

The blood anti-coagulants heparin and dicoumarin provide an equally interesting story. People receiving large and continued doses of salicylates should also receive vitamin K<sub>1</sub> or some related compound which will, by maintaining the synthesis of prothrombin in the blood, counteract the anti-coagulant action of salicylic acid due to its reduction of prothrombin. The fact that dicoumarin can be degraded to salicylic acid completes the story.

The author's treatment of the genital hormones is no less interesting and illuminating. The diagrams of the molecular structure of the compounds described help the inexperienced reader very considerably.

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## RADIO PLANNING IN THE U.S.A.

THE present War has been accompanied by great advances in the application of radio technique to communications and other purposes, and much thought is already being given to the conversion of the results of this work to peace-time conditions. Among the major problems of a post-war world will be the allocation of different portions of the radio-frequency spectrum among the various interests involved, and the consideration of the trend of broadcasting with both amplitude and frequency modulation, and of television. In the United States of America, the body responsible for frequency allocation and for controlling the standards used in the systems developed for the various radio services is the Federal Communications Commission; and in November 1942 the chairman of the Commission, Mr. J. L. Fly, suggested that an organization representative of the radio industry and of the personnel involved therein might be set up to consider the technical requirements of the future in the field of radio. Accordingly, a Radio Technical Planning Board (R.T.P.B.) was set up during 1943; and an account of the organization and work of this body to date has been given by its chairman, Dr. W. R. G. Baker, in the June issue of the *General Electric Review* (U.S.A.).

The objectives of the Board are stated to be the formulation of sound engineering principles and the organization of technical facts which will assist in the development, for the public interest, of the radio industry and the radio services of the nation. The sponsors of the Radio Technical Planning Board are those non-profit-making associations and societies which have an important interest in radio and which indicate a willingness to co-operate in achieving the objectives of the Board. At the present time, there are twelve such bodies which contribute an annual sum of 1,000 dollars or more towards the expenses of the Board, while in addition, there are six non-contributing sponsors.

The article referred to above contains an illustrated detailed account of the organizational structure of the Board and its constituent panels, involving a total personnel of about six hundred at the present time. Under the staff and administrative committee, thirteen panels have been set up to deal with subjects covering the whole field of radio communication, broadcasting, television, facsimile, navigation and the use of high-frequency equipment for industrial, medical and scientific purposes. Each panel is under the chairmanship of a leading engineer in the particular branch of radio concerned, and he

is assisted by the most competent specialists available.

An illustrated coloured chart accompanying the article shows that the frequency spectrum with which the Radio Technical Planning Board is concerned extends from 40 kilocycles per second to at least 500 megacycles per second. In view of this broad field, and the number of individuals involved, it is perhaps unlikely that there will be a preponderance of unanimous recommendations emanating from the work of the Board. Even in the absence of very many strong majority proposals, it is considered that the work of the Board will serve a useful purpose in bringing to light many controversial points and in amassing and disseminating a large amount of technical data and information which will be of undoubted value in the planning of radio applications after the War.

## THE NILE BASIN

IN recent years the Egyptian Government has published various monographs dealing with the Nile and its waters, including Dr. J. Ball's "Contributions to the Geography of Egypt". Now Dr. H. E. Hurst, director-general of the Physical Department, has compiled a general non-technical account of what is known of the Nile basin and the floods of the Nile, as well as an account of the various barrages\*. The publication is well illustrated by one coloured and several black and white maps and diagrams. There is, however, no bibliography.

The Nile basin, embracing about one tenth of the area of Africa, extends far beyond the confines of Egypt; but its most important aspects are peculiar to Egypt and the Anglo-Egyptian Sudan. A brief historical survey might perhaps have stressed how near the truth Ptolemy came regarding the sources of the Nile, though he was largely discredited until the end of the nineteenth century. The physical history of the river is sketched and Ball's hypothesis of Lake Sudd is discredited. The discovery of flint implements a few metres above the present level of the river at Khartoum is a blow to the theory of a lake which existed until a late date, when it was supposed to have overflowed to the north and joined the Bahr-el-Jebel and Blue Nile waters to the Nile. The distribution of early implements suggests that the stone people of the Nile valley probably lived in a warm and humid climate. Since that climate changed to its present character, Dr. Hurst believes that there is no evidence of periodic changes, though there are irregularities from year to year. Nor does he find any connexion, which has been suggested, between sunspot activity and Nile flow or the level of Lake Victoria.

While the hydrology of the Nile is fairly well known, there is still a little uncertainty about the origin of the rainfall which causes the floods. Abyssinia provides 84 per cent of all Nile water and 70 per cent of flood water; but the old theory that this water originates from the Indian Ocean monsoon seems to be fallacious. Rainfall on the east and south of the Abyssinian plateau is scanty compared with that on the west, to which, in the flood season, the winds blow across Africa from the Gulf of Guinea. It seems

\* Ministry of Public Works, Egypt: Physical Department Paper No. 45. A Short Account of the Nile Basin. By Dr. H. E. Hurst. Pp. iv+77+9 plates. (Cairo: Government Press, 1944.) P.T.40.