



## SCIENCE ACTION CO-ORDINATING COMMITTEE

## Information Sheet

## PART I: The NATION

"We recognize that the peaceful applications of space probes in communications, health, weather and technological advances have been beneficial to every citizen. We regard the ability to launch and deploy advanced spacecraft as a military necessity. We deplore the failure of the Johnson-Humphrey administration to emphasize the military uses of space for America's defense."

- 1968 Republican National Platform  
(see N.Y. Times, Aug. 5, 1968, 26:3)

## National Spending

During the calendar year of 1968, a total of \$156 billion was voted by Congress. Of this amount 63.7% was directly related to the military (including 51.6% to the Department of Defense.) Comparatively, only 15.2% of the amount was related to social needs.<sup>1</sup>

"In Washington it was estimated last year that it would cost \$26 billion to clean up the nation's water courses and more than half that much to protect the atmosphere."

-N.Y. Times, Jan. 1, 1969, 74:2

"The hopes of municipal leaders in the country for bit increases in Federal aid once the money drain of the war in Viet Nam is stopped are so huge that even the huge \$25 billion a year sum involved would be too small to satisfy them."

- N.Y. Times, Jan. 1, 1969, 52:3

"One can hear in Washington these days from well-informed sources that even if the war in Viet-Nam is ended, the military budget will climb to over \$100 billion in the next four years."

- from remarks by Senator George McGovern  
at the Annual Hanukkah Dinner, Yeshiva University,  
Waldorf-Astoria, New York 12/8/68

"The generals and the admirals are waiting for the new civilian team with a long list of high priority items they believe should be developed now. Here are a few of those items, with probable costs

- a "thick" antiballistic-missile defense system instead of Mr. Johnson's "thin" system. Estimated cost of the "thin" system is \$8 billion; estimated cost of the "thick" system is \$40 billion to \$50 billion.

- New fighter aircraft for the Air Force and the Navy, about \$12 billion.

-2-

- More funds for advanced research and development, perhaps in the range of \$3 to \$5 billion.
- A new strategic bomber, about \$15 billion.
- Deployment of the multi-headed Poseiden and Minuteman III ballistic missiles, \$12 billion.
- More nuclear submarines (\$80 million each), nuclear aircraft carriers (\$544 million each) and nuclear escort ships (\$125 million each).

One Pentagon official says 'it will take conservatively, an additional \$100 billion over our current expenditures to get us healthy.' Other Defense Department officials put the amount as high as \$175 billion."  
- National Observer, Dec. 23, 1968, p. 1

#### The Scientist and the ABM

There is no doubt that scientists figure prominently in the above plans. But how prominently?

On October 2, in secret session, the senate discussed at length the subject of scientific advice on deployment of the ABM (anti-ballistic missile system). Subsequently \$500 million was appropriated by Congress to initiate the program. The first sites are already under construction in Andover and Reading, Massachusetts. The following quotations are taken from the Congressional Record of November 1, a censored version of the debate.

FULBRIGHT: Did I understand the Senator to say that no witnesses were brought into the hearings on this matter except Administration witnesses?

RUSSELL: We had no request whatever. We heard all the witnesses who wanted to be heard.

However, Senator Phillip Hart quoted from a telegram which asserted that "the Nation's foremost scientists are almost unanimous in their belief that an anti-ballistic missile system will not increase U.S. security." The signers urged that the ABM be delayed. They included Harvard's George B. Kistiakowsky, science advisor to President Eisenhower; MIT's Jerome B. Wiesner, science advisor in the Kennedy and Johnson administrations; Hans A. Bethe, Cornell University physicist; and Carl Kaysen, director of the Institute for Advanced Studies at Princeton.

Russell replied: "These scientists, every time an ABM bill comes before the Senate, send a telegram... But at no time has any of them ever asked to appear before the committee." According to the December 20 issue of *Science*, Russell neglected to mention that it is difficult to find out when particular military appropriations items are being considered by his committee.

During further testimony, Senator Pastore introduced a letter from Clark Clifford, Secretary of Defense. Clifford supported the deployment of the ABM thus: "The reasons for that view are the following. The program represents twelve years of intense research and development efforts. During these years we have devoted a substantial portion of our best scientific technological abilities to its development at a cost of some \$3 billion dollars."

CBW

Military research is not confined to ABM and missile technology.

In 1963 the army invested \$106.7 million in the research and development of chemical and biological warfare. In 1964 the figure rose to \$115 million.<sup>2</sup> The amounts for later years are classified. The army's arsenal of chemical weapons includes two lethal nerve gases, GB and VX; an incapacitating, BZ, and several riot control agents, CN, CS, and DM. Research involving the use of the following biological agents is also

-3-

being conducted: anthrax, encephalomyelitis, pneumonic plague, Q-fever, tularemia, and Rocky Mountain Spotted fever.<sup>3</sup>

The scientific community has expressed doubts about CBW (Chemical Biological Warfare) concerning the unpredictability of ecological, psychological and biological results. Anthrax experiments were performed on the island of Gruinard near Scotland during World War II. It is believed that the island may remain contaminated for the next 100 years.

The majority of the research is conducted under military auspices at Fort Detrick, Maryland, and Dugway Proving Grounds, Utah, where nerve gas tests last March 13, 1968, resulted in the accidental deaths of 6,400 sheep on near-by farms. An increasing amount of the research, however, is being conducted at outside corporations and universities. In 1960, 18% of the army CBW funds went to these outside agencies. Early that year, Major-General Marshall Stubbs told Congress that "in fiscal year 1961, we expect this effort to rise to approximately 33% of the total program... We plan to approach the level of approximately 55%-60% in fiscal years beyond 1962."<sup>4</sup> More recent figures are classified. However, it is a well known fact that since 1961 Project "Summit" (army contract) and Project "Spicerack" (air-force contract) were secretly being conducted at the University of Pennsylvania. Approximately \$850,000<sup>5</sup> in annual research funds went to:

"analysis and studies of the behaviour, technical properties, and performance of particular agents, munitions, weapons components of subsystems of Chemical and Biological weapons systems."

-from Science, Jan. 13, 1967

Both classified and unclassified research projects have been undertaken at at least 52 universities:<sup>6</sup> George Washington University had more than \$1.2 million in Fort Detrick contracts in 1960, and presumably some were carried over. It is known that the university is still conducting anti-crop research.<sup>7</sup>

## PART II: THE ROLE OF UNIVERSITIES - M.I.T.

"Intellect has also become an instrument of national purpose, a component part of the 'military-industrial complex'."

-Clark Kerr, The Uses of the University  
(former Chancellor of Berkeley)

### Defense Spending

Today universities are an integral product of the economy. They have ceased to be ivory towers. Federal funds for research are concentrated so that the top ten schools receive 35% of the total. The top fifty receive 75%.<sup>8</sup> About \$24 billion is spent annually for research and development in the United States, \$16 billion by the federal government. Universities receive about \$1.8 billion. The Defense Department is annually responsible for about \$7.5 billion and gives out about \$1 billion to the universities.<sup>9</sup> Among the allocations are those intended for basic research. Indeed,

"The Defense Department, which is ostensibly supposed to confine itself to the business of defense, is in fact one of the principle supporters of basic research in this country: its expenditures in this area even exceed those of the National Science Foundation, which was established for the purpose of supporting basic research."

- from Science, Nov. 18, 1966, Vol. 154

- 4 -

This support has recently declined. One of the reasons may be the report of the Hindsight study, initiated to study the results of Defense spending for research. The interim report as published in 1966 concluded that the \$10 billion that Defense has spent on research and development has been "paid back many times over" in more effective weaponry. The conclusions as to basic research are that:

"i) its contributions have been small; ii) the utilization of research findings has been accelerated when the practitioner has been working in areas related to military technology; and iii) production of timely knowledge is achieved best when the Department of Defense finds and manages its own programs."  
- from Science, Jan. 26, 1968, Vol. 159

What other methods of appropriation does the Defense Department pursue?

#### Special Defense Programs

"In addition to contracts and grants to assist government laboratories in maintaining a dynamic program, the Defense Department set a pace for its agencies with a plan called Project Themis. This plan is intended to strengthen the scientific and engineering capabilities of the nation's higher academic institutions and, thereby, enhance the research capability relating to the national defense."

- Defense Industry Bulletin, Vol. 4, No. 6;  
June 1968, p. 35

The December 16th issue of Business Week further explains:

"Project Themis (is) a project started this year for defense research -- much of it basic, much involving lasers -- in colleges not accustomed to much, if any, Pentagon attention. Under Themis, 50 projects have started in 30 states."

This is the second year of the program. Last year congress granted \$27 million. This year they have been asked for \$31.2 million.<sup>10</sup>

The Defense Department works in many other ways as well. Thus in 1956, the IDA (Institute for Defense Analysis) was formed as a membership corporation including MIT, Cal Tech, Case Institute of Technology, Stanford, and Tulane. Since then, the corporation has expanded to include the universities of Chicago, Illinois, Michigan, California, Princeton, Penn State, and Columbia. What is its purpose?

"...an unclassified review like this can reflect only some of the scope, and even less of the quality, depth, or end result, of our classified defense studies....Our activities continue to mirror many of the Government's major interests in national security."  
- Preface, 1965 IDA Annual Report

"The IDA's WSED (Weapons System Evaluation Group) interests itself in all systems and processes which play a role in tactical warfare."

- 1965 IDA Annual Report

- 5 -

IDA has a special program -- the Jason Division.

"The Jason Division is one of IDA's special means of exposing academic scientists to defense problems. Its members, although committed for most of the year to their university work, meet on IDA work periodically during the year and then gather for intensive study during the summer.... Missile penetration was only one of a number of widely varied topics. Others of interest: identification of missile launchers, seismic coupling..., the phenomenology of black-out from nuclear bursts, optical discrimination...and counter-insurgency. Although most Jason studies are classified...."

- 1965 IDA Annual Report

On June 5, 1968, the New York Times reported that student reaction at several of the member universities forced a reorganization in IDA. Henceforth, the board of directors would no longer represent their respective institutions in an official capacity, but only themselves as individuals. Its annual budget is now about \$12 million.

Other Defense-sponsored programs pervade the academic world. George Washington University's Human Resources Research Office (HumRRO) and American University's Center for Research in Social Systems (CRESS) each conduct about \$3 million of research annually in psychological warfare. The areas of study range from increasing combat efficiency to gathering intelligence information on various populations in the third world. HumRRO has conducted research on such topics as urinary responses to stress and the effect of music on communists. HumRRO's publications include How Fast Can You Hit Him and Optimum Kill Power of Man. CRESS published a booklet entitled Witchcraft, Sorcery, Magic and other Psychological Phenomena and their Implications on the Military and Paramilitary Operations in the Congo. The University of California at Berkeley runs the Himalayan Border Countries Project. Gerald D. Berreman, a Berkeley professor quit the project when he discovered that it was sponsored by the Pentagon. In his letter of resignation, he stated:

"These agencies (Defense agencies) are not disinterested patrons of scholarship....I can imagine only one reason for their support of this project: to provide information useful in the application of force, including violence and intrigue, to enforce, support or initiate policies in the Himalayan region which are supported by the Administration -- policies...supporting strongly pro-American elements throughout this region."

The Center for International Studies (CIS) which until recently has been partly subsidized by the CIA (about 20%) provides the Defense Department with a means for attracting social scientists, political scientists, and mathematicians, etc. to work on defense projects at MIT. Research has already been conducted at MIT and Harvard in the following fields: 1) mass communications in the Soviet Union, Communist China, and several underdeveloped countries; 2) peasant attitudes -- under what conditions are they patriotic -- under what conditions do their protests become violent; and 3) problems of underdeveloped countries and on the conditions of political stability in those areas marked by turmoil.<sup>12</sup> It is worthy to note that a major issue at universities is classified research. The Pentagon has avoided this difficulty by designating the results of research as unclassified but 'unobtainable'.<sup>13</sup>

- 6 -

## Appropriations at MIT

Where does MIT fit in?

"MIT is, and should continue to be, a student-centered institution of learning."

- from the Report of the President 1968  
(his italics)

According to the same report, MIT's total expenses were \$202,951,000 of which 50% or \$106,678,000 constituted the direct expenses of Lincoln and Instrumentation Labs. Only 25% or \$54,652,000 was spent on 'educational and general expenses'.

According to the U.S. Department of Defense: 500 Contracts listed according to net value of Military Prime Contract Awards for Research, Development, Test and Evaluation Work, Fiscal Year 1966, among universities, MIT ranked second only behind Johns Hopkins University. The amount given to MIT was \$47,308,000 not including Lincoln Labs.

According to the same source for fiscal 1967, MIT ranked first (including Lincoln Labs without which it would again rank second) with a revenue of \$92,423,000. Among all non-profit institutions in the United States, MIT ranked 14th.

"We ask a lot of him (the student). In return we must be prepared to give him a wide opportunity to formulate his plans, to have full access to the resources of MIT."

- from the Report of the President, 1968

According to Professor Jack Ruina, Vice-President in charge of Special Laboratories, 50% of the work at Lincoln and at the Instrumentation Labs is classified including a few of the graduate theses that might be done there. The Instrumentation Laboratory has played an active role in the development of the Poseidon missile, the Apollo mooncraft, and an advanced missile system for the Air Force.

In 1966 Atty. Edward B. Hanify, representing MIT at a Cambridge public hearing on the Inner Belt, said

"MIT is in the front rank of the forces of Science dedicated to the essential research which the government of the United States considers indispensable to the National Defense. It is a scientific arsenal of democracy. From its halls and laboratories come the knowledge and technique, the brain power and the resources which contribute to our national survival in an era where the laboratories and technicians of our enemies work sleeplessly to outdistance us in the race to harness the latent secrets of nature as tools of their supremacy."

- The Boston Herald Traveler, Feb. 21, 1966

Nowhere in his pleas did Mr. Hanify mention that MIT was educating anyone.

Footnotes

1. Friends Committee on National Legislation, No. 299, December 1968.
2. Hersh, Seymour M., Chemical and Biological Warfare, Bobbs Merrill, 1968.
3. 1964 House Defense Subcommittee Hearings.
4. 1965 House Defense Subcommittee Hearings.
5. 1961 House Defense Subcommittee Hearings.
5. Hersh.
6. Ibid.
7. Ibid.
8. House Committee on Government Operations, Conflicts between the Federal Research Programs and the Nation's Goals for Higher Education, Report No. 1158, 89th Congress, first session, 1965, p. 30, 60.
9. House Committee on Government Operations, p. 2, 17.
10. Department of Defense Appropriations Bill, September 19, 1968.
11. Ridgeway, James, The Closed Corporation, Random House, 1968, p. 139 - 45.
12. Second draft of a Proposal for Discussion and Revision (for) the Establishment and Operation of a Program in Computer Analysis and Modelling in the Behavioral Sciences. (Note: the proposal estimates the cost of the project over a three-year period. It also states that the determinants of voting behavior and of war are two important problems to be considered.
13. Hersh, p. 225.

Additional Reading

1. Your local newspapers and magazines.
2. Hersh, Seymour, Chemical and Biological Warfare, Bobbs Merrill, 1968.
3. Ridgeway, James, The Closed Corporation, Random House, 1968.
4. Cook, Fred J., The Warfare State, MacMillan Company, 1962.
5. Nieburg, In the Name of Science.

