

70 prototype crack detectors made by the Admiralty Materials Laboratory are at present in use in dockyards and research establishments. The new instrument is proving of interest to British Rail, which has recently been seriously troubled by cracks in railway lines. A special version is in the process of development for fitting to railway wagons so that the track can be inspected at high speed.

## Scientific Memorabilia

A PLEA for the preservation of unpublished scientific records, manuscripts and correspondence has been made by the President of the Royal Society and the Master of the Rolls. The Royal Society and the Historical Manuscripts Commission have now formed a standing joint committee under the chairmanship of Sir Harold Hartley with the aim of locating, preserving and making accessible this material. The committee is to prepare and publish a guide to the location and content of the personal papers of leading British scientists and technologists from the sixteenth century until, and including, the time of Lord Rutherford (but excluding scientists still living). The preparation of this guide has been made possible by a grant from the Goldsmiths' Company. The librarian of the Royal Astronomical Society, Dr R. E. W. Maddison, is to be editor. Many of the papers are still in private possession, and Professor Blackett and Lord Denning are appealing to all owners of such papers to write to Dr Maddison (at the Royal Astronomical Society, Burlington House, Piccadilly, London, W1) and to inform him of what they possess. The papers will remain the owner's property—the aim is to locate the papers, to ensure their preservation, and to make them available in original or copy to historians.

## New Ways of Making War

A TWO-DAY conference on chemical and biological warfare last week in London served at least as an opportunity for breaking down what Lord Ritchie-Calder, chairman of the conference, described as the conspiracy of silence on the subject. The conference was held under the auspices of the newly formed J. D. Bernal Peace Library, and was attended by scientists and science journalists from several countries. Lord Ritchie-Calder set the tone for the proceedings with a reminder—culled from the late Professor Joliot-Curie—of how weapons like these might be used without the intended victims knowing.

A long list of known chemical weapons was provided by Mr J. Perry Robinson. At one end of the spectrum are the so-called riot-control agents—lacrimators and the rest—which seem to be lethal in sufficiently high concentrations. Nettle gases, dichlorformoxime, for example, sting hard. Blood gases such as hydrogen cyanide block oxygen circulation. Vesicants, of which mustard gas is typical, injure all kinds of tissues and can therefore be lethal. Involatility enhances their effectiveness. Then there are nerve gases which inhibit cholinesterase and which are therefore the most rapidly lethal of these agents. Mr Robinson was also able to describe several means by which these agents can be disseminated—one of the essential tricks of the trade. Defence, he said, would probably be too expensive for most countries.

Academician I. Malek from Prague had very little new to say, although he emphasized the self-spreading capacity of biological agents and their cheapness. He argued that the only defence against biological weapons was an international agreement to forbid their use.

The uses of defoliants were also discussed at the meeting, largely because of their use in Vietnam by United States forces. According to Professor Arthur Galston, professor of plant physiology at Yale University, 1,000 square miles of Vietnam were dealt with in this way in the first 9 months of 1966. Dr F. Kahn of the University of Paris held that agents like these can be toxic to human beings—notwithstanding official statements to the contrary. Dr Kahn is a member of a scientific commission set up for the International War Crimes Tribunal which met last year in Stockholm. His evidence for the lethality of defoliants is based on evidence collected orally by a government committee in North Vietnam and experiments carried out with ducks.

Dr J. H. Humphrey, deputy director of the National Institute for Medical Research of the United Kingdom Medical Research Council, had a practical suggestion to make. He argued that there would be great benefit in an arrangement by means of which the research establishments engaged on chemical and biological warfare were to become non-secret places, at least for a trial period. Then, at least, taxpayers would know what was being done with their money.

## Listing Overseas Visitors

DIFFICULT as it is, tracing the names and numbers of overseas academic visitors at present undertaking research in Britain is not impossible. Two almost up-to-date lists have been compiled for United States and Commonwealth visitors showing where they are and just what they are doing.

The US directory of American university teachers and senior scholars for 1967-68 was prepared by the US Information Service of the American Embassy in London and contains over six hundred names. The present location, field of study, the awards covering the research, and the university or institute which the visitors attended in the US are all quoted. Data are based on information provided by registrars and other officers in British universities and, at this stage, copies are available only to university registrars. (The US Embassy says that it is unable to supply further copies on demand.)

The second list, prepared by the Association of Commonwealth Universities, is based on information furnished by the registrars of member universities and university colleges in overseas parts of the Commonwealth, and of former member universities in the Republic of South Africa. Some 630 visitors are currently in Britain and there is a list of about 360 visitors shortly to arrive; dates of departure are given where known. By circulating copies of the list to universities, learned societies and other interested bodies in Britain, the association hopes that this will assist contact between the members of these bodies and current or prospective visitors.

Although the lists are incomplete, they provide a useful service which could usefully be taken up by countries outside the US and the Commonwealth which also have senior scholars in Britain.