

*B. pyocyaneus* to become more numerous when the healing process was well established.

However obscure the theory of the treatment is, the references to soil bacteriology made in connexion with it require attention. Trueta records (p. 17): "The incidence of gas gangrene and of other infections fell so markedly [after a thoroughgoing adoption of the treatment] that it has been suggested that the soil of Spain contains no anaerobes. These suggestions emanate from foreign surgeons who came to Catalonia in the later stages of the war: at the beginning it was demonstrated grimly enough that the soil of Spain is not free from these organisms." This notion is not confined to Spanish territory. The commandant of an English ambulance who is known to me attended in London a course of lectures given by a British medical man, who averred that the treatment could not be expected to be successful in all countries: in Spain, where such sub-tropical crops as grapes and oranges grow in the open air, the soil micro-organisms were necessarily different from those occurring in more temperate climates.

Though no determination of Spanish soil micro-flora is at hand, there is no evidence that the broad types of soil micro-organisms vary with climate. A high degree of constancy of species has been demonstrated for soil Protozoa in samples taken in the most diverse parts of the world<sup>2</sup>, while to mention only three sets of determinations of species of soil bacteria, the work of Chr. Barthel<sup>3</sup> on Greenland soils, and various papers by M. Adachi [Adachi] on Formosan micro-flora, have revealed scarcely any but familiar species; a similar remark applies to the bacteriological findings from the second Byrd Expedition to the Antarctic. Barthel also showed that the dung of polar mammals contained bacteria similar to those occurring in the dung of common animals of temperate regions.

The main groups of soil bacteria are probably ubiquitous, and the medical men concerned should call upon their soil scientist colleagues before erecting theories about the distribution of soil micro-organisms. One is left with an uneasy feeling that the fact of the existence of anaerobes in Spanish soil has been established by the clumsy method of observation of human patients. The point is not important, but co-operation between soil bacteriologists and the medical profession would have obviated a mis-statement.

The success of the treatment seems to repose less upon the distribution of bacterial species than upon a factor or set of factors to which the medical profession in its preoccupation with pathogenicity of bacteria has given little attention: namely, the powers of resistance of living tissue towards microbial invasion. R. Giani<sup>4</sup> showed that inoculation with anthrax bacilli of open wounds of experimental animals was harmless if the affected limb was immobilized. This is significant, and if the true implications of the plaster-cast treatment of war wounds are followed up, the present importance of using antiseptics and of other treatments aimed at annihilating bacteria will almost certainly give way to a recognition of the importance of constructive methods of building up bodily resistance to adventurous infections.

<sup>1</sup> Trueta, J., "Treatment of War Wounds and Fractures" (London: Hamish Hamilton, 1939).

<sup>2</sup> See Sandon, H., "The Composition and Distribution of the Protozoan Fauna of the Soil" (London and Edinburgh: Oliver and Boyd, 1927).

<sup>3</sup> *Sertryk Medd. om Grønland*, 64 (København, 1922).

<sup>4</sup> Giani R. *Giorn. R. Accad. Med. Torino*, 11, 165 (1905).

## FORTHCOMING EVENTS

### Monday, December 2

ROYAL SOCIETY OF ARTS (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Prof. S. J. Davies: "Recent Developments in Internal Combustion Engines" (Cantor Lectures, 3).

ROYAL GEOGRAPHICAL SOCIETY (at Kensington Gore, London, S.W.7), at 3 p.m.—Dr. J. V. Harrison: "Coastal Makran".

### Tuesday, December 3

ROYAL INSTITUTION (at 21 Albemarle Street, London, W.1), at 2.30 p.m.—Prof. J. D. Bernal, F.R.S.: "The Physics of Air Raids".

### Wednesday, December 4

ROYAL SOCIETY OF ARTS (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Mr. D. E. E. Gibson: "Problems of Building Reconstruction".

### Thursday, December 5

ROYAL COLLEGE OF SURGEONS OF ENGLAND (at the Royal Society of Medicine, 1 Wimpole Street, London, W.1), at 2.30 p.m.—Mr. T. P. McMurray: "The Semilunar Cartilages" (Robert Jones Memorial Lecture).

### Friday, December 6

ASSOCIATION OF APPLIED BIOLOGISTS (in the Congregational Hall, Victoria Road, Harpenden), at 12 noon.—Sir E. John Russell, F.R.S.: "The Function of Applied Biology in War Time".

## APPOINTMENTS VACANT

APPLICATIONS are invited for the following appointments on or before the dates mentioned:

GENERAL SECRETARY—The Hon. Secretary, International Federation of University Women, 38 St. Leonard's Terrace, London, S.W.3 (December 4).

HEADMASTER OF THE MAIDENHEAD COUNTY BOYS' SCHOOL—The Education Secretary and Secretary to the Governors, Shire Hall, Reading (December 5).

KEEPER OF THE YORKSHIRE MUSEUM—The Honorary Secretary, Yorkshire Philosophical Society, The Yorkshire Museum, York (December 7).

TEACHER TO TAKE CHARGE OF ELECTRICAL ENGINEERING—The Principal, Technical College, Wolverton, Bucks (December 9).

ASSISTANT OFFICER (CIVIL ENGINEER) in the Indian Railway Service of Engineers—The High Commissioner for India, General Department, India House, Aldwych, London, W.C.2 (quoting Appointment 1/10A) (December 14).

MASTER OF METHOD AND LECTURER IN GEOGRAPHY (MALE) at the Edinburgh Training Centre—The Executive Officer, 140 Princes Street, Edinburgh 2 (December 14).

WARDEN OF ASHBURNE HALL OF RESIDENCE—The Registrar, The University, Manchester 13 (December 18).

REGISTRAR OF THE UNIVERSITY OF BIRMINGHAM—The Secretary, University of Birmingham, Edmund Street, Birmingham (January 1).

PART-TIME TEACHERS IN STRENGTH OF MATERIALS, MACHINE DESIGN AND HYDRAULICS—The Principal, South-West Essex Technical College, Forest Road, Walthamstow, E.17.

MATHEMATICAL TUTOR in the Secondary School of the Gordon Memorial College, Khartoum—The Controller, Sudan Government Office, Oxford Hotel, 261 Clifton Drive South, St. Annes-on-Sea, Lancs. (quoting "Mathematical Tutor").

ASSISTANT PHYSICIST at the Bradford Regional Radium Centre—The Medical Officer of Health, Town Hall, Bradford.

## REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

Indian Forest Records (New Series). Entomology, Vol. 6, No. 3: Possibilities of Control of *Lantana* (*Lantana aculeata* Linn.) by Indigenous Insect Pests. By Dr. C. F. C. Beeson and Dr. N. C. Chatterjee. Pp. iii+41-84. (Delhi: Manager of Publications.) 1-4 rupees; 2s. [11]

Ministry of Agriculture, Egypt: Technical and Scientific Service. Bulletin No. 237: On Coccids found on Roots of Plants in Egypt. By Mahmoud Hosny. Pp. iii+21+3 plates. (Cairo: Government Press.) P.T.3. [411]