

Strontium-90 and Natural Strontium in Human Bone

A RECENT report, "Radioactive and Natural Strontium in Human Bone", from the Chemistry Division of the Atomic Energy Research Establishment, Harwell, is the latest in the series in which results of the analyses of human bones in the United Kingdom for strontium-90 and natural strontium are listed (A.E.R.E. R23246. By J. W. Arden, F. J. Bryant, E. H. Henderson, G. D. Lloyd and A. G. Morton. Pp. 8. London: H.M. Stationery Office, 1960. 1s. 9d. net). The results given are for samples received during 1959 and analysed by the end of the year. Many of the samples were from subjects who died during 1957 and 1958. For the determination of strontium-90 the separation and counting of the yttrium-90 daughter is the preferred method, but when the activity is too low the determination has to depend on counting of the strontium source. Emission spectroscopy was used for the determination of the natural strontium sources. The results show that between the latter part of 1958 and the first half of 1959 there was a rise, compared with previous periods, in the number of strontium units absorbed for all the various age groups except the 'over 20 years' group. The contamination of diet in the United Kingdom is largely dependent on the rate of fall-out and the higher bone burdens thus reflect the increased rate of deposition which has occurred since early 1958.

Low-temperature Fuel Cell

THE successful development of a low-temperature fuel cell that can generate 3-5 times more power per unit volume than other similar cells has been announced by the Shell Research Centre at Thornton, Cheshire. The high output has been achieved as a result of fundamental studies on fuel cell electrodes. This work has led to the development of inexpensive, highly active electrodes. The cell can operate with either alkaline or acid electrolytes. When run on hydrogen and oxygen at a pressure of 3 lb. per sq. in., current densities of 70 amp. per sq. ft. can readily be obtained with both types of electrolyte at room temperature. If air is substituted for oxygen there is little loss in performance. As the cell warms up to 60° C., the output is doubled and a power output of 3-5 kW. per cu. ft. is achieved. Multiple fuel cells with up to six cells per inch have been constructed, and it is considered that units with a power-to-weight ratio of 50 W. per pound could be made. The work at Thornton is continuing and will include a study of fuels other than hydrogen. During the past decade, much of the effort on fuel cells has been devoted to the development of high-temperature cells since, in these cells, the electrode reactions are rapid and high efficiencies can be more easily achieved. Recently, however, more attention has been given to low-temperature cells and it would appear that this is a fruitful field for further research and development.

Travelling Fellowships in Medicine

APPLICATIONS are invited for Rockefeller travelling fellowships, Sir Henry Wellcome travelling fellowships, U.S. Public Health fellowships and the French exchange scholarships. These awards are open to graduates in science who are resident in the United Kingdom and have some training in research in medical science and who intend to return to Britain to resume or take up new appointments in university,

hospital or academic research. Fellowships held in the United States provide annual maintenance allowance at rates varying from 3,000 dollars according to individual circumstances (500-700 new francs monthly with additional sterling marriage allowance in the case of French exchange scholarships) and travelling expenses are also provided. Further information and application forms may be obtained from the Secretary, Medical Research Council, 38 Old Queen Street, London, S.W.1, and the closing date for applications is October 31.

Announcements

MR. A. R. O. WILLIAMS, a managing director of Consolidated Gold Fields, Ltd., and of New Consolidated Gold Fields, Ltd., has been elected president of the Institution of Mining and Metallurgy for 1961-62. He has served on the council of the Institute for fifteen years, and held the office of vice-president during the period 1951-54.

DR. W. J. KROLL, of Corvallis, Oregon, will deliver the sixth Castner Memorial Lecture, "The Fusion Electrolysis of Titanium", on October 7 at the Royal College of Science and Technology, Glasgow, C.I. Further information can be obtained from the Society of Chemical Industry, 14 Belgrave Square, London, S.W.1.

THE Research Laboratories of the Timber Development Association at St. John's Road, Tylers Green, Penn, Buckinghamshire, are holding two open days on October 12 and 13. Further information can be obtained from the Association's headquarters, 21 College Hill, London, E.C.4.

THERE will be open days at the National Chemical Laboratory, Teddington, Middlesex, on October 19 and 20. Applications for invitations should be sent to the Director not later than September 24. Those already on the mailing list for invitations need not re-apply.

THE next meeting of the Biochemical Society will be held in the Department of Biochemistry, the University of Glasgow, during September 29-30, and will include a colloquium entitled "The Biosynthesis of Nucleic Acids". Further information can be obtained from Dr. F. A. Robinson, c/o Allen and Hanburys Ltd., Bethnal Green, London, E.2.

JOINT Conferences are to be held on "Analytical Chemistry in Nuclear Reactor Technology" and "Nuclear Reactor Chemistry" at the Civic Auditorium, Gatlinburg, Tennessee, during October 12-14. The Conferences are sponsored by the Analytical and Reactor Chemistry Divisions of the Oak Ridge National Laboratory. Further information can be obtained from C. D. Susano, Oak Ridge National Laboratory, P.O. Box Y, Oak Ridge, Tennessee.

THE Aero Space Medical Panel of the NATO Advisory Group for Aeronautical Research and Development (AGARD) will hold its sixteenth meeting in Istanbul, Turkey, during October 3-8. Technical papers on clinical aviation and space medicine will be presented. Further information can be obtained from the Advisory Group for Aeronautical Research and Development, Organisation du Traité de l'Atlantique Nord, 64 rue de Varenne, Paris 7ème.

ERRATUM. In the article entitled "Blue Hazes in the Atmosphere" by Dr. F. W. Went, in *Nature* of August 20, p. 641, the sizes of particles mentioned are incorrectly given in 'm μ '; they should be 'microns'.