

lation, which prescribes the various systems of classification of pharmaceutical preparations in ten or more countries, brings out the divergences in these different regulations (World Health Organization. Classification of Pharmaceutical Preparations: a Survey of Existing Legislation. Pp. 56. (Geneva: World Health Organization; London: H.M. Stationery Office, 1960.) 2 Swiss francs; 3s. 6d.; 0.60 dollar).

Bacterial Population of the Nose and Skin

THE frequent occurrence of penicillin-resistant *Staphylococcus aureus* in the noses of those working in hospitals and in penicillin factories has been shown to be related to the presence of penicillin in the environment. H. Williams Smith and W. E. Crabb of the Animal Health Trust Farm Livestock Research Centre, Stock, Essex, decided to determine whether the common practice of feeding pigs and chickens continuously on diets containing antibiotics influenced the *Staph. aureus* population of the nose and skin of the animals and that of their attendants in a similar manner (*J. Path. and Bact.*, 79, No. 2, April 1960). They compared farms where antibiotic feeding was practised with farms where antibiotic feeding had never been employed. The approach was indicated to a considerable extent by current agricultural practice. For example, they were unable to examine as many penicillin-fed pigs as they would have wished because in Great Britain the penicillin additives in pig foods have been largely superseded by tetracycline additives; on the other hand, in chickens it was possible to study the effect of feeding with penicillin and chlortetracycline or oxytetracycline together, for it is customary to include penicillin with one or other of the tetracyclines in most antibiotic-supplemented poultry foods. The investigations showed antibiotic-resistant strains were much more prevalent on animals maintained on diets containing antibiotics than on animals maintained on diets that did not contain antibiotics. This applies also to their attendants. Phage typing and other tests showed that the antibiotic-resistant strains isolated from the attendants were usually identical with those isolated from their animals.

Controlling Rats in Sewers

LOCAL authorities in Britain have had varying success in their efforts to rid their sewers of rats. Until recently, the feeling has been growing that a mere reduction in the average level of infestation was the most that could be achieved, and that this was a poor return for all the effort expended. During the past year or so, the introduction of new methods of control directed the way to further progress, and a growing number of authorities are reporting very satisfactory results, several having achieved complete clearances. A Technical Bulletin prepared by Dr. E. W. Bentley, of the Ministry of Agriculture, Fisheries and Food, has been written to try to foster this trend (No. 10: Control of Rats in Sewers. Pp. iii+22+4 plates. London: H.M. Stationery Office, 1960. 2s. 6d. net). It describes certain features of the ecology and behaviour of rats in sewer systems and the several ways by which control can be brought about; its main emphasis is on the need for effective planning.

Television Field Trials

THE future of the television services of Great Britain is kept under constant review by the Post-

master-General and his Television Advisory Committee. The latter in turn has a Technical Sub-Committee, which has been asked to consider the relative merits of the 405-line transmission used in Britain, and the 625-line system now in general use in Europe. Consideration has also been given to the possibilities of colour television and to the best direction in which to develop the higher frequency bands IV and V when these are available. To assist the sub-committee in its task, a working party was established to organize and conduct field trials designed to give technical data on the performance of some of the systems concerned. These trials were carried out during 1957-58, and in view of the importance of the scientific and technical results obtained, these are now made generally available in a report published by the British Broadcasting Corporation (Television Field Trials of 405-Line and 625-Line Systems in the UHF and VHF Bands, 1957-1958. Pp. 152. London: British Broadcasting Corporation, 1960. 20s.).

The first part of the report gives the results of field trials of 405-line television in bands I and V, using frequencies of about 45 and 650 Mc./sec., respectively. These show that the service area is more limited at the higher frequency, and is subject to greater irregularity in hilly terrain. It is therefore evident that a greater number of transmitters would be required for a band V service than is at present used in band I. In the second series of trials described in Part 2 of the report, a comparison was made between 405-line television in band I with 625-lines in band V. In areas where adequate field strength prevailed, the band V pictures were slightly better. The appendixes to the report contain a large number of diagrams illustrating in considerable detail the various features, subjective as well as objective, of the results obtained in these extensive trials.

New British Analogue Computer

IN a recent issue of *Nature* (186, 201; 1960) the first British digital-analogue computer, the *Corsair*, was described. Now a second machine of digital-analogue type has been introduced by the Redifon Company. The new Redifon machine differs completely in concept from the *Corsair*, since the actual calculations are performed exclusively by analogue techniques. Even multiplication, which is notoriously unsatisfactory using an analogue device, is treated in this way. The digital part of the machine lies in its input-output device which makes use of magnetic tape upon which information is recorded by a machine of standard keyboard and through which information can be obtained via a typing device of the sort used in adding machines. The magnetic tape store which is associated with the *Radic* system, as it is called, has a number of novel features, including the interesting one that the magnetic tape is perforated with sprocket holes and apparently moves discontinuously. This technique makes such operations as the serial correlation of recorded data particularly easy, and will undoubtedly result in the *Radic* computer filling a niche which previous analogue computers have failed to do.

Interstellar Extinction and Polarization

THE study of the particles in interstellar space is important for two reasons. First, interstellar dust produces absorption of light, and makes difficulties for astronomical distance determination. Secondly,