in a particular cultural area can of course be employed and assigned as advisors on program and on cross-cultural operations. Because some governments are suspicious of the "real purpose" of such assignments, it may in those countries be better to employ behavioral scientists as program advisors only where requested as advisors to agencies of cooperating governments (e.g., in community development), rather than as advisors to USOMs. In such cases, contract employment is often better than direct hire, because the host government is likely to be less suspicious of contract employment. Relatively short-term (a summer, a semester) assignments are more feasible for first-rate scientists, who have such multiple demands on them.

b. Behavioral scientists—especially psychologists—who are *not* expert in a particular cultural area can be effectively used in USOMs, as direct hires on short or longer term assignments, as advisors to the *American personnel* in their own adjustment to a new culture, in *training American personnel in general principles of cross-cultural work*, etc. They would thus function as part of the personnel office, not the program office.

c. Behavioral scientists who have the attributes needed for positions in general administration, program review, and other non-behavioral science line or staff positions in the field may be employed, as a major way of getting social science thinking integrated into operations. On their return to academic life, their teaching and research will be helpful to AID. But few first-rate people are available for work outside their chosen specialty; and it is wasteful so to use them.

2. *Employment of behavioral scientists in Washington:*

a. Behavioral scientists can be used with profit (and are easier to find) if assigned in AID/W—in Personnel Administration, in Program Coordination and Review, in REPAS, and in Regional Bureaus (if enough behavioral scientists can be found!)

3. *Advisory Committees:*

a. Because so many aspects of AID are involved, a social or industrial psychologist or sociologist could be added to AID's top Advisory Committee. In addition, a social psychologist might well be added to AID's Research Advisory Committee, preferably one interested in quantitative, empirical research.

b. Area or country advisory committees including behavioral scientists can be set up to advise AID/W, and would be useful for general two-way flow of information, consideration of general policies, etc. By keeping the academic community in touch with AID activities, they would stimulate teaching and research helpful to AID, as well as improving its academic value. Detailed program advice is not likely from such committees, however.

c. Country advisory committees might well be set up in important host countries, drawing in national personnel in behavioral science fields who might well not be available on any other basis.

4. *More attention should be given in selection, and in all the training and orientation programs undertaken*, to good preparation in the behavioral sciences. Similarly, specialization of part of the AID staff in certain cultural areas should be fostered by selection, training and career planning. The provisions of the National Training Act of 1958 should be fully utilized to give intensive behavioral science training to career personnel of AID; and behavioral scientists should play an important role in the training program for senior officers. They could also be very helpful—perhaps as short-term consultants “riding the circuit”,—in the mission training activities overseas.

5. A series of *leadership seminars* should be undertaken to acquaint the top officials of AID with current behavioral science research as it bears on the AID program, and to acquaint behavioral scientists with AID's needs for research and analysis applicable to AID policies, program and administration.

6. AID should encourage and subsidize memberships in professional and scientific societies by AID personnel, attendance at the meetings of these societies, subscriptions to their journals, and the purchase of books on economic development by individuals and missions. (A good deal already being done by Personnel Office, but more needs to be done.)

7. *AID should establish close relations with professional behavioral science bodies*, to get more attention paid to AID research needs and to the implications for AID of research findings.

8. *AID should interest behavioral scientists in the U.S. and abroad in undertaking research on economic development and development assistance* (much can be financed by foundations, business concerns, or universities themselves) and *provide financial support and administrative facilities* for such research (using PL 480 funds as well as AID dollar funds). Recommended guidelines:

a. Include both applied research and basic research (see recommendations of President's Panel).

b. Develop cooperative inter-university research planning and programs through which efforts at different institutions are (voluntarily) coordinated. (Use pattern of SSRC program of research on cross-cultural education.)

c. Support not only current research but also the development of trained manpower and other facilities to expand capacity for future research (see recommendations of President's Panel).

d. Foster the development of research institutions overseas, especially where they engage in collection of new, empirical data, as in sample survey research.

9. *AID should interest cooperating government agencies abroad* in initiating, assisting, financing, and utilizing behavioral science research.

10. *AID should develop close relationship with UN, OECD, and other inter-governmental programs*, as well as foundation programs, which are similarly attempting to bring behavioral science to bear effectively on development assistance activities.

Again, it should be stressed that what is proposed here is not simply the addition of a few experts, or a few better contacts with experts, but rather a pervasive penetration of all AID staff and operations by an acquaintance with, appreciation of, and utilization of behavioral science thinking, concepts, insights, approaches and research findings.

It is pertinent to recall a speech by President-elect Kennedy, on January 14, 1960, in which he said that the Chief Executive “must reopen the channels of communication between the world of thought and the seat of power”. The world of behavioral science thought has been hardly tapped so far by AID.

APPENDIX

AID'S EXPERIENCE WITH BEHAVIORAL SCIENCE

AID and its predecessor agencies have a long record of fluctuating interest in the behavioral sciences, with rather meager results so far.

1. Early Attempts to Involve Behavioral Scientists in the AID Program

In 1949 and 1950, two conferences of social scientists were called together by the officials of the State Department who were charged with developing the Point IV program. These conferences provided some two-way communication. They somewhat reassured the social scientists that this unprecedented attempt to

change whole societies would be prosecuted with reasonable regard for the psychological, social and political problems involved. And they provided the government officials with some insights about social change—the most emphatic being the warning by the anthropologists against trying to move too fast.

In 1951 or 1952, both the Technical Cooperation Administration and the Mutual Security Agency commissioned the preparation of analytical "country studies" by social scientists, to be used particularly by field missions in their program planning and review. The studies commissioned by MSA were prepared by the Society for Applied Anthropology, but were done in isolation from operational questions, were not of high professional quality, and hence were not very useful. Studies prepared by the Human Relations Area Files for TCA were somewhat more useful.

Both TCA and MSA employed a certain number of cultural anthropologists as general program advisors in country missions. Some were useful, some not. The idea was shelved when Congressmen heard about it and reacted in predictable fashion. However, the Community Development Division of ICA employed a number of anthropologists and sociologists in field positions.

The European Productivity Agency (a child of ECA and OEEC) supported considerable social science research on human factors in industrial productivity.

Research on the effects of the ECA (Marshall Plan) participant training program begin with a study by Ronald Lippitt, University of Michigan, in 1953. Along about that time, the Social Science Research Council supported a series of studies (with financing from private foundations) on the effects and problems of cross-cultural education. The results of these and other studies were reported and discussed at a seminar held in 1954 by the Foundation for Research on Human Behavior (of Ann Arbor, Michigan). In 1957, the University of Michigan carried out a research study (financed by ICA contract) of ICA participants who had returned to the Philippines. Several other evaluation studies of returned ICA participants were carried out at about that time. This interest flowered into a broad series of training evaluation studies, carried out by ICA's Training Evaluation Division.

At the same time UNESCO (and to some extent other agencies of the UN family) became interested in the scientific evaluation of technical assistance for economic development. A UN Conference in 1953 was followed by several UNESCO Conferences from 1954 to 1958. An issue of UNESCO's *International Social Science Journal* was devoted to "Criteria and Techniques for Evaluation", and UNESCO commissioned the preparation of an evaluation manual for field workers (published in 1959 under the title, "Measuring the Results of the Development Projects"), which was in effect an outline of the application of social science research methods to the problems of measuring change in unsophisticated societies.

2. Meager Results of Early Use of Social Science

Although the above indicates considerable interest and receptivity on the part of the aid agencies (and some international agencies) to the application of behavioral science in the field of development cooperation, in fact, the extent of application was not great and the results were disappointing. The apparent reasons for this are several.

On the one hand, aid agency personnel were not generally enthusiastic about the possible contributions of behavioral science, and several factors dampened what enthusiasm there was. For years, the aid agencies lived in annual jeopardy, not knowing whether or not they would still be in business a year later. Moreover, certain State Department personnel, Congressmen and aid agency personnel subscribed to a "quick political impact" philosophy of foreign aid; even for the Point IV program. Since behavioral science research could hardly "pay off" for several years, little interest in it was expressed.

Secondly, aid personnel had generally been recruited from other government agencies, from economics, from the law, from business, from technical professions such as engineering agriculture, etc. Few had much background in behavioral science except in the Community Development Division, and that involved a relatively small part of both national development programs and the AID program itself.

Thirdly, aid agency personnel always (it seemed) were too few for the work to be done. They had no time to read, to attend conferences, to take courses, even to listen to consultants and advisory committees, and in these ways get in

touch and stay in touch with behavioral science research and thinking that bore on questions of development planning and administration.

Fourthly, the leadership of the aid agencies (especially after the death of Dr. Bennett, first Administrator of TCA) was unacquainted with and unenthusiastic about the behavioral sciences, at least as they might relate to aid.

Finally, the Congress looked with a fishy eye on behavioral science in particular and social science in general. Those were the days when "social science" was equated with "socialism". And Congress kept an eagle eye on everything the aid agencies did.

Little wonder then that not much receptivity to behavioral science developed in the aid agencies. But the explanation did not lie at the door of the government alone.

The behavioral scientists themselves didn't have too much to offer to the aid agencies. Again, the reasons are several.

First, relatively few behavioral scientists had developed an interest in foreign economic development. Some interest had been aroused in cross-cultural studies of attitudes, cross-cultural education and international communication. But this mainly concerned Europe and Japan. Some anthropologists were interested in the less industrialized countries, but more in studying static (and often isolated) societies than in studying current social change. There had been a tremendous boom in the behavioral sciences in the U.S., in teaching, in research and in applications in industry, mental health, etc. There were too many jobs to be done already, and therefore few were drawn to the new field of development, where they weren't particularly wanted anyway. So teaching and research on development were generally neglected.

Contributing to this were the paucity of data in the underdeveloped countries, the weakness of educational institutions and especially research facilities in such countries, and the small number of nationals of such countries interested in, trained for and available for cooperative research projects. To do empirical research, one had to go to a strange country, with little in the way of professional support there, with poor communication and travel facilities, poor health and nutritional conditions, civil insecurity, practically no graduate students to assist one, and then simply "do it yourself." Not an attractive prospect!

A further factor was the absence of a tradition of exchange between operational government jobs and academic teaching jobs in the behavioral sciences, comparable to the tradition that had developed in economics and to law. During World War II, to be sure, psychologists and sociologists had been active in communication analysis, in psychological warfare, in OSS, in the morale branch of the Army, and in survey research. But there was little of the continuing interchange between government and academia that was maintained in other disciplines.

Of greatest basic importance, however, is the absence of any real profession of "social engineering" into which a regular stream of behavioral scientists might flow, and which would provide rewards in significant work, status, security and income comparable to those offered by teaching and research. Many behavioral scientists are part-time consultants. Relatively few are full-time social engineers. If there were many more, and a tradition of work in this field, and training facilities, and professional recognition, the aid agencies would find it easier to bring the behavioral sciences to bear on development problems.

3. The Growing Interest of American Behavioral Scientists in Questions of Economic Development

Since 1950 or so, considerable academic interest in economic development has appeared. New research centers specializing in the economic development of underdeveloped areas have been formed at MIT, Yale, Chicago, Michigan, Stanford and elsewhere. Centers for area studies, already established at a number of universities, have proliferated. New graduate training programs in economic development have been instituted at Syracuse, Pittsburgh, Vanderbilt, Williams, Michigan, Texas and other colleges and universities. Scores of contracts to aid foreign governments and universities have been undertaken by a wide range of American institutions. As a consequence of these activities, more and more behavioral scientists, both faculty and graduate students, have become interested in economic development, alive to its intellectual challenges, engaged in writing and teaching about it, and increasingly available for assignments with aid agencies, in this country and overseas.

The burgeoning interest has also manifested itself in a great growth in published materials, and in conferences where research findings are presented and

discussed. The new journals (*Economic Development and Cultural Change*, and the *International Development Review*) were established; a professional society (Society for International Development) was organized; the existing journals devoted more and more space to articles on economic development; a series of textbooks were published; several remarkable books by non-economist social scientists appeared; and the programs of national professional societies came to have a considerable component of discussions of development problems.

In one specialized area, the selection and training of personnel for overseas service, there were a series of activities in the academic world, primarily sparked by the interest (and financial support) of the Ford Foundation and the Carnegie Corporation. These included a major research project at Syracuse University (from which came the book, "The Overseas Americans"), a conference at Cornell in 1958 on Inter-Professional Training for Overseas Service (also reported in a book), and a conference at Princeton in the fall of 1960.

4. *The Growing Interest of AID in Scientific Research; and Glimmerings of Interest in Behavioral Research*

Among the loyal professionals still holding the fort in ICA in the late '50s were some with deep convictions that the aid program had a tremendously important role to play in long-run U.S. foreign policy, that the program had many years to run, that much could be learned from the accumulated successes and failures of ten years of government operations, and that the whole program would benefit both from a closer interaction with the world of scientific research, and from research studies specifically undertaken for the light they might throw on the technical and human problems both of development itself, and of the agency's role in development.

From the interest of this group came the establishment of a major internal study of experience with technical assistance, undertaken by the Technical Assistance Study Group. Other activities were set in motion, resulting in the President's Science Advisory Committee appointing (under President Eisenhower) a Development Assistance Panel, which issued a very influential report in March, 1961. At the same time, a contract was made by ICA with the Brookings Institution, which brought together a conference on development research in May, 1961.

This interest was also reflected in the inclusion, in the new legislation establishing AID (in 1961), of specific authorization for the support of research bearing on economic development; a request for appropriations under this authorization (not specifically provided by the Congress, but not prohibited either); and the establishment of an office in AID, the Research, Evaluation and Planning Assistance Staff.

Several million dollars were committed under research contracts made by REPAS in FYs 1962 and 1963. Much of the research interest of the Development Assistance Panel and of REPAS was oriented, however, to the physical and life sciences, and to institutional economics and law in the social sciences. The behavioral sciences did have representation on the staff (REPAS early included an anthropologist and a psychologist), but little impact on the research contracts made or on AID operations.

As a sequel to the work of the President's Task Force on Foreign Economic Assistance (which drew up the new AID legislation and the presentation of the 1961-62 program), a special Task Force on Training and Orientation was appointed in the summer of 1961. Its report, *Training for AID*, included recommendations for personnel research and professional behavioral advice on personnel selection and administration, but the report was never implemented, partly because the administrative and personnel offices of AID were afflicted by such perpetual turmoil and turnover during 1961, 1962, and 1963 that few changes of a basic character could be considered.

Interestingly, the Peace Corps did far better in professionalizing its approach to personnel problems. As a kind of parallel to the TASG study referred to above, the Peace Corps contracted with the American Institute for Research to apply its well-known "critical incident" technique to a study of technical assistance successes and failures in ICA, private agencies, universities, etc. The result was a training manual for Peace Corps Volunteers.

The Peace Corps also went directly to professional psychologists to set up a personnel selection and evaluation system. And it established a research office, with a behavioral scientist in charge; called several conferences of behavioral scientists to review with them its operating program and likely research needs; and contracted for a few research studies abroad which focused on the psychological and sociological effects of the Peace Corps.

Both AID and the Peace Corps were represented at the international conference on selection and training for overseas service, held in Rome in February, 1962.

When AID was charged in 1962 with the responsibility for getting the U.S. presentation prepared for the UN Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas, a small group did a major job of finding out what pertinent research was going on in the U.S., what findings were available, what they meant for development planning and administration, and so on.

Finally, the *Development Research Digest* (originally the *Review*), prepared for AID by the National Planning Association, provides an important link with the academic community.

Senator HARRIS. Dr. Simon. Dr. Herbert A. Simon, professor of computer sciences and psychology at the Carnegie Institute of Technology in Pittsburgh. Without objection we will place in the record a biographical sketch concerning him.

Biographical Sketch: Dr. Hubert A. Simon

Professor of Computer Sciences and Psychology, Carnegie Institute of Technology, Pittsburgh, Penn., A.B., University of Chicago, 1936, Ph. D., 1943; LL. D., 1964; D. Sc., Case Institute of Technology, 1963; Yale University, 1963.

Research Assistant, University of Chicago, 1936-38; Staff Member, International City Managers Association, also Assistant Editor of *Public Management and The Municipal Year Book* 1938-39. Director of Administrative Measurement Studies, Bureau of Public Administration, University of California, 1939-42; Assistant Professor of Political Science, Illinois Institute of Technology, 1942-45; Associate Professor, 1945-47; Professor, 1947-49; Also, Chairman of Department of Political and Social Science, 1946-49; Consultant to International City Managers Association, 1942-49; U.S. Bureau of the Budget, 1946-49; U.S. Census Bureau, 1947; Cowles Foundation for Research in Economics, 1947-60; Consultant and Acting Director, Management Engineering, Bureau of Economic Cooperation Administration, 1948, Professor of Administration and Psychology, Carnegie Institute of Technology, Pittsburgh, 1939-, Head of the Department of Industrial Management, 1949-60, Associate Dean, Graduate School of Industrial Administration, 1957-; Vanuxem Lecturer, Princeton University, 1961; William James Lecturer, Harvard University, 1963; Chairman, Board of Directors, Social Science Research Council; Consultant Business and Government organizations. Chairman, Pennsylvania Governor's Milk Inquiry Committee, 1964-65. Recipient Administrator's Award, American College Hospital Administrators, 1957. Fellow, Econometric Society; AAAS American Academy of Arts and Sciences; American Psychological Association; Member, American Sociological Society; Institute Management Sciences, (Vice President, 1954); American Political Science Association; American Society for Engineering Education; American Society for Public Administration; American Association, University Professors; American Philosophical Society; Phi Beta Kappa, Sigma Xi.

Author or co-author of books relating to field, including: *Administrative Behavior*, 1947; *Public Administration*, 1950; *Models of Man*, 1956; *Organizations*, 1958; *New Science of Management Decision*, 1960; *The Shape of Automation*, 1965.

Senator HARRIS. Dr. Simon, I believe you have a prepared statement. We are very pleased to have you here. We are very pleased to see you again and will be glad to hear from you at this time.

Dr. SIMON. Thank you, Senator Harris.

TESTIMONY OF DR. HERBERT A. SIMON, PROFESSOR OF COMPUTER SCIENCES AND PSYCHOLOGY, CARNEGIE INSTITUTE OF TECHNOLOGY, PITTSBURGH, PA.

Dr. SIMON. Those of us who have spent our professional lives in basic and applied social science research welcome the challenge that this committee has placed before us, for we view it as an opportunity to

enable all of us to carry forward more rapidly and vigorously the work that seems to us vital for our sciences and important for our society.

We now have behind us almost a decade of experience with explicit Federal support for basic social science research, and a much longer experience—stretching at least back to the first census—with support for applied research. It is a good time to assess where we stand and where we should be going.

LEVEL OF SUPPORT

The problem with present Federal support of social and behavioral science research can be stated rather simply: there is too little of it. Other more specific problems might be mentioned, and I will allude to several later, but some of them will solve themselves as we solve this one. There has been much public discussion, for example, of the proper balance between basic and applied research. It is hard to say just where the line lies between these two activities, or, indeed, whether there is a line.

But we do not really need to concern ourselves about precise definitions. The plain fact is that, under present circumstances, an increase in attention to applying social science knowledge to public affairs can only be achieved by cutting down on the rate of progress in basic research. There are simply not enough social scientists to go around. Outnumbered four to one, or perhaps even six to one, by our colleagues in physical and biological sciences, we try to deal with the whole range of fantastically complicated human systems from brains to societies. The social science community, torn between concern for solving pressing social problems and concern for advancing basic social science knowledge, is overcommitted to both.

The case for more and better social science has been made effectively by others. Let me assume that we are agreed there is a deficit, a deficit so severe that—in the short run at least—dollars cannot and need not be the main limit on our efforts to correct it.

No field of science can grow more rapidly than it can provide sound training for new researchers and raise the aspirations and competence of those already in the field. Before it can train workers, it must attract them. Operating within these constraints, it may be possible at a reasonable cost to give a significant initial impulse to the social sciences—to take up the slack of activities and researchers who are now underfinanced—and then to support growth for a short period at a rate of perhaps 20 percent a year. In this way, the total scale of the effort might be doubled in the first 3 years, then doubled again in another 4 or 5.

These prospects can be realized with relatively little change in present trends in Federal support for social science research. From fiscal year 1965 to 1966, Federal obligations for such research increased about 40 percent (from \$230 to \$325 million), and from 1966 to 1967 a little less than 20 percent (to \$380 million). A continued growth at the rate proposed would aim, then, at a target of about \$1.5 billion—perhaps two-tenths of 1 percent of GNP. When we have succeeded in achieving sound growth to that level, it will be time to review long-range goals.

To be sure, these are not small amounts anywhere outside the context of the Federal budget, but we are considering them inside that context. Clearly they are amounts that can be provided if the objectives are thought to warrant the cost. The more difficult problem is how to spend them wisely.

BASIC AND APPLIED RESEARCH

It is a mistake to think of basic and applied research in any science as completely distinct and isolated activities. Applied problems provide a valuable—even indispensable—source of good questions for basic research, just as good basic research often creates byproducts for rather immediate and direct application to the world of affairs. Nevertheless, in science as in manufacturing, some division of labor is efficient. A healthy growth of science must provide support for some research whose main justification is its promise of adding to significant fundamental knowledge, and other research—more expensive in the aggregate—mainly concerned with contributing directly to the diagnosis and solution of important practical problems.

Experience in the universities, in government, and in industry points to three important organizational principles that are essential to the effective conduct of research, basic and applied:

1. Some independent institutional support is needed for basic research if it is not to be swallowed up completely in short-run concerns. In the Federal structure, the National Science Foundation has supplied the central support, and very effective support, for basic research. The principle should not and does not mean that projects that show signs of being useful should be denied support by such an agency; it means that projects are evaluated primarily in terms of their potential contribution to strategic advances in knowledge.

2. It is not desirable to draw a hard-and-fast boundary around programs of applied research. To make certain that available basic knowledge is drawn into the solution of applied problems, mission-oriented research should have associated with it some significant basic research in relevant areas. This practice has been carried on for many years in the best industrial laboratories—Bell Laboratories being an outstanding example. For this reason, it is proper and desirable for mission-oriented agencies like NIH and ARPA to allocate significant sums to basic research, evaluated as NSF would evaluate it. If fundamental knowledge is to produce social value, we must avoid complete isolation of “fundamental” scientists and “applied” scientists. Instead, we need a continuum of communication from the “purest” to the most applied, with no break or gap in that continuum to impede the flow of fundamental knowledge into useful applications, or the flow of information about problems into the formulation of basic research tasks.

3. Applied research is best carried on under the auspices of mission-oriented organizations. Association with applications is necessary in order to keep the research pointed toward real-world problems, and just as necessary in order to expose action agencies to the new knowledge that research produces and that should be applied.

These principles apply as well to the social as to the physical and biological sciences. They fit pretty well the existing pattern of Federal

support for the social sciences. The National Science Foundation is increasingly assuming responsibility for support across the spectrum of basic social science research. In agencies like NIH, there has been a reasonable balance of support for applied and associated basic projects.

Some other mission-oriented agencies have been unduly timid and shortsighted in moving toward the basic end of the spectrum. Until quite recently, for example, the Office of Education was too much concerned with immediate practicality and too little with building the fund of fundamental knowledge about learning and about the social environment of education that is necessary in order to do effective applied work in that field. I could mention one or two mission-oriented agencies where the word "research," whether basic or applied, does not yet appear to be a part of the everyday vocabulary of top administrators.

ORGANIZATION OF SOCIAL SCIENCE RESEARCH

The principles enunciated above have several implications for the organization of Federal support for social science research. They bear only indirectly, however, on whether there is need for a new social science research foundation. For the reasons already stated—and specifically the third principle—if a new foundation were created, its primary mission should be to support basic, rather than applied research. A program of applied research isolated from a mission-oriented environment is likely to stay away from genuine applied problems, and will have great difficulty in gaining actual application for its practical findings. In a system as large as the Federal Government, the main programs of applied research, in-house and extramural, belong at the levels of the departments and mission-oriented bureaus.

There remains the question of whether basic research, on a growing scale, is best supported through NSF or through a new foundation. This question does not admit of a clear-cut "Yes" or "No" answer—either scheme can work, and under favorable circumstances may work well. On balance, however, I think there are several reasons for continuing, at least over the next few years, to use NSF as the principal instrument for supporting basic social science research. The reasons are these:

1. NSF has already had considerable experience in this activity, and has been highly effective in it. As public understanding and acceptance of the social sciences has grown, the NSF social science program, starting in a few selected areas, has grown correspondingly until it now embraces most subjects in which there is active social science research in this country. In his recent testimony before this committee the Director of NSF outlined a program for continuing expansion of social science support that seems to me basically sound and aimed in the right direction.

2. The boundaries between science disciplines are becoming less and less definite, and the communications across them increasingly important. To cite an admittedly extreme example, computer list-processing languages, invented for certain uses in psychology, have been applied to the modeling of RNA reproduction in biological cells, to simulating the decisionmaking of a bank trust officer, and to deduct chemical structure from mass spectrophot data. Other examples could be cited

that are more prosaic but no less real. This is the wrong moment in history to isolate the physical and biological sciences from the social sciences, or vice versa.

3. Rates of growth for basic social science research such as those I recommended earlier are more likely to be attained within the NSF framework than in a new agency. Within NSF the level of support for the social sciences can be evaluated in relation to the level for the natural sciences. Standards of support that have been developed for the latter, on the basis of a considerable body of experience, can be applied and adapted to the social sciences. Appropriations that would appear enormous in the budget of a separate agency will appear in their proper scale when direct comparisons can be made of support of technical and social research, respectively. Within such a framework, Federal policy toward social science research can be viewed, as it should be, as an integral part of overall Federal science policy.

4. Social scientists have learned, and will continue to learn, a great deal from the much longer and broader experience of natural scientists in developing an effective research enterprise. They will participate, as a matter of course, in across-the-board NSF programs for science education, institutional support, and development of facilities.

5. Science is more than commonsense. (It is to be hoped that it includes some commonsense, too.) Just as man learned to use tools to make his hands more powerful, so he has learned to use tools to make his mind more powerful. If science can sometimes answer questions that commonsense cannot, it is because science makes use of powerful tools whose development is one of the core scientific activities. The actual or potential usefulness of social scientists to society does not and cannot depend on their being brighter or having more commonsense than journalists, or lawyers, or ministers, or the man on the street. If they have something to contribute to the solution of social problems, it is because they, like other scientists, are concerned with developing and using tools of inquiry to help the unaided mind.

Within the social sciences there is great variation in the quality of research and adherence to sound methodology from one discipline to another, and within disciplines. Some social science areas remain that must still demonstrate convincingly that they can build tools, that they can contribute knowledge which will supplement and augment commonsense. An important goal of Federal social science policy should be to strengthen the best trends within the social sciences.

Encouraging interaction between social and physical scientists, and encouraging social scientists to apply the same standards of objectivity and technical ingenuity as those encountered in the other sciences to their own research are important ways of moving toward that goal. Participation in NSF as an integral part of the scientific enterprise has greatly strengthened the ablest and most progressive social scientists within their own disciplines, and has been an important force toward modernization. I would cite such examples as support for mathematical training, for empirical field research, for computer facilities.

6. Not timidity but realism makes social scientists mindful that their work is less widely understood and accepted and more susceptible to political criticism than the work of other scientists. They should not and do not demand immunity from criticism. Issues are not less real for

being "political," but they are more likely to be viewed calmly and dispassionately if they are considered within the general framework of sound science policy than if separate principles are applied to the social sciences.

A social scientist who expresses unpopular views in public raises exactly the same issue of policy as a physical scientist who does the same thing—neither more nor less. The protection of subjects in psychological experiments needs to be based on the same principles that govern the protection of subjects, or patients, in medical experiments. When the title of a highly technical social science research project sounds ridiculous, its ridiculousness or significance need to be judged by the same standards as projects in physical or biological science that have strange-sounding titles. Participation in NSF provides the broader perspective for examining such matters as a part of science policy. The creation of a separate social science foundation creates genuine dangers that a double standard will develop. Perhaps that will not be true 10 years from now; it is true today.

Perhaps the creation of a separate agency would give social scientists greater recognition. The place where they most need this recognition is not in seeking support for basic research but in the formation of science policy, and of public policy on matters having significant technical content. I will address myself to this question in the next section.

In summary, the existing Federal organization for the support of social science research seems generally satisfactory. The NSF should be encouraged to make sure that its program includes all areas within which basic social science research can be carried on, and should attempt particularly rapid expansion of support in the areas added most recently to its program and still least generously financed. Applied research programs should be expanded within appropriate mission-oriented agencies; and a significant part of their research budgets should be allocated to mission-relevant basic research. On balance, it would be undesirable to transfer responsibility for support of basic research to a new agency at the present time; and it is unrealistic to think that Congress would continue to support two programs directed toward this object having considerably overlapping purposes.

SCIENCE AND PUBLIC POLICY

With the growth of science in the past generation and its increased relevance to public policy, a number of institutions have grown up to give the Government more adequate access to competent scientific counsel. Perhaps the most important institutions of this kind today at the level of Congress and the President are: (1) the complex consisting of the Council of Economic Advisers, the Treasury Department and the Federal Reserve Board; (2) PSAC and the Federal Council for Science and Technology; and (3) the NAS-NRC complex.

The present arrangements do not provide entirely satisfactory channels for bringing the best scientific knowledge and advice to bear on public problems. The Council of Economic Advisers and its related organizations are perhaps the least unsatisfactory, since the area of their concern is relatively well defined and primarily economic in

nature. Nevertheless, the question of how full employment should be in our society is becoming more and more a question with important sociological and other noneconomic aspects. It would be desirable to achieve some broadening of social science participation beyond technical economics in these organizations.

The exclusion of social scientists from PSAC is perhaps the most serious defect in the present arrangements. The supersonic plane and usage of drugs are examples of two problems that would come to PSAC from time to time and in various guises. They clearly are problems with technical components—in physics, biology, chemistry. They are equally clearly problems of economics, sociology, psychology, and even international relations.

Social scientists are, frankly, rather tired of being handed problems whose physical, biological, and engineering aspects have been "solved" without any particular expert attention to the human aspects, and then being asked to take care of unwanted social and psychological consequences. Unless social scientists are brought in in the early stages—at the stages of formulating a problem and outlining the procedures for tackling it—we will continue to live indefinitely in a world where there are plenty of automobiles but no parking places, lots of leisure, and only drugs to fill it.

A small, but significant, step toward changing this state of affairs is to provide for significant social science membership in PSAC and participation in its associated organizations.

The situation in the NAS-NRC complex is less critical since the relevant division of the NRC has been broadened to include all of the behavioral or social sciences. However, as long as Congress vests the controlling power over the National Research Council in the National Academy of Sciences, the present inadequate and unbalanced representation of the social sciences in the membership of the Academy creates a serious problem. There are at least two possible solutions: to increase and broaden the social science membership of the Academy (to which the Academy might or might not agree), or to change the existing arrangements for the control of the National Research Council. I do not know which is the preferable solution, but the present control arrangement is not properly representative of the scientific community and should be altered.

ATTRACTING TALENT TO THE SOCIAL SCIENCES

The best available evidence indicates that there are probably somewhat fewer extremely bright people in the social sciences, in proportion to total numbers, than in physics, mathematics, and perhaps some other fields of science. If a rapid expansion of the social sciences is undertaken, there is a danger that the quality of scientists in these fields will be lowered further. Positive steps should be taken to prevent this from occurring—indeed to attract to social science a somewhat larger fraction of the persons with exceptional talent for scientific research.

Young people with high aptitude for science commonly make a commitment to a scientific career quite early—at a time when they have studied physics, mathematics, chemistry, and biology, but when they

have not been exposed effectively to the idea that scientific methods can be applied to the study of man.

To be sure, most of these young people have had courses in geography, history, "civics," and perhaps even economics. As such courses are now taught at secondary and undergraduate college levels, they are quite different from science courses. They are aimed, properly, at providing knowledge and understanding that will enable students to learn to exercise more intelligently the rights and duties of citizens. They are not aimed at showing students how knowledge about man and society can be produced, or at developing the skills of scientific inquiry as applied to human affairs. Hence, to the young prospective scientist, "science" means exclusively physical or biological science.

There is a great need, at the advanced placement level in the high schools, and in the colleges, for courses that will expose able students to the methods of science as applied to human affairs. A relatively small but well-conceived curriculum-development effort aimed at this objective could help greatly in securing for the social sciences the increased numbers of talented researchers they will need in order to expand at a desirable rate.

ENLARGING THE CAPABILITY FOR APPLYING SOCIAL SCIENCE KNOWLEDGE

We do not depend on research physicists, chemists, and mathematicians to apply their discoveries to practical affairs. There is a whole army of applied scientists, engineers, and technicians engaged in this task. In the same way, biological research relies principally on physicians and medical and agricultural technicians of numerous kinds for its application. A major weakness in the social sciences is the lack of corresponding professions directed at application to society's problems of social science knowledge.

To remedy this weakness we could consider what form an entirely new profession of applied social science might take, or we could consider what might be accomplished by some redirection of training in several existing professions. There is reason to hope that vigorous action along the later line could go a long way toward solving the problem.

In psychology, one part of the task of training applied scientists has been undertaken within the discipline—in programs of clinical psychology and psychometrics. As a result, perhaps only a third of the holders of Ph. D.'s in psychology think of themselves primarily as research psychologists, the remainder being practitioners of clinical, testing, and industrial psychology. This solution has not been without its costs—in addition to the manpower drain from research. In some cases compromise doctoral programs have fallen between the two stools of training researchers and training clinicians.

In education the pattern has been quite different. Education and psychology have lived almost separate lives with disastrous consequences for the former and great harm to the latter. Without going into the sorry history of the matter, I think it can be said that communications are now being reestablished across the gap, and that this is an opportune time for the Office of Education to launch a vigorous program to revitalize educational psychology and education sociology,

the proper meeting ground among basic researchers, applied researchers, and practitioners.

In business management and public administration isolation from the social sciences was also the norm a decade ago. Significant progress has now been made in leading schools to introduce the basic social science disciplines into professional training and research (consistent with the second of the three organizational principles stated earlier). The Ford Foundation, which supplied much of the financial support for these developments, has now bowed out, and has suggested that the responsibility be assumed by other, unspecified, institutions. This appears to be a proper matter of concern for the Commerce and Labor Departments, and perhaps other Federal agencies.

One major relevant profession—law—has been left almost untouched by these developments. Fifty years after the "Brandeis brief" demonstrated the importance of social science knowledge to constitutional issues, there still appear to be only two or three law schools that expose their students to extensive social science training, or that assume responsibility for programs of social science research. In a society where the law is an important professional route to positions of business and public responsibility, this state of affairs is unfortunate.

I will not undertake a complete census of professions that need to be brought into closer contact with the social sciences, beyond mentioning one other obvious candidate—social work. It would appear that schools of social work have achieved almost as thorough isolation from basic research in sociology and psychology as have schools of education and business from their respective social sciences bases. Since I am less well informed about social work than the other fields I have mentioned, perhaps my judgment in this instance is unduly harsh. In any case, I hope the matter is receiving attention in HEW, in whose domain it falls.

In sum, the effectiveness of the social sciences in trying to carry on basic research while at the same time participating in the solution of acute social problems could be much enhanced by enlarging the capacities of the professions I have mentioned, and perhaps others, for applying social science knowledge to practical affairs. The responsibility for accomplishing this can best be assumed by the appropriate mission-oriented Federal agencies.

RESEARCH ABROAD

For a long time, American social science was culture bound. It often erroneously generalized to all places and all times truths that had been demonstrated for 20th century America. This narrowness is on its way to being corrected. There is a new dialogue with history that is persuading social scientists to test their theories with data from earlier periods, and persuading many historians to apply social science methods to historical data.

There is also a vigorous interest in American social science today in learning about other parts of the world, and in testing generalizations of data drawn from many diverse cultures. The importance of this development both for the validity of social science theory and for the effectiveness of American policy abroad hardly needs elaboration.

This encouraging trend toward comparative study has run into a serious snag that was not anticipated, or only insufficiently anticipated. Camelot was a program that struck this snag rather violently. Part of the problem is that wherever America is involved in international affairs, America will have friends abroad and enemies abroad. And the enemies will use the American presence in their countries—in whatever form—as a target of political propaganda and action whenever it appears advantageous to do so. Commonsense—to say nothing of social science—tells us that we must expect that and take it into account in our research plans.

But the problem is deeper and broader than opposition to American foreign policy. Guests will be accepted, whether in America or abroad only as they remain guests. Some research, not only social science research but also research in radio astronomy, geology, tropical medicine, and many other fields of science, must be carried out, wholly or partly, in other countries. Sooner or later—and probably quite soon—we will find that we can only carry it out if we arrange matters so that we can behave like guests. In particular, participation on a basis of equality by scientists of the host country will increasingly be demanded even when we are willing to pay the full cost of the research.

Since these are matters now under consideration by a committee of the Division of Behavioral Sciences, NRC, of which I am a member, I do not want to prejudge the committee recommendations. I would merely observe that this is another instance where a single policy for science will sooner or later be needed—not a separate policy for the social sciences. The existing State Department review of proposals for certain research abroad is a stopgap arrangement, entered into hastily and addressing itself to only a small part of the problem. It is worth at least raising the question at the present moment whether there is not need for a new Federal agency whose function would be to develop and implement long-range policy for American research abroad in all the sciences.

I am grateful for this opportunity to discuss the future of the social sciences with the members of this committee. With the growing public and congressional interest in social science and its contributions, past and prospective, to public policy, and with the growing competence of the social science community to carry forward significant research, that future seems very bright indeed.

Thank you.

Senator HARRIS. Thank you, Dr. Simon. As I say, it is good to see you again and I want to thank you for a very thoughtful paper, which I have read in full, together with the helpful summary of it which you have given here this morning.

As you know, I do not agree with you on your overall conclusion with regard to the separate National Social Science Foundation. I do agree with some of the other conclusions you have made about the social sciences. I certainly agree, as well, that you have raised some general questions which certainly are factors which must be considered carefully as we decide what sort of an organizational framework is necessary for increased support of the social sciences.

I also was very much impressed about the statement you made on collateral problems, about how we may get better results from the

social sciences in general, and concerning their contacts with Government.

I wonder if you would admit that your conclusions about whether increased support for social sciences ought to come under the National Science Foundation rather than the National Social Science Foundation—might not be colored by the fact that you are primarily interested in and that your background is in precisely that area of social science which most overlaps with the natural sciences.

And that perhaps your conclusion might be prejudiced somewhat by the fact that in your area of concern there is the greatest collaboration between the natural and social sciences, and that it is precisely in that area that increases in the level of support by the National Science Foundation has been taking place and would continue to take place even after a social science foundation was created?

Dr. SIMON. Well, I would certainly hope that if a new foundation came into being this would not mean that the National Science Foundation would cease its concern with the social sciences—or even diminish its concern with the social sciences. I must confess, taking my original role as a political scientist, that when I look at the Washington scene I wonder whether if a new organization of this sort existed, the question of duplication would not quite naturally and properly arise in the minds of the Congress in the appropriations process. I have a great respect for the ability of the Congress to add the numbers it finds on one page of the budget document to the numbers it finds on another page of the budget document, and to look at the totals. So, I am perhaps not sanguine that the existence of a new agency could mean additional funds to the social sciences without some cuts in the funds that would be available for the growth of the social sciences within the National Science Foundation.

Senator HARRIS. That is assuming, isn't it, that there would be actual duplication of effort; is it not? Is that not a rather basic kind of assumption that might alter your conclusion if it were found to be untrue? For example, suppose the National Science Foundation did, indeed, do what it says it will do, that is, expand its funding in the social sciences, particularly in those fields which overlap with the natural sciences, or that they were not interested in funding the same type research projects or projects on the same subjects; would that not change your conclusion somewhat? True, Congress has not been giving money for exactly the same purpose to two different agencies doing the same work, which would produce the same results, but would that not be an improper assumption to begin with, that both foundations would overlap each other, and duplicate project support?

Dr. SIMON. Well, I think each of us has to make his guess as to how this thing will be viewed when and if such an organization actually existed. Congress is a busy, heavily loaded body, it has to look at things in a very broad way. It can occasionally dip down and sample at a much more minute level, but by and large it has to deal with broader issues of policy and their execution has to be left to others.

I would suppose that the question could quite naturally arise in congressional minds, if there existed a social science foundation, as to whether this would not be the logical body to fund most basic research in social sciences. Hence, I guess, I would want to try to shift

the burden of proof and ask whether the potential gains from the existence of such an organization would balance that risk.

I am, frankly, impressed with the development of the social sciences within the National Science Foundation over the past 15 years. I have lived with natural scientists a long time (most of my academic career has been in institutes of technology), and I know that they do not always understand what we are talking about in the social sciences, and I do not always understand them. But I have felt that the program within the NSF has expanded in the scope of things they were willing to support—has expanded as American understanding of the social sciences has expanded. For this reason I have not felt that the Foundation, in the last few years at least, has been particularly restricted in its definition of social science. In recent years it has expanded that definition until it now includes most of the things, or is prepared to include most of the things, that the professionals in social science would think of as being a part of their activities.

Senator HARRIS. You would agree with Dr. Hayworth that if there is to be the proper level of support for the social sciences within the National Science Foundation, it would take some legislative change? I presume you would agree their mandate would have to be enlarged and that there might be some organizational changes required within NSF?

Dr. SIMON. I think it would be desirable to have explicit language in the act mentioning the social sciences, although I find it hard to think what kinds of projects they would support with that language in the act that they cannot now support without it. The other provision of the Daddario bill, which has to do with applied research, raises an entirely different set of issues which I would be glad to discuss—but let me put that aside for a moment.

So, while I think that the inclusion of language explicitly mentioning the social sciences would be gratifying, I am not aware of ways in which the absence of that language has prevented the Foundation from supporting good social science research in recent years as they have gradually expanded their definition.

As far as internal organization is concerned, I would suppose that as the social science division became a larger fraction of the Foundation (which I think it would have to, and which it has been doing; that is, it has grown relative to the total activity of the Foundation) this would mean some increase in the staffing in this area, and that probably in time the top people in the social sciences in the Foundation would come to occupy higher layers in the administrative structure.

Senator HARRIS. You said "in time," that word in caps. I wonder if we have that kind of time in a world which is wracked with rather horrendous problems of urbanization, of need for the development of underdeveloped countries, of conditions of overcrowding brought about by population explosion, by the explosion of knowledge, and myriad others, I wonder if we have time to evolve to a state in which the social sciences might come to the fore within the administration of the National Science Foundation, or whether we can really respond to our duties in this world of new problems, by saying that I hope one of these days the kind of atmosphere may come about when we could

speak in public, and not in hushed tones, about a social scientist heading up the National Science Foundation. I wonder about the time involved, and whether it hasn't, in fact, come.

Dr. SIMON. I share your concern for the rate at which we make progress, and I am perfectly willing to stand up in public and nominate a social scientist for the next director of the National Science Foundation.

Senator HARRIS. I hope you will do that.

Dr. SIMON. So, I do not feel very hushed about it, although I do not assess the prospect as very likely at this time.

Senator HARRIS. Well, let me say, neither do I.

Dr. SIMON. My concern about timing is perhaps a little different. My concern about timing is a concern that we now achieve, at a rate (just to pick a number) of something like 20 percent a year, a growth in support for good, strong social science of both a basic and applied variety. I pick that number because it seems to be close to the maximum rate at which this field can grow while it maintains basic standards of quality and technical competence in the training of its own graduate students and in the training of people who are to use the knowledge in the field.

Now I look around and ask, "What are the circumstances under which this is likely to happen?"

I find growth rates of this sort already inside the National Science Foundation for the basic part of the social science research. I find that the program for the future described by Mr. Hayworth mentions most of the things that seem to me to be the important next goals in the field, for example, most of the important goals mentioned by the PSAC committee, chaired by Neal Miller which looked into this a few years ago. So, I really do feel—though I don't want to sound like Pollyanna—that this part of the enterprise is well underway and moving rapidly.

My concern would really be the opposite: how long would it take for a new agency to evolve a program, to get into business, to develop the kind of traditions about what is and is not worth supporting that they would need in order to do this job effectively? And how much could a new agency be expected to do over the next few years to bring about this very important expansion in the short run? There I think, regardless of whether a new agency comes into existence or not, if we are talking about the next 2 to 5 years, the National Science Foundation is going to have to shoulder that load; and I do hope we do nothing that makes it harder for that expansion to take place within the NSF.

Senator HARRIS. Let me just state my own opinion, which you are familiar with, but on which you may want to comment or perhaps you may not.

First, take the rate of growth in the social sciences. You have alluded, and previous witnesses have alluded, to the fact that the level of the quality of students that go into the social sciences is not on a par with the level of those who go into the natural sciences, and that the number of people who go into these fields is much less, but I do not think anybody would doubt that our knowledge in a particularly field is interrelated with the quality of people engaged in it. Our knowl-

edge of the space sciences which has accelerated tremendously with the growth of NASA and other programs supported by our Government as a matter of policy to induce people of quality to work on these problems has grown phenomenally. I think no one would doubt that our knowledge in the field of nuclear physics has increased vastly in the last 20 years or that the number and quality of those engaged in that activity has increased tremendously as a result of the Manhattan project and what has happened since.

So, I think you would have to say that there are ways that the Government can induce a leap forward in certain areas by the infusion of money and prestige and that history support that concept. I do not see any reason why you would say that would not be so in the social sciences. It seems to me you would have to begin by figuring that that is precisely what would happen in the social sciences if history is any teacher.

The second statement that I make to you is about funding. It seems to me you are saying that Congress would somehow add the thing up on an adding machine and say, "Let us take away from the National Science Foundation what it is doing in computer psychology and just give more money to the social sciences, to the National Social Science Foundation."

I think that is also not justified by history. One reason why that is so, in my opinion, is that if you were to look at the National Arts and Humanities Foundation, which is about the best example I can point to that parallels this case, we can see some overlapping in jurisdictional subject matter with the NSF, and yet the NSF has continued to fund in these fields where there is an apparent overlap, at least at the level they did prior to the creation of the National Arts and Humanities Foundation. As a matter of fact, Dr. Hayworth indicated that in most overlapping fields the National Science Foundation would continue to increase its funding, and rightly so in my judgment. So experience is contrary to your testimony in that instance.

Furthermore, I think the conclusions you would have to draw from looking at the Federal Government would also be contrary to the adding machine example; look at all the Federal agencies involved, for example, in the field of education. Each has a slightly different viewpoint, but there doesn't seem to be any neat way in which we could put them all together into a single agency. I do not assume, therefore, that there would be any neat way in which that could be done with the social sciences. The need is for more funding, not of the same kind, and 20 members of the Senate, at least, recognized that with their cosponsorship of this bill.

And last, I would say it seems to me one of the greatest deterrents to interdisciplinary effort between the natural sciences and the social sciences which is needed, or to the incentive for high-quality students in greater numbers to come into the social sciences, has been primarily the lack of prestige of the social sciences. There is, as you know, a feeling on the part of many natural scientists that the social sciences are not sciences at all, just as there is the feeling on the part of the general public, which has been alluded to here today and earlier, that everybody is an expert in social science. The social sciences do not have that kind of recognition and prestige they could only get through a separate

agency, that you say would come about, to use your own words, "In time," by phasing them in the National Science Foundation.

Well, you are familiar with my position but I do want to state it clearly. If you have any comments I would, of course, be glad to hear them.

Dr. SIMON. I do not want to comment at length, first, because much of what you say I agree with. It is a little anomalous that we should even be debating, since we are both so thoroughly agreed on the objectives to be accomplished here, and we obviously only disagree about which of several means are the most effective ways of doing it and the ones that will reach the goal. On the goals I could not agree more.

But, just two brief comments. I guess I am not worried about computerized psychology or things of this sort losing ground in the National Science Foundation. I am concerned whether political science, for example, which has only recently begun to receive support from the Foundation, would continue to thrive. And I take only a little consolation from the example of the National Humanities Foundation, because here a division of labor has been worked out between things which are, say, scientific approaches to linguistics which are appropriate for the National Science Foundation, and linguistics as a humanistic field which is appropriate to the Humanities Foundation. But, since my own feeling about the matter is that social science is science, I find it harder to define for myself what the boundaries may be between an agency that supports all sciences including social science and one that supports social science; although I would assume that if such an agency came into being we would right well soon find some appropriate jurisdictional boundaries between the two.

So, all I can say is that each one of us has to guess what the practical effect of this would be, and it is a pity we cannot have a solid agreement on the means. We obviously do have on this important goal.

Senator HARRIS. Well, it seems to me that you have a situation here which is very similar to another one I have been involved in. It has to do with the regional economic commissions. Congress created, by separate law, the Appalachian Regional Commission. Thereafter, Title V of the Public Works and Economic Development Act of 1965 provided for the creation of additional commissions, and some have already been created. The Appalachian Commission reports directly to the President, and comes directly to the Congress for its appropriations, and it has been highly successful in the appropriations process.

One reason is because there was a presidential primary in West Virginia and they got a good deal of national notice for their problems which were broadcast to other areas all over the country.

The other regional commissions do not go directly to Congress or to the President. They go through an Assistant Secretary of Commerce and then the Secretary of Commerce, and then to the President and to the Congress. Well, now, there is no reason why they should not all have equal status, and if the Appalachia Commission is going to report directly to the President so it seems to me, should the other regional commissions; it has been argued that they all ought to eventually be brought under the Secretary of Commerce, but that has not been done. It is, to me, like the argument that social sciences ought to have equal status within the National Science Foundation.

Well, I think that is a good goal. But, the answer is, it has not been done, and the "in time" words are the words that worry me. So, I argue in both instances, give us equal status with the one that now ranks first and then perhaps we can negotiate from that point for some sort of joint and equitable arrangement.

Now, that is a point that I think is difficult to answer. It is all well and good to say they ought to be equal within the existing framework, but the truth is that it is not the case, and nobody believes that it is going to be accomplished very soon. The day may come when it is, but I think it will come about a whole lot quicker if we give the social sciences equal status in a new foundation and then let them start negotiations.

Dr. SIMON. You have raised, of course, a very interesting social science problem of how you develop status for an important activity in a society. In the year 1967 the natural sciences (the physical and biological sciences, I prefer to call them, because I think society is natural, too), the physical and biological sciences have high status in our society. As a result, the President frequently turns to bodies like PSAC or the National Research Council for advice and help on scientific questions. I think that if separate bodies for the social sciences existed in this year they would be unlikely to be consulted as often or as seriously on these kinds of questions. One such body has established itself in the Federal Government—the Council of Economic Advisers—because it addresses itself to an area which is now regarded as one where scientific competence and expertness can make a contribution.

I look at the kinds of problems that involve the social sciences together with the other sciences—I look at things like supersonic aircraft, and pollution and the like—and I don't see the two parts coming in separate packages. Hence I wonder, when the President or Congress or Federal agencies look for advice, whether they are going to look first to the natural sciences or whether they are going to think about a social science agency as being possibly relevant.

My guess is they will continue to look to agencies that offer them natural science expertness, and if they do, I would like the social sciences to be there. I would like the social sciences to be there before the problems are already formulated and cut and dried, before they are already put in a form in which they will be insoluble.

Senator HARRIS. But my argument is, would it not be more likely that the social sciences and their contribution might more likely come to attention if there was a Social Science Foundation?

Dr. SIMON. No. It is my judgment that in the present state of our society the place people look for this kind of help is in established institutions like PSAC, and like the National Research Council, and that it is extremely important for the social sciences to live equally and not separately, but equally in those organizations with the natural sciences.

Now, perhaps that can be accomplished at the same time that we have a separate social science research organization. I think that the goal of social science participation in policy is sufficiently important that we should not endanger it for the possibility of gains in other directions, unless we are quite sure that we cannot make that progress

in other directions within the present framework, and this is the only point I would disagree on.

Senator HARRIS. Senator Hansen.

Senator HANSEN. Dr. Simon, you have covered a wide range of areas of concern in your excellent presentation this morning. I think one of the conclusions that many people have reached is that if governmentally supported research in the broad area of the social sciences is going to make the greatest contribution possible, it is obvious that this research must take some of the investigators into areas abroad, and you have touched on this. You say that:

America is involved in international affairs. America will have friends abroad, and enemies abroad. And the enemies will use the American presence in their countries—and in whatever form—as a target of political propaganda and action whenever it appears advantageous to do so. Common sense—to say nothing of social science—tells us that we must expect that and take it into account in our research plans.

But the problem is deeper and broader than opposition to American foreign policy. Guests will be accepted, whether in America or abroad, only as they remain guests. Some research, not only social science research, but also research in radio astronomy, geology, tropical medicine, and many other fields of science, must be carried out, wholly or partly, in other countries.

I would like to ask you, do you anticipate expanding difficulties if we have governmentally supported research effort taking place in foreign countries that could be interpreted as critical or as less than complimentary to the way the government is being operated, so as to give those in charge, some valid ground upon which to take exception? Is this a problem?

Dr. SIMON. Certainly certain kinds of activity abroad are more open to criticism, more easily attackable than other kinds of activities. But, I think the problem is that almost any kind of activity abroad can be interpreted by the people hostile to American policy as another instance of American imperialism if you like in that country. And, therefore, our real problem is not solved by refraining from research in particular areas which at any given moment seem to be sensitive. I do not recall whether you had joined us yet when I mentioned an article about American support to Japan for research on bacteriology that was now coming under criticism.

I do not think we solve the problem by withdrawing from areas because someone finds a way of attacking that area. I think, rather, we solve the problem by making sure that we enter other countries as researchers on terms which are agreeable to, and acceptable to, the qualified scientists in those countries, and we enter there on conditions of partnership. We should increasingly think of our activities abroad as scientists, whether social or physical or biological scientists, as activities that will require us to collaborate with scientists abroad. There are now going on some interesting experiments in this respect. I might just mention one briefly which has been carried on under the sponsorship of the Social Science Research Council, the so-called Committee on Trans-National Social Psychology.

The idea of it is to see whether certain things that have been found out about people's social behavior in this country, of how they interact with each other in groups, are also true of people in other cultures or not—whether we can run the same experiments and get the same re-

sults in a foreign culture. We have sponsored a committee, with both European and American members, which has conducted a number of successful training seminars and research seminars in Europe, and has been successful in getting European scientists to replicate some important experiments that were done in this country. I think it has succeeded so far because the Europeans were brought into it on a basis of partnership. They were, for example, included as members of the Social Science Research Council committee, although the council is primarily an American organization. I think we are increasingly going to have to think about that kind of arrangement in order to work effectively abroad.

Senator HANSEN. Well, it occurred to me that we have cooperated in many areas with other countries, friend and foe alike. I think the international geophysical year is an illustration of international cooperation insofar as I know, without hardly a single misunderstanding between us or the Soviets or anyone else. But, I am inclined to believe, as we study these problems of population control, and the kind of effective government organizations needed to accomplish it, and as we consider the particular type of economy we have in this country as contrasted with those in other countries, that we may be on rather shaky ground occasionally. We may become close to treading on toes so as to give other nations reason to take offense at what we have done.

I am interested in trying to learn more about these problems because they are present and much of the Federal budget goes into areas that primarily concern other governments and people in other countries, so that I think we need to know much more than we do. But, I am just wondering if there are some dangers involved. You speak about that under the general heading "Research abroad," I think you have identified some of these possible danger spots, and I am wondering about this. If you could suggest some way to overcome these—do you feel that there is a difference between social science research in foreign fields as contrasted with natural science research carried on abroad?

Dr. SIMON. No. I would not draw the line that way. I would certainly agree with you that different problem areas have different degrees of sensitivity. But, I do not think that the line of division is between the social sciences on the one hand and the physical and biological sciences on the other. An object in space circling over a country may well be interpreted as surveillance of that country. The bacteriological research example is a clear instance of how the biological sciences can become equally controversial.

We are going to find sensitive problems in all of these areas; and we ought to have a posture, and an administrative means of carrying out that posture, which says:

We are not going to withdraw from an area just because it is sensitive if it is an area about which it is important to us to have knowledge—important to us and important to those whose country we are in. We are going to find administrative means so that, when such activities are criticized or attacked, we can show that these activities are as fully supported and participated in by the nationals of the country where they are going on as they are by Americans.

I would be foolish if I suggested this is going to solve all problems or stop all criticism; but I guess in this country we have never supposed that the mere fact that we are abroad or that we are trying to do what we think is good abroad is going to stop all criticism.

Senator HANSEN. Well, I am pleased to have your optimistic report on it. I recognize, as you do, the extreme importance of learning more about this problem. I am just wondering how we might best approach research that would lead to some valid conclusions without unnecessarily running the risk of some serious international misunderstanding, and I am pleased that you feel as you do.

I have no further questions, Mr. Chairman.

Senator HARRIS. Thank you, Senator Hansen.

Thank you very much, Mr. Simon, for your stimulating discussion.

Dr. SIMON. Thank you.

Senator HARRIS. We would be pleased now to hear from Dr. Donald F. Cameron. Dr. Cameron is the executive director of the Association of Research Libraries. Without objection we will place in the record a biographical sketch concerning him.

Biographical Sketch: Dr. Donald F. Cameron

Association of Research Libraries, Washington D.C. B. S., Union College, 1924; A.M., Princeton University, 1925; Litt. D., Rutgers University, 1956.

Instructor, English, Union College, 1925; Rutgers University, 1929-34, Assistant Professor, 1934-41, Associate Professor, 1941-45, Professor since 1945, also Associate Librarian, later Librarian, 1945.

Member of: American and New Jersey Library Association. Bibliographical Society of America, St. Andrew's Society, Phi Gamma Delta. Editor, Rutgers University Press, 1943-45.

TESTIMONY OF DR. DONALD F. CAMERON, EXECUTIVE DIRECTOR, THE ASSOCIATION OF RESEARCH LIBRARIES, WASHINGTON, D.C.

Senator HARRIS. You have a prepared statement, I believe Dr. Cameron, and we would be glad to hear from you at this time.

Dr. CAMERON. Thank you, Mr. Senator. I do have a prepared statement. It is not very long and I would like to read it, if I may.

I am Donald F. Cameron, executive director of the Association of Research Libraries, which includes all of the larger university libraries in the country as well as several nonuniversity members, such as the Library of Congress, the National Library of Agriculture, the National Library of Medicine, the New York Public Library, the Newberry Library of Chicago, the Boston Public Library, the Linda Hall Library of Kansas City, and others. We all have an interest in the proposal to establish a foundation for the social sciences and I hope that the testimony will be made a part of the record.

My purpose in asking to testify at this hearing is to emphasize the concern of all research libraries that the bill contain language which will recognize the importance of these libraries in the research programs that will be developed as the result of the establishment of a Social Science Foundation.

It is true that libraries occupy only an auxiliary position in the world of scholarship, but it is also true that they are indispensable in the carrying out of research worthy of the name in all phases of higher education in all its branches whether it be research in the humanities, social sciences, or the physical and biological sciences.

While it would be unbecoming for us in our organization to presume to speak for the entire learned community, nevertheless as representa-

tives of libraries and institutions where the research for the most part will be carried on, we know beyond doubt that the libraries will be called upon to assume new responsibilities. The research libraries are not asking for what might be called across-the-board support. They are interested in being able to support the objectives of the specific programs of research which will be sponsored by this foundation. It is in this light that we have the boldness to suggest that the part played by libraries be recognized in specific language in the bill.

All research in the social sciences is dependent on the accumulation of the written record of what has been done in the past. However, such research also by its very nature produces records of its own which are in the forms of journal articles, monographs, reports, papers, records, maps, tapes, film, and so forth. The accumulation of such library material and the bibliographical control necessary to make this mass easily available to scholars will be a significant part of the program fostered and supported by a Social Science Foundation.

In fact, the establishment of such a foundation will constitute a challenge to the library profession similar, but greater than those, which it is forced to meet in supporting research programs in the other learned disciplines. All ingenuity and enterprise of the profession will be needed to take advantage of the latest developments in automatic handling of materials and the stimulus which the foundation will give to research will multiply the present problems.

At the present time it is not possible to detail what the responsibilities will be for the handling of this material, which will be created in such vast amounts, but there is no doubt that the libraries will be called upon by the use of electronic and optical techniques to improve access to the literature of the social sciences.

It will have to arrange for effective exploitation of existing data in machine-readable form. For example: The data bank of the Institute for Social Research at the University of Michigan, and the human relations area file in New Haven, and for many more such collections which the Foundation will be likely to call into being.

In addition the libraries will be called upon to create general and specialized bibliographies and indexes.

They will be called upon to aid the development of national, regional, or local library resources required to support the expanding programs.

It is for these reasons that we suggest that library and library services be specifically mentioned in the wording of the bill and we suggest that section 6, paragraph 4, of S. 836, which presently reads:

(4) Foster the interchange of information—

et cetera, be changed to read—

Foster the improvement of library and information resources and services for research and for teaching in the social sciences; to foster the interchange of information in the United States and with other countries; to disseminate the results of research projects in such sciences not otherwise published, providing at least annually a listing and description of all projects which are not receiving assistance from the Foundation, and maintaining a current register of social scientists.

It is the opinion of the Association of Research Libraries that this will strengthen the position of the people who will be called upon to administer the programs sponsored by this most important legislation.

That, sir, is my prepared statement. I would be happy to answer any questions.

Senator HARRIS. Well, thank you very much, Dr. Cameron. The need for greater interchange and interdisciplinary effort within the social sciences themselves has been expressed before this subcommittee by several other witnesses, and it has been said before this subcommittee, that that need might be satisfied better through the creation of a National Social Science Foundation. So, that is one of the goals we are very interested in, and your suggestion for amendment of this bill to better meet that need is one which will be very helpful to us and we can assure you will be carefully considered by the subcommittee as it deliberates on this subject in this particular bill.

You, yourself, or individually as a representative of the Association of Research Libraries, I take it, do not espouse any position on the legislation itself?

Dr. CAMERON. It would be wiser for me, personally, not to, Mr. Senator. I would point out that we stand in a slightly different relationship to the subject than, shall we say, my predecessors. Whether or not social science research is fostered under the National Science Foundation or the Social Science Foundation, the primary obligation, I think, is going to remain and is going to expand and that, of course, is what we are most interested in here, sir.

Senator HARRIS. Thank you very much. Senator Hansen?

Senator HANSEN. I have no questions. I am very interested in your presentation. I would say that I recognize, having served as a university board trustee for some 17 years, the vitally important role that libraries play in research, and the contribution they make to any university campus. They are the very heart of it and I could not agree more with what you said, sir.

Dr. CAMERON. Thank you very much.

Senator HARRIS. Thank you, sir.

These hearings—though the subcommittee will have hearings on other subjects in the interim—these hearings will reconvene Tuesday, June 20, at 10 a.m.

Until then the subcommittee will be recessed.

(Thereupon, at 11:40 a.m. the hearing was recessed, to reconvene on Tuesday, June 20, 1967, at 10 a.m.)

NATIONAL FOUNDATION FOR SOCIAL SCIENCES

TUESDAY, JUNE 20, 1967

U.S. SENATE,
SUBCOMMITTEE ON GOVERNMENT RESEARCH,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee met, pursuant to recess, at 8 a.m., in room 1318, New Senate Office Building, Senator Fred R. Harris (chairman of the subcommittee) presiding.

Present: Senators Harris and Hansen.

Also present: Dr. Steven Ebbin, staff director.

Senator HARRIS. The subcommittee will be in order.

I want to say first that we are grateful to our witnesses this morning who have agreed to come here 2 hours earlier, at 8 a.m. instead of at 10 a.m., our originally scheduled time, to present testimony at this hearing.

The subcommittee is resuming hearings this morning on S. 836, a bill to create a National Foundation for the Social Sciences.

Our first witness this morning is Dean Don K. Price.

Dean Price is dean of the John F. Kennedy School of Government, Harvard University.

Without objection, we will place in the record a biographical sketch concerning Dean Price which has been prepared by the staff.

Biographical Sketch: Don K. Price

Harvard University, John Fitzgerald Kennedy School of Government, Cambridge, Massachusetts.

A.B., Vanderbilt University, 1931; B.A., Oxford University, 1934; B. Litt., 1935. Reporter, Nashville Evening Tennessean, 1930-32; Research Assistant, Home Owner's Loan Corporation, Assistant to Chairman, Central Housing Commission, 1935-37; Staff Member, Commission on Public Administration, Social Science Research Council, 1937-39; Editorial Associate, Public Administration Clearing House, 1939-41; Assistant Director, 1941-43; Associate Director, 1946-53; Staff Member, Bureau of the Budget, 1945-56; Deputy Chairman, Research and Development Board, U.S. Department of Defense, 1952-53; Associate Director, Ford Foundation, 1953-54; Vice-President, 1954-58; Dean, Harvard Graduate School of Public Administration, Harvard University.

Honorary: President Elect, American Association for the Advancement of Science, 1966. Member: Phi Beta Kappa; Social Science Research Council. Publications: Co-author: City Manager Government in the U.S., 1940; U.S. Foreign Policy, Its Organization and Control, 1952; Political Economy of American Foreign Policy, 1955. Author: Government and Science, 1954; The Scientific Estate, 1965. Editor and Co-author: The Secretary of State, 1960.

TESTIMONY OF DON K. PRICE, HARVARD UNIVERSITY, DEAN, JOHN FITZGERALD KENNEDY SCHOOL OF GOVERNMENT, CAMBRIDGE, MASS.

Dean PRICE. Thank you very much, Senator. I am happy to have this opportunity to appear before the Subcommittee on Government Research to discuss S. 836, the bill to create a National Foundation for the Social Sciences. My ideas about the bill are determined less, I suppose, by my doubtful status as a social scientist than by my experience as a civil servant. For some years, first in the Budget Bureau and then in the Department of Defense, I was required to work on the general problem of governmental support of the sciences. That experience tempts me to raise certain questions for your consideration.

First of all, I share the purpose of this bill: I believe that the social sciences have been comparatively neglected in the Federal programs for the support of research and education. I would like to see them accorded a greater degree of public esteem and support, provided that it could be based on greater public understanding. S. 836 seems to me a soundly drafted bill that profits from the main lines of the National Science Foundation experience. If it were enacted with general congressional support for its main assumptions, I have no doubt that it would do a great deal of good.

In short, I think it is a good bill, and that its sponsors have done the social sciences a great service by opening the issue up for discussion. I am not sure, however, that it is the best bill that is possible, or the one most in harmony with the needs of the future. The best is sometimes, in politics, the worst enemy of the good, and I shall not be surprised if the congressional friends of the social sciences becomes a little irritated with academic witnesses who offer a lot of finicky qualifications instead of straightforward and wholehearted support. Nevertheless, I should like before I am through to raise a few critical questions for your consideration.

But first, a word of support. S. 836 seems to me to be founded on two principles that are fundamentally sound.

The first is the assumption that scientific research (including especially research in the social sciences) should not be forced to look to a single Federal agency for support. At the end of the Second World War, many people were for the proposed National Science Foundation because they thought it would centralize (or at least coordinate) support for research in a tidy fashion. The failure of that part of the scheme was good for science and good for the Government. To keep a variety of sources of support available is important for the natural sciences, but even more important for the social sciences, which sometimes have trouble proving their experimental results and are suspected of subversion.

The second sound principle is that the support of basic research should be closely related to the development of independent institutions of higher learning. Basic research can surely best be fostered in close connection with advanced teaching. S. 836 properly insists that our long-range interests will best be served by a free and independent academic community.

These two principles were not, of course, discovered and proved by social science research. The limitations on the social sciences are il-

illustrated by the fact—at least, I take it to be a fact—that no type of science can tell you what is the one best way to organize the Government for the support of the social sciences, or just how much money should be spent on their several branches. I was very interested to note, in reading your hearings of last year, that some leading social scientists were rather cool to the creation of a new National Social Science Foundation. If I may guess at their reasons, I suspect that they were more afraid of having the social sciences put in a position where they would have to justify their existence by being expected to solve immediate and practical problems, than they were eager to have the greater status and support that a separate foundation would presumably bring. And some are also inclined to argue that the social sciences will develop on a sounder basis if they remain closely related to the physical and biological sciences, partly because the several fields may learn from each other, partly because the social sciences benefit from political association with the superior prestige of the natural sciences.

These concerns vanish, of course, if we assume that other Senators and Congressmen will share Senator Harris' intention: that the creation of a new foundation for the social sciences need not keep the National Science Foundation and the Foundation for the Arts and Humanities from continuing their support for the social sciences. Some of my academic colleagues seem to doubt that Senator Harris' generous attitude will ever be fully shared by my old colleagues in the Budget Bureau and his colleagues in the Appropriations Committee—but you gentlemen are better equipped than I to judge such issues.

My own two major questions about S. 836, which have led me to feel that social scientists should not push for its immediate enactment, are of a different kind.

First, while I think that the situation of the social sciences is awkward as long as they are left out in the cold while the humanities and the natural sciences each have a foundation of their own, I would rather see the problem solved by unification rather than triplication. I would rather have a single Federal foundation—provided it were properly organized in a nonbureaucratic and nonhierarchical fashion—set up to support basic research and scholarship in all branches of higher learning which the Federal Government is willing to support.

While I assume, with Senator Harris, that various departments and agencies will and should continue to support some basic research along with their research and development programs, I do not think that programs designed primarily for the support of basic research need to be organized competitively. May I take a moment to say why?

On the basis of the experience of the National Science Foundation and the National Institutes of Health, I believe that it is a mistake to put exclusive reliance on support of research by project grants or contracts. The project grant system has been a great invention, and I think it should continue to be the backbone of Federal support of basic research in the natural sciences. But we have been moving into a phase where other forms of support are necessary—fellowship pro-

grams, institutional grants, and similar devices—if we are to avoid severe distortions in our academic system. And the more we move in this direction, the more important it will be to have a generally unified broad policy as the Federal Government supports fundamental scholarship in the three great branches of knowledge. Otherwise, we will pull our universities apart.

Moreover, the project grant system may not be as useful a device in the social as in the natural sciences. It was good in the natural sciences because it was the key device by which funds were granted on the judgment of a scientist's scholarly peers, rather than of administrators or Congressmen. This procedural protection was necessary not so much because administrators and politicians were eager to meddle in things they do not understand. It was necessary because, without it, scientists themselves would be tempted to sell their wares by claiming for their projects potential practical significance that they did not have, and later would be tempted to ruin good basic research projects in order to move prematurely toward practical application.

In the social sciences, this danger will be particularly great, especially since it has become fashionable for natural scientists and men of affairs alike to turn to the social sciences to help deal with the social consequences of scientific and technological change. I am inclined to think that a single Federal foundation for the support of advanced study and research in all disciplines would be better able to help work out a satisfactory national policy, without the kind of scramble for funds that puts a premium on extravagant grantsmanship, than would three competing Federal foundations.

A unified Foundation, by the very nature of its organization, need not raise the bogey of overcentralization that comes up in every discussion of administrative unification, as for example in the Department of Defense. Unlike other parts of the Government, the hierarchical principle is inevitably weak, and ought to be weak, in the National Science Foundation, the National Institutes of Health, and any future organization that—(1) makes grants for basic research, (2) does not wish to infringe on university autonomy, and (3) works through a network of part-time committees and panels. A new organization, whether it be a National Social Science Foundation or a National Foundation for Advanced Study and Research, would need enough central administrative staff to help its board and director consider the fundamental general policy questions: the distribution of funds among fields of knowledge, among regions, between research projects and institutional support and educational activity of various kinds, and so on. The specific grants, especially the specific project grants, ought to be passed on by panels and committees in which the voice of the academic community is highly influential.

The first question that I have been expressing about S. 836 comes from my concern for the freedom of basic science, and my hope that universities can be protected against disruption by the competition of the several fields of knowledge for Federal funds. My second question comes from a very different concern: I would like to see the practical application of the social sciences fostered, and this purpose needs some measure of protection against those interested solely in basic science.

S. 836 provides quite properly for the transfer of funds from other departments and agencies to the Social Science Foundation, and for

its support of international activities in cooperation with our foreign policy agencies. I see no objection to these provisions. I only fear they will be inadequate—and therefore S. 836 will be inadequate—to seize the opportunities that I see ahead for the application of the social sciences to contemporary social problems.

The proposed Foundation would and should be geared largely to a system of relationships to universities, and dominated by leaders in fields of basic research. Universities are not necessarily the best places to organize large-scale programs of applied research. They are and ought to be dedicated to other ends. The big problems of the day—the kinds discussed in the recent report by the National Academy of Sciences on applied research—require the coordinated work of social scientists with engineers, physicians, lawyers, and members of other professions accustomed to thinking in terms of practical objectives. Such coordinated work can best be organized in a nonacademic setting.

The corporations that do operations research and systems analysis for industry and for the military departments have proved what can be done if adequate funds are devoted to the study of major operational problems. I see no sign that any civilian department of the Government is prepared to support multidisciplinary and (what is more important) multiprofessional work on any of the great social problems of our time—the structure of our cities, the pollution of the environment, racial conflict, crime and delinquency, transportation. It is equally amazing how much we all agree on what our major domestic problems are, and how slow the Nation is to mobilize an effort to deal with them on a scale comparable to that involved in a minor war.

Research of this kind, of course, unlike basic research, ought to be expected to produce practical results in a proper span of time, and ought to be organized in some responsible relation to our political purposes. Whether or not a new Social Science Foundation is created, I should hope that the applied social sciences would be supported on a quite different basis by some new agency or by new programs of existing departments, and in a way that would tie the social sciences in closely with related work in other sciences and professions toward social goals and broad political objectives.

In summary, I applaud the goals and the general approach of S. 836. If the choice is simply to have or not to have a National Social Science Foundation, I would be glad to see it created. But I would be even more pleased if it were possible—(1) to provide for the support of all branches of advanced study and basic research through a single coherent but loosely organized program; (2) to leave out of that agency and its program the responsibility for applied research and the attainment of particular social purposes, which ought to be related to the missions of the executive departments and operating agencies; and (3) to create some greater capacity on the civilian side of the Federal Government for the support of the kind of applied operations research and systems analysis that has been so fruitful in the military sphere.

Thank you very much for the privilege of discussing this important subject with you.

Senator HARRIS. Well, I want to thank you, Dean Price, for coming so early in the morning. I think it is a tribute to both of us. Not

only did you sound very intelligent, but I have been able to understand what you said very well.

I appreciate what you have had to say here. You said early in your remarks that perhaps preferable to the establishment of a Social Science Foundation, to which you give what I would call a qualified support, would be some kind of applied research organization which would be something like the National Science Foundation and the National Institutes of Health, reorganized in nonbureaucratic and non-hierarchical manner, and at another point, later in your statement, you said again you thought it would be preferable to have a single loosely organized but coherent program.

Dean PRICE. May I distinguish between the two?

Senator HARRIS. The basic one was applied, was it not?

Dean PRICE. I was driving at the ideal, but I was looking several years ahead, because, of course, I would never expect the ideal to be accomplished right away, maybe never. But I think the ideal is to distinguish between basic and applied. In effect, it would (1) merge the National Science Foundation and the Foundation for the Humanities with your new Social Science Foundation, and let it support basic work, and (2) to have a different approach for the applied work. The applied work might or might not require a new organization, but it certainly would require more substantial funds than we now put into applied work, especially work of operational research or system analysis on our major domestic problems. And this would involve not only the social sciences, because I do not think our big practical problems can be tackled by the social sciences alone—They require the cooperation of the engineers and the lawyers and physicians, and so on.

Senator HARRIS. I was just wondering if you would not agree, Dean Price, that the alternatives which you envision to S. 836 would probably involve a legislative and administrative upheaval of greater magnitude than just the passage of S. 836. Would that not be true?

Dean PRICE. That may very well be true. I suspect that the difficulty would be greater on the legislative side than on the administrative side. The Humanities Foundation is still very new. The National Science Foundation is not, by all indications, averse to working in the social sciences field and I would think that the administrative problem would not be very considerable. The administrative problem that I would consider really very difficult, is how to deal with the arts, as well as the academic humanities. But that problem already exists within the National Foundation for the Arts and Humanities. I really have not looked at that in a hard enough way to say anything with any depth of understanding myself.

Senator HARRIS. Might this not be a step toward unification though it seems to be in the opposite direction; that is, to give the visibility to the social sciences to the degree they may be able to come back on some more equal footing for some kind of unified effort?

Dean PRICE. This may certainly be true, but that is a tactical judgment on which I would not set any great store by my own wisdom. Sometimes if you set up three competing departments it may become more difficult. I think it is very hard to judge, for example, although it is a very different problem, whether we would have proceeded more

rapidly to an effective unification of the military services if we had not set up an independent Air Force.

On the other hand, I am so thoroughly in sympathy with your general point that at present the social sciences are undeniably in a junior, if not inferior, status in the National Science Foundation and they are certainly not going to receive the main thrust of support in the Foundation for Humanities. And it seems to me that they warrant something like equal treatment. Which is the better path depends more on the way in which Members of Congress feel about it, I think, than on any factors on which outsiders can predict. Here is one of the real limitations of the social sciences. They cannot really tell people what they want.

Senator HARRIS. An illustration I used earlier is the one which involves the Appalachian Regional Commission on the one hand, established by separate legislation under which it reports directly to the President, and on the other hand, what we call title V commissions, which were created under title V of the Economic Development Act, which report to the relevant Assistant Secretary of Commerce, then to the Secretary of Commerce, and only then to the President. And, of course, the same is true so far as coming to the Congress for money. One, the Appalachia Commission comes almost directly to the Congress and the other commissions go through the hierarchy in the Department of Commerce first. And quite understandably, the title V commission becomes rather restive in light of this unequal status. Those in the administration said, let us keep these fellows like they are and perhaps one day we will bring them together under some common umbrella with Appalachia. In the meantime, leave Appalachia where it is, reporting directly to the President. And the title V commissions have said, give us equal status first. Let us report directly to the President and then I think you will find it far easier to put us under one common umbrella.

I, in that instance, favor the latter approach, just as I do in regard to this problem. I think once we have some kind of an equal legislative and administrative status and recognition it would be much easier to talk to people about some unified administrative structure.

Dean PRICE. I cannot but agree that it is not possible to think of administrative organization simply in terms of what one would do if he were an absolute dictator because an administrative problem is also a political problem in the good sense of that word. How you want your administrative organization developed depends on what support you can organize. Of course, at what stage your bargaining should come, it is hard for an outsider to predict. If the mere possibility of the creation of the Social Science Foundation were to encourage the National Science Foundation and the Foundation for the Humanities to give the social sciences more equal treatment, you might obtain your objectives before you go through the stage of evolution you outline. I, myself, think that might be preferable. But the other would not be an impossible or an undesirable development.

Senator HARRIS. Implicit in your testimony, I take it, is the feeling on your part that it is a proper function of the Government to give increased Federal support both to basic and applied research in the social sciences. Is that a fair statement?

Dean PRICE. I certainly think so, even though I am not inclined to think that the social sciences can solve all of our problems.

Senator HARRIS. Nor do I.

Dean PRICE. I think there are great limits on what any science can do in solving our problems. And the role of politics and administration in solving our problems will remain more important than scientific research. And yet, it is a most important servant of the politician and administrator. A servant in one sense, and an independent educational force in another. And I think that the social sciences have great room for potential development which has not been exploited, and that it will be in the interest of the country if it is exploited. I do not think they involve any more danger of interfering with political authority or administrative discretion than the natural sciences, which are a very powerful and dynamic force in our national politics today. If anything, I think the social sciences may well help responsible political authority gain a better general view of our problems and a greater ability to control our problems.

Senator HARRIS. Senator Hansen is a westerner. He is used to getting up early so he probably does not mind being here this early, as I do. We are very glad he is here. Senator Hansen.

Senator HANSEN. Let me say, Senator, that I was here and I was here on time. The only trouble was that I came to the wrong room. I was showing our very able staff director here that according to my schedule this meeting was to be held in 3302 and I went up there and all the doors were locked. Then I went up to my office and found that it was to be held in this room. I say that because I am sorry I missed part of your very impressive statement, Dean Price. I do have a couple of questions.

Did I understand you to say that if you could take the long view ahead and were able to stake out the sort of role that you felt the Government might best play in aiding all the sciences, that you would think that the support should be under one broad umbrella—these are not your words—but it would be better for a unified approach than splitting it up into precise distinctions?

Dean PRICE. Yes, sir. If I may just express one qualification that I emphasized very strongly. I think that the Federal Government programs designed especially for the support of basic research and advanced study might well be brought together under one loosely organized tent, but at the same time I would think it would be even more important not to think of that as the exclusive channel of support for any kind of science, because I think it has been very important and very helpful to have almost every department of the Government which supports applied research also support some basic research. I think you cannot draw a line here with any great advantage. And I think plural support is a great protection.

At the present time, of course, the National Science Foundation is one of the smaller supporters of research in the hard sciences. The National Institutes of Health, the space agency, the military services, the Atomic Energy Commission, are all bigger, and I do not think this is a bad thing at all. They support the work that is close to their mission. The Science Foundation comes along and supports the work that is designed more expressly and directly for fundamental intellec-

tual purposes. I think this makes a good balance and a useful protection for everybody concerned.

Senator HANSEN. If we could determine that we had the authority, I think you used the word "dictator", in the sense that all of us would like at times, I am sure, to be able to say which way things might best be done or accomplished, you would see some advantage in this unified approach over trying to separate things out?

Dean PRICE. Yes, sir. And the main advantages I see is that I think it is hard to make neat distinctions. Not only hard, but undesirable to make neat distinctions between the subject matters. The way in which support is given is now tending more and more toward institutional grants of one kind or another. I find it hard to imagine three separate Federal foundations dealing in these categories of knowledge, following separate and sometimes conflicting policies in making institutional grants or educational grants of a broad nature to our universities.

In relations between the Government and the university, I think a somewhat greater measure of coherence in our policy would be a very desirable thing.

Of course, it can be accomplished in other ways. If we have these three foundations and they are all going to be in the institutional grant business, somebody has got to bring them together. I have no doubt through the President's Office, through the Office of Sciences and Technology, through interdepartmental committees on educational policy, or through the Office of Education, someone will somehow try to bring about some degree of unity in this. I think it would be just that much more complicated to do it that way than if in the long run we could have an instrumentality that were more unified in structure.

Senator HANSEN. Well, you strike a responsive note in my thinking when you say that. I have had a little experience as a Governor of a very small State and I know one of the difficulties we have had, perhaps what you are touching on, is the difficulty we have experienced in trying to take advantage of certain types of Federal assistance. If the assistance is too tightly categorized, if there are too many gouge items and too much redtape tied into it, we find trouble. Oftentimes I suspect our experience is not unlike that of other States, of not being precisely qualified according to all the criteria set for a specific activity. Our feeling has been that if we could employ a little more latitude and if we could shape the thrust of the Federal support so as to be more directly responsive as they do in some other States, this would be helpful.

I am just wondering if you are not indicating from the university point of view that we could very well anticipate problems if you were to have to apply for aid to the National Science Foundation for basic research and then the Foundation of Arts and Humanities for another category. The university may have to shape its request so as to best fit the granting authority and the respondent needs. I am trying to relate this to what you are saying.

Dean PRICE. I think the status of the university administrator in this respect is exactly like that of the State Governor. The narrowly specified categorical grant, the project grant in university terms, has done a very great deal of good. It has "goosed" the States and uni-

versities both, if I may use that term, into doing things they would have been slow and reluctant and overly conservative about doing. It has made possible judgments on merit on grants from the Federal Government, whereas otherwise money gets parceled out purely on a geographical formula. I think both with respect to States and universities Federal grants have played a useful role. I do think if you judge against the needs of the future they have gotten in each case too detailed, too fragmented, they have reduced too much the central responsibility of the Governor on the one hand, and the university president on the other. And some greater approach for dealing in larger categories and more comprehensive packages would be very good from both the point of view of the Federal Government and the recipient.

Senator HANSEN. I have had some little experience with deans and university faculties. I have served as a member of the board of directors for some 17 years. I know many research programs, I would say almost without exception, involve graduate students and contemplate fellowships and assistantships in order to get the job done. I know what can happen when it appears the program the dean thought was going to be implemented winds up being cut back. And I do share some of your concern that we may, if we try to develop a bunch of specific types of support, we may pose more, rather than fewer, problems for the universities and you may get competition between different colleges as we already have them on one university campus. We have some eight colleges in Wyoming, plus graduate schools. I can see where there would be competition between deans in colleges for specific research projects which really should not be. They may each have proposals of merit when there is only one grant to be given. So, where are we going to make our major push?

Dean PRICE. Senator, I think it is fair to say that universities have not all been eager to be handed this top responsibility any more than all Governors want the complete authority over everything under their jurisdiction. It saves them a lot of trouble to have some of these judgments made on the outside. I used to see this when I worked for a private foundation. On the one hand, the university president does not like to have the foundation telling him what to do. On the other hand, the university president does not want to make judgments between two of his eminent scholars who compete for a grant. He would be just as pleased if that were done by an outside expert source.

I think this is a matter of balance. I would like to see a shift in this balance back in the direction of transferring responsibility from headquarters to the field, so to speak. The university president and the Governor ought both to take a little more responsibility.

Senator HANSEN. Let me say I feel we have not given sufficient attention to the social sciences and I am not arguing at all that they are not deserving of far more attention. I think this has been a sadly and badly neglected area. I was just interested in exploring your thoughts to see if you could help me settle some problems that might eventually crop up and how that may best be done. I appreciate your response.

Dean PRICE. Thank you.

Senator HARRIS. Dean Price, thank you. We appreciate your coming so early this morning.

We are pleased to have as our next witness, Harold D. Lasswell, Edward J. Phelps Professor of Law and Political Science, Yale University.

Without objection, there will be placed in the record at this point a brief biographical sketch concerning the very impressive background of Dr. Lasswell.

Biographical Sketch: Dr. Harold D. Lasswell

Edward J. Phelps Professor of Law and Political Science, Yale University Law School, New Haven, Connecticut.

Ph. B., Chicago, 1922, Ph. D., 1926; London, Geneva, Paris, Berlin. From assistant to associate professor, political science, Chicago, 1922-1933; Political Scientist, Washington School Psychiatry, 1938-1939; Director, War Communications Research, Library Congress, 1939-1945; Professor, Law, Yale Law School, 1946-, Political Science, 1952-, Visiting Sterling Lecturer, 1938-1945. Visiting Professor, Syracuse 1926; Social Science Research Council Fellow, 1928-1929; Western Reserve, 1929; California, 1935; Yencheng, 1937; Lecturer, New School Social Research, 1939-1943; Salmon Member Lecturer, New York Academy of Medicine, 1947; Fellow, Center for the Advancement of Study in the Behavioral Sciences, 1954; Consultant, U.S. Department of Interior, 1934; U.S. Department of Agriculture, 1938-1939; U.S. Department of Justice, 1941-1942; U.S. Department of State, 1945-1947.

Prize, American Council of Learned Societies, 1960. Member: American Political Science Association (President, 1956); American Sociological Association; American Academy of Political and Social Sciences. Author: *Decision Making Process*; *Language of Politics*; *Personality and Politics*. "Psychopathology and Politics"; "World Politics and Personal Insecurity"; "Analysis of Political Behavior, An Empirical Approach."

Senator HARRIS. I believe you have a prepared statement.

Dr. LASSWELL. Yes, sir.

Senator HARRIS. You may proceed.

TESTIMONY OF DR. HAROLD D. LASSWELL, EDWARD J. PHELPS PROFESSOR OF LAW AND POLITICAL SCIENCE, YALE UNIVERSITY, NEW HAVEN, CONN.

Dr. LASSWELL. Mr. Chairman, my remarks are addressed to three questions: (1) What do we mean by the social sciences? (2) What can they do if encouraged and supported by a favorable environment? (3) What might a social science foundation accomplish? Most of what I have to say is directed to the second question, and more specifically is designed to indicate how political science is involved.

1. THE SOCIAL SCIENCES

The main responsibility of the social sciences is for the advancement of knowledge of how human beings influence one another. As living, not inorganic, forms our concern is with human wants (preferred outcomes) and with how they are sought, gratified or denied gratification. If we think of preferred outcomes as "values" and of the stable routines by which values are sought, attained or denied as "institutions," the social sciences are the study of man seeking to optimize values through institutions. Since another dimension is always involved—environmental "resources"—this statement can be expanded to assert that social scientists are responsible for the advancement of

knowledge of the social process—of man seeking to optimize values through institutions affecting resources.

The names in current use to distinguish social science disciplines from one another are not necessarily well-designed for the purpose. As a rule they mark historical stages in achieving freedom to cultivate empirical and explanatory science, hence of achieving independence from, and parity with, "philosophy." Once the all-inclusive term was "philosophy." Today it is a residual word for one among many groups of scholars.

Our definition of social process over-simplified as it is, provides a way of cataloguing specialties within the field as a whole. Consider the first term: "man." "Psychology" lays specialized stress on man as a member of the species. "Social psychology," on the other hand, emphasizes the behavioral differences that result from exposure at different years of development to various social environments: to culture (e.g. European, Asian, African), classes (upper, middle, lower), interest groups (political, economic, et cetera) and personality configurations. "Physical anthropology" or "human biology" specialize on the species characteristics of man. Sub-specializations evolve when it is perceived that social environments affect mating, health and other psychobiological patterns. (We speak of the "demography" or "social biology" of "races," "cultures" and so on).

The definition of "values" and "institutions" must be somewhat elaborated in order to serve our cataloguing purpose. Values and institutions occur territorially (in national, transnational, and subnational societies and cultures) and plurally (within territories and across boundaries). I propose to employ a short list of terms (eight) to designate the principal outcomes in the social process. "Political power," for instance, can be defined as the giving and receiving of support on important issues; "enlightenment" as the giving or receiving of information; "wealth," the giving or receiving of claims to the resources; "well-being" the same for opportunities affecting safety, health, and comfort; "skill" the same for opportunities to acquire and exercise capability; "affection," the same for love, intimacy and loyalty; "respect" the same for recognition; "rectitude" the same for norms and characterizations of responsible conduct. The point of these distinctions is not to insist upon the terminology, or the specific number of categories, but rather to aid analysis and to speed up the discovery of equivalent conceptions.

Some social scientific disciplines reflect an unstable equilibrium between the tendency to provide an over-all theory of man and society and to furnish a home for those who study institutions traditionally neglected by political scientists and economists. I refer to "sociology" and "social anthropology," both of which have put forward useful comprehensive theories of social process and encouraged research on neglected matters. Sociologists, for instance, are encouraged to study institutions such as the family, religion and ethics and classes (and castes). Social anthropologists began by studying "savages," "barbarians," "primitives," and other people who were generally believed by Europeans and Americans to speak esoteric languages and to have strange institutions.

The specialization of some social science disciplines is fairly obvious. As indicated, "political power" is the frame of reference of political

scientists (specialists on government, politics, and public law) and jurists. "Wealth" is the principal responsibility of economists. Independent specialists on other value-institution processes often emerge, perhaps after a period of administrative subordination to sociology or anthropology. Education (concerned with transmitting patterns of enlightenment and skill) has an independent history: so, too, does the study of religion and ethics (labelled "rectitude" in our model), and of delinquency and criminality (or negative "rectitude"). Today those who specialize on "research" and on professional organizations are beginning to separate from "general history," the "history of science and technology," and the "sociology of knowledge and the professions." Another sector of enlightenment activities—research on mass media of communication—is fusing some of the traditional concerns of political science, journalism, and social psychology. Linguistics—which focusses on man's fundamental instrument of enlightenment—has a distinctive history and is enjoying a contemporary burst of interdisciplinary creativity. Specialists on family (affection) and class (respect) institutions have long been intimately involved with social anthropology and sociology. Social psychiatrists who study mental health are exploring a well-built value that draws on psychologists, jurists, and many other allied disciplines.

I touch briefly on those who deal with the "resource" environment. "Human geography" ("ecology") has a new lease on life as the earth sciences and the social sciences raise more sophisticated questions about mass-energy and behavioral-subjective interrelations.

Even the cursory view given here draws attention to the fundamental characteristics of the social sciences of today. As we have suggested, the traditional nametags are mainly helpful as points of departure for demonstrations of the remarkable diversity of activities carried on in the name of each. I summarize by saying that the social sciences are contextual, problem oriented (policy oriented), and multimethod.

They are contextual. Sooner or later the specialist on any specific detail perceives that it is only to be understood when it is described and explained in reference to the social process as a whole. Assume that the starting point is what is conveniently called a political party. A party's successes or failures must eventually be understood by taking account of its interplay with other official or semiofficial structures, and with the media of mass communication, the economic system, the age and vigor of the population, the level of command over strategic skill, and the web of family, class and religious connections. Whatever the problem it is ultimately contextual.

The social sciences are problem oriented (policy oriented). The value goal of all dedicated social scientists is the advancement of knowledge (enlightenment). Individual scientists and groups provide themselves with added motivation and criteria of choice by identifying themselves with more value goals. Perhaps they concentrate on the historic scourges of mankind, like disease and war, or on the difficulty of operating a complex society in harmony with the dignity of man. The result may be the discovery of strategies for the control of violence; or methods of managing economies to avoid the extremes of unemployment or inflation; or the elimination of accidents, the prevention of crime, or the waste of human potential. The clarifying of goals implies candid postulation of objectives; and the pursuit of a goal calls for at least some knowledge of past trends. Knowledge of trend is pre-

liminary to the analysis of conditioning factors. It is helpful to project the probable course of future development, assuming first that no new policies are introduced. For instance, what is the likelihood of major or minor wars, rebellions, riots and other forms of violence next year? Finally, a problem orientation includes inventing and evaluating alternative strategies of control. Every new idea for institutional change poses scientific questions that challenge research. Assume, for example, that the proposal is to provide everyone with a basic annual income. What will research disclose about the people who in the past have been beneficiaries of such arrangements?

The social sciences are multimethod. Practically every problem is open to research by the use of every known method of theory construction or of data gathering and processing. The incidence of violence, for example, can be sought by correlating time series, by obtaining data from survey or depth interviews, by experimental intervention in small groups, and by prototype changes in the field.

It is worth underlining the point that research on any sector of the social process may result in innovations of method that can be adapted to research in every other sector. For instance, the political scientists who studied political communication devised procedures for summarizing in quantitative form the stream of statements made in the press, in broadcasts, or in other media. "Content analysis" spread to disciplines wherever it was relevant to examine the frequency of optimistic or pessimistic pronouncements or to classify communications in any other categories. The political scientists who studied the social background of legislators, executives, officials, officers, diplomats or party politicians invented techniques of "elite analysis" that stimulated similar research by students of other social institutions. Similarly, the systematic empirical investigation of votes—whether votes of electorates, legislators, commissions or courts—led to innovations of technique that spread to "vote analysis" in ecclesiastical and other organizations. At the same time political scientists have freely borrowed and adapted innovations in data gathering and processing that originated anywhere in the field of the social sciences.

The contextual approach in the modern study of social process can be summarized in tables that emphasize the interconnectedness of the field as a whole.

TABLE 1. SPECIALIZATION IN THE STUDY OF THE SOCIAL PROCESS

Man

General sociology, anthropology, psychology, biology.

Values and Institutions

Territorial: nations and societies.

Plural: classes, interests, personalities.

Political power: political science and jurisprudence.

Enlightenment (information): linguistics, studies of mass communication, the "science of science".

Wealth: economics.

Well-being: social biology, demography.

Skill: studies of education, professions, occupations, arts.

Affection: studies of family, friendship, loyalty.

Respect: studies of social class and caste.

Rectitude: studies of religion and ethics.

Resources

Human geography (ecology).

Table 2 is a reminder of the point that the study of any detail in the social process, wherever it begins, is ultimately interconnected with every other. Hence the relative unimportance of the conventional names given at a particular time to individual specialties.

TABLE 2.—*The contextual relationships*

	Power	Enlightenment	Wealth	Well-being	Skill	Affection	Respect	Rectitude
Power.....		X	X	X	X	X	X	X
Enlightenment.....	X		X	X	X	X	X	X
Wealth.....	X	X		X	X	X	X	X
Well-being.....	X	X	X		X	X	X	X
Skill.....	X	X	X	X		X	X	X
Affection.....	X	X	X	X	X		X	X
Respect.....	X	X	X	X	X	X		X
Rectitude.....	X	X	X	X	X	X	X	

To say that the social sciences are to an increasing degree contextual, problem (policy) oriented and multimethod is not to assert that all is well with social science, or that the Nation or mankind is obtaining the full benefit of the social scientific approach. Quite the contrary. Great discrepancies separate the actual from the potential. In some measure these discrepancies spring from delay in adapting our institutions to the encouragement and support of the social sciences. Initiatives are too widely dispersed; and support is too episodic, short range, non-cumulative. This is why so many of us welcome the high level discussion that has been initiated by the proposal before this committee.

Before commenting on the proposal let me speak directly to the second question that was posed at the start: What can the social sciences do if encouraged and sustained by a favorable environment?

2. THE POTENTIALITIES OF THE SOCIAL SCIENCES

I begin by emphasizing (1) *the need of organized centers and programs of basic data collection to fill the large gaps between theory and information.*

As things stand at present the computer revolution has suddenly removed age-old limitations on the processing of information, including the linkage of data with competing theories of explanation. But the social sciences are data starved. They are data starved in large part because of *bias on the part of public and private sources of funds against data gathering.* This bias is not too difficult to explain. One factor is reluctance to commit funds to long-term projects; another, which is closely connected with this reluctance, is the hope of achieving quick success by new theoretical breakthroughs or by cultivating the Einsteins of social science. We are told in effect to design beautiful houses even if we haven't any steel or glass. It is as though we were astronomers who were supposed to draw celestial designs and to neglect our telescopes. The social sciences have—with limited exceptions—been denied social observatories, and told to get on with dreams.

Some of the bias against data centers comes from uncertainty about the difference between "data" and "detail." True data centers are not to be confused with collections of miscellaneous facts, since the information gathered is explicitly related to scientific concepts. Nothing is

recorded unless it is eligible to serve as an operational index of a defined term that is part of an analytic set of categories. The price indexes of economic transactions, for example, are defined as interest, profits, wages, gross income, and the like. The votes that are recorded as part of political decisions are defined as part of "eligible participants" in "majority," "plurality," or similar types of alinement. Figures are not included unless they meet explicit tests of credibility. All of this is a far cry from uncritical summaries of descriptive detail and justify the assertion that data are not to be confused with mere detail. Given rigorous data gathering, the indexes and indicators are available for analysis to confirm or disconfirm theories of various degree of abstraction, which is what is often meant by the otherwise ambiguous distinction between relatively pure or applied research. Basic data collections are essential for all.

Let me illustrate data scarcity by reference to political science. Local government, law and politics are phenomena of the greatest importance for understanding American life. Any serious analysis of American political and social trends, projections and conditions depends on data from local communities that are typical of different regions. It is not generally realized how defective our present knowledge is. We are in need of local government data about trends in expenditures that affect the realization of public purposes. Equally pertinent would be information about the flow of decision by local governing bodies; for instance, decisions that affect the range of choice open to private property holders. No systematic reporting is available that keeps abreast of the flow of decisions taken by village, township or county councils, regulatory or judicial bodies. Nothing is at hand about the issues that are raised in local elections in different parts of the country. Little is known about the trends of public attention to neighborhood, regional or national events; or about changing positive or negative appraisals of public and private organizations. Taken in isolation from one another these details are trivial; seen in context these are the best possible data about shifting levels of tension and about rising and falling faiths, beliefs and loyalties in the body politic.

At the State level political scientists have outlined in detail the types of information needed to describe past and present tendencies in the focus of public attention, in promotional programs, or in legislative and administrative decision. Similarly at interstate, regional, national, and transnational levels, the new centers for survey research would be enormously more important if their data were related to the relevant features of the political and social processes to which they relate. Until this information is at hand, not only for current affairs, but in historic depth, we are left with a plethora of plausible interpretations divorced from disciplined knowledge of what they signify.

All over the country we have social scientists and students who are competent gatherers of pertinent information. They have the skills that are equivalent to the volunteer astronomers and engineers who so effectively supplemented the data obtained by the principal observatories of the stars, of meteorological, and of electronic phenomena. Our schools and colleges are latent sources of talent for recording and reporting the data required to round out our very sketchy picture of the direction, magnitude, causes, and consequences of change. A na-

tional institution of social science research can provide the generalship required to organize a network of social observatories capable of obtaining the information needed to choose among the theoretical models of how social changes are to be understood. Without this strategic program our latent assets of self-knowledge will continue to contribute, not to national understanding, but to the waste of human potential.

(2) *As a somewhat specific example of a field where social scientific inquiry is potentially important, I cite the interplay of economics, political stability and freedom.*—At the end of World War II the United States began to spend billions of dollars in economic reconstruction and assisted development. It was often alleged that economic growth was prerequisite to political stability and freedom. By today it is abundantly clear that this is a great and often dangerous exaggeration. Current research suggests that a more complex sequence is involved. As traditional societies, which are relatively stable, are economically developed, political instability is likely to increase; and instability often carries with it the denial of such freedom as exists. At a much later phase of economic change political institutions may again become stabilized, perhaps with high levels of freedom.

The point of this revised theory, if corroborated, is not that some "iron law" dictates the sequence, but that precautions must be taken to devise strategies of timing if instability and unfreedom are to be avoided or kept at a minimum. Continuing research gives promise of aid in clarifying the objectives and strategies of such programs.

(3) *There is evidence that civic responsibility is a problem that becomes more acute in advanced industrial societies; this is a researchable field for the social sciences.*—In recent years attention has been drawn to the problems of developing and newly independent countries, with the result that some of the problems closely connected with advanced industrial societies have been somewhat de-emphasized. Among the disturbing features must be mentioned an alleged weakening of civic responsibility among several components of the population. Among young people, for instance, there are evidences of non-involvement, of unwillingness to commit the destiny of the self to the national cause. As society grows more complicated and new pluralistic interests come into existence, it often appears that special interests are pursued with little attempt at discovering or servicing the common good. The proliferation of pressure groups, and the occasionally scandalous evidence of their strategies, point in this direction. In the same vein we are told that more and more groups in the population—old as well as young—are concerned with what they can "get" from the public treasury rather than what they can do for the country.

Questions of this kind are too important, pervasive, and elusive to be disposed of with a rhetorical flourish. The interviewing, observational, and testing techniques of the social sciences are eminently adapted to explore the factors that strengthen or weaken civic responsibility among different age groups. Such questions can be explored by relatively dynamic methods; for instance, by experimental or prototypical innovations. If cumulative research is to make available the knowledge that allows new or old policies to be pursued with confidence, organized encouragement needs to be given. It may be that most of our traditional assumptions about the impact of educational

experiences—in and out of school and home—need an overhaul in the light of competent research and innovation.

(4) *It may be that mental health problems are largely problems of civic irresponsibility, and that they will diminish as new codes of behavior are clarified in conjunction with research.*—Conclusive evidence of unease in our society is the prevalence of mental health problems. Mental illness is a difficulty of integration that leads to troubled and troublesome behavior. Research indicates that a comparatively small percentage of the mentally ill suffer from organic deficiencies. The significant determiners seem to lie in conflicts early in life, or in confusion and conflict generated later as a result of exposure to vague or contradictory norms of conduct. Some inner stress can be kept within tolerable limits by the administration of drugs. More enduring results often result from prolonged psychotherapy. Symptoms can frequently be dealt with by means of group programs that bring moral pressure to bear on the nonconformer, and lead to the suppression of objectionable behavior. The latter results obviously depend on the clarifying of expected norms and the mobilization of positive and negative sanctions by the social environment. Evidently the implication is that if there is effective consensus on the goals and strategies appropriate to concrete situations there would be less mental illness. It is in this sphere that an arresting challenge to the political and the social sciences is located. By exploring the possibilities of clarified civic responsibility, for instance, a contribution may be made to the prevention and treatment of mental illness. Confusion and vagueness in civic goals and strategies may prove to be a pervasive source of the conspicuous role presently played by what appears to be individual disorganization.

(5) *The social sciences can be expected to contribute to our understanding and control of the use of coercion in human affairs.*—It is commonplace to say that a truly democratic community, whether the scale is national, transnational or sub-national, operates by persuasion rather than coercion. It is equally commonplace to point out that even extreme forms of coercion, such as violence, are deeply embedded in the culture of the American or of the whole world community. The investigation of violence and the exploration of strategies by which it may be prevented or guided is a task that falls directly within the scope of the social sciences. Can we better identify the social environments that mobilize human beings for immediate or deferred violence, whether in the form of international war, civil war, or more limited collective acts? Research has already drawn attention to the large number of "petty variables" whose collective contribution to the "tension level" may discharge in destructive acts. A hopeful approach, therefore, is to improve our present primitive network of public self-observatories (in the United States and elsewhere) as a means of discovering the identity of the variables involved, and of exploring the effect of introducing social practices designed to influence them to mention a few major lines of inquiry.

a. Defense of public order at local and national levels

A promising lead for research and the improvement of control is the "reabsorption of the deviate" among supporters of the norm that has been violated. Detailed studies show that to some extent everyone has

broken the law or some other strongly supported norm of conduct. However, most individuals do not become frequent or chronic "criminals" or "delinquents." They are successfully absorbed or reabsorbed in the social environment. Discovering the combination of "petty variables" whose cumulative impact produces absorption or reabsorption is well within the competence of joint research teams recruited from several disciplines.

b. Defense of public order at the transnational level

In recent years we have begun to understand the specific identity of the many factors whose cumulative result keeps the institution of war alive. We are also searching for strategies that, if applied in specifiable circumstances, will weaken the institution. To mention one among many promising avenues of investigation: The use of semiofficial and private channels to obtain needed changes short of war.

(6) *The social sciences need to be more effectively mobilized to assess and to anticipate the possible consequences for the future of freedom of an ever-expanding physical science and technology.*—No informed person needs to be told any longer that the physical sciences (or a science-based technology) may be used either to enlarge or to diminish the range of human choice, hence of freedom. The provisional investigations made to date show how numerous are the "petty variables" that tip the balance one way or another in the vast number of situations affected. Consider, for example, the future of privacy or freedom from surveillance and interference by the data-rich organizations of big government, big business, big unions and the like. Does computer technology necessarily concentrate access to information in fewer hands and hence lay the foundation for control by a privileged class? Can strategies be thought of and evaluated with the aid of research that diminish this danger or overcome it entirely? Or, to mention another field, do the new technologies of brain control by the use of drugs, hypnosis and neurosurgery constitute a tool kit that heightens the power of the military, the police, or employers? Can strategies be devised and assessed with the aid of research that diminish the likelihood of abuse without losing the capability of these methods to improve the performance of individuals?

(7) *The social sciences can provide the data and explore the strategies that may be employed to keep alive the channels of multiple control and to diminish the strength of tendencies to drift toward a totalitarian state.*—We are accustomed to use some of the social sciences to provide information of relevance to the task of maintaining a nonmonopolistic, relatively competitive structure of market control. However, the social sciences are much less effectively mobilized to contribute to strategies of multiple control in other sectors of the social process.

a. Take, for example, the problem of flexibility within operating channels of government

Under what circumstances can flexibility be achieved, without loss of other capabilities, by providing for a pattern of multiple control that includes Federal "departments," "authorities" (TVA), "interstate corporations," state (metropolitan or local) agencies, or "joint public-private corporations?"

b. Or consider the pattern of multipally controlled sources of legislative information for appraising the performance of big government or private organization

A recognized problem of the Congress or of any other legislative body is to obtain access to sources of information that provide a check on the reports of executive structures, and influential private associations. Something more is required than arrangements to hear testimony from competing sources. How can one go behind testimony to assess the inclusiveness and competence with which primary data have been gathered and processed? There is need of continuing or intermittent inquiries into the social trend and distribution data that provides the best bases of inference about the impact of legislation and administration on the social process. Does not the mechanism occasionally used in the past need selective expansion to include the formation of planning and appraisal staffs under the control of the legislature (directly or by construct) to aid in producing the best available foundation for final judgment?

c. Consider, further, the pattern of multipally controlled sources at the disposal of citizens and voters in every unit of government

Among the trends of primary relevance to government are tendencies toward effective monopoly of control over the media of public news and comment in various localities. Sometimes the control is more subtle than the concentration of radio-TV and newspapers under one ownership. Often the content of the news and editorial sections give overwhelming emphasis to the point of view of one dominant set of group attitudes. Hence the body politic is often shocked to discover that whole classes of the community feel left out of the process by which genuine decisions are made; or, regardless of feelings of this kind, these classes are suddenly confronted by critical situations (such as housing developments or war threats) for which they are poorly prepared. Research can assist in providing information about multiple or monopoly control, and about the consequences of these changes for the public outlook.

(8) *In one sense all the public decisions and private choices made in the social process are institutional devices for shaping collective values, and for distributing the burdens and benefits that result: obviously the social sciences can be more effectively encouraged to clarify the facts of burden and benefit and to appraise their consequences.—* The contextual, problem-oriented, multimethod approach can be made more adequate, for example, to studying the incidence and the effect of increasing or decreasing the tax burden or tax-obtained benefits for old and young, urban and rural, and other significant groups. The computer puts in our hands an instrument for more than input-output analysis of recourse items in the economy. It permits parallel studies to be made of every group to summarize inputs-outputs of information, of political influence, of deprivations (or indulgences) in terms of health and safety, of education, of deprivations (or indulgences) of respect and so on through the several sectors of society. It is not necessary to suppose that the simulation of past events and contingent futures will provide an utterly exhaustive picture. It is enough if they provide a more explicit picture of each situation than we have had in the past,

so that issues can be more realistically narrowed to truly qualitative judgments.

(9) *The time is propitious for the systematic cultivation of a decision seminar technique by means of which scientific inquiry is continuously influenced by exposure to disciplined images of past, present and future events, and also related to postulated goals and strategies of immediate middle-range and long-range actions.*—There is nothing novel about the specific details of a decision seminar. The integrated use of these detailed methods, however, is at once unique and also belated. The essential idea is parallel to the “war room” which is used by commanding officers, general staffs and commanders in chief in the attempt to keep abreast of events. Social scientists, fortunately, work under less pressure for immediate decision. But if they are realistic and alert, they understand that they are operating in a context that includes the immediate, intermediate and remote future, as well as recent and remote past events. Theories of explanation are typically inferred from past events. They are improved by better information concerning genuinely significant factors and their routines of interdependence. For instance, it is not enough to know that prices vary as a function of the quantity of circulating media available for use in transactions. Knowledge is needed of the institutional routines that influence the available quantity (such as the willingness of kinsmen and friends to extend credit); and “willingness” varies as a function of many complex factors which can be better understood if definite hypotheses are entertained about the way in which such factors are likely to change in future years.

In order to improve our stock of knowledge the members of a decision seminar can prepare to describe future events more comprehensively than has been done in the past. Plans can also be made to improve historical knowledge, and perhaps to introduce limited policy innovations intended to affect the magnitude of relevant expectations.

Decision seminars can be set up in reference to territorial or pluralistic contexts. Seminars can be organized, for example, to explore “Illinois in 1990,” or “the Middle West,” “the United States,” “the Atlantic region,” or “Latin America” or “the World in 1990” (or any selected year). Seminars can be set up to parallel the principal decision bodies of government (the courts, commissions, legislatures), or of unofficial organizations (the professional associations; associations of employers and employees; other party and pressure associations).

A salient characteristic of continuing seminars is a nucleus of competent social scientists who plan to participate for some years in the undertaking. The agenda of a seminar must be adapted to the problem solving tasks mentioned before (goal, trend, condition, projection, alternative). Audiovisual aids may be used to provide a continuing reminder of past research and appraisal.

Perhaps it is not redundant to point out that many “spinoffs” can be predicted from a successful seminar. A continuing seminar on a given State, for example, is almost certain to stimulate an initiative to organize a seminar on the region. Also, the frame of reference may be narrowed to “the future of science and technology in this State” (and so on).

Decision seminars are important for universities, colleges, and private associations generally. It is probable that consultants of official

and unofficial organizations, and planners and appraisers of policy, will make more deliberate use of the procedure. It can be adapted to programing and evaluating the results obtained from computerized simulations. On the other hand, the seminar can be a form for exploratory case studies by relatively unsophisticated methods.

I have dealt at some length with this seminar plan in order to indicate how the development of social science can be positively influenced by a truly contextual method of operation. A central organization could usefully encourage and underwrite both the use and study of the procedure. Up to the present the spread of seminars of the kind has been retarded by remnants of the tradition of noncontextuality whose "dead hand" continues to handicap the cultivation of scientific knowledge of the social process.

(10) *The purposes of science and policy can be advanced by the establishments of a social planetarium at strategic centers.*—The decision seminar, which is expressly intended to serve the needs of scientific inquiry, can be adapted to the complementary task of sharing a scientific point of view, and the changing results of science, with the general public. I speak of this adaptation as a social planetarium, a term that is borrowed from the institution developed a few decades ago to popularize astronomy. The idea of a social planetarium is to provide a set of permanent exhibits that show the past, present, and potential future of man. As a means of reducing the popular misconception that scientific findings are permanent and immutable, rather than as open to correction and growth, the exhibits would present alternative versions of debatable interpretations. Keynesian economics is an apt example. The factors that account for unemployment or inflation can be clearly and vividly presented in alternative models, one of which is Keynesian, another of which is not. Reputable if conflicting views of the factors that explain the decline of past empires are suitable for presentation. Similarly, conflicting accounts can be visualized of population expansion or contraction in historical periods. The same point applies to the future with even greater force. Relatively hopeful or pessimistic conceptions should be included in the exhibits.

Comprehensive plans for the political, economic, and social growth of the town, city, State, Nation, and world can be brought to the attention of those who visit local planetariums at the capital centers of every unit of government. By emphasizing the interplay between local and more contextual factors it will be possible to share with everyone an image of past, present, and future that is subject to continuing revision as knowledge expands. In this way a basis will be laid for overcoming the ignorance, indifference, and deep incompatibility of viewpoint among members of the body politic.

It should not be assumed that the social planetarium idea is without implications for the direct pursuit of knowledge. Almost any effort at responsible popularization carries with it many challenges to research. Specialists find it necessary to clarify definitions, to confess ignorance, and to entertain novel hypotheses.

3. A SOCIAL SCIENCE FOUNDATION

I shall offer only a few comments on the possible role of a social science foundation designed to provide a long missing rallying point for public recognition and encouragement of the relevant disciplines.

Given the dynamic, contextual character of contemporary change, it is important to provide for the presence of scientists on the board of control who are deeply identified with some of the conventionally recognized fields within the social sciences. It is also important to forestall excessive crystallization of the present situation; this policy implies the inclusion of cross-disciplinary persons who are less committed than usual to currently established groups.

A further point can be made about financing. A well-financed foundation cannot possibly be expected to monopolize the financing of all the work done by social scientists on gift or contract from government. The foundation introduces an element of responsible concern for the field as a whole. Hence it should search for promising areas that suffer neglect, including not only topics and techniques but opportunities to enrich the Nation as a whole by encouraging strong centers and sub-centers whose presence contributes to cultural decentralization.

One of the instruments that can be adapted to the responsibilities of the foundation is the decision seminar. Consider, for example, a decision seminar on the future of social science. The participants would be united in seeking to clarify the ways in which the social sciences could best contribute to society. The relevant policy alternatives would be provisional objectives and strategies, such as the doubling of financial support in 5 years.

Such a provisional policy would provide the seminar with a takeoff point for the advancement of knowledge of how science can be supported, and of how the social sciences can affect society. Any tentative hypothesis, like the "doubling policy," would only be open to evaluation if it were made the object of detailed scientific inquiry. For instance, what has been the rate of change in the expansion of social science in recent years? How much of this preceded or followed changes in financial support? Questions of this kind are suitable for research, and if relevant research has not been done, seminar members will either put the topic on their own agendas, or urge others to do so.

Research into rates of change leads to the analysis of factors that conditions change. How has scientific knowledge in any sector affected the pursuit of knowledge elsewhere? How has it affected public or private policy? What factors account for the demand to acquire the competences needed to engage in social science? Questions of this type can be multiplied until the limit has been reached of scientific hypotheses concerning the sociopersonal factors that affect the result. The continuing seminar encourages its members to investigate these relations; or the seminar seeks to influence others to do it.

Deliberate estimates of the future can have important consequences for scientific knowledge. Assume that the best estimate seems to be that financial support will, in fact, double. This suggests the importance of arranging to obtain data in the future about how change is brought about, and with what consequences. Hypotheses could only be formulated on the basis of the best available theory of such changes. As the data are gathered during future years and are fed back to the seminar, the members will be challenged to renovate any theories of change that prove to be inadequate.

Similarly, the scientific challenge is intensified by seminar experience with policy objectives and strategies. If strategy A corresponds to the one actually adopted by an agency that is under study, theories

of innovation can be rather readily confirmed or modified by the result.

Early in my testimony I underlined the continuing impact on policy-relevant knowledge of a comprehensive and as yet largely missing network of public social observatories. It is perhaps appropriate to emphasize the point that while the social sciences will continue to contribute important data and analyses to questions of public policy, the implication is not that they are or will properly be mainly directed to the production of immediate and circumscribed policy results. On the contrary the freewheeling imagination of able specialists will discern and anticipate the emergence of evolutionary changes in society that may not raise acute policy issues for a very long time. (Think of some of the "far out" possibilities connected with outer space.) Yet the theoretical knowledge obtained by research in depth, especially by the invention and testing of new techniques, will provide a continuing if indirect contribution to the entire stock of social capital in the form of knowledge for the use of man in society.

As matters stand today, the responsible public official or private citizen who tries to obtain a sound body of data and analysis that will enable him to arrive at a well-grounded judgment of the effect of past policy on social process is relatively bad off. He is handicapped by failure to mobilize the talent and the methods required to progressively improve our appraisal of the consequences of the political and legal system on our values and institutions. We interfere with the lives of millions of human beings at home and abroad, without demanding of ourselves that we use and improve the personnel and the methods by which these interventions can be less capricious in their consequences. Someday, no doubt, we will automatically assign some percentage of every appropriation—say one dollar in every hundred—for the conduct of the best possible appraisal of what their future effects will be on the lives and the destiny of human beings. The social sciences are even now in a far better position to provide data and analysis for the guidance of judgment than is generally understood.

By strengthening the social sciences strength is given to the public and civic order through the cultivation of multipally controlled centers for exploring hidden as well as evident consequences of past practice. A strong civic counterpart of the official public order can add direction and relevance to the search for policies that optimally combine freedom with the efficient mobilization of the human resources of man and his environment.

Senator HARRIS. I have listened very carefully to your statement. I appreciate very much, Dr. Lasswell, your taking the time to be here, obviously a large amount of time necessary to prepare this statement for this presentation and I can assure you it will be very helpful to this subcommittee in our consideration of S. 836 and the general study of the state of the social sciences and their future.

I am particularly impressed by the listing of the potentialities of social sciences which you make, in your written statement. I think as we have considered this whole question of the state of the social sciences, and having started out almost on faith with the assumption that there should be greater Federal funding for the social sciences, I have been faced with the difficulty of explaining that to those outside the social sciences, without being able to list some of the things Federal sup-

port is needed to do. I think some of these potential areas of inquiry which you listed will be very helpful to us.

I am intrigued by the decision seminars idea which, I think, this subcommittee might be able to sponsor in its future activities, irrespective of what happens on this particular legislation. I think the subcommittee itself, which has sponsored, and is sponsoring seminars on other questions, might hold what you term a decision seminar just on the future of the social sciences and what they might contribute, quite apart from this legislation.

Now, I take it from reading the last part of your statement on the Social Sciences Foundation that you are generally favorable to that idea. Is that a proper assumption on my part?

Dr. LASSWELL. Mr Chairman, I think that states my approach.

Senator HARRIS. And, of course, you make some very particular statements about how a Social Science Foundation ought to be organized, what sort of people ought to be involved in it, and what the general direction of its interests should be. And I think those are very good points and points we certainly will keep in mind as we consider this particular legislation.

I will not go into any lengthy questions because of the time element. Senator Hansen may have some questions or comments.

Senator HANSEN. I do not think I have. I am very much impressed with your statement. I think you have made a very meaningful contribution, Dr. Lasswell, to our understanding of the opportunities and potentials and the great emphasis that must be placed on research in the social sciences. Thank you very much Dr. Lasswell.

Senator HARRIS. Thank you very much, Dr. Lasswell.

Dr. LASSWELL. Thank you, Mr. Chairman.

Senator HARRIS. Dr. Paul Ward. Dr. Ward is executive secretary of the American Historical Association, the headquarters of which is here in Washington, D.C.

Without objection, we will place in the record a biographical sketch concerning him.

Biographical Sketch: Paul L. Ward

Executive Secretary, American Historical Association, Washington, D.C.
B.A. Amherst College 1933; M.A., Harvard, 1934; Fellow, 1935-38, Ph. D., (history), 1940; Instructor and tutor History, Harvard and Radcliffe College, 1938-1941; Assistant Professor, Russell Sage College 1941-42; Professor Huachung University, 1947-50; Professor, Colby College, 1951-53; Professor and Head of Department, Carnegie Institute of Technology 1953-60; President Sarah Lawrence College 1960-65; Research Technician, Office of Strategic Service, 1942-45; U.S. Department of State, 1945-46.

AHA; OAH; Mediaeval Academy of America; Conference British Studies. Tudor Constitutional History; Historical Method and Theory; Procedures for Intensive Education in History. "A Style of History for Beginners," Service Center for Teachers History 1959; co-editor, "Archeion," Harvard, 1957.

Senator HARRIS. I believe you have a prepared statement. We are pleased you are here and we are pleased to hear from you this morning.

TESTIMONY OF DR. PAUL L. WARD, EXECUTIVE SECRETARY, AMERICAN HISTORICAL ASSOCIATION, WASHINGTON, D.C.

Dr. WARD. Thank you, Senator Harris. I shall read from this prepared statement. I think it will not take too long and it is relatively condensed. I perhaps may be permitted to comment that the substance

of the statement, and each of its points, has been reviewed by the Council of the American Historical Association and has its full backing.

I am grateful to the committee for this chance to support the proposal in S. 836. The establishment of a National Social Science Foundation would be a decisive recognition by our Federal Government that the national interest of the United States requires increasing the volume and quality of scholarly investigation of our society's problems, despite the inevitable controversial implications of most of these problems.

Historians to date have received few Government grants for social scientific research. They will welcome the opportunity such a new Foundation will give them to demonstrate what their investigative skills can contribute toward the mastery of specific present social problems. In most of its specialties history is not concerned simply with enlightening and enlarging men's sense of their past, making it freshly accessible for their refreshment and stimulation: for such study it simultaneously chooses those particular past analogies to our present social problems that promise most clarification for understanding these latter. Perspective on the present, exposure of present blind spots, reformation of present assumptions, these are goals and by-products, both. Past generations of historians concentrated on political history when the current problems seemed chiefly political; now that the character of family life, for example, seems crucial for areas of social improvement, historians are discovering, surprisingly rapidly, ways of analyzing relevant aspects of family life at points in the past. For many historians, indeed, their social scientific purpose is the overriding one, redoubling their normal concern with demonstrable reliability of method.

The past successes of political and intellectual history inevitably contribute to some attitudes that delay this needed updating. It is therefore all the more important that there now be major encouragement to new social scientific investigations by historians. Valuable support is beginning to come, and has come, through other channels. But the proposed National Social Science Foundation can bring about a radical increase in support for social science research, which could mean a real invigoration in the field of history, changing many of the underlying questions guiding research from 19th century ones to ones of our part of the 20th century.

Before I go further, let me pause to urge one change in the present bill. Section 7(b) is the provision that "at the request of any department or agency of the Government" the new Foundation may carry out projects on a reimbursable basis, within certain specified limits. I urge that this provision be stricken from the bill. It is essential, I am convinced, that all projects undertaken by the Foundation have the flavor of true science, that is, of scholarship which however it may serve present needs is always free to be influenced disinterestedly by the needs of truth. The Foundation's projects will necessarily all be somewhat controversial, with latent political overtones. Public knowledge that any of them are substantially dictated by other Government agencies would mean the discrediting of all as scientific efforts, as the analogy with the recent CIA disclosures sufficiently indicates. And this is a matter of clear importance to historians.

Senator HARRIS. In the interest of time, may I mention that I personally have increasing doubts about that section as a result of your statements and similar statements by other witnesses. It seems to me it is going to have to review that section.

Dr. WARD. Thank you.

The purpose of the new Foundation would be to raise the volume and quality of social science investigations so markedly as to bring to the solution of many of our social problems assistance at a level of effectiveness not now known. For history this requires first of all the introduction of the new technology, which is already being tried out promisingly in a scattering of projects. Bold and vigorous innovations, making use of computer technology and the like on a broad front, will require major outlays of money. But it will offer the prospect of bringing into key sections of our history solid blocks of new evidence with the sort of impact that the Dead Sea Scrolls have had upon relevant parts of ancient history.

Secondly, there is special opportunity now for more fruitful cooperation between different topical specialties in history, between different national specializations, and between history and other disciplines. New concerns are coming to the fore to supplement the standard political and intellectual and economic categories of history. There is need for grants to assist established scholars to learn new subjects, to bring men of different specialties together in team efforts, and to plan and evaluate from the angles of several specialties simultaneously. Major support in these forms will foster "new ways in history," such as the many reported under this title in the three special issues a year ago of the *London Times Literary Supplement*. One example, typical in its present interest and in its difficulties, is the historical work that tries to take serious account of the findings and thinking of psychoanalysis.

Thirdly, historians have over the last dozen years been achieving more sophistication and self-confidence with historical method, centered around discussions in the new periodical *History and Theory*. There is accordingly more readiness, if I am any judge, to apply historical method at its most rigorous in radically new ways, to radically new subjects. So the chances are excellent that historians, will be tackling, more often and in much more than impressionistic ways, social issues that embody deep ambivalences and tensions. Slavery is perhaps the chief example at this moment. There are other subjects now being started on that are quite promising. Major assistance now to studies on issues like this can open up a new vein of seriousness in historical work, especially if cross-disciplinary exchanges, and the use of new technology, go forward at the same time to correct and fill out the conclusions reached. Better technology, better communication, and more serious subjects, all can have major effects on our discipline.

Historians are as aware as any in the academic community that thanks largely to the National Science Foundation the pursuit of the natural sciences in this country has been revolutionized in the past quarter century, brought from the horse-and-buggy era to the era of coordinated teamwork and massive equipment. Historians recognize that a similar revolution in their own social scientific studies will be wrenching and costly to cherished habits and opinions. But they are

persuaded that our society must match its terrifying technological expertness with a minimum mastery of social and human problems, and they will welcome the establishment of a National Social Science Foundation for its promise that they, as historians, will be enabled to contribute their fullest efforts and highest standards toward this minimum mastery.

Thank you very much.

Senator HARRIS. Dr. Ward, I want to thank you for your clear and concise statement on the question which this subcommittee is considering.

I will not have any questions. You have touched the major points we are interested in and you have touched on the things which you think might be fostered in your particular field by greater support through a National Social Science Foundation. And I think you have touched upon the major reasons why a National Social Science Foundation should be created.

I will yield to Senator Hansen.

Senator HANSEN. I thank you, too, Dr. Ward, for a very excellent statement. I have no questions. I appreciate having your report.

Senator HARRIS. And our thanks also to the association which you represent.

Dr. WARD. Thank you, Mr. Chairman.

Senator HARRIS. Our last witness this morning is Dr. L. Vance, Dr. Vance is president of the American Accounting Association and associate dean of the Graduate School of Business Administration, University of California at Berkeley. Without objection, we will place in the record a complete biographical sketch.

Biographical Sketch: Dr. Lawrence L. Vance

President, American Accounting Association; Associate Dean of Graduate School of Business Administration, The University of California at Berkeley.

B.B.A., Minnesota, 32, M.A., 33, Ph. D., 47. Lecturer, Accounting, University of California, 41-47, from associate professor to Professor, 47—

American Accounting Association; American Economics Association Publications: Application of Statistical Theory to Auditing. "Theory and Technique of Cost Accounting"; "Accounting Principles and Control"; co-author, "Tables for Estimating Error Rates or Other Proportions."

TESTIMONY OF DR. LAWRENCE L. VANCE, PROFESSOR OF ACCOUNTING AND ASSOCIATE DEAN, GRADUATE SCHOOL OF BUSINESS ADMINISTRATION, UNIVERSITY OF CALIFORNIA AT BERKELEY, AND PRESIDENT, THE AMERICAN ACCOUNTING ASSOCIATION

Mr. VANCE. Thank you, Mr. Chairman.

I wish to endorse the proposal to create a National Social Science Foundation. We are all aware of the tremendous discrepancy between our investment in research in the natural sciences and our investment in research in the social sciences. At the same time we are all aware of the seeming discrepancy between our achievements in the natural sciences and the need for and attainment of similar achievements in the social sciences. Research in the social sciences also has been and can be productive, although we cannot usually expect such spectacular results as trips to the moon when dealing with free men. To cite just

one recent example, news media recently carried a report of a survey of people on the relief rolls. Contrary to the popular impression that many able-bodied persons who could work were on the rolls, the result showed that only a small percentage could be considered employable—the rest were children, old people, disabled people, and so on. Information of this and more subtle kinds is extremely important in forming national and local legislative policy and in enabling the people to understand themselves and their problems. I shall not cite any statistics on this matter because I am sure that they will be assembled by the committee's capable staff and by others.

I do not want to labor my general endorsement of the proposed Foundation, but I would like to give you a brief statement of what I have often seen as an associate dean interviewing students, including those applying for admission and for financial support. What I have seen and have been impressed with is the fact that students coming to graduate work in business administration from undergraduate work in the natural sciences have been amazed to learn that research assistantships are not available in business administration or economics to all able students. The contrary is evidently true of the natural sciences, at least in the leading universities. I point this out not only to make clear the discrepancy between funds invested in research in the natural sciences as against the social sciences, but to call attention to the fact that this great discrepancy has a serious subsidiary effect: It tend to attract students who might otherwise prefer work in the social sciences to the natural sciences because of the financing the latter offer. I have no measure of the amount of this effect but I am well acquainted with the fact that university education is a financial struggle for many students so I conclude that there probably is a significant effect.

I have one other point for the attention of the committee about which I am strongly concerned. This has to do with the definition of social sciences in the bill I have seen. You will recall that statistics is named as one of the fields of study to be supported. This is entirely proper because statistics is a basic tool of research in the social sciences as well as in the natural sciences, in connection with which, by the way, it might draw adequate research support.

But another important tool of research in the social sciences has not been named in the bill, and I and others like me are concerned that failure to name it might be taken to imply an intention not to support research in it. This field—this basic tool of research in the social sciences—is accounting. Whenever costs are to be calculated, whenever data from business firms or from Government agencies or even charitable institutions are to be gathered and interpreted, accounting skills will be needed in the process. Furthermore, the quality of the data obtained in the case in which the records of organizations handling funds are the source will depend on the state of the art of accounting which produced those records. Those of you who have had occasion to collect or use such data are no doubt aware that it is not always as good as you would like. Accountants in practice and in the universities are striving to make it better, but they suffer from a scarcity of research funds just as the social sciences in general do. It is sometimes thought that accounting is a cut-and-dried matter, which, once learned, may be forever after practiced without change; something like arithmetic,

for example. Nothing is further from the truth. Accounting does and must change to meet new circumstances and to improve its capacity to measure the economic facts with which it deals. Let me call attention to just one controversial question being debated by accountants at the present time to illustrate the need for study in this field. This is the question of stating economic resources and the costs reported for their use in terms of current prices or costs. Present practice records economic resources at the price paid when they are acquired, and this is often not changed no matter how long the resource is held or how much market conditions change.

We presumably would have a better measure of the resources in use, and a better calculation of the results obtained and a better basis for judging the effectiveness of the managements involved if we could know the current price or cost of the resources employed. But this would involve the development of methods of measuring current cost for resources such as land, buildings and equipment which are often not quoted in an active market in the specific form characteristics of a particular enterprise. Research in this area is needed.

Accounting is a tool of research in the social sciences frequently used by economists and also by others who are concerned about costs or the allocation of resources. It is commonly thought of as an element of business, although it serves all organizations and all persons who have substantial economic interests or responsibilities. In this connection, it is worthy of note that the other fields of study in the business administration curriculum, of which accounting is a part, also deal with social science questions. The behavior of people in organizations, the behavior of customers, the effects of advertising, the effects of cultural differences on international trade, are all examples of subjects considered in courses in business administration in the universities. Some schools of business recruit social scientists such as anthropologists or sociologists to further such work, and economists typically constitute a part of a business administration faculty. In other words, business administration is, to a large degree, an application of social science to problems of management, just as engineering can be said to be the field which applies the knowledge of the natural sciences. In both these cases significant work, not only in application, but also in new concepts and findings which constitute contributions to the sciences in a purer sense, is often done. It would be helpful if it could be made clear that the proposed foundation would be authorized to support research in the applied field of business administration as well as in fields designated as pure science.

In conclusion, allow me to express my appreciation for the opportunity to present these views.

Senator HARRIS. Well, I am going to say, Dr. Vance, that serving on this subcommittee has been a very educational experience for me. It is a kind of continuing education. I was surprised to think that accounting might be considered a social science or that accounting might be involved in the social sciences, but I am impressed by your statement and I see the connecting line more clearly than I thought I might when we first were in correspondence with you.

We appreciate very much your coming here, Dr. Vance. I know you have come a great distance to appear, especially at this time of the morning.

I have no questions. Your testimony is impressive to me and will have the very serious consideration of this subcommittee.

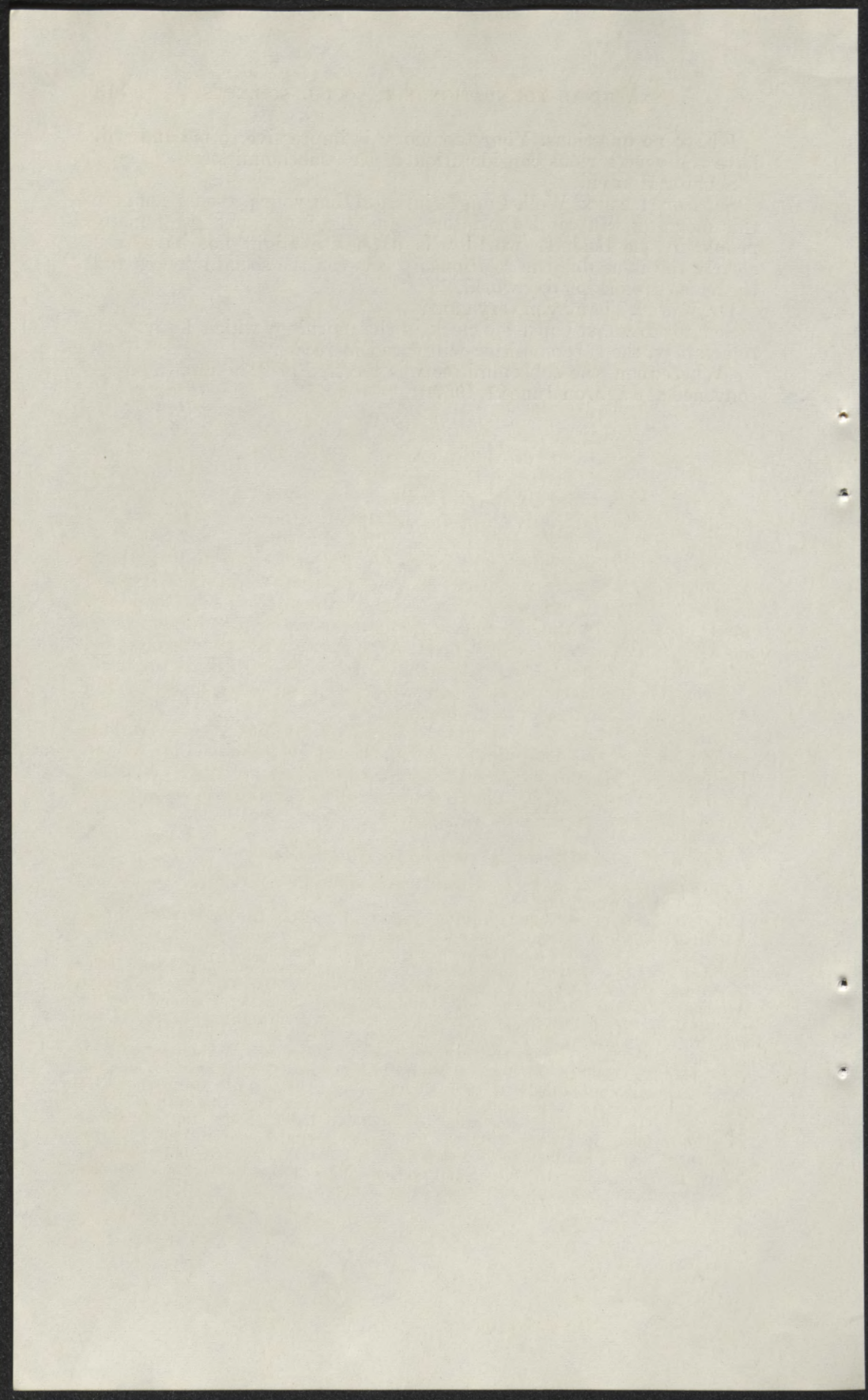
Senator HANSEN.

Well, I might just add that your presentation here this morning will catch the interest and the fancy of a great many people in the business world who otherwise might not have seen clearly the issue due the relationship between the social sciences and the business working day world.

Dr. VANCE. Thank you very much.

Senator HARRIS. Until 8 o'clock in the morning, which I say very reluctantly, the subcommittee will stand in recess.

(Whereupon, the subcommittee was recessed at 9:35 a.m. to be reconvened at 8 a.m. on June 21, 1967.)



NATIONAL FOUNDATION FOR SOCIAL SCIENCES

WEDNESDAY, JUNE 21 1967

U.S. SENATE,
SUBCOMMITTEE ON GOVERNMENT RESEARCH,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 8:05 a.m., in room 1318, New Senate Office Building, Senator Fred R. Harris (chairman of the subcommittee) presiding.

Present: Senators Harris and Hansen.

Also present: Dr. Steven Ebbin, staff director.

Senator HARRIS. The subcommittee will be in order.

We are resuming this morning, very early in the morning, I might say, our hearings in regard to S. 836, a bill to create a National Foundation for the Social Sciences. The rescheduling of our time has been made necessary by the debate now going on in the Senate during which no committees are allowed to meet. And, so we will have to meet between now and 10 a.m., and adjourn at 10 a.m. or slightly before.

I really appreciate those of you who agreed to the rescheduling and who are, nevertheless, here this morning.

Our first witness this morning is Dr. Wex Malone. Wex S. Malone is president of the Association of American Law Schools and is Boyd Professor of Law at the Louisiana State University. Without objection, we will place in the record a biographical sketch concerning him which has been prepared by our staff.

Biographical Sketch: Dr. Wex S. Malone

Boyd Professor of Law, Louisiana State University, President, Association of American Law Schools

B.A., University of North Carolina, 1928, J. D., 1931; LL.M., Harvard, 1933. Admitted to North Carolina Bar 1934. Professor of Law University of Mississippi 1931-32, 1935-39; Associate, Reed, Hoyt & Washburn, New York City; Member of Legal Department, Irving Trust Company, New York City 1933-35; Professor of Law, Louisiana State University, 1939-42, 1945-; Senior Attorney, Federal Public Housing Administration, 1942-45; Legion Lex Distinguished Visiting Professor of Law, University of Southern California; Visiting Professor of Law, Northwestern University, University of Texas, University of North Carolina, Rutgers University, Stanford University, University of Chicago, Hastings College of Law, University of Michigan. Consultant to Louisiana State Employer's Liability Review Commission; Advisor for Restatement of Torts, American Law Institute; Member of Louisiana Law Institute (Council 1945); President of the Association of American Law Schools, 1967. Order of Coif (President 1961-64); Chi Psi, Phi Alpha Delta, Omicron Delta Kappa.

Author: Louisiana Workmen's Compensation Law and Practice, 1951; Cases on Torts, 1956; Cases on Injuries and Relations, 1958; Cases on Workmen's Compensation; Contributor of articles to legal periodicals.

Senator HARRIS. Dr. Malone is accompanied by Dr. Michael H. Cardozo, executive director of the Association of American Law Schools here in Washington, D.C.

Dr. Malone and Dr. Cardozo, we are glad you are here. We will be pleased to hear from you at this time.

TESTIMONY OF DR. WEX S. MALONE, PRESIDENT OF THE ASSOCIATION OF AMERICAN LAW SCHOOLS, BOYD PROFESSOR OF LAW, LOUISIANA STATE UNIVERSITY LAW SCHOOL, BATON ROUGE, LA.; ACCOMPANIED BY DR. MICHAEL H. CARDOZO, EXECUTIVE DIRECTOR OF THE ASSOCIATION OF AMERICAN LAW SCHOOLS

Dr. MALONE. Thank you, Senator. I appreciate the opportunity of appearing before this subcommittee and although I am serving as president of the Association of American Law Schools, I feel that in fairness to my organization, I should tell you that the nature of our organization is such that no officer could undertake to offer anything that can be called an official view of American legal education, and the best that I can do is simply to afford my own estimate as to how 135 American law schools belonging to our association would react to a proposal such as S. 836.

I do feel that I can say with assurance that all institutions devoted to legal education and research are vitally interested in any measure that would afford us much needed financial assistance in our efforts to discharge the myriad tasks that have fallen on our shoulders as a product of this newly emerging complicated society. We, therefore, welcome a measure such as the one to which your committee is now devoting its attention. The benefit that we can derive from a foundation under which we can be openly classified as representative of a social science with full entitlement to sympathetic consideration of our needs would be of immense assistance to us.

I think I should say we have suffered greatly in the past, Senator, because the needs of law and legal education have hitherto achieved only a marginal type of contact with presently existing public institutions and foundations whose express objectives would embrace law only at a tangent or indirectly. And, our appeals under these measures have been directed to administrators who, however capable they may be, understandably lack the necessary knowledge of the background and character of law. This has caused our claims to be viewed somewhat askance and out of the corner of their eye.

This would be true with a science foundation with regard to humanities, public health, welfare, foreign affairs and areas of that nature. And, so we have had to devote the major part of our attention to the task of even convincing administrative agencies that we have any entitlement whatsoever, and even after this has been done, the administrative attitude toward our needs has frequently been one of doubt and hesitation.

I think this is most unfortunate at the time when the thinking of law teachers and leaders of bench and bar is undergoing a true dramatic renaissance with reference to the mission of law in society. We have moved far beyond the former approach which has been attributed to

law and lawyers of simply examining our own navel while society has needs much more vital than the purely internal revisions of the legal structure. The mission of the lawyer has been under intensive critical reexamination. Yet, the tarnished and time-worn image of a wholly introspective law, an image that we are struggling to reject ourselves, stands in our way whenever we seek assistance from public bodies or from private philanthropy.

If I may mention a few details, Senator, even the briefest survey will indicate how miserably the needs of law and legal education have fared with respect to public funds granted for education. The President's budget for 1968 contained, I believe, more than \$3 billion for assistance to higher education, including \$526 million for the National Science Foundation, \$640 million for universities, faculties, grants and loans, and over a billion dollars for a National Institution of Health. Yet, not one penny of these funds has ever been specifically earmarked for legal education and research. And, our participation in any part of this largesse has had to come through indirection, through our efforts to convince often reluctant administrators that we merit any consideration whatsoever.

In calling your attention to the generosity with which the needs of medical education have been met through Federal assistance I, of course, do not mean to minimize in any way the importance of medical training nor to claim that law and legal education demand equal treatment by the Government; but the contrast between the prevailing attitudes between the needs of the two professions, law and medicine, it seems to me, is staggering.

Despite the fact that there are fewer than a hundred medical schools to the United States as contrasted with approximately 135 approved law schools, and that there are less than half that many dental colleges, yet the Medical Professions Educational Assistance Act alone has provided \$330 million of assistance during fiscal 1968. This averages out, Senator, to something more than \$2 million for every medical and dental school in the United States.

We do not deplore a penny of this, but I think I should say that at a time when there is a crying need for better trained lawyers to meet the heavy demands of a highly varied society, when we are attempting to adjust ourselves and to make contributions consonant with the contributions made by other social scientists, it is most deplorable that we have to creep in under the bottom of the tent and persuade skeptical minds that law is entitled to some sort of a pittance under somebody else's bill.

At this point, Senator, I would like to take the opportunity of commending particularly section 6(3)(d) of the proposed bill which clearly emphasizes that one of the objectives of the legislation is to avoid the concentration of research grants in any one State or geographic region.

I would like to suggest, however, that this might be further strengthened so as to express a determination to avoid an undue concentration of grants in a limited group of institutions which have been deemed to have superior resources of talent or research facilities. The long-range research needs of legal education are really of a two-pronged character. First there have developed islands of excellence—

well endowed schools which are working in the very forefront of research and experimentation in law, and the ambitions and capacities of these institutions jut out conspicuously from the mainland of legal education and of course these points of conspicuous advance certainly must be encouraged, for their continued health and progress is absolutely essential.

But, it seems to us that if Government is to support the overall progress of education and research in law, it must carefully nurture those other seeds that are germinating with remarkable vigor throughout the Nation.

It is not sufficient, it seems to me, that we have a spare handful of centers of excellence that are located largely within the urban centers. The general level of sophistication must be raised if we are to have progress and an improvement of the general level of research in the true sense of the word.

This proposed social foundation measure will help us materially if for no other reason than it will afford us access to an agency which hopefully will have some understanding of our needs. I feel, however, Senator, that I should tell you that our real needs go further. They extend far beyond research. We need law school support in all its activities; the training of more law teachers in a society that is pressing its demands for legal services to an extent hitherto undreamed of. We need means to make it possible for capable and ambitious underprivileged persons and members of racial minority groups to gain a first-rate legal training. The demand for an education that will permit more people to perform the legal services necessary to society is impressive. For example, from 1947 until 1965 the size of the student body in American law schools increased 37 percent, and even more impressive than this is the fact that two-thirds of this increase has taken place since 1963. With this year of 1963 as a base, it is our prediction that by 1975, only 8 years from now, there will be an increase of 25,000 students which represents an increase of about 50 percent of the present law school enrollment.

On study, for example, has indicated that by 1980, only 13 years from now, the number of persons applying for admission to the bar of one State, California, will double. It is not enough that these new men be trained in some manner or another. They must be trained to fit the image of the lawyer that society has a right to expect.

For these reasons and many others, when I tell you that we enthusiastically welcome this new bill, I must make the reservation that our needs go far beyond encouragement for new legal research projects that could be supported by general purpose agencies concerned with all the social sciences. The broad needs of the law schools and the needs of the farsighted leaders of the legal profession itself are closely interrelated and involved.

We have been discussing among ourselves the prospect of the establishment of a fund devoted exclusively to the needs of law; for we must have means of encouraging the right men to undertake the study of law. We must train these men for their profession, and once they have become lawyers, judges, lawmakers or administrators, we must have means at hand of keeping them current, means of encouraging their activities in the right direction, and we must be in a position

to devise better and more effective machinery for keeping current the body of the law itself, that is, the current run of the law in its broader implications, rather than some one or two special socially needed measures. We must keep the general body of the law itself abreast of the needs of society. Even a sympathetic public attention to legal research could help us only to fulfill part of the vital needs of the sound administration of justice.

That ends the formal statement, Senator. I will be glad to attempt to answer anything of particular interest to you, or, to comment on it.

Senator HARRIS. I want to thank you, first of all, Dr. Malone, for being here at this time of day, and for your testimony. I think it is usually overlooked by a lot of people, unfortunately, that you cannot really get into a serious discussion of the many problems within the other social science disciplines without touching on legal questions. And I think that the fact that that has been overlooked has been unfortunate in developing the law as a social science, as we need to develop it.

I served on the Oklahoma Law Review when I was in school there. It just published, this quarter, a lead article which was concerned with the civil rights of mental patients. That is a subject that perhaps has been looked at in individual cases. Or perhaps, from time to time, some law review notes have been written on something like that. But it seems to me, there are a good many areas like that that need consideration by legal scholars.

The unfortunate thing about that article is it is written by a man whose doctor's degree is in social work and not in law. It is not written by a lawyer. It is a very good article. I do not mean to take away from it. But it is my hope that with the creation of this National Social Science Foundation and the recognition of law as a social science, we might get some interdisciplinary research efforts going. For example, in the field of the civil rights of mental patients, which would include the lawyer on the one hand and perhaps a social work or social welfare oriented person on the other.

I think there is a good deal of development to be accomplished in these areas and I think, for example, that—well, you take problems of the American Indians. We have a really mixed question about American Indian reservations. You have legal rights. You have political science questions about organization of governing entities on reservations and, of course, you have anthropology and sociology involved and so on. I think it would take some sort of interdisciplinary or multidisciplinary look at some of those problems to really get at them.

I think as you have said that we just have not recognized very well that law is a social science and that it has a real place among others.

Dr. MALONE. Senator, if I could make one observation and elaborate on what you have said, there are two characteristics of law as a social science that are not always noticed. First, a single social science, such as economics, is looking at a societal problem from an economic standpoint alone. The sociologist is dealing with it from the sense of the benefit of society from the sociologist's standpoint. But when these matters actually have to be presented to be implemented and put into legislation, then there is the need for the science that deals with the

conflict, for social interests and economic interests can conflict. Moral interests and administrative interests can conflict. And it is the peculiar talent of the lawyer that he deals with interests in conflict with each other. And, here is one of the great values that I think law as a social science can contribute because of its overall view and its necessity of resolving conflicts—a task at which the other sciences are not adept.

And furthermore, there is this difference between a piece of legal research and a piece of research in sociology or in economics, for example. In sociology and economics research takes the form of concentrated single-minded studies. The researcher who makes them is interested in imparting a body of knowledge, whereas in law we are dealing with a mechanism in which there must be an assumed responsibility for decision. The legal researcher is dealing with the person—the judge or the legislator—who does not simply make a study of facts. He must make decisions and he must turn his research in such a way that the person who implements this can assume responsibility for it. And, for these reasons alone, I think, we have a very real claim in any social science research organization that this Government sees fit to set up.

Senator HARRIS. I certainly agree with what you have said, generally. How long have you been at Louisiana State University?

Dr. MALONE. Senator, I have been there since before 1940. It's been about 26 or 27 years that I have been in Louisiana.

Senator HARRIS. That was well before a moot court team, of which I was a member, was defeated at Austin, Tex., by a moot court team from Louisiana State University.

Dr. MALONE. My memory does go back to that one. Yes.

Senator HARRIS. We are very pleased you are here this morning.

Dr. MALONE. Thank you, Senator.

Senator HARRIS. We appreciate your testimony and your further comments and I can assure you that they will have very earnest consideration by this subcommittee.

Dr. MALONE. Thank you very much.

Senator HARRIS. Let me ask you a question, Dr. Malone. I did not ask you directly whether or not you supported generally the passage of S. 836. I think that is implied in your testimony.

Dr. MALONE. I tried to make it rather explicit. Yes.

Senator HARRIS. You do support.

Dr. MALONE. If there is any doubt on that—yes, we do support it.

Senator HARRIS. Thank you very much.

Senator HARRIS. Dr. Stewart P. Blake, executive director, management and social systems, Stanford Research Institute.

Without objection, we will place in the record a biographical sketch concerning Dr. Blake.

Biographical Sketch : Dr. Stewart P. Blake

Vice President, Stanford Research Institute, Menlo Park, California. B.S. Rutgers; MBA and Ph. D. degrees, specializing in Research and Development management, Stanford University. Department of Defense (most recently with ODDRE); responsible for designing the DOD program for evaluating the performance of major R&D contractors, and major contributor to the development of the project definition concept and the revised source selection procedures; Management of complex R&D projects for other agencies of government; Instructor in the theory

of R&D management, Stanford University, University of Maryland and American University; Executive Director, Management and Social Systems, Stanford Research Institute.

Senator HARRIS. We are very pleased you are here and I offer you the same apology for having to change our time to this rather inconvenient hour this morning. We appreciate your presence and we will be glad to hear from you at this time.

**TESTIMONY OF DR. STEWART P. BLAKE, EXECUTIVE DIRECTOR,
MANAGEMENT AND SOCIAL SYSTEMS, STANFORD RESEARCH
INSTITUTE, MENLO PARK, CALIF.**

Mr. BLAKE. Thank you very much, Senator. It is a pleasure to be here at any time.

I will summarize and not read from the testimony I presented, if I may, because I would like to make a few comments, some of which have been triggered by remarks just made.

Senator HARRIS. All right. Without objection, we would like to have the entire statement for our record. So, we will place the prepared statement in the record and then you may excerpt from it or comment as you desire.

Dr. BLAKE. Thank you very much, sir.

I would like to start out by saying that I concur with the remarks that have been made so far this morning and I am particularly pleased at the recognition of the interdisciplinary nature of the problems that we class as social science problems.

I represent Stanford Research Institute which is a not-for-profit applied research institute. I should like to say just a word about this particular type of organization since there is considerable misunderstanding of the function.

This is a not-for-profit organization wholly owned by Stanford University. It is, however, a separate and distinct applied research organization. It was brought into existence in 1946 specifically for the purpose that you described just a moment ago, and that was to deal with problems which are multidisciplinary and which could not be handled appropriately in the then existing university environment, problems which had as a condition of solution more than one discipline and perhaps the integration of several disciplines.

This institution has grown until today it is approximately 3,000 people and it has within it every conceivable discipline, both in the so-called hard and soft sciences.

I was particularly impressed with the remarks made just a few moments ago about the function of the legal profession in integrating the various disciplines. I would certainly agree with that and I would say that the particular type of not-for-profit institution which is embodied by Stanford Research Institute has as its major reason for existence exactly this function, the performance of this function.

One of the indications of this, of course, is contained in my title which is "Executive Director of Management and Social Systems." The word "sciences" has been left out of management sciences purposely but the social systems was chosen to indicate the inadequacy of any single discipline in solving the kind of social problems that are

facing the world today. Our research interests are very broad. They are multidisciplinary and we as a matter of principle rarely—

Senator HARRIS. Could I interrupt just a moment to note the presence of Senator Clifford Hansen, who has been a very active member of this subcommittee, who has to go to another meeting this morning. He is under the same disability we all are. We only have a very short period each day during which we can have meetings and I just want to say we are glad you are here, Senator Hansen. We are sorry you have to go to another meeting but we want the record to show that you are here.

Senator HANSEN. Thank you very much, Mr. Chairman.

Senator HARRIS. Go right ahead.

Dr. BLAKE. Thank you. I should digress for just one moment to indicate that when I am talking about not-for-profit institutions, I am talking about a different kind of a not-for-profit institution than the kind that is associated with Government research specifically, such as the Rand Corp. and others which are essentially line items in the departmental budget. I am talking about the nongovernmental—usually affiliated with a university-type of research organization.

The problem as we see it in the social systems area, and by social systems we mean the complex social, economic, and political problems of the day, the problem as we see it insofar as Government funding is concerned and with Government sponsorship is that usually departments operating under budgetary constraints have interests which are specific in nature. Our experience has taught us that very rarely are the solutions to complex problems solved within the specific interest of a single department.

I could give an example if it would be of interest.

Senator HARRIS. Yes.

Dr. BLAKE. Approximately a year and a half ago we at SRI proposed the formation of an interdisciplinary organization to deal with the broad range of problems in Southeast Asia. We were prepared to put together an organization to deal with such diverse problems as land reform, rural security, information systems, economic and agricultural planning problems in this most important part of the world.

It was, as it turned out, quite impossible to obtain interest on the part of any Government department and it was interesting to hear the reasons. Most of the departments were interested in pieces of the work and were perfectly willing to fund individual research projects but none of them—I repeat, none of them—were interested in broad multidisciplinary approaches to these complex problems. It was our contention that there was no point in seeking a solution to the land reform problem in Vietnam unless you simultaneously were prepared to approach certain other social problems in the country. And yet—and I understand perfectly the attitude of the departmental administrators operating within rigid budget constraints—it was impossible for them to see their way clear to funding just research which would transcend their areas of interests and, of course, could leave them open to criticism.

Now, I certainly concur with what has been said, that the fundamental problem in research in social sciences and social systems—there are two fundamental problems I should say. One is that we do not have a developed concept of science which is similar to that used

in certain other countries where it embraces all of the search for new knowledge. To most people in this country science means physical science or hard sciences. I was trained as an engineer and as a historian, I might add, and I feel that this is a rather narrow definition of the word science.

The second problem, as I mentioned, is that the type of problems that we are dealing with in the real world are so unbelievably complex that most of those who are concerned with the solution of their problems attempt to suboptimize and to look at the solutions of included problems, thus very frequently compounding the difficulty of the original problem.

I do not feel that the solution of our great social problems of today are necessarily found through the rats-in-the-maze type of laboratory research. I believe they are found in the real world and I certainly welcome the remarks of my predecessor here this morning in which he indicated the functions of the legal profession in helping to integrate.

I would say only that there are examples in the Federal Government where this is being done in very informed and enlightened ways and I would be remiss if I did not mention some of these. For example, the new Department of Housing and Urban Development, particularly the metropolitan development area, is doing excellent very broad scale interdisciplinary work as has the Office of Naval Research for many years and the Advanced Research Project Agency of the Department of Defense. There are many other Government agencies which understand the problem very well and which do an excellent job of attempting interdisciplinary approaches to problems. Unfortunately, as I mentioned earlier, because of the press of discharging their responsibilities and their budget constraints, they cannot do as much as they would like to.

I should like to say that I welcome the opportunity to testify in favor of this bill. I would hope that nothing in the bill would give the impression that the field of social sciences is concentrated in the universities. I feel that the universities, of course, have a great role to play but that there is a need for the services of the applied research organizations in bringing these solutions perhaps into context with the real world.

Thank you, sir.

Senator HARRIS. Very good. Thank you very much, Dr. Blake, for your testimony and your endorsement of the creation of a National Social Science Foundation and your pointing out the need for the funding of multidisciplinary approaches to rather complex modern problems.

It has been said that one objection to the formation of a separate social science foundation is the need for greater interdisciplinary effort between the social and the natural sciences. That has been answered by witnesses before this committee by saying that a separate foundation will bring prestige and status to the social science, and we may actually bring them more to the attention of those natural scientists who will have to decide to fund the kind of interdisciplinary effort we need between the natural and social sciences. You make another and separate point, but one which I think is equally important,

and that is, if we had a National Social Science Foundation we could foster in a better way the interdisciplinary effort we need within the social sciences themselves.

Now, one of the problems we have, Dr. Blake, in regard to this bill or in regard to the additional question of whether there should be greater Federal support for research and scholarship in the social sciences, is the question of justifying to the layman outside the social sciences who asks, do I have to take it on faith that more research and scholarship in the social sciences would be good for me? And the answer, or course, to that, is no. We know he will not take it on faith. And neither will the Congress.

And so one of the things that we need in this record is some answer to the question what sort of things excite you? What kind of things do you think need additional research efforts in the field of social science?

Dr. BLAKE. In your earlier remarks, Senator Harris, you referred to certain problems. You referred among others to the problems of the Indians and the Indian reservations. I would like to mention that we at Stanford Research Institute, have been working on the problems of the Indian reservations for some 15 years on an interdisciplinary basis. We are very actively engaged at the present time working with the Office of Economic Opportunity and the work there, I believe, is of fundamental importance. We have been dealing with peripheral areas to a large extent, that is, the design of systems for measuring compliance with the Civil Rights Act. We are now beginning to get into the more fundamental issues relating to poverty, to depression and to conditions which create and perpetuate these very unpleasant and unnecessary blights on our economic landscape.

There is little doubt in my mind that it would be simple to make a very persuasive and convincing case that research, properly done, properly organized and accomplished, into the social systems area, and perhaps I should emphasize social systems to attempt to overcome the prejudice against undisciplined work such as, and with apologies to my colleagues, the economists are prone to do, where they study economic theory without particularly relating it to the real world—not all economists, of course, but many—I would like to come back and say I think you can make a persuasive case that social systems work which relates this kind of research to field work and to the work of the sociologists and the lawyers and the others who are attacking parts of the problem, they are the only way that we are going to solve or come close to a solution to these complex problems.

Although it is, in my opinion, easy to make such a case, I think the simpler answer would be, are you satisfied with things the way they are? And, if you are not, what other solution can you offer? I do not believe we ever solve our complex problems without a great effort to obtain more data, more information, and although I perhaps should not admit it, a willingness to be empirical and to experiment a little bit.

We at SRI are predominantly field workers. Of my group at the Institute which deals with social systems, approximately 60 percent are in the field doing field research, applied work at any one time.

The problems, as I say, range across the whole spectrum, racial imbalance in the San Francisco public school district, rationalization of

Post Office operations, snow removal in urban communities, things of this sort. All of which are important matters.

Senator HARRIS. Cynics have said that politicians of liberal inclination liked the 1930's a lot better than they do now because there were more poor people to support their programs.

I think you might say about the same thing about social scientists.

The problems were so bad and knowledge so lacking that almost any kind of effort was helpful. We did not have to have as broad an understanding of the problem because almost any kind of effort was helpful, say, for example, in regard to health or in regard to housing or in regard to education, back in the 1930's when there were larger percentages of people who were deprived of good health, good housing, or good education. It was easier to do in some ways than it is now.

Now it seems to me that in almost any direction you look, you find people groping for some kind of basic understanding of these problems, really searching anxiously for some kind of basic knowledge or at least some kind of methodology. I think that is one reason OEO programs have some political difficulty, because they are suffering from two kinds of shortages, either one of which they might be able to survive fairly easily, but one, lack of well-motivated, dedicated, trained, and sympathetic personnel in sufficient numbers, or, two, some real understanding of the causes of poverty or how people may be motivated to overcome it or the methodology by which you might approach a solution to those problems.

So, I find a tremendous yearning for some better understanding of these problems and it seems to me, if we are going to get at them in a way that we ought to get at them, we are going to have to do it in an accelerated way and on a systems-type approach, in many instances. The kind of thing you are talking about, is what I mean.

Dr. BLAKE. I was asked recently, Senator Harris, whether I thought it would be easier to put a man on the moon or to find a cure for cancer, and the answer was rather simple from my point of view, that it was much simpler to put a man on the moon because we are dealing with known technology.

Medical research today, and if I may be pardoned for speaking outside of my primary field, is essentially empirical research. It is research where you try one thing after another until you find something that seems to work. And to a very great extent this has been the history of our research in the social sciences. It has been empirical. We have or had a body of theory but it has not been related theory and people have about run out of what can be accomplished purely through empirical work in the social sciences. Let us try this and see what happens.

Now that we are coming to grips with these complex problems it is going to be mandatory that we go far more deeply into root and fundamental causes for social problems than we have done before or that we have recognized before, and I most certainly agree with you that there is a growing awareness that it is necessary to conduct interdisciplinary research in a large, far larger degree of complexity and size than we have ever done before because if we do not, we are going

to continue to suboptimize, chip away, and break off a few pieces of the rock but we are never going to remove it.

By the way, your first comment about politicians perhaps preferring poor people would only be true if we equated poverty with lack of intelligence which I do not think is the case. So, I think that you do the political profession a minor injustice.

Senator HARRIS. No. My point is a little different from that. Times have changed. For example, in the 1930's the percentage of people in America who were disadvantaged was, of course, much greater. Today it seems to me, that the average person is one who is among the landed gentry and who is making \$7,000, \$8,000, \$9,000 a year. He, like all of us, is overextended in credit and he is worrying about how he is going to pay his bills each month. And while he is doing better than he ever has before, he is not happy about it and he is very uncomfortable and dissatisfied.

I think that the cause for that is many sided. For one thing, he is bothered with problems these days which he has become aware of through modern communications but with which he did not used to be bothered with. He did not used to have to worry about the Middle East or whether Mr. Kosygin and the President are going to get together. Chances are he never knew about any of the details or very much about the problems. Somebody else worried about things like that. And so, it is a different kind of age and a different kind of society. But it also means, it seems to me, that if our society is going to meet its problems, then we are going to have to do a much better job of explaining to that average citizen why it is to his interest for us to do so. So, my point really, is that if we are to continue as the social sciences are now, as far as the Government is concerned, keeping them as part of a much larger institution which is primarily interested in the natural and physical sciences, and if we, as social scientists, are hesitant or timid about pointing up the contribution that the social sciences can make, we are never going to convince anyone else that we have a contribution to make or that our profession has something real to offer in meeting our problems. The general constituency is not so interested in these social problems as they perhaps were when there were larger numbers of poor people involved, unless, of course, they are threatened along the way.

I know that is a very cynical way of putting it. But, it points up some of our modern problems.

Are you doing anything in the field of imaginal education, improvement of self image, motivation, that sort of thing?

Dr. BLAKE. Not to my knowledge, Senator Harris.

Senator HARRIS. That is a field of growing interest. For example, even if you were to give a fellow \$10,000 a year or a good house or maybe even a good job, if he comes from a terribly disadvantaged background you may not have really done anything for him in the long pull unless he has undergone some improvement of self-image on his part and some change in his attitudes. And that is a thing that we are running into everywhere.

Jack Vaughn, Director of the Peace Corps, testified before our committee that the fact that we know so very little about human resource development is pointed out very well by the example of the American

Indian, which is a strange kind of situation. The American Indian is the only minority group in our country which has its own government bureau and it is the only minority in our country which has its own health service. Yet, the American Indian ranks at the very bottom, worse than any group in our country, in health, in unemployment, in low family income, in housing, in almost any indicator there is.

I think we are commencing to realize, for example, in the field of health that the social sciences are very much involved and I am hopeful that by the creation of a separate Social Science Foundation, we might call the contribution that the social sciences can make to the attention of people like those in the health professions.

Well, do you have anything further?

Dr. BLAKE. No. Thank you very much, Senator.

Senator HARRIS. I appreciate your coming. I appreciate this discussion.

Dr. BLAKE. Thank you very much.

(The full statement of Dr. Blake follows:)

STATEMENT BY DR. STEWART P. BLAKE, EXECUTIVE DIRECTOR, MANAGEMENT AND SOCIAL SYSTEMS, STANFORD RESEARCH INSTITUTE, MENLO PARK, CALIF.

Senator Harris, members of the Subcommittee, my name is Stewart P. Blake. I am the Executive Director of the Management and Social Systems area of Stanford Research Institute in Menlo Park, California. As director of much of the social science research performed by the Institute, I greatly appreciate this opportunity to comment on federal support of social science research. This statement has been prepared with J. Michael Keenan of our Management Systems Program.

Stanford Research Institute is a nonprofit organization performing contract research for industry and government in the United States and abroad. Our interest is in the fields of physical and life sciences, social sciences, engineering, and management sciences. Most nonprofit corporations were created specifically to do applied research, in contrast to the academic community's interest in pure research. The nonprofit organization is generally concerned with implementing the results of abstract research within the objectives and context of particular organizations.

The work performed by an applied research organization of this type is more pragmatic than academic research. Scientists in nonprofit organizations apply their findings to realistic situations. More of their work is with industrial companies and operating agencies of the government rather than with research agencies such as the National Science Foundation or the National Institutes of Health.

Stanford Research Institute is an international institution. Hundreds of its staff have worked and are working on research projects outside of the United States, both on permanent and short term assignments. About one-fifth of the Institute's research activities are of an international character; the work is done abroad or is concerned primarily with the international interests of clients. A great deal of this work has social science implications.

Historically, of the very small percentage of federal research funds allocated to the social sciences, a majority has been awarded to university research for work on relatively abstract problems. Little funding has been directed to application of specific findings other than in the defense area. This is particularly true today in such fields as education. Educational researchers in the university are devoting considerable effort to problems such as response-time measured in milliseconds. At the same time, industry seeks ways to mass-produce extensive hardware systems that have no proven relationship to the relevant variables in the learning process.

In the physical and engineering sciences, the nonprofit applied research organization stands roughly between the pure researchers in the academic environment and the users in the industrial world, providing a bridge between the findings of the one and the needs of the other. In the social sciences, funding has

not been sufficient to provide this same function, and, when provided, it has been in such small incremental amounts or so severely restricted by economic limitations on an organization that few substantive contributions have been made to advance the state-of-the-art to a point where it could be readily disseminated.

Applied research organizations such as Stanford Research Institute are at a unique point in the research milieu. Research in the university structure, tending to be fundamental investigation, often (perhaps usually) is done from the base of a single discipline. Within the academic environment it is not easy to cross disciplines and assemble complex multidisciplinary problem-solving teams. The independent nonprofit organization is designed to cope with complex problems and to organize a multidisciplinary research team on short notice that can be dissolved when no longer appropriate. Also, the team members tend to be responsible solely to the specific project on which they are working, in contrast to the university environment where teaching and administrative requirements, even if minimal, encroach on the researcher's time.

Organizations such as SRI operate under conditions uniquely beneficial to the increase of knowledge related to human behavior and organization systems. We perform a great deal of research at client site, covering a wide range of activities—information systems and organization design, implementation of data processing systems, health problems, and so forth. When a client in industry contracts with us to make a study, even in connection with operating government systems, he often has specific ills in mind. He does not call us for a diagnosis; he wants us to apply medication. He is not interested in "academic" extensions, and a description of the way people behave in systems is of no immediate financial interest to him. On the other hand, many clients would be quite interested in having this kind of behavioral data gathered and analyzed if done unobtrusively and without disturbing the operating system. Studies of this type, as additions to many of our regular client studies, would be exploratory and, therefore, not appropriate for funding by the client. The results would be of general, rather than specific, interest to a particular organization.

As federal support for the social sciences is currently structured, its effective use by an organization such as SRI becomes very difficult. Those monies that are not specifically allocated to program areas tend to be spent on relatively basic research. Certain areas where substantial quantities of money have been available for contract research quite properly are those that may impose security classification on the research which leads to difficulty in disseminating new research findings. Valuable information often is not available for utilization in related research areas.

Much funding in government areas is done through routine requests for proposals, rather than as a response to unsolicited proposals. In industry a similar difficulty is created as a result of the tendency to require solutions to specific problems, often causing the researcher to treat the symptom rather than the disease. This type of funding can be only superficially economical, and it may concentrate funds around prestigious organizations, particular individuals, and worst of all, good proposal preparers. Organizations such as SRI are currently doing research in the field and know what the problems are and where research is needed, but they often are unable to allocate funds for the necessary peripheral research or for supplemental programs to implement applied research. The proposed foundation, if structured properly, could provide the means for finding a solution to these problems.

We are responsive to the research needs of industry and government, and we seek to create research programs where changing conditions and developing technology indicate new and productive research opportunities. The creation of the National Foundation of Social Sciences could provide a funding source to enable institutions such as SRI to engage in creative applied research. Funding of this type would also provide support in research where problems may have political connotations. Often research on delicate topics can be very significant but unpopular politically or for some other emotional reason. An independent organization, whose charter allows it to do research based on the significance of the problem and is not constrained unduly because of the political sensitivity of the problem, could accelerate the value of social science research.

A specific problem in working with organizations like the National Science Foundation or the National Institute for Mental Health is their tendency to force down the recovery cost on projects resulting from unsolicited proposals.

Grants-in-aid present certain problems to a nonprofit research organization, such as (1) the limited number of grants available in social science; (2) the low amounts of individual grants (often below the threshold of usefulness); (3) the inaccessibility of grants to applied research organizations; and (4) the tendency for overhead percentages for grants to be below average costs.

To attract and retain high quality researchers, research organizations must allow researchers to pursue their own interests and professional goals as well as those of the clients. For the creative atmosphere to be relatively free from external pressure so that innovative abilities are efficiently utilized, the researcher needs sufficient time and adequate facilities to work on his ideas. Funds should be available for this motivating opportunity to engage in more basic research.

Funding is often a serious problem, since overhead rates in the research industry vary widely. As the nature of the research becomes increasingly abstract or pure, potential sponsorship shifts from industry toward government or private research foundations.

While grants, as substitutes for self-sponsored research, do not provide for full recovery of overhead costs, they are widely used when they satisfy the research needs of the professional and make a contribution to reduction of the overhead burden. External funding of a grant nature should cover indirect as well as direct costs. To require part of the project to be funded from overhead is merely shifting the cost of the research to other research clients. At present, grants-in-aid are expensive and financially unfavorable to the organization. Full recovery grants can produce optimum financial benefits to the research institute, research benefits to society, and professional satisfaction to the researcher.

As you well know, the substantial portion of research monies is allocated to the so-called "hard" sciences, but a great percentage of the variation and error within the performance of an operating organization can be attributed directly to the human factor. Vast quantities of research money have been expended in developing machinery and electronic computers that perform with very high reliability and are very accurate and precise in their operations. Almost inevitably, however, a human link is involved in producing the desired output; regardless of the precision with which a tool has been manufactured, it does not perform adequately if the operator misuses it. A great majority of the error found today is traced directly to this human operator. From the perspective of economic efficiency, therefore, it would seem appropriate to obtain more of a balance between physical science research and investigations of the behavioral and social sciences.

It would be highly desirable to make decisions between alternative programs among behavioral science projects instead of between "hard" and "soft" sciences, as must often be done. Understanding of systems behavior would be accelerated and headway could be made in solving the problems besetting the nation (e.g., health, race relations, ghetto, life, overcrowding in cities, juvenile delinquency, poverty, education).

It is possible to estimate cost-benefit relationships in connection with given social research projects or programs with enough reliability to serve as a basis for making decisions between programs. SRI has been developing this methodology for some time and has applied it successfully.

These and many other problems related to social science funding could be solved either wholly or in part by the proposed National Foundation for the Social Sciences. The foundation appears to be one of the best means available for bringing about a proper relationship between social sciences and the government. In funding social science research, it could develop a proper perspective for obtaining maximum benefits for the country.

The bill proposing the foundation would provide additional and independent support and acceptance for the social sciences, which currently existing organizations cannot provide.

The proposed foundation, therefore, could be of substantial assistance in implementing additional social science research within the environment of the nonprofit research organization. The foundation would provide an organization and funding source that could become an adjunct to some of our operating studies. This source would provide a bridge between the application studies in the real world and the laboratory studies of an academic nature. Currently, the threads tying the academic world to applied research organizations and to specific real-world problems are quite tenuous and often only exist through the dedication of determined and able members of the academic and applied research institutions.

Partnership arrangements between college professors and research organizations would allow social scientists to design studies from a laboratory viewpoint and to verify predictions that have been developed from the laboratory studies so as to determine their usefulness in the real world.

A single responsible contracting agency, given the problems of quality social science research, particularly in sensitive and delicate areas, will be able to make substantially better judgments as to funding necessity and the associated risks. Any organization with the option of funding "safe" research is likely to take the easy way out. In fact, the greatest payoffs in terms of understanding the behavior in human systems appears to be in the "risky" areas.

With foundation support, the problems of mankind could be attacked directly, rather than through the efforts of total studies diluted across a wide number of agencies. The organization will also be able to strike a balance between funding huge descriptive studies of behavior, that are rich in historical data, and studying systems of great social significance. This distinction is in contrast to very small, well-designed, highly controlled studies that are examining variables of little overall consequence.

In summary, the proposed foundation has many characteristics that would benefit the nation, applied research organizations such as SRI, and the academic world in general. As these benefits ultimately will improve the living conditions of the people of the United States, it appears, therefore, that the proposed National Foundation for the Social Sciences would be a wise investment for the government.

Thank you, gentlemen, for this opportunity to express the interest of Stanford Research Institute in improving behavioral science research. We at SRI look forward to the opportunity to cooperate with this new foundation in developing an integrated, systematic attack on the problems that beset human beings in the social systems within which they operate.

Senator HARRIS. Dr. Gwendolen M. Carter, is Director of the Program of African Studies at Northwestern University, Evanston, Ill. Without objection, we will place in the record a brief biographical sketch of the distinguished background of Dr. Carter, whom we are honored to have here this morning.

Biographical Sketch: Dr. Gwendolen M. Carter

Director, Program of African Studies, Northwestern University, Evanston, Ill. B.A. University of Toronto, 1929; B.A. Oxford University, 1931, M.A. 1935; M.A. Radcliffe College, Harvard University, 1936; Ph. D. 1938. Lecturer, McMaster University, Ontario, Canada 1932-35; Wellesley College, Instructor 1938-41; Tufts College, Instructor, 1942-43; Smith College, Assistant Professor, 1943-47; Associate Professor, 1947-51; Professor of Government 1951-64; Sophia Smith Professor, 1961-64; Melville J. Herskovits Professor of African Affairs and Director, Program of African Studies, Professor of Political Science, Northwestern University, 1964—.

American Political Science Association (Council, 1956-58, secretary, 1959, Vice President, 1963-64, Nominating Committee, 1965-67); New England Political Science Association (President, 1959-60); African Studies Association (Vice President, 1957-58, President, 1958-59, Chairman, Commission on Language and Linguistics, 1959-62, Policies and Plans Committee, 1963-66); American Association of University Women (International Relations Committee, 1951-57); African-American Institute (Board, 1964); Advisory Committee of the Africa Bureau, Department of State, 1963—; Education and World Affairs, Intercultural Committee, 1964—.

TESTIMONY OF DR. GWENDOLEN M. CARTER, DIRECTOR OF PROGRAM OF AFRICAN STUDIES, NORTHWESTERN UNIVERSITY, EVANSTON, ILL.

Dr. CARTER. Senator Harris, I am delighted to have the opportunity to come. I and my colleagues, both in the Program of African Studies at Northwestern University and in the social sciences of which I am

proud to be a member, are extremely interested in this bill and endorse it very strongly. Some of my other colleagues will be here subsequently at your invitation, but I would like to speak particularly of the support for a social science foundation of this substantial interdisciplinary group which I have the honor to direct. It includes 23 faculty members with primary interest in research on Africa. We have about 80 graduate students. It is the oldest program of African Studies in the United States, and one of the two largest. We have had the opportunity to train many of those who are now directing other such programs. We find African studies an extremely important vehicle for interdisciplinary research, for almost all those connected with the program of African studies are concerned also with the kind of research which his or her colleagues are doing. Many of us are involved in cooperative team work as a means of pushing ahead the boundaries in the social sciences.

I would like to mention particularly here our concern for the sensitivity of foreign area research. You can well imagine, Senator Harris, that there are few areas more sensitive than Africa. I have been very fortunate—if I may be biographical for a moment—in that I went to Africa first in 1948 and I have had close personal connections with many of its leaders. Because of this, I have had easy access, in the past, and so have had many of the people that I have recommended or whose credentials are accepted.

I do not want to say anything against the kind of research that has been sponsored under the social science budget of the Department of Defense but you can well imagine what Camelot, the CIA disclosures and the size of the social science budget for DOD have done to create a climate of suspicion among people who are less directly concerned with American scholars than those that I have known personally. They are fearful that there may be an association between scholarship and the intelligence or military objectives of the United States.

I think that we must recognize this. We in African studies know that many channels are being closed to us. I believe that foreign area research is so enormously important for getting a balanced view of our relationship to foreign areas, and to this very mobile area of Africa, that it is particularly important that it be freed from any association with either intelligence or military purposes. And this is a very big reason why we are all extremely pleased about your stipulation that no funds from an intelligence or military agency should be used to support the work of a National Foundation for the Social Sciences.

The need to focus more directly upon the social sciences has been very well documented. At the same time, I think most of us feel that it is important to encourage the National Science Foundation to continue with its support of the social sciences, particularly of those projects which have a quantifiable character. As you know, the social sciences are turning more and more to systems analysis, and to quantifiable material. I do not think this is the whole picture in the social sciences, but it is an important part of it and I think there is a very real place for making a very direct link between the kind of analysis made in a physical science and that which is made in a social science.

At the other end of the spectrum there are clearly social science subjects that fall naturally into an association with the National Endowment for the Humanities. This is particularly the case in regard to historical research, and to those issues which impinge on humanitarian sciences and activities.

But this does, to my mind, leave a very considerable area in the center on which we need to concentrate a great deal more.

I have pointed out that the National Science Foundation only as recently as last year accepted projects from my own discipline, political science. As far as I know, it still has no director for the political science section of the National Science Foundation. Moreover, the amounts which have been granted to projects in political science are still minimal in relation to those which are being given to fields like anthropology and particularly physical anthropology. I can understand this but it does underline the need for a body that is particularly aware of the total needs of the social sciences and for all its branches. There are those which emphasize the behavioral approach, and those who are concerned with qualitative as well as quantitative measures. Many of us work very closely with psychologists and sociologists as well as with historians and economists.

In addition to my concern that more specific attention and support be available to all the social sciences in terms of the merit of the proposal and not the degree to which, for example, it stresses a quantitative approach, I feel strongly the need for a more coordinated approach to social sciences as a whole. In many ways the social sciences are growing closer to each other in approach, techniques and objectives. They are aware of their mutual dependence and at the same time of the distinctive contribution that each one of them can make to the general advance of knowledge. But we feel that social science needs periodic assessments so that special stimulus can be given to those areas which are found to be lagging. This is bound to happen when individuals and groups are pursuing their own particular objectives so we need to have a broad overall assessment periodically so that we can tell where we need more basic research, and where we need more applied research. I believe that such periodic assessment might well be one of the byproducts of the foundation which you are proposing, a foundation for the social sciences.

I would also like to stress the matter of needs. Both disciplines and area studies have received much of their initial stimulus and support from private foundations. The present level of achievement in the social sciences and their rapid expansion inevitably demands wider support at this time than the private foundations can provide. And this is true, Senator Harris, not only in regard to ordinary nonsensitive research but also to sensitive research. I think we have to face this issue very squarely. If the social sciences are to fulfill their real function in society, which is to make us much more aware of attitudes, trends, and destructive as well as constructive patterns of action, they need support commensurate with their task. And such support should be determined by the value of the exploration and the degree to which it pushes ahead the boundaries of our knowledge and not by whether it touches a sensitive nerve in our own society or in others.

I also think the social sciences are now in the position where they need long-term finance to pursue particular issues. We may be able in

our research to cut through at a given point on very important issues, say in regard to urbanization, mental health, or social welfare programs. But if we do not have the opportunity to cut through at another level fairly soon afterwards, to use much of the same data in terms which are understandable to those who began their research on the same field, we do not get that longitudinal approach and perspective which is so important in order to gain a balanced view and to get some approximation to the science which we call ourselves.

I would like also to say something about how I believe a public agency can best support research in the social sciences. And here I would like to ask your consideration of making block grants for general programs in the social sciences as well as supporting individual projects. There will always be the individual scholar who has his own line of research and I do not think anyone should be tied down to a program established by a particular university simply because he happens to teach in that university. But, my own experience is that the block grants to universities given in response to carefully designed long-range plans provide a flexibility and an opportunity for imagination which is really crucial to creative advance.

This has been our experience in regard to programs of African studies in this country. The program of African studies at Northwestern University is fortunate enough to be still operating under a 10-year grant, one of a number which have greatly aided the advance of African studies in this country.

Senator HARRIS. Did that come from the Ford Foundation?

Dr. CARTER. The Ford Foundation, yes. Carnegie first and then the Ford Foundation are largely responsible for the fact that today scholars in African studies in the United States are producing more and, I think, more realistic research work in publishable form than is true in any other country.

Senator HARRIS. Is that private source of funding for international studies or African studies decreasing?

Dr. CARTER. Yes. I think there is no question that we cannot expect to get these general support grants any more. This is partly because of the attitude of the foundations which feel they have done a very good job, which is true, and, that therefore, it is time for someone else to carry it on. It is partly because they have many other demands and I think they are edging away from foreign area research to concentrate more on educational TV, and matters within this country.

Senator HARRIS. That was my general understanding and that is doubly important, I think because, as a result of the fact that the Congress has moved away from the International Education Act—

Dr. CARTER. I know.

Senator HARRIS (continuing). I think maybe the foundations base some of their thinking on the idea that the Congress would now fund the International Education Act, as I very strongly feel they should.

Dr. CARTER. I do, too, sir.

Senator HARRIS. But, it looks like we may be caught in the middle with one being cut down and the other not starting up.

Dr. CARTER. We are rather apprehensive about the next 2 years. We are at a stage of momentum where we can go ahead if we get the financial support, but granted the best will in the world, you can-

not go on without support. And, we are really drawing on our reserves at the moment in order to keep abreast of the momentum that we and our students have achieved. What happens in our program is that students enter with a completed undergraduate degree, and proceed to a graduate degree in their own discipline but with the concentration on African studies. We try to get them into the field as quickly as possible so that they get that kind of experience. I am leaving next Monday with eight advanced graduate students who are going out to Ghana to work in field research with an equal number of Ghanaian students. They will come back to the United States for a year of academic work and then they will go out to do their long-range fieldwork. We have requests from universities all over the country for people who have got this kind of training, so its impact goes down into the whole body of education.

If I may add just one other thing, I am also at the same moment leaving with 25 teachers—high school, college, and university under the Office of Education program for the summer seminar in Africa. The over 400 applications we got for this seminar demonstrated to me that the interest and concern for genuine understanding of an area like Africa is going very deep into our educational system. Unless we begin to sweep away these wretched stereotypes about Africa, of the *African Queen* floating down a steamy river, and really get to grips with the genuine characteristics of a rapidly developing area. We are going to go backward instead of going ahead in the accelerated progress we have been making. And for this we need to have the right kind of people and training.

I think the only other thing I would like to urge is that Congress does not impose requirements in regard to contracts that are in some degrees turning scholars into secretaries, accountants. The midnight hours that I spend in trying to get together the figures—sometimes on a monthly or quarterly basis—really are not helping anybody.

At the moment, I am battling with a budgetary agency to know whether I am allowed to use for ground travel some of the money which was designated for air travel. We got a cheaper air rate because of numbers and now I would like to use that money in order to get some good professorial lectures and field trips while I am abroad with this group and I do not know whether they will allow it because of the rigidity of the contract. Some kind of flexibility, is absolutely essential, Senator Harris, if we are going to be able to do the kind of job that we in the universities can do best. Let us give the agency the basic facts and program and then trust us to use our academic competence in order to design the program within those broad overall limits which have been established.

If I can pull these ideas together, I would like to emphasize the very high degree of importance that we place on the establishment of the Foundation for the Social Sciences, free from military or intelligence money, a Foundation which can support the sensitive foreign area research which is both valuable for those countries themselves (almost none of which have either the competence or the funds to deal in a coordinated way with the many-fold problems they are facing) and for American foreign policy. We must be aware that our efforts may be counterproductive to the purposes that we want. Let me give you

one small example. I think all Americans tend to think of education as the great melting pot. It is a way of nationbuilding. We have found out in one of our research studies, however, that secondary education in the Ivory Coast is at this point reenforcing ethnic differentiation because of the association of the high school with a particular ethnic group, and in consequence, there is an intensification of the stratification which it was intended to override.

Only when you get detailed research of this kind can you find out such facts and then test them some place else. Foreign governments are much involved in and interested in such issues and so is our Government or certainly it should be. This kind of objective research done in a free open spirit can be carried on if we know what research funds and the funds for teaching and training are without any direct connection with any military or intelligence agency. I would add that in social sciences generally and in my own particular area of competence we are really at a very important position where we need a great deal more support in order to get the fruits of what we have been building for a long time. That is why I would like to support this bill with all the force I have.

Senator HARRIS. Well, thank you very much, Dr. Carter. Without objection, we will place in the record your prepared statement at this point.

The way we got into the questions involved in this bill is a very interesting one. We first, of course, were concerned about the implications of the Camelot affair, the social science research project in Chile which was paid for by the Department of the Army. And then, following that, Project Simpatico, a similar kind of social science research, again funded by the Department of the Army which was carried out in Colombia. And we found, after our initial hearings, that by and large, some very good procedures had been instituted within our Government, between the Camelot and Simpatico which had been helpful in establishing procedures to give notice to the host country and to get their acquiescence for the project and to let them know what it was to do and why it was to be done.

But we still were very much concerned about the implications of military sponsorship for such social science research. We came to the conclusion that this Government needs to know a good deal more about people in foreign countries and we came to the conclusion that that type of research was greatly needed and ought to be supported. But we also concluded that it did not help our Government to have such research sponsored by a military or intelligence arm of our Government and that it was drying up our research sources and accessibility our researchers had previously experienced in these foreign countries, and some people told us, in confidence, about problems they were having after Camelot, with their projects (they did not want to make them worse). I think of one in particular, where the host country had invited the Americans to leave the country and close out their projects. My own travels indicate to me that in some areas of the world, unfortunately, there are people who hold an image of our country which is a very militaristic kind of image and they see social science research, particularly if it is sponsored by a military arm of our Government, as an attempt to learn about them in order to give our Government the insights to be able to manipulate them for our own purposes.

And, so that is the way we first got into this area of concern.

Well, our hearings very soon broadened to the more general question of what sort of support there is or there should be for international social and behavioral science research. And very soon we found out that even that definition was too narrow. We had to broaden it to the entire question of what kind of support there is and should be for social and behavioral science research in general, and from there we eventually came up with this bill. That is the way we got into this area. There is a question in my mind and I have not made any definite decision myself about certain aspects of this bill. We all recognize, I think, that the ideal situation would be that Congress would make a direct appropriation to the National Social Science Foundation for unclassified scholarly research in foreign areas that is needed by this Government. In the meantime, we thought there ought to be some halfway house, which we provided for in this bill, recognizing that the Congress more readily appropriates money to the Department of Defense than it would to a National Social Science Foundation. So, we put in a section which provided for the Department of Defense or other agencies to contract with the National Social Science Foundation for wholly unclassified, uncontrolled research in areas of their interest.

Now, that is a section that worries some people and they have said that even though it is perhaps preferable to what we are now doing, it might start this fledgling agency off on the wrong foot, causing a lot of suspicion which the foundation might never rid itself of. So I have real doubt now about whether Section 7(b) is good or not. I do feel, at the very least, there is going to have to be some change in it. Do you have any general comment on those points, the accessibility to foreign areas for research and the section of this bill that I have mentioned?

Dr. CARTER. Yes. I wish it could be eliminated, Senator Harris. It seems to me that the Department of Defense has plenty of social science research money of its own and a great proportion of the research it does is unclassified. The point is not just whether research is classified or unclassified, but of a basic suspicion of any agency which has an association, however overt, with the Department of Defense.

Now, I do not share this suspicion. I think research is research and that the purposes of the research, and the publicity of the research, are what matter. But these are not what matters when you are dealing with a sensitive foreign area. They want it clear that research is used for the purposes of scholarship and not for the purposes of an agency of whose general purposes they are suspicious. I would hope that from the beginning the Foundation for the Social Sciences will be kept completely free of the Department of Defense or any mention of it. There is a major difference in attitude toward which agency sponsors research: it goes CIA, DOD, State Department, AID, Office of Education. I do not think any of us would have any question about saying the Office of Education is where we got our money, or the National Science Foundation, or the National Endowment for the Humanities. But, I would like the Social Science Foundation, which is going to be scrutinized very carefully abroad because it is a new source of funds, they do not know about, to be kept completely free from any direct association with the Department of Defense. I think to have such association would de-

feat a very considerable number of the benefits which I would hope would come from its establishment.

Senator HARRIS. Well, that is very helpful testimony. I would say that that is becoming more and more my own view about that section. However well motivated we were in putting that in, I am more and more fearful that as you have indicated, it simply would not be understood. I think there is a kind of intellectual colonialism that we must avoid in international social science research. I think the research we do ought to help build intellectual resources in the host country and that involves sharing. I would not want to have something in this bill which would make social scientists in the country feel as they often do now, that they run the risk of seeming to act against their countries' own interest or against the interests of the host country where the research is being carried out.

Dr. CARTER. It is difficult for us to do research on that basis but it is still more difficult for a Nigerian or Ghanaian social scientist to work closely on American in collecting material when there is just the slightest possibility it might be used for a purpose which would be derogatory to the independence of his government. More and more we want to associate closely with the universities, scholars, and applied scientists in foreign countries. They are ready for it, this association, but only, naturally, if they can feel safe in so doing. I think we have to protect them as well as protect ourselves.

Senator HARRIS I think that would be of a great benefit to our Government's interest. Knowledge is knowledge. Wherever it comes from, wherever it is developed and whoever develops it, the world is so woefully weak in understanding the factors involved in developing an underdeveloped country. Whoever has an idea, whether it comes from a Nigerian scholar or wherever, so long as knowledge flows freely around the world, it is greatly to our benefit as well as to the world.

Dr. CARTER. It is the interaction that so often pushes knowledge ahead. I would like also to put in a plea for a plurality of sources of support which would reflect the plurality of our life in this country, one of its great and glorious features. So, let us have a variety. Let DOD do its business and let us have an agency which is free from military or intelligence functions. Then we can go with no hesitation to our foreign colleagues and say this is social science for the sake of finding out information, and developing long-range views, about those issues which are of great significance to you as well as to ourselves, to your country as well as to our country.

Senator HARRIS. Thank you very much.

Dr. CARTER. Thank you.

(The full statement of Dr. Carter follows:)

STATEMENT BY GWENDOLEN M. CARTER, DIRECTOR, PROGRAM OF AFRICAN STUDIES,
NORTHWESTERN UNIVERSITY

Senator Harris and members of the Subcommittee on government research. I am Gwendolen M. Carter, Melville J. Herskovits Professor of African Affairs and Director of the Program of African Studies at Northwestern University. I am also Professor of Political Science at Northwestern University. Like my colleagues in the Program of African Studies, I combine teaching and research in my chosen field in the social sciences, political science, with a particular concern for data drawn from a foreign area, in my case chiefly Africa, although I also write about European comparative political processes.

I welcome this opportunity to testify on S-836, "A Bill to Create a National Foundation for the Social Sciences" because that measure and your own statements, Senator Harris, have focused attention on several highly significant issues to which I believe we should all be more sensitive and to which a great deal of attention needs to be directed. In the first place is the sensitivity of foreign area research. In the second place is the need to focus more specifically on the needs and contribution of the social sciences, each of which can make its own particular analytical contribution but all of which are mutually supportive. In the third place are the needs increasingly faced by the social sciences with their phenomenal growth and ever increasing sophistication. To these three major reasons why I welcome your initiative, I would like later in my testimony to add some suggestions out of experiences as to how procedures for government support for the social sciences can be made to fulfill most constructively the purposes towards which that support is directed instead of hampering them as is all too often the situation under present arrangements.

Let me speak first of the need to take into account in social science research the sensitivity of foreign areas. The Program of African Studies at Northwestern University, that I have the honor to direct, is the longest established in the United States and one of the two largest. Its 23 faculty members and approximately 80 advanced graduate students are in the social sciences or work closely with the social sciences. Field research, that is, research to collect original data on subjects like communications, urbanization, the operation of governmental agencies, the transition from subsistence to commercial economies, etc., is the life blood of African studies. There has been a spectacular growth in size, competence and depth in African studies in this country over the past decade.

No one knows better than we who are in African studies of the sensitivity of foreign areas. On the one hand there is great generosity in making resources available to foreign scholars when their credentials are acceptable but on the other is natural suspicion arising out of Camelot, the disclosures about CIA, and the size of the social science research budget of the Department of Defense. I do not deny the value of much of the work that has been done under such sponsorship but the point with which I am concerned, as I believe you are too, is that foreign areas inevitably have a very different view of the purpose of a research project if it is supported by a section of our government that is concerned with military activities than if it is supported by one like Health, Education and Welfare that is concerned only with civilian activities. Thus we particularly welcome the stipulation in your measure that no funds from an intelligence or military agency shall be used to support the work of a National Foundation for the Social Sciences.

May I speak about the need to focus more directly upon the social sciences. I am aware, as anyone in the social sciences must be, that considerable aid to research in the social sciences is being extended through the National Science Foundation. I am strongly in favor of continuing and extending support to social science projects through this channel which uses academic evaluators from the particular discipline to determine the validity of the project, a means of evaluation we endorse. Particularly for projects with a quantifiable character, and thus a base that has similarities to that in the natural sciences, the National Science Foundation can be a most useful vehicle.

Moreover, the National Foundation for the Humanities also provides some support for projects in the social sciences although its particular emphasis is bound to be on those issues that relate most closely to its focus on the humanities. Again I would not want to discourage its attention to such projects but only endorse such attention on the general principle that all branches of knowledge have interrelationships that should be encouraged, particularly when studies, as so often in history, impinge both on the humanities and on one or more branches of the social sciences.

In addition to these two national foundations, however, we need a special agency whose major attention and focus is on the social sciences themselves. To make the social sciences to some degree an appendage to the natural sciences emphasizes only one aspect of their work—however important an aspect—and thus could have an unfortunate distorting effect on their character. Similarly the access of social scientists to the National Foundation for the Humanities can answer only part of the needs of the social sciences. The establishment of the third foundation would not, in my view, separate social sciences from natural sciences or humanities, as is sometimes suggested, but on the contrary permit

proposals to go to that organ most suitable for them and thereby aid the complementarity that should be our goal.

May I point out that my own discipline, political science, was only recently added to those social sciences that the National Science Foundation supports. Moreover there is as yet no director for this section of the NSF. It should be noted, also, that as yet relatively small amounts have been awarded in this field and that the maximum emphasis has been on projects in anthropology, particularly physical anthropology. This may be understandable but it underlines the need for a body that is particularly aware of the total needs of the social sciences, for all its branches and for those parts that emphasize the behavioural approach, those that are concerned with qualitative as well as quantitative measures, and those that are traditionally structural.

In addition to my concern that more specific attention and support be available for all the social sciences in terms of the merit of the proposal and not to the degree to which, for example, it stresses a quantitative approach, I feel strongly the need for a more coordinated approach to social science as a whole. In many ways the social sciences are growing closer to each other in approach, techniques, and objectives. They are aware of their mutual dependence and, at the same time, of the distinctive contribution that each one of the social sciences can make to the general advance of knowledge. We feel that the state of social science as a whole needs periodic assessment so that special stimulus can be given to those areas which are found to be lagging. We believe that such an assessment would be mutually rewarding and would facilitate the kind of interdisciplinary working together from well founded disciplinary bases that can yield the most fruitful results.

In the third place is the issue of needs. Both the disciplines and area studies have received much of their initial impetus and support from the private foundations. The present level of achievement in the social sciences and their rapid expansion inevitably demand far wider support than the private foundations alone can provide. This is true in regard to so-called sensitive research as well as to that which concentrates on the compilation of data. If the social sciences are to fulfill their real function in society, that is to make us far more aware of attitudes, trends, and destructive as well as constructive patterns of action, they need support much more commensurate with their tasks. Such support should be determined by the value of the exploration in pushing ahead the boundaries of our knowledge not by whether it may touch a sensitive nerve in our own society or that of others.

It is at this point that it becomes so important to consider how a public agency could best support research in the social sciences. What I have already suggested indicates the value I see in a broad coordinated approach to the social sciences. What I would like to propose is that in addition to support for individual projects, provision should be made for block grants to universities for broadly conceived programs.

Two illuminating examples of the fruitfulness of proceeding through block grants to universities for special programs are the five or ten year support grants given by the Ford Foundation to Programs of African Studies in this country. In this area, as in the other area studies, the block grant, flexibly administered by semi-autonomous administrative structures, has not only permitted but has actively promoted the rapid advance of training and knowledge. The funding of language and area centers under Title VI of the National Defense Education Act performs something of the same function though on a less generous and flexible basis. In both cases, however, the individual institution draws up the long range plans and can respond to short range needs and opportunities. Such general arrangements can usefully be worked out between liberal arts and professional schools within a single institution or by a consortium of institutions. The key point is that individual research projects, important though they are, are not treated only as ends in themselves but are seen in the general context of social science advance, and training and experience to facilitate this advance. In this way, their formulation can be infused with the contributions of their colleagues, and their results much more usefully incorporated in the total body of knowledge.

Another major reason for providing support for large scale, coordinated programs on a long term basis is that we need much more testing of hypotheses over time than has been possible in the past. We need to be able to carry on research in a time sequence, testing results secured in earlier periods and seeing the rela-

tionship of changing environment and other factors. We need also to have much more agreement on the type of data being collected so that it can serve not only a single project or program but be of genuine value to all those working in that particular field. Anyone who has dealt with statistics knows the difficulty of being able to use those collected by others. By facilitating interchanges between the social sciences—which I assume would be a major function of a National Foundation for the Social Sciences—individual research projects and programs could be made to contribute much more effectively to general advances in knowledge and could be used in the long term testing of hypotheses which is essential for valid conclusions. This is equally important in regard to research in such fields as the learning process, the causes of crime and delinquency, and experimental testing or demonstration of remedies and possible solutions. Only as we pursue investigations and testing over broad fields, including foreign experience as well as our own, and over long periods of time can the social sciences fulfill the great tasks as “sciences” to which they are called.

None of us would like to see all support for the social sciences coming from any one source. We would like to maintain a plurality of sources that reflects the plurality that is the pride of our society. We are well aware, however, that the public sector must inevitably greatly increase its support of the productive research of our academic and allied communities if they are to maintain their high standards and push out their frontiers. It is at this decisive point in the history of scholarship in this country when the social sciences are inevitably having to depend more and more on public sources for their support that the greatest attention needs to be given to the form in which that support shall be extended. To put this in other terms, it is vital that a pattern of relationships shall be established that will preserve the independence of the researchers and of the academic institution and yet will assure adequate safeguards from the side of the public agency.

Vital to the kind of confidence that must underpin a healthy relation between scholarship and government is the understanding that evaluations of projects and programs must be made primarily by scholars. The National Science Foundation, as I have said, has charted this path most constructively in regard to specific projects in particular disciplines. There is also an important place, I believe, for coordinated evaluations of programs by small teams drawn from different social science disciplines, somewhat on the pattern of the teams of academics that evaluate area program competence in determining the number of National Defense Foreign Language fellowships to be awarded to particular institutions. I would urge that a considerable proportion of whatever funds are allocated to the National Foundation for the Social Sciences should be available for the kind of general grants to institutions of which I have spoken; that the evaluation and decisions on proposals for general support (which most usefully would be for at least three year periods to permit adequate coordination and forward thrust) should be made by teams of academics drawn from different social sciences (in itself a means of encouraging interdisciplinary interaction); and that institutions or consortiums of institutions be given considerable flexibility in the administration of these grants.

Let me turn now to this latter question of applications, budgeting procedures, and government supervision of expenditures. I myself deal constantly with applications for government support for different kinds of programs and projects. These include research projects, general support under NDEA Title VI, and general assignments, such as the ones under which I myself am conducting the seminar to Africa for college and high school teachers this summer, and directing the African curriculum project to provide a basic syllabus, bibliography, and a book of original readings for use at the undergraduate level in American institutions. Out of this varied experience I have very strong feelings about applications and budgeting procedures.

I would like to draw your attention, Senator Harris, to the quite appallingly complicated and long drawn out procedures through which we sometimes have to go in order to gain the necessary support for projects even when, as is so evident in regard to both the latter projects I have mentioned—the summer seminar and the curriculum projects—the role of the staff and institution is largely one of service to the academic community. To cite one experience, my own in regard to the summer seminar: My initial agreement to assume this responsibility was made in June 1966 yet it was April 1967, after all the participants for the seminar had been selected—a major process since we had over 400

applications for 25 places—that the contract was finally signed in Washington. Moreover the Budget Office insisted that detailed provisions regarding courses, field trips, etc. be written into the contract, thereby hampering the kind of flexibility that every academic institution should have in the execution of its work.

As far as accounting is concerned, some projects demand monthly or quarterly reports before the next installment can be paid and this provision in government grants or contracts tends to turn academics into secretaries and accountants or to demand additional staff merely to fill out these forms. As one who has studied and written extensively about public accountability, I recognize the need for the Congress and of government agencies to ensure that public funds are spent wisely and justifiably. But the complex procedures and uncertainties that are being introduced in certain agencies, and even particular sections of certain agencies, threaten seriously to impair the harmonious and constructive pattern of relationships that should be fostered between the academic community and the government.

Such procedural matters are inevitably bound up with those of substance. May I appeal to your Subcommittee, Senator Harris, to consider both in your discussion of government operations. There is a genuine danger that a complex of apparent safeguards for public funds may turn out to be almost insuperable barriers to the purposes that we share. It is for this reason that I have laid emphasis on matters of procedure and type of grant—for programs as well as for projects—and on cooperative, coordinated planning for the social sciences, as well as emphasizing the great need to face squarely the sensitivities of foreign area research and the rich returns that can come from accelerated support for social science research which is at a stage in its development where it may well yield vital insight on issues confronting our citizens and our society.

Senator HARRIS. Dean Louis Pollak, Dean Pollak is, of course, dean of the Yale University Law School. Without objection, we will place in the record at this point a biographical sketch concerning him, which has been prepared by the staff.

Biographical Sketch: Louis Pollak

Dean of the Yale University Law School, New Haven, Connecticut.
B.A. Harvard University, 1943; LL.B., Yale Law School, 1948; Assistant Professor of Law, Yale Law School, Yale University 1955-56; Associate Professor, Dean, School of Law, 1965—.

Honorary: Director, National Association for the Advancement of Colored People, Legal Defense and Education Fund, New York, New York; Member, Board of Education, New Haven, Connecticut; Member: Phi Beta Kappa. Author: *The Constitution and the Supreme Court: A Documentary History*, 1966.

Senator HARRIS. Dean Pollak, we are very pleased you are here. We will be pleased to hear from you at this time.

TESTIMONY OF LOUIS H. POLLAK, DEAN OF THE YALE LAW SCHOOL, NEW HAVEN, CONN.

Dean POLLAK. Thank you, Senator. I am, of course, very happy to have this opportunity to appear before the subcommittee considering S. 836. I have prepared a statement for the subcommittee, but rather than burden you, Mr. Chairman, with reading it to you, perhaps I can submit my statement for the record and try rather briefly to summarize the principal points.

Senator HARRIS. All right. Without objection, we will place the entire statement in the record and then you may do so.

Dean POLLAK. I think such an attempt at brevity and hitting the highlights is appropriate in view of the press of time that you are under, Mr. Chairman, and the fact that the testimony from the prior witnesses this morning has been, in my judgment, so valuable and so cogent.

I realize, Senator Harris, that Dean Malone and I, as lawyers, are here sort of marginally and on sufferance, and that is because your bill attempts to confer an elevated status on the law which perhaps it cannot fully claim to enjoy. I am not even sure that the power of Congress is equal to the task of making a social scientist out of a sow's ear.

Whether article 1, section 8, contemplates that kind of authority, I do not know, but that is a constitutional problem that I will put aside on the assumption that we are entitled for at least the purposes of commenting on the bill, to be regarded as provisional social scientists.

Let me make the following points. With respect to the general proposition that social science research is just grossly underfunded in the United States, I think, Mr. Chairman, that very little will need to be added by me to the wealth of testimony before this committee and the very trenchant demonstrations of this fact that you and others have made in so many forums. I cannot see how there can be any disagreement about our common objective to provide more generous financing for forms of investigation that are vital. The real problems before us are problems of structure and defining the appropriate role of the Federal Government in relation to research of this kind, research which is as vital in its way as research into the physical sciences, including the medical sciences, which claim, of course, a far, far greater part of our gross national product, and the vast sums which the Government perforce and properly spends on applied research for our national security purposes.

Now, I would take it that the central policy question before this committee is really whether it is appropriate and desirable for Congress to establish a new independent Federal agency as S. 836 contemplates, directed centrally to the support of social science research, or whether Congress should merely expand the statutory jurisdiction and expand the appropriations of existing agencies, notably the National Science Foundation. I say it seems to me that is the central policy problem, because these seem to be realistically the alternatives. (We have to agree, I think, Mr. Chairman, that the private resources which traditionally have funded research of this kind in the great private universities, and even at the present rate of things the public funds flowing from State legislatures to State universities, are inadequate to do the full job in the field of social science research. With respect to the plight of private universities, perhaps it is permissible for me to refer this subcommittee to the current issue of *Time*—I guess it is dated 2 days after today's hearings, June 23d—which bears Yale's President Brewster on the cover: President Brewster is smiling out to the national audience with the wan smile of a man who sees per capita costs advancing far past per capita endowment, and the pages inside with respect to the financial problems confronting private educational institutions are, of course, very compelling.)

Coming out of parenthesis, then, Mr. Chairman, if the choice before this subcommittee in the first instance, and Congress as a whole, is between establishing a new agency and expanding the jurisdiction and appropriations of an existing one, I have to say that I am not impressed by the argument that to create a new agency is merely to create overlap and confusion, because the National Science Foundation cer-

tainly, and perhaps other agencies, already have some authority or can be readily given further authority to support social science research. I think a variety of considerations, among them the call for pluralism which Dr. Carter just made, suggests that a variety of funding is a desirable kind of competitive arrangement—competition in the healthy sense of the term, not wasteful of the Nation's resources at all, but likely to produce a variety of very rich research programs. And, I would say this even if I thought the National Science Foundation was likely, merely through expansion of its statutory jurisdiction and its appropriations, to be able to achieve the flexibility which would center a large portion of its attention on the social sciences as distinct from its obvious jurisdictional base in the natural sciences by which I do not mean for a moment to cast any doubt on the good will or the intelligence of those administering the National Science Foundation, but perfectly plainly they have to be responsive to an initial congressional mandate centered on the physical sciences and in this setting social sciences become important but essentially marginal interests. And I think what we are concerned with—certainly what I am concerned with, and I think you, Senator Harris, are properly concerned with—is to see to it that we set up a structure in which support for the social sciences broadly conceived is a central governmental mission.

So the problem of overlap does not worry me at all. Indeed, I think it may be a positive benefit, especially in an area where there is necessarily going to be a certain amount of sensitivity about the kinds of research supported. To minimize the situations in which bureaucratic—and I mean by this, the academic bureaucratic mentality built into the administration of the research agencies, whatever they may be, the existing agencies or new agencies—to minimize the situations where any one academic bureaucratic ideology is going to sort of set a uniform pattern of appropriate social science research, I think it is desirable that there be a number of agencies which are going to look at what ought to be done from different perspectives.

Now, the one chief qualification I have, and I mention it, Mr. Chairman, without really being able to assess it, but simply because I think it should be ventilated, is that the very fact that the social sciences, broadly conceived, involve sensitive problems of organizing human processes planning, political, economic, and social arrangements, and all the rest—speculative, imaginative research in these areas is going to draw lightning. Whether it is good research or bad, if it is innovative and concerns itself with what is going on in the world, it is going to draw lightning in the form of encouragement and also of criticism. Thus there is some risk that if Congress sets up an independent National Foundation for the Social Sciences, those who are in charge of administering such a foundation will find themselves the objects of a lot of looking-over-the-shoulder by the general public, and by your colleagues in Congress, Mr. Chairman—which is proper to the degree that it is public surveillance of and concern about what happens to public funds, but would be unhappy if it were to encourage timidity in the administration of programs which, by definition, ought to be widely speculative, bold, possibly wasteful in many cases, but far-reaching and far-ranging if they are to be worth their salt at all.

I simply raise this as an issue that is involved in the creation of an agency, the central jurisdiction of which is the social sciences rather

than having that a marginal subdivision of a larger conglomeration which looks as if it is and really is centered primarily on the physical sciences and might, therefore, be less clearly singled out for scrutiny.

This is not a counsel of timidity on my part. It is just a concern I want to ventilate.

Now, the one specific qualification that I wanted to make with respect to the bill in terms of my general remarks I do not really need to embroider on, I think, in view of the very illuminating discussion between yourself, Senator Harris, and Dr. Carter, the previous witness, with respect to section 7(b). That section's contemplation of reimbursable research, with the National Foundation for Social Sciences carrying on programs at the request of other Government agencies up to an amount of 25 percent of the foundation's appropriations, strikes me as likely to cause a concern, perhaps not warranted, but a concern prejudicial toward the National Social Science Foundation within the social science scholarly community. In short, Senator, I echo the concerns which you voiced that it is important that if such a foundation be established by the Congress, it be established from the outset under the best auspices of total independence, without any of the kind of suggestions of connection with other mission-oriented agencies of the Government, military or otherwise, whose appropriate concerns are vital as a matter of national policy but whose appropriate concerns are concerns which, when they depend on the accomplishment of research, can be carried out directly or through vehicles other than the foundation contemplated by S. 836. In short, if S. 836 is to become law, I think we want it to be the best and most positive atmosphere surrounding the new foundation.

So, I would recommend, delighted as I am with the provision now in the bill which would preclude any security classifications for research done under the foundation's auspices, I would go a step further and simply eliminate section 7(b).

Now, finally, Mr. Chairman, with respect to the perspective that lawyers come to this bill with—legal education in particular—I like to think that law is entitled to be regarded at least for legislative purposes as a social science. As you well know, our profession has a long way to go before we can make the claims to a precision of method that one who calls himself a scientist I suppose is accustomed to. However that may be, it is certainly in line with our professional aspiration, and properly so; and, most concretely, legal research that is worth its salt these days is plainly interdisciplinary. There are few important problems confronting the lawyer—the law teacher, the law practitioner, the lawyer on the bench, the lawyer in Government—which do not push the legal researcher into areas of the social process which it is the law's function to clarify and define and indicate ways of planning better than we have in the past.

The legal research that fails to recognize this is, I suggest, totally sterile.

With your permission, Mr. Chairman, I would simply wish to read into the record two paragraphs of the 1966 report of the committee on research of the Association of American Law Schools which make the point far better than I can.

Senator HARRIS. Yes. They are very good. I wish you would.

Dean POLLAK. The report—this is from pages 171 to 172 of the report. The report stated:

New challenges to the legal order and to its intellectual proprietors are being thrust forward. The Federal Anti-Poverty Program has protean legal possibilities. So does the concern at all levels with the administration of the criminal law, as do questions concerning urban land use controls, consumer protection, air pollution, automotive safety, the burgeoning problems of international affairs, the legal evolution of underdeveloped nations, and the new criticism of administrative regulation and its efficacy, to name only a prominent few. These matters are both in the public domain and, at least in significant part, in the domain of other disciplines and other institutions besides the law and its traditional institutions.

The convergence of these forces presses the law schools to take up larger and more difficult issues of policy and social fact. Indeed, it does not seem too much to say that unless new research departures are made, the law schools and the legal profession may well become ineffectual and perhaps redundant in regard to the major legal issues of the day and of the future.

The only postscript I would want to add to that, Senator, is that it seems to me—certainly if I think back to my days as a law student and perhaps this was even true as recently as when you were a law student, sir—ours is a form of training that has been primarily teaching oriented, far more teaching than research oriented. This has been one of the great glories of legal education, but it has also been one of its limiting factors. I do not for a moment suggest we get away from the central teaching function in the law school, one which puts the professor in the classroom in direct confrontation with students in the most exciting way possible; but it seems to me, what we have to be doing simultaneously, and every law faculty knows this more and more every day, is to be encouraging the conditions for better and more intensive research by law teachers. And that form of research is not merely, as I have already suggested, getting more and more interdisciplinary, but law faculties are drawing to themselves men and women who are not armed simply with LL.B.'s but may be economists or political scientists or sociologists, psychologists, psychiatrists, what have you. I believe you had a very distinguished example of that yesterday before you in the person of my colleague, Harold Lasswell, who is I suppose, the most multifaceted social scientist in the United States and, I am happy to say, is one of the ornaments of the Yale Law School faculty. But, I did not get into this merely to offer a commercial, but to suggest that the entire thrust of legal education, as I am sure both Dean Malone and Professor Cardozo would agree, lies in the direction contemplated by S. 836.

My only final question, and it is a specific one, Mr. Chairman, is whether—and I hope I am right in assuming the answer is affirmative—whether S. 836 is written spaciouly enough, and I am thinking particularly of the central operative section, section 6, to contemplate the spending of the Foundation's funds for the support of fellowships most particularly, and perhaps also for the establishment of professorships, and indeed perhaps even for library support. There is, of course, nothing explicit in the bill on this and this might not seem of vital importance to some of the other social scientists, but I can assure you from the perspective of legal education, especially, the question of fellowship support is a critical one. There simply are no funds in substantial measure, public or private, coming to the law schools

for this kind of support. And I would be delinquent if I did not make this point to you. I do not think it is vital whether the authority be spelled out specifically in the bill or not so long as the legislative history is relatively plain on the matter, but I gather by contrast the legislation establishing the National Science Foundation is explicit and I would not want any incorrect inferences to be drawn from the generality of the language of S. 836 which, if properly understood by everybody who administers it, seems to me perfectly sufficient to the purposes we all have in mind.

With that, Mr. Chairman, I suspect that my summary of my remarks took considerably longer than had I read the remarks.

Thank you very much for the opportunity to appear before you and I congratulate you on what seems to me is a very imaginative and constructive effort which this bill represents and which these hearings, which caught the attention of the whole social science community, represent.

Senator HARRIS. Thank you, Dean Pollak. I appreciate your comments about section 7(b), and as you indicated, we discussed that earlier this morning and we also have done so in other hearings. I also appreciate your comments about the need to broaden the terms we use in this bill containing what the mandate of the Social Science Foundation will be. My own intention from the first, has been that in addition to fostering and supporting research, this foundation would also foster and support education and scholarship in the social sciences generally, but we have lately become aware of the fact that we need to spell that out better than we have in the draft of this bill and what you had to say on that point will be helpful to us as it is amended to take care of our intended aims.

I also appreciate what you have had to say about controversy. The legislative history of this bill so far has included statements that I personally made over and over and that others such as yourself have made that if we are going to meet some of the tremendously complex problems in the social science field in this country and in the world, we are going to have to be experimental and innovative and original and, therefore, controversial. And, that is one of the reasons why I think we need a separate Social Science Foundation. I think it will have to be controversial and, I think our report in support of this bill, if it is passed, that point will be made quite clear to everybody, the Congress included, that it is exactly that type of effort that we intend the Foundation to support. I feel that the National Science Foundation, for example, whose major funds are in the natural sciences, would be less apt to sponsor this kind of controversial research than would the National Social Science Foundation, with such a legislative history clearly stating that the Congress intends for it to get into these things.

The New York Times last year, I believe it was, wrote an editorial in which they voiced opposition to this bill, but it was a rather strange editorial. I never answered it because I never was quite sure what it was they were saying. They used an example of a mathematician who had gone off to Russia under a grant of the National Science Foundation and who had made some political comment which had caused a stir and the New York Times said, there, you see what we would get into if we had a National Science Foundation.

Well, I could make several points about that article as I already have on other occasions. First of all, that was done under a grant from the National Science Foundation, so if anybody wants to object to controversial statements by recipients of a grant, the objection is against the National Science Foundation. And anybody traveling under a grant, as that indicates, can make a controversial political statement.

My second comment would be that nothing happened as a result. Congress did not, though one or two Members may have said something, do anything. Nothing happened and the Congress has shown that it is far more enlightenend, I think, than some political writers believe. And lastly, there are 20 Members of the U.S. Senate who before hearings, before there was ever any testimony in support of this bill, were obviously willing to sponsor it. I think that shows an interest and a willingness to get into some of these controversial areas and no one is going to do relevant research in social sciences, that is not going to be controversial. It deals with people, it does not deal with things, and therefore, it is going to ruffle someone's feathers, especially if the subjects of study are constituents. That is just a matter of fact. I agree with you. I think we are going to have to be controversial. I also agree with you, what you said—what was it you read from?

Dean POLLAK. That was the 1966 report of the Committee on Research of the Association of American Law Schools.

Senator HARRIS. Yes. I certainly agree with that. My own background in law school, which seems to me but a short time ago, though to many law students might appear to have been a long time ago, was that the kind of research we did, was primarily doctrinal research on rather nicely defined and precise questions of the law and not very relevant to the social aspects of the law. And, I remember how depressed I was when I was taking the course on criminal law because if ever there was a mixed discipline, it seems to me, that is one. I think too often law schools treat that area simply as a legal question and it is far, far more complex than that. One of the widely held notions in Oklahoma has been that there are people who have illegitimate children in order to get on welfare and there has been very widespread dissatisfaction with the welfare department paying people money to help them support illegitimate children. And then, along came the Office of Economic Opportunity and commenced to fund a legal assistance program. We have two in Oklahoma, two that are known to me. And some humorist said shortly after the legal aid program was established that what we have discovered is that we were wondering who the poor people wanted to sue and it turns out they wanted to sue each other. And, that is partly true.

There is a rather widespread feeling, I think, in the legal profession that divorce is a luxury and that you ought not, if you are going to have a legal assistance program, assist people in suing each other to get a divorce. And yet, those two notions come directly in conflict with each other. We discovered, accidentally, as a result of our legal assistance program, that many people have illegitimate children because they never had the money to get a divorce from a husband from whom they have been living separately. So, it seems to me, what we have learned there by accident we might have learned on purpose if we had viewed the law as a social science and had commenced to look into these things purposely.

Dean POLLAK. Senator, I welcome your comments. They seem to be very appropriate and, before closing, I just wanted to point out explicitly what I indicated in my submitted statement, that inclusion of the law as a social science in your bill does not seem to me to be incompatible with the thought which Dean Malone and Professor Cardozo and Prof. Myres McDougal and others are exploring which would look to the establishment, presumably under congressional charter, of a separate foundation for law which might indeed, if ultimately established, draw unto itself a whole range of support functions in relation to legal education and legal research. But, certainly pending the establishment of any such undertaking as that, it seems to me entirely appropriate to pursue, from the law perspective, the approach contemplated in S. 836—the inclusion of law as a social science within the contemplated operation of the proposed new foundation.

Senator HARRIS. Right. I agree. Dean Pollak, thank you very much. (The full statement of Dean Pollak follows:)

STATEMENT OF LOUIS H. POLLAK, DEAN OF THE YALE LAW SCHOOL

Mr. Chairman, I greatly appreciate this opportunity to testify on S. 836, a bill to establish a National Foundation for the Social Sciences. I shall attempt to make my remarks brief, because I think that, as a lawyer, I have quite limited competence with respect to the very important central questions which confront this committee—estimating the extent to which our national investment in social science research falls short of what it should be, and defining the role to be played by the federal government in helping to reduce that deficit. I am, of course, gratified that S. 836 by its terms recognizes law to be one of the social sciences—but I have not yet persuaded myself that this proposed legislative definition will suffice to translate law teachers, including myself, into omniscient scholars whose views on the state of research in psychology, or sociology, or political science, or economics, are entitled to any extend claim on the attention of the distinguished Senators who comprise this subcommittee. With this sense of my own limited competence in mind, I will at the outset of my remarks content myself with making certain general observations about the bill and what I deem to be the very laudable purposes which have given shape to the bill. Then I propose to comment on the bill as it relates to research in law.

First, my general observations:

1. I fully endorse the view that you, Mr. Chairman, have so trenchantly articulated in speeches, both on and off the Senate floor, that we, as a nation, are giving totally inadequate support to those disciplines—broadly grouped under the heading “the social sciences”—which are dedicated to making our community processes, at every level and in every phase of social organization, more effective devices for insuring the maximum fulfillment of every individual. We spend billions, as we should, on insuring the physical security of our nation. And we spend addition billions, as we should, on research in the natural sciences, including medicine, which aim to lengthen our lives, better our nutrition, modify our environment, extend our mobility—sciences which, in sum, hold the promise of improving the physical well-being and scope of our citizens and those of other lands. But if, for our children and their, life is to be more than mere anonymous survival, we must begin to devote research energies of comparable dimension to research problems—with respect to the ordering of people’s social, economic, and political relationships—which are of comparable complexity and importance.

2. It is increasingly clear that the private sector does not make available to our colleges and universities resources adequate to support social science research. It is, therefore, apparent that public revenues—and especially federal revenues—will have to be tapped in greater and greater measure.

3. In reaching the conclusion that it is necessary and proper for the federal government to play a far larger role than it has heretofore in the financing of social science research, I am not unmindful that there is a certain danger that federal subvention of research may carry with it federal orthodoxy about what

is researched, and to what end. And the hazards are perhaps most real when the areas of inquiry are—as they are and should be within the social sciences—hotly disputed intellectual battlefields. But I am persuaded that the hazards can, if one is ever mindful of them, be guarded against. The fact that, by and large, intellectual freedom and productive scholarship flourish in our great state universities—just as, by and large, they flourish in our great private universities—is suggestive that governmental support of social science research does not have to mean governmental control of that research. The problem, in short, is one of developing governmental funding mechanisms predicated upon—and staffed by men and women who by training and conviction are dedicated to—innovative and untrammelled research as one of the touchstones of a free society.

4. In drafting S. 836 after the general model of the National Science Foundation, you have, Mr. Chairman, so it seems to me, envisaged a governmental granting mechanism of appropriate independence and flexibility—subject to two reservations to which I shall, in a moment, return. I take it that the principal problem of policy is whether the social sciences should be funded by a separately chartered foundation, as your bill contemplates, or whether it would be more efficient simply to expand the appropriations, and perhaps the statutory terms of reference, of the National Science Foundation.

5. As to this issue, I readily acknowledge—it would be a waste of time to dispute—the proposition that there is no bright line which separates the social and natural sciences. Researchers addressing themselves to, for example, air pollution, or the causes and effects of narcotic addiction, must look to a wide range of disciplines: indeed, as lawyers (whether within or outside the halls of Congress) should be particularly aware, the problems which beset mankind are no respecters of the lines of departmental cleavage around which universities tend to be organized. Building from this premise it is easy to argue—as I believe prior witnesses before this subcommittee have argued—that it would be folly to create another federal funding agency when this would not be functionally responsive to clearly identifiable divisions of jurisdiction on the realms of intellectual endeavor. But the fact that there would doubtless be overlap between the National Science Foundation and the new foundation contemplated by S. 836 does not seem to me a compelling reason for deciding against the establishment of a new foundation. Research in the natural sciences is dramatic, expensive, and visible, in a way that, for example, examining the family structures of slum dwellers, or correlating wage patterns and productivity in the extractive industries, is unlikely ever to be. For this reason, and perhaps for other reasons as well, it is a fair guess that the “science” which the NSF will be giving chief attention to, for long years to come, will be the science of the laboratory and the big machine. But even if we assume that, especially with Congressional prodding, research in the social sciences becomes more than a marginal interest of an agency whose generating dynamic lies elsewhere, I still wonder whether overlap between the NSF and a new agency centrally geared to the social sciences would not be, not wasteful at all, but a positive good: a positive good in the sense that competition is good. A competition which might yield larger total appropriations for the support of social science research than either agency would get if it were alone in the field. And a competition which—and I regard this as even more important—might tend to counter bureaucratic pressures for a “uniform” federal over-view of the social sciences. That is to say, I wonder whether the hazards of federal funding may not be minimized if not only the recipients but the funding agencies themselves are diversified.

6. There is one consideration which surely cuts the other way; and I think it should be made explicit, though I find it hard to suggest, in the abstract, how much weight it should be given. I think it is fair to suppose that an agency centrally concerned with support for social science research will find that its operations are more subject to the day-to-day, amateur scrutiny of Congress and the general public than an agency, such as the NSF, which has a broader and more diffuse mandate. You will understand, Mr. Chairman, that I am not opposed to public accountability for public agencies. But I would be concerned about creating a governmental funding mechanism whose administrators were so concerned about their “image” that they felt that the avenue to larger appropriations lay through the encouragement and support of “safe,” “uncontroversial” research. In short, I could not conscientiously urge Congress to go forward with S. 836 unless Congress were on notice that much of what the new foundation ought to support cannot be expected to win popularity contests. I have just

voiced one of my two reservations. As you see, Mr. Chairman it is addressed not to the substance of the proposal but to the question whether we, as a nation, are mature enough to carry it through properly. I think we are, Mr. Chairman, but I would feel delinquent to this subcommittee if I did not air the question.

7. My second reservation is specific to the bill. I am concerned about Section 7(b). As I read that subsection, it would authorize the new foundation to fund, on a reimbursable basis, research of interest to other agencies of our government. I submit, Mr. Chairman, that it is essential to the climate of intellectual independence which this new foundation must develop that it not be tied to projects, however worthy, the impetus for which comes from governmental departments which have programmatic responsibility. So-called "mission oriented" research is exactly what this foundation must, from its inception, be wholly insulated from. I would delete Section 7(b).

8. My last general comment, Mr. Chairman, is simply this: I think we should all recognize that the proposed initial appropriation of \$20,000,000 is exactly that—an initial appropriation. Meaningful support for social science research will, in subsequent years, require many, many times this sum.

With your permission, Mr. Chairman, I will now shift my perspective slightly and speak, as a law teacher, about S. 836 as it addresses itself specifically to law:

A. First, I am pleased that your bill places us in close definitional proximity with economics, political science, psychology, sociology, and the other disciplines conventionally recognized as "social sciences." I am afraid that even armed with all the parochial arrogance our craft can muster, I cannot quite say with a straight face that law has by now become a "science." But the important point is that, as some lawyers and law schools have known for nearly half a century, we keep intellectual company with the accredited social sciences—and any time we fail to do so, we are lost. The point is sufficiently made, I think, by an excerpt from the 1966 Report of the Committee on Research of the Association of American Law Schools (AALS 1966 Committee Reports, pp. 171-72):

"* * * [N]ew challenges to the legal order and to its intellectual proprietors are being thrust forward. The Federal Anti-Poverty Program has protean legal possibilities. So does the concern at all levels with the administration of the criminal law, as do questions concerning urban land use controls, consumer protection, air pollution, automotive safety, the burgeoning problems of international affairs, the legal evolution of underdeveloped nations, and the new criticism of administrative regulation and its efficacy, to name only a prominent few. These matters are both in the public domain and, at least in significant part, in the domain of other disciplines and other institutions besides the law and its traditional institutions.

"The convergence of these forces presses the law schools to take up larger and more difficult issues of policy and social fact. Indeed, it does not seem too much to say that unless new research departures are made, the law schools and the legal profession may well become ineffectual and perhaps redundant in regard to the major legal issues of the day and of the future."

B. Next, I must tell you that the need for federal support for legal research is acute. I think it fair to say that at present legal research gets less private support than most, and less public support than all, of the natural and social sciences. For this reason a number of us concerned with legal education—viewed as a process centering in, but not limited to, the law schools—have it in mind that Congress should be called on to charter a law foundation. For without rejecting the characterization of law as a social science, we think that, on a higher level of generalization, we are entitled to regard law as on a parity with the social sciences taken collectively, or the natural sciences, or the health sciences, or the humanities. I would guess, therefore, that within a matter of months Congress would have before it legislation reflecting the joint thinking of the Association of American Law Schools and of the American Bar Association. But, pending any such eventuality, I would support the explicit inclusion of law in the terms of reference of the foundation contemplated by S. 836 and/or the National Science Foundation.

C. Section 6 of S. 836 is, of course, written in spacious terms. Nevertheless, I am uncertain that it is contemplated that the new foundation would have authority to finance fellowships, or research professorships, or library accessions. I make a special plea that this subcommittee, if it reports S. 836 favorably, make it plain that such authority is contemplated, especially with respect to law. Why do I stress this? Perhaps it will be clearer if I focus on the particular matter of fellowships, where the need is critical: Each year, at Yale (and there are a few other schools with comparable programs) we enroll about twenty Americans who have already received their LL.B. degrees. They are candidates for the degree

of Master of Laws, and they are training themselves for—indeed some may already be engaged in—law teaching. Were they psychologists, economists, chemists, or biophysicists, there would be fellowship money galore—some private and a vast amount public—for these talented young men and women. But this is not the case in law. And because this is an area of special need, I ask you to give it your special attention.

Mr. Chairman, this concludes both my broad and my narrow remarks about S. 836. I greatly appreciate your courtesy, and that of your colleagues, in making it possible for me to participate in these hearings. And I congratulate you, Mr. Chairman, on the thoughtful and imaginative way in which your bill has focused the attention of academics and of public officials on problems of pressing national concern.

Senator HARRIS. We will recess now until the Senate has adjourned for the day, which will be approximately 6 p.m.

(Whereupon, at 10:05 a.m., the hearing was recessed, to reconvene at 6 p.m., same day.)

EVENING SESSION

Senator HARRIS. The subcommittee will be in order. We are resuming hearings this evening on S. 836, a bill to create a National Social Sciences Foundation. We are pleased to have as our first witness this evening Dr. Richard M. Carrigan. Dr. Carrigan is legislative consultant to the National Education Association. Without objection we will place in the record at this point a brief biographical sketch concerning him.

Biographical Sketch: Dr. Richard M. Carrigan

B.S., 1935, University of Wisconsin, Ph. M., 1935, University of Wisconsin, A.M., 1941, Princeton. Passed written and oral examination of Ph. D. the same year.

Boudinot Fellow (History) Princeton University, 1937-39; Social Science Research Council Fellow (American History), 1939-40; Staff Member, U.S. Senate Majority Policy Committee, 1947-49; Teacher of History and Government: Thomas Jefferson Junior High School, Washington-Lee High School and Western Reserve University. Director of Publications, National Commission on Teacher Education and Professional Standards, 1956-58; Associate Editor, Journal of Teacher Education, 1956-61; Assistant Secretary, National Commission on Teacher Education and Professional Standards, February, 1966; Director, Future Teachers of America, 1957-58; Editor, Future Teachers of American Newsletter, 1956-58; Director, Student National Education Association, 1957-February, 1966; Editor, Student NEA News, 1957-February, 1966; Legislative Consultant, Division of Federal Relations, National Education Associations, February 1966—.

Member: Phi Beta Kappa, Phi Kappa Phi, American Academy of Political and Social Science, American Academy of Arts and Sciences, District of Columbia Education Association and National Education Association (Life).

Senator HARRIS. I believe you have a prepared statement. I want to say I appreciate your indulgence in coming down here this evening, because of matters in the Senate which prevented us from holding hearings as we had planned earlier in the day. We will be pleased to hear from you at this time.

TESTIMONY OF DR. RICHARD M. CARRIGAN OF THE NATIONAL EDUCATION ASSOCIATION, WASHINGTON, D.C.

Dr. CARRIGAN. Mr. Chairman, my name is Richard M. Carrigan. I am legislative consultant for the Division of Federal Relations of the National Education Association.

I wish to commend you, Senator Harris, and the other sponsors of S. 836 for interest in the totality of human learning which the introduction of S. 836 indicates is a major concern. We in the education profession have been disturbed for some time about the favored position that the physical and natural sciences hold in Federal programs in relation to the social sciences. The result has been that billions of dollars have been invested in research into the methods of prolonging life through medical and health research and in destroying life through development of military hardware. But very little federally supported research for improving the quality of life, for making life more worthwhile for all the people either in the United States or throughout the world, has been performed. We have the capacity, as you so well indicated at the time you introduced this bill—we have the capacity, as a Nation, to push a button and destroy the world; yet we have not solved the political and social problems that apparently prevent the Federal Government from helping to eliminate deprivation and hunger in some of our cities and States. We can work with other governments to begin restoration of the whooping crane—and I am certainly for that—but we have progressed slowly in convincing the majority of the residents of suburbia that the restoration of the human spirit in our city and rural slums is properly their concern. Attention on a massive scale by the Federal Government to social science research and the implementation of the results of such research are urgently needed if this Nation is to fulfill the promises contained in the preamble of the Constitution.

The emphasis of National Science Foundation activities and of programs in the original National Defense Education Act of 1958, has had a tremendously good effect on the development of scientific and technical knowledge. Unfortunately—though perhaps unintentionally—the same programs have had a negative effect on those parts of the curricula of schools and colleges which were not so favored. Availability of Federal matching funds has encouraged educational administrators to put a disproportionate share of their non-Federal funds into the natural and physical science and mathematics programs, at the expense of the social sciences, arts and humanities.

For example, in the early days of NDEA, title III funds originally budgeted for library resources or maps and materials for history or economics were often reallocated to biology and physics for the purchase of lab equipment of value to only a small minority of superior students. Later, through the efforts of educators, the NDEA was amended in 1963, and on other occasions to provide more balance in the program. However, the favored position of natural and physical sciences is still very evident in the schools and colleges of the country. Incidentally, it is sad to note that the present HEW budget request proposes to reduce the NDEA title III funds to \$50 million for fiscal 1968—a proposal the NEA strongly resists, and Senator Harris, we hope that the Senate will take steps to correct this.

In fairness to the scientists, the physical and natural scientists, their concern for social science must be noted. The involvement of the National Science Foundation in social science research is, however, open to question. Their concern to enter the void that exists is understandable—but I believe not commendable and should be resisted. A

practical way for forestalling the takeover by science of the field of social science would be the enactment of S. 836, which would establish a social science foundation.

I would be less than frank if I failed to point out that there are educators who have serious questions about the wisdom of continuing unbalanced expansion of the National Science Foundation. Those who share this concern believe that the National Science Foundation has become too powerful and too autonomous in the field of education. They believe that the programs of National Science Foundation, which involve schools and colleges, should have been placed in the U.S. Office of Education and that the present imbalance in the curriculum could have been avoided. However, I am a realist and am aware that National Science Foundation, enjoying the congressional approval which it has, probably will not be curtailed. Thus I support the creation of a National Foundation for the Social Sciences as a currently practical way of bringing balance into the picture.

I seem to be saying two wrongs make a right. In a sense, this is true. But the choice is not now between one or the other, and wisdom dictates balanced support for foundations in each field.

While S. 836 is a well-written bill, I have two suggestions which I believe will enhance the chances of success of the program.

First, those activities of the National Foundation for the Social Sciences which relate to institutions of higher education, as well as those involving the elementary and secondary schools, should be coordinated closely with the U.S. Office of Education. The Commissioner of Education should be involved appropriately in helping determine what kind of research projects should be funded and which institution, or school system with State approval, can best carry out such projects. One fault with National Science Foundation and other Federal science programs has been the concentration of research grants into a few institutions. These institutions have thus had an advantage over others in terms of recruiting topflight faculty and students. The U.S. Commissioner should be charged with the responsibility in seeing that this error is not compounded under the Social Science Foundation program.

Secondly, the NEA is aroused by the trend to provide vast amounts of Federal funds, through direct contracts with profitmaking agencies, to carry out projects at a profit which are properly the function of non-profit public and private institutions. We are not opposed to industry carrying out research projects in the social science field. But we are opposed to the practice of providing Federal funds to profitmaking agencies by which they develop materials or machines, using tax money for the high cost experimental phase, and then market the results to the taxpayers at a profit to their stockholders.

We believe that nonprofit agencies, should, if necessary, be allowed to subcontract with profitmaking agencies for those elements of an overall research project that can more efficiently and economically be carried out by the profitmaking agency—such as computer programming, opinion polling in certain areas. However, we do not think that the "brain drain" which profitmaking agencies carry on against the interests of higher education should be encouraged.

As you know, it is not uncommon for top scientists and educators to be lured by high salaries from college campuses or Government employ-

ment into industry, where their superior abilities are sometimes directed into comparatively negligible projects. Students, in the meantime, are left behind and deprived of invaluable guidance and inspiration. This practice may not be stopped, but we do not believe that it should be supported by taxpayers' dollars. We hope that the bill will be amended to provide that authority for making contracts and grants be limited to public and other nonprofit agencies at the State and local levels.

We urge the committee to incorporate language that would recognize the suggested revisions in S. 836. I personally believe that a large majority of the 1,025,000 members of the NEA do and will support S. 836.

Sir, I again commend the sponsors of this legislation on your wisdom in seeking to restore balance in our national effort to expand all human knowledge so that we may move forward in solving the living problems of our people.

Senator HARRIS. I want to thank you very much, Mr. Carrigan, for a very excellent and eloquent statement in support of the creation of a National Social Science Foundation. I wanted to ask you first if, in support of the National Social Science Foundation, you are speaking for the National Education Association.

Dr. CARRIGAN. I am as a staff member, Senator. The association as such has not specifically considered this issue, and we have no specific resolution relating to it. But certainly our platform, and our resolutions contain supportive statements that seem to me to justify this support for S. 836.

For instance, one of the cardinal purposes of our associations is to advance the cause of education, and certainly a National Foundation for the Social Sciences would advance the cause of education, especially in a situation where imbalance has developed, because of extensive support of one area of knowledge. I think it is important to correct this imbalance.

In our platform we also are committed to educational programs which adapt to a changing modern society, and that are designed to enable every person to achieve the maximum intellectual and social development of which he is capable. Certainly, the programs that would be connected with such a Social Science Foundation will help to implement this part of our platform.

We are also committed to educational programs that develop understanding among nations and among groups of people, including international exchange of educational leaders, teachers, and students. It would be hoped that research projects in such a program will help to fulfill this section of our platform.

We are also committed in our platform to promote research and to apply research findings through education in all areas of administration and at all levels of instruction.

I am hopeful that as a result of this hearing and the introduction of this bill we can focus the attention of our NEA Resolutions Committee upon this specific issue.

Senator HARRIS. I understand Mr. Carrigan, that you are here to give this testimony as an official representative of, and at the direction of, the National Education Association.

Dr. CARRIGAN. Yes, sir.

Senator HARRIS. Now, I do want to commend you for the point you raised in your written statement, about the necessity of better coordination of the various Federal programs that have to do with education.

That is involved to some degree, in the language of this bill. It is involved to a much greater degree in another series of hearings we are holding in the Subcommittee on Geographic Distribution of Federal Research and Development, the hearings which are generally concerned with the distribution of Government research contracts and grants and their economic impact. Already it's my view that we are going to have to make those various programs fit together in a little better way, correlated and coordinated with each other where that is possible. That's the subject of those hearings, and what you have had to say here in that respect will not only be helpful in this bill but also in those hearings.

I note your other recommendations for possible amendment to this bill and I can assure you that those recommendations will have our very earnest consideration.

Lastly, let me say we are indeed grateful for your testimony here and for your support for the creation of a National Social Science Foundation.

Dr. CARRIGAN. Senator, we appreciate your leadership in this legislation, and also offer the services of staff and resources of the association in any way that it will be helpful in the promotion of this legislation.

Senator HARRIS. Let me ask you, sir, What is the relationship of the National Training Laboratories, of NEA, to NEA? Are they under NEA?

Dr. CARRIGAN. Not directly, sir, any longer. The NEA has affiliated with it a number of departments that have separate membership, sometimes overlapping memberships and divisions. The NTL until recently was a part of one of our divisions. Since 1952 the NTL has been housed at NEA. We have close working relationships, but to the best of my knowledge there is no direct relationship. I would however, like to submit to the record a memorandum clarifying this point.

Senator HARRIS. Fine. Without objection we will receive that into the record. I am generally familiar with some of the things they have been doing in the field of imaginal education, a field of great interest to me, and I think increasing interest to the country.

(The memo referred to follows:)

NATIONAL EDUCATION ASSOCIATION,
NATIONAL TRAINING LABORATORIES,
Washington, D.C., June 23, 1967.

Memo to: Dick Carrigan, Division of Federal Relations.
From: R. E. Gibbons.

The following is an outline of the purpose of the NTL Institute for Applied Behavioral Science:

PURPOSE

The fundamental purpose of the corporation is to advance, through improved theories and practices of education and through research, the productivity and quality of relationships in all areas of human life. Generally, NTL-IABS seeks to achieve this purpose by organizing the joint efforts of social practitioners in the more effective utilization of social science findings toward improved function-

ing of members of the helping professions, toward extending basic and applied knowledge of man in society, and in developing leadership in directing social change toward social improvement. More specifically, NTL-IABS seeks to accomplish its purpose through the following kinds of activities:

Programs of laboratory training.

Programs of research and theory development.

Programs of consultation.

Programs for facilitating communications and collaboration between and among universities and client populations in the various fields of social practice.

Experimental ventures in the application of behavioral science knowledge and methods.

The foregoing purposes shall be deemed to be exclusively nonprofit, scientific, educational and charitable, with the ultimate objectives of (1) the advancement of education within the schools and universities through an understanding and appreciation on the part of the teachers and students of social problems involved in applying scientific and other developments affecting the social order and processes, and of those advances in the social order which need to be reflected in the formal education processes; and (2) endeavoring to develop an educated and informed public cognizant of social and scientific developments and capable of applying the advanced sciences and knowledge to the benefit of the general public in all phases of organizational and public life.

NTL-IABS is an independent non-profit corporation, organized under the laws of the District of Columbia. We have a very close association with the National Education Association.

It is the intent of the NEA that the Institute be treated to the fullest extent possible as if it were a department, for purposes of housing, retirement, fringe benefits, mailing and like services.

Dr. CARRIGAN. Speaking as an individual, I too have been most impressed with the program of the National Training Laboratories and certainly got inspiration from that program in my work as director of the Student National Educational Association for a number of years. In the past I worked directly with college and university students. Much of our effort was in the area of leadership, and we drew heavily for inspiration and techniques from the work of the leaders in the National Training Laboratories.

Senator HARRIS. Thank you very much. Senator Hansen.

Senator HANSEN. Mr. Chairman, I don't have a question, but I am very much interested in the statement. I am familiar with the NEA and have a very high regard for that organization too, and we are very glad to hear from you this afternoon.

Dr. CARRIGAN. Thank you.

Senator HARRIS. Thank you, Mr. Carrigan.

We are now pleased to hear our last witness for the day, Dr. Vincent Davis.

Dr. Vincent Davis is associate professor, Graduate School of International Studies, University of Denver. He also is executive secretary of the International Studies Association.

Without objection we will place into the record a biographical sketch concerning Dr. Davis, whom we are pleased to hear from at this time.

Biographical Sketch: Dr. Vincent Davis

Associate Professor, Graduate School of International Studies, University of Denver. Executive Secretary of the International Studies Association.

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Senator HARRIS. We appreciate your staying around, I know at an inconvenience, to present your testimony at this late hour.

Dr. DAVIS. Mr. Chairman, Senator Hansen, I am most pleased to accept the subcommittee's invitation to present my views today on the legislation which you are considering, and the many related matters which have been introduced. I would like to stress at the outset that the views which I will offer here are strictly my own, speaking as a private citizen, and do not necessarily coincide with the views of any institutions or organizations or other individuals with whom I am now affiliated or have been in the past. I believe you have a copy of the prepared statement that I was invited to submit.

TESTIMONY OF DR. VINCENT DAVIS, ASSOCIATE PROFESSOR, THE GRADUATE SCHOOL OF INTERNATIONAL STUDIES, UNIVERSITY OF DENVER, DENVER, COLO., AND EXECUTIVE SECRETARY, THE INTERNATIONAL STUDIES ASSOCIATION

Mr. DAVIS. Mr. Chairman and distinguished members of the Senate Subcommittee on Government Research, I am most pleased to accept your invitation to present my views today on the legislation which you are considering and on the many related matters which have been introduced into these deliberations. I would like to stress at the outset that the views which I will offer here are strictly my own, speaking as private citizen, and do not necessarily coincide with the views of any institutions or organizations or other individuals with whom I am now affiliated or have been in the past.

I do not think it an exaggeration to suggest that something approximating a great national debate on the nature, role, accomplishments, problems, and future prospects of the social sciences is now taking place. Stemming from a number of stimuli of which the Project Camelot affair in the summer of 1965 was perhaps only the most dramatic and publicized, this debate has been gathering momentum for almost 2 years and has by this time penetrated to many fundamental questions going far beyond the immediate concerns which originally gave rise to these deliberations many months ago. This is not, needless to say, a debate in the traditional sense of the so-called national debates in the past which focused widespread public attention and much newspaper space on some burning issue of domestic or foreign policy. Rather, it is a debate in the sense that many of the Nation's most prominent governmental officials, distinguished scientists and eminent scholars are now engaged in a wide-ranging discussion of basic questions going to the heart of many aspects of the scholarly enterprise in the United States and around the world. It is, therefore, a relatively quiet and orderly discussion but, like some other important developments in our national life whose roots were generally unnoticed by the general public, it may have profound consequences for a number of years to come.

The debate is taking place in many quarters, for example: In the proceedings that resulted in the International Education Act of 1966 and in the present deliberations concerning the implementation of this legislation; in the work of the special survey committee cosponsored by the National Academy of Sciences and the Social Science Research Council under the chairmanship of Prof. Ernest R. Hilgard; in the work of another special National Academy Committee under the chairmanship of Prof. Gene M. Lyons; in the special staff study for a House of Representatives subcommittee under the chairmanship of Congressman Henry S. Reuss which recently resulted in a four-volume publication entitled, "The Uses of Social Research in Federal Domestic Programs"; in deliberations and proceedings within many professional societies; and simply in conversations among many individual social scientists and other concerned people. Nowhere, however, has the debate been given a sharper focus or a more appropriate forum with so many of the fundamental questions penetratingly introduced and searchingly examined, than in the proceedings of this Senate subcommittee in its considerations relating to the proposed National Foundation for Social Sciences Act. I, therefore, first of all, want to pay tribute to the subcommittee, to its distinguished chairman Senator Harris, and to its able staff director Dr. Steven Ebbin, for conceiving and implementing these highly significant proceedings. Second, I wish to urge those of my fellow social scientists and other concerned individuals who may not as yet be fully aware of the significance of these events to obtain and carefully study the hearings of this subcommittee, the staff study prepared for Congressman Reuss, and all of the other documents that are recording this debate, in order that there may be the widest possible participation in these deliberations. If this can be achieved then the great value of the debate—transcending in importance the fate of any particular legislation or other follow-up action at the governmental level—will be the entire scope of answers and responses particularly within the social science community itself deriving from the wide range of fundamental issues which have been raised.

I have myself tried to make a careful study of the points raised by those who have preceded me in appearances before this subcommittee, as evidenced in the published hearings from June and July of 1966 and from February of 1967. I found so many cogent arguments and comments in these documents with which I would like to associate myself that, in the interest of saving the subcommittee's time, I think that the best way for me to proceed in the remainder of my statement here would be to note and briefly to elaborate on these earlier points.

First, I strongly support Pro. Kalman Silvert's argument as to the kinds of questions that may appropriately be addressed to social scientists (1966 hearings, p. 226). These questions, as he said, are never those which begin with "should." It is not uncommon, especially in the United States, for a person who is an expert on the facts of a situation to be put under pressure to prescribe a policy based on the facts. But a scientist or scholar of any kind is departing from his role as a research-based expert when he yields to such pressure—although some appear to enjoy the departure.

Questions of "should" "ought" and "whether" are essentially value-laden issues that can be answered for a democratic society only within

the context of the political process. Democratic values suggest that experts should neither be encouraged nor allowed to go beyond the limits of their professional ability to describe, explain, and dispassionately predict.

I think that Professor Silvert's caveat is especially important in view of the tenor of some comments offered in these hearings which seem to be saying:

The Nation and the world are really in a heck of a mess today, in large part because of the unstudied consequences of the attainments of the physical and natural sciences and related engineering technologies. Now, the only way that we can extricate ourselves is to pump a lot of money into the heretofore neglected social sciences in order that we may understand and better manage our individual and social affairs so as to produce happiness rather than "catastrophe." (See, for example, the thoughts expressed at the top of p. 9 in the February 1967 hearings, and in passages in the center of p. 62 of the same document.)

The first thing wrong with this kind of reasoning is that, even if a lot of money is suddenly pumped into social science research—and I will want to return to this point later in another connection—there are no guarantees on the quantity, quality, or rapidity of the payoffs. Basic research is by definition an activity with no guarantees on results. But second and more importantly, there are no assurances that the knowledge produced by the social sciences will provide that elusive state of mind called happiness—or, as it was described in the utilitarian calculus of the Benthamites, the greatest good for the greatest number.

Throughout the history of Western civilization there appear to have been two basic assumptions underlying the pursuit of knowledge. The first is that the pursuit is in itself a "good thing," a kind of moral imperative and social obligation. But the second is that knowledge itself is ethically neutral, neither good nor bad in itself although susceptible to being used for socially "good" (i.e., approved) or "bad" (i.e., disapproved) purposes. Men of learning, it is true, have often—although not always—hoped and believed that knowledge on balance and in the long run was more likely than not to be used for good purposes. As Dr. Theodore Vallance expressed it at an earlier point in these hearings (1966, p. 173):

That social science can contribute to a technology of improved management of human affairs * * * is doubtless an article of faith for those who are meeting with this committee.

Dr. Vallance very rightly used the term "an article of faith," and faith—like research itself, which is based on a kind of faith—is not accompanied by money-back guarantees.

My own thought, then, is that the strongest case for greater support for the social sciences rests on the two ancient assumptions—first, that the pursuit of knowledge is a moral and social good, and surely the pursuit within the social sciences would be substantially facilitated by increased financial support, but, second, with the proviso that the knowledge thus gained will be ethically neutral and will not necessarily be used to improve the human condition. All we can say with any assurance is that a greater fund of learning derived from the social sciences would at least make it increasingly possible in the future for men and nations to conduct their affairs based on knowledge rather than ignorance. Meanwhile, I feel sure that few if any members of the professional social science community would want to allow themselves

to be represented as social alchemists, happiness merchants or prospective world savers. This is not an abnegation of professional responsibility; on the contrary, it is a statement of the limits of professional competence.

I have noticed a variety of efforts in the earlier hearings to define the social sciences collectively and in some cases individually. For me this is not a pressing question of great urgency, because I believe there is a degree of consensus on this point sufficient to allow moving ahead to the more substantive issues without getting bogged down in definitional quibbles. Although at least one witness before the subcommittee attempted to make a distinction between the "social" and the "behavioral" sciences (see page 69 of the 1966 hearings), I will use these terms as interchangeable synonyms. I especially like the comments on the nature of science and the place of the social sciences within the overall scientific enterprise offered to the subcommittee by Dr. Paul A. Miller, Assistant Secretary for Education of the Department of Health, Education, and Welfare (February 1967 hearings, p. 168). While a number of scholars have written about some of the inherent differences in conducting scientific research into human and social behavior as contrasted to all other kinds of scientific research, these authors—for example, Dr. Ernst Nagel, the distinguished university professor of Columbia University—are generally and strongly in agreement that these differences are not to be regarded as debilitating limitations on the social sciences. My concluding remark on this point is that I am quite satisfied with the working definition of the social sciences as contained in section 3 of S. 836.

The main issue thus confronting us was succinctly stated in earlier testimony by Dr. Arthur H. Brayfield:

How does behavioral science support get generated, at what levels, and in what forms? (See 1966 hearings, p. 64.)

A more detailed analysis of this basic set of questions was also ably presented in the testimony of Prof. Alex Inkeles (1966 hearings, pp. 181-184 and following). But to state the main issue is immediately to raise the related question: What is the adequacy of present forms and levels of support for the social sciences? As to levels, I would cite the various ways in which Dr. Robin M. Williams, Jr., indicated that "adequacy" may be measured (1966 hearings, p. 142), and I would then strongly concur in the virtually unanimous judgment of all earlier witnesses that—by almost any yardstick—the present level of support is woefully low. I am not at the moment prepared to speculate as to what might eventually be adequate, but such speculation is not at this time necessary. We are starting from such a low base that almost any realistically foreseeable level of new financial support for the social sciences will still leave us well short of adequacy for a number of years to come. Of all the statistics introduced before this subcommittee to illustrate the low base, I was struck most forcefully by the following remarks from Dr. Miller:

* * * in fiscal year 1964, the social sciences received only 2.1 percent of the total amount obligated for basic research by the Federal Government. The projection for fiscal years 1965 and 1966 are similar—2.2 and 2.6 percent, respectively. The figures for applied research are only slightly different. (See February 1967 hearings, p. 155.)

Notwithstanding the relatively low levels of financial support for the social sciences not only from public funds but also from private sources, the social sciences have made dramatic progress in recent years in perfecting their research tools and methods. Dr. Miller also aptly summarized these developments:

... we have had absolutely incredible achievements in terms of the theories and the methodologies of social science research ... social science has had many, many breakthroughs in terms of theory, conception, and extension of man's ability to observe through methodological tools. (See February 1967 hearings, pp. 177-178.)

A number of witnesses before the subcommittee have speculated on reasons why support for the social sciences has lagged behind support for the physical and natural sciences. One reason, undoubtedly, is that until recent years the social sciences had not in fact accomplished as much as the other sciences and were therefore less able to attract new research support resources. As Dr. Miller noted (February 1967 hearings, p. 178), few citizens were able to see the benefits of social science research in their daily lives whereas they readily attributed almost every new material benefit to some "miracle of science"—always meaning physical or natural science. Also, as Secretary of Labor W. Willard Wirtz observed (February 1967 hearings, p. 9), many people would apparently prefer to "play it by hunch" on the assumption that they are themselves experts on human and social behavior. Now, however, it is my impression that much of this traditional public indifference toward, or disparagement of, the social sciences is abating. These hearings before this subcommittee and many other pieces of evidence seem to suggest an increasing and substantial use of social science research in the past several years by many agencies of the U.S. Government. The picture is much the same at the level of many State and local governments, and a steadily growing number of business enterprises and other large private organizations are adding sociologists, psychologists, historians, and other kinds of social scientists to their profession staffs. An improved climate of public opinion may thus make this an opportune time to focus attention on the social sciences, and suggest that the "incredible achievements" mentioned by Dr. Miller can now be followed up with dramatic new increases in our knowledge of human and social behavior if increased financial support becomes available.

The particular question around which these hearings are organized is whether some part of this increased financial support should be provided by the Federal Government through the establishment of a National Foundation for Social Sciences (NFSS). Among the witnesses who have preceded me and among the many social scientists with whom I have discussed this specific question, all seem to agree that more Federal support is highly desirable, but there are differences of opinion over the specific NFSS proposal. Some appear to think that we ought to compare and evaluate all of the conceivable devices and instrumentalities before we select any one instrumentality such as the NFSS. Some appear to believe that we ought to wait until the 30-month study under Professor Hilgard is completed before making a decision. Both of these two contentions are related versions of an often-observed tendency among scholars to want to delay action pend-

ing further study. Others, however, have in fact already reached a decision, and their clear preference is to provide more Federal support for the social sciences through the existing National Science Foundation (NSF) rather than through creating the NFSS.

I, too, have reached a decision. An old folk saying down in my native Tennessee is that there comes a time when you have to fish or cut bait. I think we are at that point in connection with the proposal to create a NFSS, and my decision is strongly in favor of the proposal. This is not to say that I have no reservations. On the contrary, I do have some reservations about the NSF proposal, as will be noted momentarily, but I suspect that I would have at least a few reservations about almost any proposal. We could endlessly study and debate the relative advantages and disadvantages of all of the conceivable ways to provide more Federal support for the social sciences, but I am convinced that we should take affirmative action now on the bill that is before us. Allow me to enumerate some of the reasons why I am generally a strong supporter of S. 836, and why I think that the present is a propitious time to push for enactment of this proposed legislation:

1. First, as I have already noted, I think there is a favorable climate of public and governmental opinion at the moment which endorses greater Federal support for the social sciences. This is not a climate which will necessarily exist indefinitely. Although some recent votes in the House of Representatives indicate a reluctance to fund new domestic programs while overseas commitments remain extraordinarily heavy, I am personally optimistic that S. 836 including its authorizing section can be enacted in the 90th Congress if the social science community supports it with sufficient enthusiasm.

2. Second, I think that the social science community is extremely fortunate for the first time in having a talented and articulate and forceful champion in the U.S. Senate, in the person of Senator Harris. I feel that our community ought not to fail to take advantage of this signal asset at a moment when this Senator has been able to devote so much of this valuable time to this particular matter.

3. Third, I feel that S. 836 is a well-conceived piece of legislation. It generally incorporates a number of features whose value has been established in other Federal legislation in recent years designed to support scientific and scholarly activities. In particular, it exhibits close parallels with many sound features of the legislation that supports the NSF. Although there are some significant differences between the structure and problems and attitudes of the community of physical and natural scientists on the one hand, and of the community of social scientists on the other, these differences are not so great as to invalidate the NSF model for many features of the proposed NFSS.

4. I strongly agree with Dr. Leland J. Haworth's argument that it would be most unfortunate if anything were done which would result in a further estrangement or "splintering" between the physical and natural scientists and the social scientists, at a time when these two communities of scholars increasingly need to know and work with each other. (See the February 1967 hearings, especially p. 72.) But I also most strongly agree with the arguments, contrary to Dr. Haworth's contention, that the creation of the NFSS would not necessarily contribute to this splintering and indeed could well work in the

opposite direction. In short, I associate myself with the rebuttal offered on this point by, among others, Mr. Thomas L. Hughes (February 1967 hearings, p. 134), and most forcefully by Senator Harris (same hearings, pp. 74, 82, 87-90, 162 and elsewhere).

5. I wish to associate myself most emphatically with the following comments offered by Prof. Gabriel Almond (1966 hearings, pp. 111-112):

There is some merit in the argument that we can benefit by—greatly benefit by—our association with the harder sciences. But I would argue by way of opposition . . . that perhaps we have not paid sufficient attention to the consequences of our being isolated from the more traditional and humanistic, historical, and morally oriented components of the social science discipline. . . . where that kind of combination of disciplines exists—with history and political science, sociology, anthropology, psychology, and statistics—it seems to me that is the atmosphere which favors to the maximum extent the creative growth of the social sciences.

Although Professor Almond did not explicitly use these remarks as a point in favor of establishing the proposed NFSS, I will use the remarks in precisely this manner speaking for myself, because I think that the NFSS or something very like it would be most conducive to the creative atmosphere which he described. Professor Almond, Dr. Brayfield (1966 hearings, p. 70) and a number of others who have testified in these hearings have observed that, to quote Dr. Brayfield here:

. . . it is clear that in the physical science position, there may not be the feeling of great interest in supporting the behavioral sciences.

For this and other reasons already suggested, I would be most reluctant to see major new Federal support for the social sciences funneled primarily through an agency traditionally dominated by the physical and natural scientists.

Now I would like to enumerate some of the questions remaining in my mind in some cases, they could be described as reservations—and some of the points on which I would like to be assured of special emphasis:

1. First, I would generally support the "iffy" reservations expressed by Dr. Pendleton Herring (1966 hearings, p. 214), although the solution to some of the problems that he noted can be achieved only by appropriate action within the social science community rather than by any sort of legislation.

2. I strongly support the provisos suggested by Mr. Hughes (February 1967 hearings, p. 132).

3. I strongly support the suggestion by Mr. Jack Hood Vaughn (February 1967 hearings, p. 146) that section 7(b) of S. 836 merits "the most careful review."

4. I am delighted when Senator Harris makes his oft-repeated assertion that the NFSS is envisaged as "added support for the social sciences, not exclusive support." (See February 1967 hearings, p. 182.) However, I am less sanguine than he is that it will work out as he foresees, although I hope that he continues to stress the point. Put bluntly, I suspect that at least some other Federal sources of support for the social sciences will diminish or dry up altogether if the NFSS is established and, perhaps more seriously, that philanthropic foundations and other previous private sources will also cut back their

support for the social sciences. This would be most unfortunate if it happened, because the maximum conceivable support under the NFSS is likely to be far below the total needed. Another important reason why this would be most unfortunate is noted immediately below.

5. A number of witnesses before this subcommittee—for example, Dr. Brayfield (1966 hearings, p. 66) and Mr. Hughes (February 1967 hearings, p. 130)—have argued that the social sciences need a diversity of support. I strongly support this argument for the following reason, among others. It is often the case in the social sciences and in all other fields of scholarly endeavor that some one school of thought or approach will become extremely fashionable and therefore dominant from time to time. If there were to be only one primary centralized source of research support, that source would likely be dominated by the prevailing school of thought and all who did not wholly subscribe to this school would find it difficult to gain support for their work. Diversified sources of support provide a number of places where the dissenting minority groups can seek help. Diversified sources therefore represent within the scientific and scholarly world a crudely approximate equivalent to the checks and balances provided within our political system by having more than one political party. This is especially important if the social sciences are to produce the kind of “innovative, bold, original, and controversial” thinking that Senator Harris has repeatedly called for. (For example, see the manuscript of the Senator’s speech to the Society for Applied Anthropology on May 6, 1967, p. 8.)

Indeed, I would go as far as to suggest that, if the NFSS is created, it might be worthwhile to consider creating within it a “mavericks committee” to review research proposals that have been rejected by the primary NFSS committee charged with evaluating research proposals. The mavericks who dissent from the dominating schools of thought within any of the social science disciplines at any given time are ordinarily well enough known, so it should be no problem finding the people to serve on a maverick’s or minority group’s committee.

6. In connection with my point above, I would also like to register my strong support for Prof. Irving Louis Horowitz’s argument in behalf of the “lone wolf” researcher. (See the 1966 hearings, p. 253.)

7. I would like to indicate my strong agreement with the plea that many of the critical gaps in social science research cannot be plugged unless and until there emerges a genuinely international community of social scientists. Aspects of this argument are cogently presented by several earlier witnesses, including Dr. Herring (1966 hearings, p. 216) and Prof. Eugene Jacobson (same hearings, p. 221 and elsewhere). Let me provide one more or less hypothetical illustration of one aspect of the problem. Professor Jones at University X is a specialist on public administration. He wishes to do a comparative transnational study of the sociological dimensions of patterns of recruitment into the civil service. One country included in his research design is, let us say, Korea. Professor Jones has several former graduate students who are natives of Korea and who are now back on the job as faculty members at universities in Korea. He wishes to incorporate them into his research project, and he knows that it will be much more productive for these native Koreans to handle that part of the research on the Korean

civil service than for an American to go over and try to do it. But, at the moment, there are very few sources of support to which Professor Jones can turn for research money to be used by foreign nationals in this kind of project. I would very much hope that the NFSS could make explicit provisions for this and related kinds of cooperative international endeavors in the social sciences.

8. It has been noted at several places in these proceedings (for example, in Dr. Brayfield's testimony, 1966 hearings, pp. 62 and 68) that one great need of the social sciences is for far more substantial support to universities and colleges. The universities and colleges, after all, are where almost all social scientists receive their professional training, where many of them are primarily employed, and where much of social science research is conducted.

Appropriate kinds of institutional support grants are therefore greatly needed, and the NFSS should certainly make substantial provisions to meet this need. On the other hand, I think a clear distinction should be made between institutional support and research support—especially support for Professor Horowitz' individual "lone wolf" researcher. It happens—for reason that are understandable enough, once explained—that highly talented research scholars are sometimes located at obscure or not so prominent schools whereas a highly prominent university (sometimes described as "a center of excellence") may at any given moment have few if any scholars engaged in pioneering research. Yet, the talented man at the obscure school often has more trouble getting support for his work than the less-talented man at the prominent university.

9. I want to add a proviso to my arguments above. The major foundations and sometimes Federal programs put a great deal of pressure on individuals and institutions to do something "innovative" in order to qualify for support. This is what I sometimes call the "innovation syndrome," and it is often linked with the "seed money" concept, by which I mean the tendency to assume that everything which is old is worthless and only those things which are new and untried are worth paying new money for. It may well be the case, however, that many of the old and established things are well worth continuing, but have merely suffered from lack of adequate financial support in the past. I would certainly hope that the NFSS, if created, does not become a slave to the innovation syndrome.

The increasing role of the Federal Government in supporting social science research—and the role will be all the greater if the NFSS is established—has accelerated the discussion about the relationships between the Government and the social science community. Insofar as this discussion pertains to the questions about overseas research that were initially dramatized by the Project Camelot affair, I believe that a number of useful things have already been said and some promising guidelines have been suggested. A great many helpful suggestions were made in connection with the proceedings of groups in both the House and the Senate pertaining to the International Education Act. Witnesses in these hearings before your subcommittee in connection with the NFSS proposal have also contributed instructive remarks. In your 1966 hearings, I would especially support the comments and suggestions of Profs. Ralph L. Beals and Stephen T. Boggs (par-

ticularly, p. 80), and Dr. William W. Marvel (particularly, pp. 160-173). I would also note the useful guidelines recently published by Dr. Marvel's organization, Education and World Affairs. But the questions about the relationships between the Government and the social science community extend well beyond the issues associated with overseas research, and some of your witnesses have had most useful things to say about these broader dimensions of the problem. In this connection I would particularly cite some of the observations of Dr. Henry Reining (1966 hearings, particularly p. 99), and Dr. Williams (same hearings, p. 145 and elsewhere). I strongly support the suggestion by a number of your witnesses—for example, Dr. Brayfield (1966 hearings, p. 60) and Dr. Herring (same hearings, p. 213)—that there ought to be strongly institutionalized representation for the social sciences at the highest levels within the executive branch, specifically, within the White House.

Notwithstanding any new institutionalized arrangements, however, I suspect that we may have to undergo a gradual and painstaking process before the Government and the social science community can work out generally satisfactory relationships with each other in all of the complex dimensions of this problem. For its part, the Government will need to learn more about the specialized nature, needs and problems of the social scientists. The Government will also need to learn that the social science community is not a tightly structured and highly organized group which speaks with one voice and which can be readily mobilized for any particular purpose. For its part, the social science community will undoubtedly need to get at least a little better organized, and to acquire a better understanding of the nature of the American political process, if it is to have any voice at all in important developments with a potentially profound impact on the social sciences.

In conclusion, I would offer a few observations not so much for the consideration of this subcommittee as for the consideration of my fellow social scientists. It has often been said that no one likes to be the subject of social science research, and I would add that this is no less true for social scientists themselves. We have trained our research guns on individual and group behavior in almost all kinds of organizational and social settings other than our own. As a result, we know relatively little about ourselves, about our professional organizations, our professional attitudes, our professional behavior. We make the easy assumption that the way we do things is the right way, that somehow the best-qualified students will find their way to the best-qualified professors, that the organization and structure of our systems of professional training and placement are generally satisfactory, and that all of our other professional arrangements and practices are pretty much all right. But I think that we need to examine these assumptions and to subject ourselves to the same kind of rigorous systematic scrutiny that we have devoted to others. Unless we do this, we are not likely to have a sense of priorities and a sense of overall direction. Without these, we are not likely to avoid some misplaced resources. For example, we do not really know how much new financial support can be usefully absorbed first or where? We do not have any clear or agreed idea of a strategy for the more efficient and effective development of new professional manpower in the social sciences. I assume and trust

that the survey committee currently working under the chairmanship of Professor Hilgard will make a useful start in answering some of these questions, but I think that the problem is too large to be left to any single ad hoc committee. It is a problem that merits continuing attention on a systematic basis within our profession, and which in its complex dimensions could provide a focus for research by many kinds of behavioral scientists for a number of years to come.

Again, let me thank you for the honor of having been invited to appear before your subcommittee, and to offer this statement for your record and your consideration.

Senator HARRIS. Dr. DAVIS, I thank you for a very careful and very complete statement, so complete that I don't really have any questions to ask of you. You obviously have studied the hearings that we have held, probably better than anybody else. You have given a very good summary of the various points of views that have been expressed not only in support of this bill, but also certain reservations, some of which this committee has already considered pretty carefully, and all of which we will consider before we act on this bill.

So I just want to say we appreciate your excellent testimony and it will be helpful to us in many ways, not the least of which is pulling together some of the other testimony previously heard.

Senator HANSEN.

Senator HANSEN. Mr. Chairman, you said precisely what I intended to say. I say "Amen."

Senator HARRIS. Thank you. Do you have anything further to add Dr. Davis?

Dr. DAVIS. No gentlemen, I do not. Thank you very much for your kind and flattering words. Again I say it has been a great honor for me to be here and to have an opportunity to present these remarks.

Senator HARRIS. Thank you very much.

The subcommittee will recess at the call of the Chair.

(Whereupon, at 6 :40 p.m. the subcommittee adjourned.)



THE NATIONAL ARCHIVES, COLLEGE PARK, MARYLAND

Dear Mr. Tolson: I have the honor to acknowledge the receipt of your letter of the 11th instant regarding the proposed amendment to the Federal Food, Drug, and Cosmetic Act. I am sure that the Commission will be able to complete its work on this matter in a timely manner. I am sure that the Commission will be able to complete its work on this matter in a timely manner.

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(The foregoing is a copy of the letter submitted to the Commission on the 11th instant.)