

into question the official justification for Sentinel, namely that it is orientated only against China. This follows from the fact that the relatively primitive strategic missile force of China in the early 1970's would be a credible deterrent only if it were entirely targeted against American cities rather than missile installations. As far as is known, the Soviet ABM system is designed to protect Moscow and possibly Leningrad and is not deployed around missile sites. The use of ABM's to harden missile sites would also be likely to stimulate the opponent to improve his offence and, hence, although stabilizing in one sense, would also cause some acceleration in the arms race. The most serious consequence of the American decision to deploy ABM's at ICBM sites is the threat to the success of the arms control negotiations produced by the introduction of a factor of uncertainty into the nuclear strategic balance.

Consequences of the development of new weapons. The development of new weapons, in particular MIRV's, could have even more serious long-term consequences than ABM systems. Both superpowers have recently tested ICBM's with multiple warheads. These weapons are the logical response to ABM deployment. MIRV's are potentially very destabilizing because, if their development continues, their accuracy will probably improve to a degree which will enable a superpower to destroy all or most of the other's strategic ICBM's by a first strike. Relatively invulnerable launching sites, such as submarines, would help to stabilize the strategic situation, but submarine-based missiles are an order of magnitude more expensive to maintain than land-based missiles. Another reason why MIRV's are destabilizing is that their deployment will introduce a large factor of uncertainty in that it will be extremely difficult for each superpower to calculate with any confidence the number of warheads the other has, for this number will no longer equal the number of launching sites. At the moment each superpower can estimate the balance of forces with reasonable certainty.

"Arguments from grand policy" show that the disadvantages of the deployment of ABM's, even so-called "thin systems", completely outweigh the advantages claimed by Herzfeld which, in comparison, are relatively trivial. As far as the argument about the necessity for an ABM system as a defence against China is concerned it should be noted that there is very little, if any, evidence that China has the aggressive intentions usually ascribed to her or that she will behave so irrationally as to launch a nuclear attack on the United States. It is difficult to see why the superpowers should not rely on a policy of deterrence rather than defence with respect to China, or in other words on the same policy that they adopt towards each other. The time may be politically ripe for negotiations leading to significant arms control and disarmament measures: both superpowers have urgent and serious internal problems and are under strong pressures from their populations to concentrate their energies and resources upon them; there is no reason to doubt that both powers are sincere in their stated desire for a system of arms control; there is a sufficient measure of détente between them; they seem to be prepared to accept the strategic situation which a measure of arms reduction would produce; there is at present a strategic balance between them; both superpowers wish to prevent the expansion of the nuclear club and know that the viability of the non-proliferation treaty depends on their limiting the arms race; and both wish to prevent a general nuclear war, the likelihood of which will increase during the periods of instability which will inevitably occur if the arms race continues.

Yours faithfully,

FRANK BARNABY

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University News

Professor A. W. Merrison, professor of experimental physics in the University of Liverpool, and director of the Daresbury Nuclear Physics Laboratory, has been appointed Vice-Chancellor of the **University of Bristol**.

Dr R. L. Wilson has been appointed the first professor of geophysics at the **University of Liverpool**.

Professor G. W. Beadle has been named the William E. Wrather distinguished service professor at the **University of Chicago**.

Dr R. A. Cowley, Atomic Energy of Canada Limited, has been appointed to an additional chair of physics at the **University of Edinburgh**.

Dr D. G. Freiman has been named Mallinckrodt professor of pathology at **Harvard University**.

Professor G. Birkhoff has been named the first George Putnam professor of pure and applied mathematics at **Harvard University**.

Professor A. Brown has been appointed to the chair of library studies at **University College, London**.

Professor Sir Brian Windeyer, Middlesex Hospital Medical School, has been elected Vice-Chancellor of the **University of London**.

The title of professor emeritus has been conferred on **Professor O. V. S. Heath**, professor of horticulture at the **University of Reading**.

Appointments

Dr J. L. Locke has been appointed assistant director of the radio and electrical engineering division of the **National Research Council of Canada**.

Announcements

The Journal of the Linnean Society—Zoology, the **Journal of the Linnean Society—Botany**, and the **Proceedings of the Linnean Society** will from January 1, 1970, be known as the **Zoological Journal of the Linnean Society**, the **Botanical Journal of the Linnean Society** and the **Biological Journal of the Linnean Society**.

The International Cell Research Organization, under the sponsorship of UNESCO and WHO, is holding an international training course on **Molecular Aspects of Antigenicity and Immunoglobulins** in Rehovot, Israel, from November 17–29. Applications should be sent to Professor M. Sela, Department of Chemical Immunology, Weizmann Institute of Science, Rehovot, Israel.

Dr J. A. Kirchner, Yale School of Medicine, has been presented with the **Newcomb Award** of the American Laryngological Association for his contribution to literature on the larynx.

The University of Wisconsin, Ohio State University Research Foundation and the **Johns Hopkins University** have been awarded subcontracts by the National Academy of Engineering to chart methods for solving the problems connected with the development of biomedical engineering. They will report their findings to the NAE's Committee on Interplay of Engineering with Biology and Medicine.

ERRATUM. In the article "Residues of Dieldrin (HEOD) on Complete Prepared Meals in Great Britain during 1967" by McGill *et al.* (221, 761; 1969), there was an error in the units of Table 1. The units should have read " $\mu\text{g/day}$ " not "p.p.m."

ERRATUM. In the note "Horse Doping—Pharmacology and the Punter" (222, 111; 1969), the quantity of heroin mentioned in the first sentence should have been "one and a half grains", not "grams".

International Meetings

April 21–25, **50th Annual Meeting of the American Geophysical Union**, Washington (American Geophysical Union, 2100 Pennsylvania Avenue NW, Washington, DC 20037, USA).

April 28, **Organ Transplantation in Man and Plasma Lipoproteins**, Washington (Mr B. Byers, Public Information Officer, Office of Information, National Academy of Sciences, 2101 Constitution Avenue, Washington, DC 20418, USA).

April 30, **Pulsars and Social Science Perspectives on Our Urban Condition**, Washington (Mr B. Byers, Public Information Officer, Office of Information, National Academy of Sciences, 2101 Constitution Avenue, Washington, DC 20418, USA).

May 1, **Public Safety—A Growing Factor in Modern Design**, Washington (Miss D. Weatherby, National Academy of Engineering, 2101 Constitution Avenue, NW, Washington DC 20418, USA).

May 5–8, **Radiation Biology of the Fetal and Juvenile Mammal**, Washington (Dr Sikov, Symposium on Radiation Biology of the Fetal and Juvenile Mammal, PO Box 999, Richland, Washington 99352, USA).

May 8–9, **Organolead and Organozinc Chemistry**, Utrecht (Organizing Committee of the Conference, c/o Jaabeurs, Vredenburg 49, Utrecht, Netherlands).

Sabbatical Itinerants

In the hope of providing some practical assistance in the good cause of mobility between laboratories, *Nature* advertises the needs for housing of families about to take up periods of sabbatical leave. To begin with, no charge will be made for advertisements like this. It is hoped that a period of experiment will show what form these advertisements could most usefully take and whether they are effective.

Wanted: Furnished house, three–four bedrooms, in Berkeley, California, near the university for visiting professor in biochemistry from mid-September 1969 to August 1970. Would also consider exchange with furnished house in Mill Hill (30 minutes from the centre of London by Underground). Please contact Dr J. R. Tata, National Institute for Medical Research, Mill Hill, London NW7.

Wanted: House or flat for Englishman and wife spending two years in Cambridge, October 1969 to September 1971. Preferably within easy reach of Strangeways Research Laboratory. Please write airmail to Donald D. Porteous, Department of Radiology, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York, NY 11203, USA.

Vacant: Furnished detached 3-bedroom, 2-bathroom house in Brooklyn, New York, from September 1969 to September 1971. Near to shops, subway and schools. 100 yards from ocean in pleasant beach and park area. 30 min to mid-town Manhattan, 20 min to Kennedy Airport by nearby parkway. Car available if required. Please contact Donald D. Porteous, Department of Radiology, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York, NY 11203, USA.

Wanted: Furnished flat or house, one or two bedrooms, in London, for young American doctor and wife, beginning August 15, 1969, for 12 to 24 months. Central heating and convenient location for access to the Royal College of Surgeons. Please contact Dr J. W. Aiken, Department of Pharmacology, University of Vermont College of Medicine, Burlington, Vermont 05401, USA.

BRITISH DIARY

Sunday, April 20—Friday, April 25

CAREERS RESEARCH AND ADVISORY CENTRE (in association with the Manchester Business School, at Owens Park, University of Manchester)—Course on "Scientific Careers".

Monday, April 21—Thursday, April 24

IRON AND STEEL INSTITUTE (at the Royal Festival Hall, London, SE1); and Church House, Great Smith Street, London, SW1)—Annual General Meeting and Centenary Celebrations.

Monday, April 21—Friday, April 25

UNIVERSITY OF SOUTHAMPTON; the CONCRETE SOCIETY; and RILEM (at the University)—International Conference on "Structure, Solid Mechanics and Engineering Design in Civil Engineering Materials".

Tuesday, April 22

SOCIETY OF CHEMICAL INDUSTRY, MICROBIOLOGY GROUP (joint meeting with the Food and Nutrition Group of the Royal Society of Health, at Queen Elizabeth College, Campden Hill Road, London, W8), at 9.40 a.m.—Meeting on "How Should We Teach Food Hygiene?"

ROYAL SOCIETY (at 6 Carlton House Terrace, London, SW1), at 10 a.m.—Discussion meeting on "United Kingdom Experiments Using Nasa and Eros Satellites" arranged by the British National Committee on Space Research.

INSTITUTION OF ELECTRICAL ENGINEERS, JOINT IEE/IERE MEDICAL AND BIOLOGICAL ELECTRONICS GROUP (at St Bartholomew's Hospital, London, EC1), at 5.30 p.m.—Dr T. A. Quilliam: "Transcutaneous Information".

INSTITUTION OF ELECTRICAL ENGINEERS (joint meeting with the Institution of Nuclear Engineers, at Savoy Place, London, WC2), at 5.30 p.m.—Dr J. Stephen: "The Irradiation Properties of Magnetic Materials".

ROYAL INSTITUTION (at 21 Albemarle Street, London, W1), at 5.30 p.m.—Professor R. L. Wain, FRS: "Chemistry and Plant Disease Control". (Lecture for Sixth Form Pupils from Schools in London and the Home Counties. To be repeated on April 23, 29 and 30).

INSTITUTION OF ELECTRONIC AND RADIO ENGINEERS, INSTRUMENTATION AND CONTROL GROUP (at 9 Bedford Square, London, WC1), at 6 p.m.—Meeting on "Hill-climbing Self-optimization for Industrial Process Control".

SOCIETY OF CHEMICAL INDUSTRY, PLASTICS AND POLYMER GROUP (at 14 Belgrave Square, London, SW1), at 6 p.m.—Mr A. A. K. Whitehouse: "Reinforced Plastics as Structural Materials".

INSTITUTION OF ELECTRONIC AND RADIO ENGINEERS, EAST ANGLIAN SECTION (at the University of Essex, Wivenhoe Park, Colchester, Essex), at 7 p.m.—Mr B. R. Gaines: "Man-Machine Systems Engineering".

INSTITUTION OF ELECTRONIC AND RADIO ENGINEERS, SOUTH MIDLAND SECTION (joint meeting with the Institution of Electrical Engineers, at the BBC Club, Evesham), at 7 p.m.—Mr M. Macleese: "Interesting Aerials".

SOCIETY FOR ANALYTICAL CHEMISTRY, NORTH EAST SECTION (joint meeting with the Teesside Section of the Royal Institute of Chemistry, at the Constanine College of Technology, Borough Road, Middlesbrough), at 8 p.m.—Mr W. Garner: "The Work of a Textile Chemical Consultant".

Wednesday, April 23

PLASTICS INSTITUTE (at the Great Western Royal Hotel, Paddington), at 2.15 p.m.—Mr M. G. Church, Mr A. T. Dunn, Mr W. G. Potter: "Government Information, Services and Finance available to the Plastics Industry".

INSTITUTE OF NAVIGATION (at the Royal Geographical Society, 1 Kensington Gore, London, SW7), at 5 p.m.—Meeting on "The Admiralty Chart—IV".

INSTITUTION OF ELECTRICAL ENGINEERS (at Savoy Place, London, WC2), at 5.30 p.m.—Mr C. Barnes, Mr E. Hill and Mr C. T. W. Sutton: "Cables and Accessories—Some Trends in Standardization, Rationalization and Ratings".

INSTITUTION OF ELECTRONIC AND RADIO ENGINEERS, COMPONENTS AND CIRCUITS GROUP (at 9 Bedford Square, London, WC1), at 6 p.m.—Dr P. L. Kirby: "The Future of Thin and Thick Films in Micro-electronics".

SOCIETY OF CHEMICAL INDUSTRY, FOOD GROUP—FOOD ENGINEERING PANEL (at 14 Belgrave Square, London, SW1), at 6.15 p.m.—Annual General Meeting, followed by Mr P. Ling: "Size Reduction in the Food Industry".

Wednesday, April 23—Friday, April 25

INSTITUTION OF MECHANICAL ENGINEERS, STEAM PLANT GROUP (at 1 Birdcage Walk, London, SW1)—Convention on "Steam Plant for the 1970's".

Wednesday, April 23—Saturday, April 26

FOOD RESEARCH INSTITUTE OF THE AGRICULTURAL RESEARCH COUNCIL (at Colney Lane, Norwich, Norfolk)—Open Days.

Thursday, April 24

FERTILIZER SOCIETY (at the Geological Society, Burlington House, Piccadilly, London, W1), at 2.30 p.m.—Mr F. E. Steenwinkel and Mr J. W. Hoogendonk: "The Prilling of Compound Fertilizers".

ROYAL SOCIETY (at 6 Carlton House Terrace, London, SW1), at 4.30 p.m.—Meeting for the election of Foreign Members, followed by Professor A. J. P. Martin, FRS, and Mr F. M. Everaerts: "Displacement Electrophoresis"; Dr D. Tabor, FRS, and Mr R. H. S. Winterton: "Direct Measurement of Surface Forces".

INSTITUTION OF ELECTRICAL ENGINEERS (at Savoy Place, London, WC2), at 5.30 p.m.—Professor R. V. Jones, FRS: "Pursuit of Measurement" (60th Kelvin Lecture).