

## NEWS AND VIEWS

### The Manchester School of Pure Mathematics

THE Council of the London Mathematical Society has awarded the De Morgan Medal for 1941 to Prof. L. J. Mordell, professor of pure mathematics in the University of Manchester, in recognition of his many important contributions to the theory of numbers. The Adams Prize of the University of Cambridge has been awarded to Dr. H. Davenport, lecturer in mathematics in the University of Manchester, for two essays, (1) "On Waring's Problem", (2) "On the Geometry of Numbers". This double award is a very welcome and well-deserved recognition of the growing of the Manchester school of pure mathematics. Prof. Mordell has been the founder and leader of this school, and Dr. Davenport, formerly his pupil and now his colleague, is the most distinguished of its younger members. He has also attracted a considerable number of foreign mathematicians. His activities have always centred around the theory of numbers, and there is probably no other mathematical school which has contributed so much to the development of that theory during the last ten years.

### Aircraft Research Appointments

SIR HENRY TIZARD, rector of the Imperial College of Science and Technology, has been appointed an additional member of the Air Council. In this capacity, and as a member of the Aircraft Supply Council, he will have special responsibility for studying and advising on scientific and technical policy.

Air Vice-Marshal F. J. Linnell, an Assistant Chief of the Air Staff, has been appointed a member of the Aircraft Supply Council in executive charge of research and development. He will be promoted to the acting rank of Air Marshal and will become an additional member of the Air Council on taking up this appointment.

The responsibilities of Sir Frank Smith as the executive head of the Department of the Ministry of Aircraft Production which deals with telecommunications equipment are unaffected by these appointments.

### The R.A.F. Food Supplies

THE Air Ministry has appointed Dr. Thomas F. Macrae, a biochemist, and Squadron Leader W. P. Stamm, a specialist medical officer, to watch over the food supplied to the Royal Air Force to ensure that the greatest nutritional value is obtained. Dr. Macrae will investigate foodstuffs in use, and Squadron Leader Stamm will watch for the earliest signs of food deficiency in the health of the men. Both will study the preparation and cooking of food at the various units, the planning of a balanced ration from the available supplies, and the prevention of waste.

### The Director-General of Man-Power

MR. G. H. INCE has been appointed by the Minister of Labour and National Service to fill a new post of director-general of man-power. Mr. Ince will take charge of the National Service, Labour Supply, and Military Recruiting Departments of the Ministry. Sir William Beveridge will relinquish the charge of the National Service and Military Recruiting Departments and will act as chairman of a committee, which will also include Sir Charles Craven and Mr. J. C. Little, to examine, in consultation with the three Service Departments, the employment of skilled men in the Forces.

### Surgical and Hospital Spirit: Economy Necessary

FOR the good reason that the less the quantity of alcohol absorbed by uses for which alternatives can be substituted the more there will be available for the manufacture of munitions, the authorities are exploring the avenues by which economy in the employment of spirit can be effected. One of the channels through which extremely large quantities of alcohol flow in the course of a year is connected with surgical and hospital practice, and the attention of the Government departments concerned with the conservation of supplies of material is focused on this channel at the present time. It may well be that official instructions will be issued shortly to medical and hospital officers and nursing staffs of Service and other departments to exercise strict economy in the use of spirit for medical and surgical purposes as well as in nursing practice. Action will not stop at the Navy, Army and Air Force Services, for a strong appeal is likely to be made to surgeons and hospital staffs generally to use alcohol as sparingly as possible; it is probable also that recommendations will be issued by a body of recognized experts on the ways in which the use of alcohol may be avoided without prejudice to patients. The sterilization and storing of instruments, the habit common among surgeons of using alcohol for their hands before the gloves are put on, the use of tincture of iodine for the preparation of the patient's skin for operative incisions, the custom of swabbing spirit over the suture line when stitches are removed and the use of methylated spirit for preventing bed sores are the chief outlets of alcohol in surgical work and nursing methods.

There are alternative ways of producing the desired effects efficiently and they will probably be described in an authoritative memorandum. The use of dry heat is an appropriate substitute for spirit for the sterilization of the most important surgical instruments composed solely of steel or glass; if that method is not available, another effective means of sterilizing many types of instruments is by boiling them immediately before use. The risk of blunting the edges of surgical knives

through boiling has been proved by recent experiments to be negligible. Where it is impracticable to boil instruments immediately prior to use, they may be stored in a dry state in a covered sterile receptacle instead of in spirit, or, alternatively, in a watery antiseptic solution to which a small amount of borax should be added to prevent rust. Such articles as hypodermic syringes and needles might still be stored in spirit since only a small quantity is needed. If alcohol is used in drying the hands of surgeons it could be applied economically, but adequately, by the use of a spray after the hands have been thoroughly washed and dried with a small sterile towel. Instead of using tincture of iodine for the patient's skin before operation, the area of the operation could be painted with a watery solution of iodine or of one or other of the antiseptic dyes. For swabbing the suture line when stitches are removed after a clean operation, the application of sulphani- amide powder can be recommended in suitable cases, or failing that an antiseptic soap may be used. For treating the backs of bedridden patients an effective method is light massage with zinc oxide and castor oil after the skin has been washed and thoroughly dried; in a small number of clinical conditions, however, the use of spirit for this purpose would be still desirable. More complete instructions will be given, no doubt, when the recommendations are issued.

### *Electronic Engineering*

DURING the past quarter of a century, a prodigious advance has taken place in the development and application of devices utilizing free electrons, either alone or in association with positive ions, including the wide variety of radio valves, gas-filled rectifiers and cathode ray tubes, as used nowadays in communication and electrical engineering. Technical progress in this subject has hitherto been recorded as an important and ever-growing side-line in journals otherwise devoted mainly to radio communication and television, or to electrical engineering in general. As from the June issue, the Hulton Press, Ltd., has incorporated its previous monthly publication entitled *Electronics, Television and Short-Wave World* in a new periodical named *Electronic Engineering*, which is to be of such a scope as to cover the whole field of research and application of electronic devices in general.

The new journal will provide all those engaged in research and industry in this subject with a medium for interchanging ideas and learning the progress which is being made in all parts of the world. Original articles by specialists will appear regularly, and special features will include patent abstracts, reviews of books and instruments and novel circuit arrangements. An important feature, which may be expected to contribute notably to the success of the new periodical, is that Mr. G. Parr, who has been appointed editor, has been closely associated with the electrical and radio industry for more than twenty years. He is the author of a book on the cathode ray tube, and has played an important part in demonstrating the

versatility of these tubes as recording and measuring instruments for laboratory and other purposes. The June issue of the journal contains the first of a series of data sheets for the use of design engineers, as well as articles on amplifiers, oscillation generators, quartz crystals and other audio- and radio-frequency problems of current interest.

### **Cancer and Occupation in Denmark**

In a paper on this subject read before the Danish Medical Society on November 5, 1940 (*Nordisk Med.*, 9, 869; 1941), Dr. Johannes Clemmesen, of Copenhagen, maintains that cancer research has lost contact with practical medicine and that the etiology of the disease is almost exclusively studied in laboratories, while clinical mass observations are far too uncommon. The following results were obtained by him on examination of the mortality from cancer among males in various occupations in Denmark during the period 1935-1939. In agriculture and similar occupations deaths from cancer in the age-group 45-64 were fewer than would be expected from the average of cancer deaths among the population as a whole. In industry the cancer mortality was higher than the average in accordance with the higher mortality from all causes for this group. After the sixty-fifth year the cancer mortality was the same for all occupations, but the localization varied in the different occupational groups. The cancer mortality among males and females in Denmark showed the following characteristics. In the age-groups 25-44 and 45-64 it was highest among females. In the older age-groups it was highest among males, but this excess for males was highest in Copenhagen, less in the provincial towns and not definite in the rural areas. The total cancer mortality was also highest in the capital, probably owing to the lower mortality from that cause in the agricultural than in the industrial group.

### **Excavation of Growing Trees with Earth**

FOR purely horticultural purposes it is often required to remove trees and shrubs with a ball of earth for transference elsewhere, and considerable care and ingenuity must be exercised if success is to be achieved. Mr. F. A. F. Schmid and Mr. F. J. Nutman, of the East African Agricultural Research Station, Amani, Tanganyika Territory, have described (*Soil Science*, 49, No. 6; June 1940) a method devised by them during research on the water relations of coffee, for which they required large plants several years in age which could only be obtained in the field. The authors state that by their method a growing tree together with about two tons of soil has been successfully transplanted, and that only the outbreak of war has prevented further excavations. There appears, it is said, to be no limit to the size of the soil block that can be isolated in this fashion save only the size of the vehicle available for transport.

Their work was done in a district with a very light, friable, volcanic ash soil, with few stones. It is admitted that the presence of stones might make