

failures and some results in testing existing indexing systems. Although he comments briefly on the results of the whole investigation and discusses briefly basic problems in retrieving information, from the point of view of the general reader or scientist this report adds little to the interim report already noted in *Nature* (189, 359; 1961).

### Nonconventional Technical Information Systems

THE third of a series of reports on *Nonconventional Technical Information Systems in Current Use*, issued by the National Science Foundation, describes 87 such systems from 73 different organizations, six of whom reported two systems each, one three, and one seven (No. 3, NSF-62-34. Pp. xx+209. Washington, D.C.: National Science Foundation, 1962). About half the organizations are new to the series, and three systems outside the United States are included. As in previous reports, the information is arranged under three main headings: systems which store references; systems which store data; and systems which produce general search aids. Comments on the compilation are invited and also information on other systems for possible inclusion in future reports.

### The U.S. Office of Aerospace Research

*Bulletin* No. 15, September 1962, NSF 62-17, *Scientific Information Activities of Federal Agencies*, issued by the National Science Foundation, the first of four bulletins to deal with the U.S. Air Force, describes the activities of the Office of Aerospace Research, which is responsible for most of the basic research carried out or sponsored by the Air Force. Besides describing the various organizational units, the *Bulletin* includes information on the various fields of research, the progress being made and the types of publication issued.

### A New High-sensitivity Colorimeter

A NEW Unicam SP. 1300 colorimeter, made by Unicam Instruments, Ltd., Cambridge, has a technical specification which incorporates many of the latest advances in colorimetry. Outstanding features include: (a) autofill cell—automatic system of filling and emptying cells, saving time and avoiding spillage (minimum volume of 10-mm glass sample well—2 ml.); (b) single lever control for three stages of analysis; (c) instant selection of filters by rotation of filter disk. Initially introduced with a series of sixteen clinical methods, the SP. 1300 is equally suitable for a very wide range of colorimetric analyses. The instrument will be supplied complete with a multi-ring binder containing operating instructions and methods of analysis for sixteen separate clinical determinations (other 'method sheets' will be made available to the users within a short space of time). The styling of this new Unicam instrument will fit well into the modern laboratory. It is compact, sturdy and easily transportable.

### Ground Reflexion Interference Patterns

THE purpose of the National Bureau of Standards Monograph 38, issued on April 2, is to give the results of a detailed computation of ground reflexion interference patterns in the lower ionosphere at VHF over a spherical earth (*Radiation Patterns in the Lower Ionosphere and Fresnel Zones for Elevated Antennas Over a Spherical Earth*. Pp. iii+128. Washington, D.C.: Government Printing Office, 1962. 70 cents). The computations cover parallax, tropospheric refraction and defocusing, spherical divergence, and near horizon diffraction. From the patterns, three antenna-siting parameters—the antenna height and elevation angle for placing the maximum of the first lobe at the path midpoint (called the lobe alignment height); the distances from the antenna to the edges and the quarter-wave contour of the first Fresnel zone on the Earth's surface; and information for the determination of effects of obstacles located in the first Fresnel zone—have been computed. The antenna height-

gain function calculated from the results has been previously published (*Institute of Radio Engineers Transactions on Communications Systems* CS-8, 14-19; March 1960). The function shows that the optimum height is lower than the lobe alignment height and that a broad range of lower heights is essentially equivalent in gain to the lobe alignment height. The results presented in the monograph refer to an ionospheric scattering layer height of 85 km at frequencies of 30-55 Mc/s, which have been found to be the most useful values. They correspond to computed path lengths of 1,000-2,400 km. Two refractivities representing 'standard refraction' and temperate over-water or tropical 'wet' refraction were used. The monograph contains some hundred graphs, and in the appendixes lobe alignment antenna heights and other data, together with symbols and equations, are tabulated and a mathematical discussion of the lobe shift is given.

### Farm Buildings Research

A BIBLIOGRAPHY, *Farm Buildings Research*, was issued by the Agricultural Research Council in 1958, covering publications of the previous three years. The first supplement to Part I of the general bibliography, covering publications of the three years ending in 1961, and also items omitted from the previous issue, has recently been published (Pp. 69. Agricultural Research Council, 1962. 4s.). This deals with buildings for pigs and provides a brief annotation for each reference quoted. An author index to the references is included.

### Animal Disease in Israel

THE reports of the Veterinary Department in Israel for 1959 and for 1960 were published in Hebrew, but a report in English has now been issued for both years. Israel is inevitably an important area so far as the field of animal diseases is concerned. With its very central situation on certain travel routes between East and West and with some extensive terrain in its vicinity with, perhaps, less well-developed veterinary services, opportunities can occur of certain infective diseases to pass into regions that might be danger areas to other countries. With its strong scientific outlook Israel is a source of strength, in that new introductions of spreading disease are likely to be detected at an early stage, with quick introduction of control measures. In recent years, African horsesickness, as an escape from Africa, has been the cause of great losses as far afield as India—Israel being a stepping-stone in its progress. Bluetongue of sheep has similarly escaped from Africa and spread quite disastrously in recent decades. Similarly, African swine fever, caused by a virus different from that of the well-known swine fever, has invaded European countries with serious results, though, fortunately, active control measures have limited the risk to all but a few countries. Details are given of the activities in Israel for dealing with thirty-five scheduled diseases of mammals and with scheduled poultry diseases—the diseases given special attention in all countries because of particular liability to spread. The Government veterinary field service is handicapped by a serious lack of manpower. Rabies occurred from 1948 onwards in animals, including, as well as domestic animals, jackals, foxes, hyenas, wolves and a mongoose. There were reports of 69,995 persons being bitten, and 11,588 were given anti-rabies treatment.

### Natural History of the British Solomon Islands

THE fourth volume of the scientific results of the joint Danish (1951) and British Museum (Natural History) (1953) expeditions to Rennell Island has been published under the general editorship of Torben Wolff (*The Natural History of Rennell Island, British Solomon Islands*. 4: (Invertebrates, Pars; and addition to Vertebrates). Pp. 120+18 plates. Copenhagen: Danish Science Press, Ltd. Published by the University, Copenhagen; and the