

DEPARTMENT OF DEFENSE  
APPROPRIATIONS FOR 1970

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HEARINGS

BEFORE A

SUBCOMMITTEE OF THE  
COMMITTEE ON APPROPRIATIONS  
HOUSE OF REPRESENTATIVES

NINETY-FIRST CONGRESS

FIRST SESSION

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H.B. 15090

PART 5

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Department of the Army

Statement of Director, Advanced Research Project Agency

Statement of Director, Defense Research and Engineering

Printed for the use of the Committee on Appropriations



## SYNTHETIC BIOLOGICAL AGENTS

There are two things about the biological agent field I would like to mention. One is the possibility of technological surprise. Molecular biology is a field that is advancing very rapidly and eminent biologists believe that within a period of 5 to 10 years it would be possible to produce a synthetic biological agent, an agent that does not naturally exist and for which no natural immunity could have been acquired.

Mr. SIKES. Are we doing any work in that field?

Dr. MACARTHUR. We are not.

Mr. SIKES. Why not? Lack of money or lack of interest?

Dr. MACARTHUR. Certainly not lack of interest.

Mr. SIKES. Would you provide for our records information on what would be required, what the advantages of such a program would be, the time and the cost involved?

Dr. MACARTHUR. We will be very happy to.

(The information follows:)

The dramatic progress being made in the field of molecular biology led us to investigate the relevance of this field of science to biological warfare. A small group of experts considered this matter and provided the following observations:

1. All biological agents up to the present time are representatives of naturally occurring disease, and are thus known by scientists throughout the world. They are easily available to qualified scientists for research, either for offensive or defensive purposes.
- \* 2. Within the next 5 to 10 years, it would probably be possible to make a new infective microorganism which could differ in certain important aspects from any known disease-causing organisms. Most important of these is that it might be refractory to the immunological and therapeutic processes upon which we depend to maintain our relative freedom from infectious disease.
- \* 3. A research program to explore the feasibility of this could be completed in approximately 6 years at a total cost of \$10 million.

4. It would be very difficult to establish such a program. Molecular biology is a relatively new science. There are not many highly competent scientists in the field, almost all are in university laboratories, and they are generally adequately supported from sources other than DOD. However, it was considered possible to initiate an adequate program through the National Academy of Sciences-National Research Council (NAS-NRC).

The matter was discussed with the NAS-NRC, and tentative plans were made to initiate the program. However, decreasing funds in CB, growing criticism of the CB program, and our reluctance to involve the NAS NRC in such a controversial endeavor have led us to postpone it for the past 2 years.

- \* It is a highly controversial issue and there are many who believe such research should not be undertaken lest it lead to yet another method of massive killing of large populations. On the other hand, without the sure scientific knowledge that such a weapon is possible, and an understanding of the ways it could be done, there is little that can be done to devise defensive measures. Should an enemy develop it there is little doubt that this is an important area of potential military technological inferiority in which there is no adequate