Current Science

Vol. XIX] MARCH 1950 [No. 3

BIOLOGICAL WARFARE

MR. GEORGE W. MERCK, United States Government Consultant for Biological Warfare, emphasised in his report for 1946 that the possibilities of mass destruction through biological weapons have not been as precisely assessed as in the case of the atomic weapons; also, that unlike the development of atomic energy, the production of these latter can be carried on without much expenditure of money, or construction of large factories, and under the camaflouge of legitimate bacteriological research.

That this is by no means an overstatement has been proved by the proceedings of the recent trial of twelve senior Japanese officers, who were accused by the Soviet of carrying on bacterioloical warfare against Russia. According to the indictment, a research station with a staff of about 3,000 scientists had been in operation in Manchuria since 1936 for the large scale production of bubonic plague, typhus anthrax and cholera. Fleas were bred in 4500 incubators, and apparently, an epidemic of plague had been experimentally introduced in Southern China in 1941 and 1942. One of the accused, a Japanese general in the Army, is said to have given full details of the type and design of weapons used for such purposes. These included small sprays fitted with walking sticks and fountain pens, but the main agents were porcelain bombs to be dropped from aircraft. American, Chinese and Russian prisoners of war are reported to have been used in the trials.

The above should open the eyes of everyone that the technical difficulties in the matter of improvising effective international supervision with a view to control are even greater for the biologicals than for the other case.

In this context, the recent statement of

Mr. Trygve Lie, United Nations Secretary-General, is indeed very disquieting. It says, "When the Atomic Energy Commission was created in 1946, the General Assembly entrusted it with the responsibility for working out proposals for the elimination from national armaments not only of atomic weapons, but 'of all other major weapons of mass destruction.' The Commission, however. has never discussed these other weapons, such as biological and chemical poisons. Some of these may be even more destructive of human life than atomic weapons. We do not know by experience what they might do. Unlike the atomic bomb, they were not used in the Second World War, although we know they existed then and have been further developed since. Even a preliminary study of the problem of establishing international controls for such weapons and providing safeguards against violations might lead to conclusions shedding new light upon what is necessary and attainable in the international control of atomic energy."

Thus, it would seem that even if effective control of atomic weapons could be achieved, there would still be left alternative methods of mass destruction which call for elimination. We feel that herein is a danger whose possibilities must be explored to its roots without any further delay, preferably by an International Commission of Biological Scientists, to whom must be assigned the difficult and responsible task of suggesting, after thorough investigation, ways and means of preventing biological warfare from becoming as serious a threat to civilization as atomic warfare.

BRITISH COMMONWEALTH COLLECTIONS OF MICRO-ORGANISMS

BY decision of the Specialist Conference held in London in 1947,* a British Commonwealth Committee was established to promote the preservation of micro-organisms in collections readily accessible to workers in all parts of the Commonwealth. The initial task was to find out what cultures were being kept in collections, university departments, and other laboratories; when this was competed, attempts would be made to fill the lacunæ revealed.

Questionnaires were sent to laboratories in all parts of the Commonwealth asking for information on the number and types of micro-organisms maintained, and whether these would be made available to other workers. The response to this questionnaire was variable but sufficient progress has been made to justify publication of a Directory of culture collections in the United Kingdom. About 90 collections are named in the first edition of the Directory, which is to be supplemented by a List of the species maintained by them.

National Committees have been appointed in most of the co-operating countries, and it is anticipated that similar Directories and Lists will be prepared for other parts of the Commonwealth. All workers who have specialised collections, or who maintain cultures for teaching purposes, are asked to co-operate by getting in touch with their National Committee from whom copies of the first edition of the U K. Directory can be obtained. The Convener of the Indian National Committee is Prof. M. Sreenivasaya, Asst. Professor of Fermentation Technology, Indian Institute of Science, Bangalore 3.

**Report of Proceedings*, published by H. M. S. O. Code No. 47-139 Price 6*d*. net.

OPPORTUNITIES FOR STUDY ABROAD

About 22,000 fellowships and scholarships, founded by various countries and international organisations and involving a total investment of 100 million dollars per year are available in different countries. Information regarding these is given in "Study Abroad", a Unesco publication which has been rcently released.

The publication is the result of a second world-wide enquiry regarding fellowships, scholarships or awards available during the years 1949-50, 1950-51 and 1951-52. The first volume of this publication was published in 1948 as a result of a survey conducted by Unesco in all member States.

Besides listing the various opportunities for study available in different countries, the volume contains extensive surveys of programmes for short teaching abroad and workers exchanges for educational and cultural purposes. It also gives valuable information about some 180 national and international organisations in Europe sponsoring international educational exchanges of young people.