

# F. A. S. NEWSLETTER

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----- to provide information and to stimulate discussion. Not to be attributed as official FAS policy unless specifically so indicated.

## FAS STATEMENT ON IMPROPER UNIVERSITY RESEARCH PRACTICES

*Following is the text of a statement adopted by the FAS Council at its recent meetings in Chicago, and scheduled for release on February 22nd. For a critique of an earlier FAS statement on secret research at universities, see the letter of Thomas C Schelling on page 3 of this issue.*

In its statement of July 29, 1967 the Council of the Federation of American Scientists dealt only with the question of classified research and secrecy in the university. In the present statement the Council deals with the more general question of which kinds of research practices are inappropriate and incompatible with the traditional purposes of the university, even if the research itself is non-secret. We shall identify several types of practices which tend to subvert the traditional role of the university.

Except in time of national emergency, the university should not be a part of the military establishment and should not directly or indirectly take part in military operations or participate in the collection of military intelligence. The university should not enter into any contract supporting research the specific purpose of which is the development of weapons or devices designed to destroy human life or to incapacitate human beings, nor should it provide administrative services for government weapons laboratories. For example, it is inappropriate for the University of California to lend its name and implicit endorsement to the weapons laboratories at Livermore and Los Alamos.

Not only does secrecy in research run counter to the values and basic functions of a university, but so does secrecy or misrepresentation in the support of research even if that research itself be non-secret. There should be no misrepresentation or concealment of the sponsorship or funding of university projects. The nature and purpose of university related projects should never be misrepresented to any party concerned. The classic examples of such improper practices are Project Camelot and covert support by the CIA of certain university projects.

## OFFICES OF COMMITTEE FOR ENVIRONMENTAL DATA DESTROYED BY FIRE — MONEY NEEDED

*For the following item, the NEWSLETTER is indebted to FAS Vice-Chairman Cameron B. Satterthwaite.*

The St. Louis-based Committee for Environmental Information, publisher of *Scientist and Citizen* and active since 1958 in providing public information about the scientific component of certain social issues, was struck by fire on January 6, 1968. The building at 5144 Delmar Blvd., St. Louis, in which the offices both of CEI and its associated Baby Tooth Survey are located, was almost totally destroyed. Frigid weather compounded the fire damage by freezing the water-soaked remains.

Though most subscription records for *Scientist and Citizen* were saved, the storehouse of back issues was a total loss along with most office equipment. The information library, which contained documents on topics including air and water pollution, pesticides, nuclear war, civil defense, chemical warfare and a wide range of other subjects involving science and the environment, was essentially ruined. Extensive files

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## FAS STATEMENT ON ABM

*Following is the text of a statement on anti-ballistic missile (ABM) systems adopted by the FAS Council at its recent meetings in Chicago, and scheduled for release on Feb. 26th.*

The Federation of American Scientists believes that the United States is now embarking on a course of heightened arms competition that is as irresponsible on fiscal grounds as it is pointless on military grounds. In September, the Administration announced a decision to build a light ballistic missile defense, one admitted by them to be ineffective against the Soviet Union but said to be motivated instead by a fear of Chinese attack. Some Congressmen and others have viewed this system as a response to the missile defense being constructed by the Soviet Union, but Secretary of Defense McNamara's recent confirmation of the limited nature of the Soviet system may well cause these people to change their view.

The basic technical fact is that this system can be easily neutralized by the Chinese by using relatively simple and cheap penetration aids or by developing different means of weapons delivery. For this reason there will be enormous pressure here to go beyond this initial investment in missile defense. The system will then contribute to Soviet doubts about their ability to maintain a satisfactory nuclear deterrent, and their reaction will be, as it has been in the past, to engage in whatever efforts or adventures may seem necessary to restore their position. The uncertainty involved in the nature of this reaction, and the likelihood of over-reaction on both sides, pose great dangers to the stability of the nuclear balance.

Worse, the new Secretary of Defense asserts that he will seek what he recently called "clear-cut nuclear superiority" over the Russians. At today's levels of weaponry, there can be no such thing. Effective parity was achieved by the Russians long ago in their capability to destroy the largest American cities many times over. The ability of each side to inflict great damage on the other side is the inescapable basis of deterrence. It is simply nonsense to imply that this situation can be importantly modified by the continued application of military technology. Only a greatly expanded arms race can result.

We, in the F.A.S., have in the past mentioned the many arguments against this adventure: the waste of resources; the exacerbation of U.S.-Soviet political relations; the encouragement to others to initiate their own nuclear arms races; and the impediment it would provide to positive steps to diminish the ever-present risks of an all-destructive nuclear war. All these points apply today with undiminished force.

But, especially now, and for the foreseeable future, confidence in American leadership and in the dollar is imperiled by our actions abroad and our dissension at home. It seems to us the height of fiscal madness to open ourselves to charges that we are initiating an enormous waste of our resources in yet another area.

The United States badly needs the confidence of those abroad who do not share our government's fixation with the arms race. We are about to waste resources and prestige on a quixotic attempt to defend the country against dangers which other countries have accepted as inevitable, and to

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## CONGRESSIONAL ORGANIZATION— OR LACK OF IT — FOR SCIENCE

*Following is the almost-complete text of an article entitled "The Congress and Science," by Daniel S. Greenberg, in Technology Review (published by MIT), January 1968. It's an informative and readable review of a major problem about which scientists might well be thinking more. (Greenberg's new book, "The Politics of Pure Science," will be reviewed in the NEWSLETTER soon.)*

Consider the following:

In each of several past years, the U.S. Government spent \$16 billion, give or take a billion, on research and development.

Not a cent of those billions went forth without at least the tacit approval of the U.S. Congress, and, in fact, some considerable portion was started on its way (and even a bit, such as funds for Project Mohole, was stopped) at the instigation of the U.S. Congress.

Nevertheless, among the 535 members of Congress there isn't enough scientific and technical expertise to staff a medium-size technical high school. In the current Congress, which is typical in this respect, the members with professional backgrounds in or around science and technology consist of eight who identify themselves as engineers, all below the Ph.D. level, and five as physicians. (In the last Congress, there was one Ph.D. in engineering—Weston E. Vivian, S.M.'49—but he did not survive the 1966 election.) By contrast, 314 current members cite law as their profession. It can be argued, and with justification, that the professional backgrounds of members of Congress are more or less irrelevant, since the legislative role is a job unto itself for which no particular professional preparation is especially superior for assuring laudable performance. Medical research did all right under the late John Fogarty, a bricklayer whose formal education ended in 12th grade.

Be that as it may, we then come to the question of supporting staff for the Congress. There are no detailed breakdowns on the professional backgrounds of the 10,030 people—from building guards to committee directors—who serve the Congress. But, within the staff ranks, scientists, engineers, and medical men are about as common as congressmen who voluntarily relinquish their seats. Take away a few, and there would be none.

Scientific and technical illiteracy being a demonstrable property of the U.S. Congress, how then we might ask does this weighty participant in government make scientific and technical decisions?

The answer is: Not very well. To which must be added at once that, until quite recently, very few ill consequences flowed from this situation, and there were perhaps even a few advantages, since the Congress, not unmindful of its lack of competence, and ranging between permissiveness and enthusiasm toward science and technology, tended to the practice of shelling out money and leaving the rest to the scientist-laden executive agencies directly concerned with the

details. But in recent years, as the relationship between science and government has become richer, thicker, and more complex (see, "The New Politics of Science," Technology Review, Apr., 1967, p. 49), the Congress's inadequacy, both in personnel and organization, for dealing with science and technology has become a minor horror—though one with great growth potential. That this is so is attested to by the fact that the Congress itself, though rarely disposed to stir up the network of established interests that comprises its own internal structure, has, over the past few years, done more organization stirring where matters of science and technology are concerned than in perhaps any other area.

Thus, within the past five years, the House Science and Astronautics Committee activated a subcommittee on Science, Research and Development, chaired by Emilio Q. Daddario (D-Conn.); a House Select Committee on Government Operations came into being under the chairmanship of Carl Elliott (and disappeared following his defeat in Alabama); the Government Operations Committee in each house created subcommittees on government research programs, chaired, respectively, by Senator Fred Harris (D-Okla.) and Representative Henry Reuss (D-Wis.). And the Legislative Reference Service of the Library of Congress created a Science Policy Division, which, though distant from the actual operations of Congress, boasts a fair concentration of professional expertise, including five Ph.D.'s in various disciplines. In addition, the Congress, though not well equipped with resident expertise, has increasingly reached out to the scientific community for advice. Daddario's subcommittee, for example, has formally contracted with the National Academy of Sciences for studies in the general area of science-government relations, and Harris' subcommittee has held a series of hearings that heard witnesses from many significant areas of science and technology.

### A Potential Unrealized

All of these developments are commendable, as well as long overdue. But, once having noted that, it is also necessary to note that every single one of the newly created organizations cited above is, at best, of only potential significance for elevating the Congress's performance in dealing with science and technology. For, in the gooey inner workings of the legislative branch of government, the essential power over the development and employment of science and technology still remains firmly ensconced in an ancient and balkanized committee structure that is staunchly indifferent to any view of the interdependence of science, technology, education, and economic development. What it comes down to is that the newly created committees, such as Daddario's, Harris' and Reuss's, command the broad view; the old committees command the money. Let us examine the system's workings.

When the executive branch formulates comprehensive programs composed of segments involving various agencies, the whole must necessarily be disassembled for submission to various parts of the congressional committee structure. But what emerges from the legislative branch is often a far distance from the original formulation—and, in such cases, the change is rarely a consequence of an assessment of the original design. Rather, it is a consequence of half a dozen separate subcommittees each considering its segment without reference to the whole. Thus, in 1963, the Kennedy administration proposed a far-reaching expansion of financial support for graduate science and engineering fellowships. Offered as a justification was an assessment of future national needs for highly trained manpower. The design called for various federal agencies to underwrite this expansion, with a major role being assigned to the National Science Foundation.

Considering the shaky state of the art in projecting manpower needs, it is possible that the fellowship plan called for too much or too little in terms of the needs it foresaw and sought to meet. However, it was carefully conceived as a whole, and it is hard to see how it could wisely be assessed as less than whole. Nevertheless, the House Appropriations subcommittee that handles N.S.F. funds rejected any sub-

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Chairman ..... Jay Orear

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Editor: Harriette L. Phelps.

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The FAS, founded in 1946, is a national organization of scientists and engineers concerned with the impact of science on national and world affairs.

Sources of information (given in the articles in parentheses) are for further reference. Items reprinted directly from other publications are designated as such in an introductory paragraph.

stantial increase for N.S.F. on the grounds that the Foundation had grown too fast. The immediate or far-reaching implications of the effect that this had on fellowship support was considered, if at all, only in passing. Similarly, appropriations subcommittees of the 90th Congress substantially reduced N.A.S.A.'s and the Defense Department's funds for support of academic research, without reference to the impact that this might have on specific institutions, the general availability of government funds for the fields of research that are affected, or even the desirability of supporting these areas of research.

At the heart of the problem is the fact that the executive branch long ago recognized that the substance of science and technology do not conform to agency boundaries. As a consequence, it spent a decade developing mechanisms, such as the White House science office, for harmonizing agency requirements and objectives with the fundamental untidiness of science and technology. Congress, on the other hand, has held to the practice of organizing itself as a mirror image of the organizational structure, rather than the objectives, of the executive branch, in theory, and now and then in practice, the individual actions of congressional subcommittees are harmonized through review by their parent committees and again through the action of the whole Congress. But in fact, while science and technology comprise a grid system that runs through virtually every aspect of the nation's life, Congress still deals with them in bits and pieces, with scarcely any awareness of the whole.

As is frequently the case, the diagnosis comes easy, but prescriptions come hard. There is obviously no one-shot cure for this situation. But, on the part of Congress and on the part of the scientific community, there are many openings for beneficial action.

#### Toward A Comprehensive View

First of all, Congress would do well to take some steps toward raising its inhouse expertise on the peculiarities of science and technology. The establishment and growth of the Science Policy Division is a wholesome move in this direction. But since the S.P.D., as part of the Legislative Reference Service, works for everyone in Congress, it really works for no one in particular, which is a serious handicap in an organization that places high value on secure personal relationships. Every congressman has his own fish to fry and he prefers staff collaborators to be close and responsible to him alone.) S.P.D. is evolving into an indispensable source of objective background information. It has the talent and resources to assemble all sorts of disparate and difficult-to-find materials on complex issues . . . But if the members are to be provided with an educated view of what science and technology are all about, they need somebody right close to them, on their office or committee staffs, to handle the job as a major responsibility. Thus, it would be useful all around, for science, Congress, and the public process, if more persons with scientific and technical proficiency could find useful roles in the congressional staff system.

Since the status system of science and technology accords few points for time so spent (lawyers, nonscience academics and journalists profit professionally from time spent in Congress; scientists and engineers rarely do qua scientists and engineers), it might be useful to establish some sort of fellowship or internship program that would create a steady flow of bright young scientists and engineers through the staffs of Congress. It is doubtful that many would stay, but their presence might, if only in a small way, clarify congressional perceptions as to the characteristics and vulnerabilities of the national scientific and technical enterprise. And equally important, such a program would help create cadres of scientists who have an understanding of the working of the mysterious legislative body that so often baffles and frustrates the well-intentioned but often politically naive statesmen of science.

The most fundamental and sorely needed reform has to take place in the appropriations committees of the two houses. Since the powerful subcommittees of these virtually

omnipotent committees are here to stay, there is no easy solution to their fragmentary handling of science and technology. Nor, since science and technology are woven through all agency programs, is there any sense in trying to extract them from throughout the executive structure and combine them into one legislative bundle.

But strong encouragement should be given to efforts to make Congress emulate the Executive in seeking a comprehensive view of science and technology. Thus, now and then proposals pop up (and disappear without a trace) for establishing some sort of congressional joint study of science and technology. If well conceived, these deserve the support of those who are concerned with the development and application of the nation's scientific and technical resources. It is hard to get at the appropriations structure, but no efforts should be spared to encourage the occupants of those key committee positions to seek a broad view of the effects that their agency-by-agency decisions have on the whole fabric of science and technology. Encouragement, through letters, personal representation, and public testimony, should especially be given to the development of informal inter-committee consultations. Within the Executive Branch there is currently a good deal of indecisiveness as to the advisability of an annual presidential report on the state of the nation's science and technology. It would be a difficult one to assemble, but as things are now going, it might have a salutary effect on Congress's disposition to dissect that which does not easily survive dissection.

### CRITIQUE OF FAS STATEMENT ON CLASSIFIED RESEARCH IN UNIVERSITIES

*The following letter from Harvard economist Thomas C. Schelling is reprinted from the January 1968 issue of the Bulletin of the Atomic Scientists. It refers to the FAS statement released on 29 July 1967, and printed in the NEWSLETTER of last September. As NEWSLETTER Editor, I don't presume to judge here the substantive merits of the FAS statement or of Schelling's somewhat different viewpoint. But I do admit to one definite bias: scientists who speak out on complex public issues should first sort out those issues very carefully and objectively, and then express their views very clearly. It's probable that any statement on a subject so complex as this could be made to look deficient when exposed to scrutiny and questions of the kind that Schelling asks. But it seems equally probable that the FAS statement — by either, say, the standards of a good scientific paper or a good legal brief — left something to be desired.—H.L.P.*

Having appreciated earlier policy statements of the Federation of American Scientists, I read the one you published on "Classified Research in the University" (October *Bulletin*) with the kind of expectation that doomed me to disappointment. After reading their "Guidelines" several times, I inferred that they did not altogether deprecate classified research at universities, but I inferred this only by invoking the principle that, if they did, they would have said so.

What, short of that, they really meant is hard to discern. Universities, they say, should accept contracts or grants only when the "principal purpose" of the research is to produce publishable results; but whether that is to be the universities' or the contracting agencies' principal purpose is unclear. University facilities, they say, should be open to faculty and students having a "legitimate and relevant need" for those facilities, without regard to security clearance; but just

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#### Editor's Note:

For reasons of time and space, the "News Items" and "Interesting Reading" items assembled for this NEWSLETTER will be held until next month.—H.L.P.

## CRITIQUE

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when somebody has a "legitimate need" for a classified seminar room—whether, for example, a shortage of office space or classrooms constitutes such a need—is unclear, as it is whether a professor's own office door must be unlocked when he is using classified documents.

The statement seems not to recognize that on many important subjects a consequence of classified research is that less is published than if full disclosure were allowed, but more is published than if the research did not take place at all. And the statement is absolutely quiet on whether classified research is consistent with the purpose of a university when the researcher does his classified reading and writing at a non-university facility; it is even quiet on whether it is preferred that he do it off campus rather than on.

The policy statement seems to imply that unclassified research is subject to no restriction. Is there not quite a tradition of research that utilizes privileged information? Survey research almost always suppresses, on ethical grounds, individual answers to intimate questions; inquiries into homosexuality or corporate pricing practices may be possible only if one can credibly establish a confidential relationship with his source of information. My own experience—at a university that takes no cognizance of government security regulations and will administer no classified contracts—is that in certain fields security clearance provides essential access to information and imposes remarkably little restriction on what one actually wishes to publish. What one must suppress in the interest of security is often a small fraction, perhaps no fraction at all, of what one wishes to publish; yet access to unpublishable details may be essential to the publishable research.

The FAS statement, before coming to its "Guidelines," describes some of the hazards of classified research in universities. "Pressure develops to require security clearance for department chairmen and university officials in order to judge the classified work of their professors or students." This could be a report on empirical findings; I wonder, though, whether it is instead merely a warning against an undeniable hazard of unspecified likelihood. I would point out that the problem can arise at a university that accepts no classified contracts, every time it considers appointing a man whose work has been done elsewhere under classified surroundings; I would also observe—as one whose university will not administer classified research—that neighboring universities with classified research do not appear as vulnerable as the statement suggests. The FAS says: "We list a few of these consequences." But are they ineluctable consequences, possible consequences, or consequences that merely need to be guarded against? It is easy to see that "resentments and frictions" may arise. Do they arise in sensible universities that have some experience now with classified contracts?

Actually I think a good word can be said in favor of classified contracts. One of the worst aspects of Camelot was that there was a kind of dishonesty, or perhaps disingenuousness, involved; a confidential relationship was expected, but not formally acknowledged. What is unhealthy, I believe, is an informal or unacknowledged obligation toward secrecy, or any possibility that someone will be engaged in classified work without knowing it. Formal security arrangements have at least a straightforward, legal quality such that anyone subject to restrictions knows that he is subject to restrictions.

I wonder whether it isn't the unclassified government grant or contract that deserves our more serious attention. I have been personally associated with only two contract proposals from the government that were unacceptable in principle because of possible censorship or prior commitment to conclusions. One was from the legislative branch, one from the executive. Both were unclassified.

I would not presume to occupy so many column inches of the *Bulletin*, except that this problem is going to be with us for some time, and if I cannot find a solution in the statement of the FAS, perhaps I can help to get some of the problems formulated.

## MONEY NEEDED

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on related topics, representing a unique collection of hard-to-find material, including out-of-print government reports, were demolished. Thousands of deciduous teeth collected for the Survey's continuing analysis of Strontium 90 levels were lost as well.

The members of CEI are determined to continue, particularly with the publication of *Scientist and Citizen*, which serves also as the official publication of the Scientists' Institute for Public Information. A temporary office has been set up at the home of the editor, Mrs. Virginia Brodine, at 4393A Westminister Place, St. Louis, Missouri, and an emergency fund drive has been launched. Donations of cash for the emergency fund or of material to help rebuild the information library can be sent to that address or to Box 222, Clayton, Missouri, and will be greatly appreciated.

## FAS STATEMENT ON ABM

(Continued from page 1)

pursue a spacious nuclear superiority—while fighting a war abroad and confronted with social upheaval at home. All this reflects the Administration's unwillingness to make the hard choices of government. In view of the new urgency of our fiscal problems, the F.A.S. calls upon the Congress and the public to force the Administration to reverse its decision to deploy a ballistic missile defense.

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Federation of American Scientists  
Suite 313  
2025 Eye Street, N. W.  
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**FAS ELECTIONS — 1968 - 1969**

**Invitation for Additional Nominations by the Membership**

Listed below are the nominations for Vice-Chairman (Chairman-Elect) for 1968-1969, prepared by the Elections Committee (C. L. Herzenberg, Chairman). In accordance with the By-laws, FAS members may nominate by petition containing the endorsing signatures of 10 members and the consent of the nominee to serve if elected. Additional nominations should be received by the Elections Committee not later than March 15, they should be addressed to: Dr. C. L. Herzenberg, IIT, RESEARCH INSTITUTE, 10 West 35th Street, Chicago, Illinois 60616.

The FAS membership will also elect 12 delegates-at-large for two-year terms on the national council. The Elections Committee's proposed nominees for delegates-at-large are listed below. FAS members may submit additional nominations by petition containing five signatures and the nominee's consent. Petitions in all cases should be accompanied by an identifying note, 50 to 100 words long. As far as practicable, this identifying note, which must also be approved by the nominee, should indicate his views on, and his past activities in behalf of, objectives of concern to the FAS.

The terms of the following delegates-at-large will NOT expire until the spring of 1969: Edward U. Condon, Freeman J. Dyson, John M. Fowler, Robert Gomer, David R. Inglis, Milton Leitenberg, Seymour Melman, Jack Orloff, Matthew Sands, Philip Siekevitz, Louis B. Sohn, Lincoln Wolfenstein.

Also nominated for delegate-at-large is the defeated candidate for vice-chairman.

**NOMINEES FOR VICE-CHAIRMAN (Chairman-elect):**

John O. Rasmussen, University of California  
Leonard S. Rodberg, University of Maryland

**NOMINEES FOR DELEGATES-AT-LARGE:**

Jack M. Hollander, Lawrence Radiation Laboratory  
George S. Stanford, Argonne National Laboratory  
Robert W. Birge, Lawrence Radiation Laboratory  
Arthur H. Rosenfeld, Lawrence Radiation Laboratory  
Harry Pelevsky, Brookhaven National Laboratory  
Maurice B. Visscher, University of Minnesota  
Manfred A. Biondi, University of Pittsburgh  
Jerome Frank, Johns Hopkins University  
Walter Selove, University of Pennsylvania  
Philip Morrison, Massachusetts Institute of Technology  
Halton C. Arp, California Institute of Technology  
William C. Davidon, Haverford College  
William A. Higinbotham, Brookhaven National Laboratory  
Robert H. March, University of Wisconsin  
Robert S. Cohen, Boston University  
John T. Edsall, Harvard University  
Jeremy J. Stone, Pomona College  
Dan I. Bolef, Washington University (St. Louis)  
Victor W. Sidel, Massachusetts General Hospital

In addition to the 24 delegates-at-large, the FAS Council will consist of the Chairman, Vice-Chairman, two past Chairmen, and one delegate each from the 11 chapters: Berkeley, Brookhaven, Chicago, Los Alamos, Los Angeles, Philadelphia, Pittsburgh, Schenectady-Troy (MASE), Stanford, Seattle, and Washington, D.C. Chapter members will also vote for delegates-at-large.