

NEWS AND VIEWS

Sir J. J. Thomson, O.M., F.R.S.

PHYSICISTS and others will have read with much regret the announcement in the daily papers at the end of last week of the death on August 30 of Sir J. J. Thomson, whose name will always be associated with the discovery of the electron, the fundamental unit of electricity, and the basis of modern views on the structure of matter. So long ago as 1913, *NATURE* published an account of his work, written by Prof. Augusto Righi, in the series of "Scientific Worthies", and the intervening years have but served to emphasize the importance and significance of his work there described. The decision to accord him a national burial at Westminster Abbey was a fitting memorial to one whose name had passed into international usage. At a later date, we hope to print some personal appreciations of Sir J. J. Thomson, though unfortunately we are cut off from many who would otherwise no doubt have paid their tribute to him who will always be known affectionately as "J. J."

H.M. the King has sent the following message to Lady Thomson: "I am grieved to hear of the death of your distinguished husband, whom I remember so well from my Cambridge days. His loss will be deeply felt both in the University and the world of science, where he played so great a part. I send my sincere sympathy to you and to your family."

Les Français de Grande Bretagne

MONSIEUR ANDRÉ LABARTHE, director-general of the Department of Armaments and Scientific Research in General de Gaulle's Legion, addressed a meeting of "Les Français de Grande Bretagne" on August 31, at the Central Hall, Westminster. Courage, decision and tenacity begin to bear fruit, he said. The French Empire is awakening from its stupefaction, and coming back to life. It is rallying to that French flag which General de Gaulle has raised again, to that flame which he has known how to shield from all blasts of misconception, carping and discouragement. This is the meaning of the re-entry into the war of French Equatorial Africa, the Cameroons and Lake Chad Territory, a re-entry of which the importance, material and moral, strategic and political, no one can overlook. In France itself, the rulers have sought to save their country from destruction by begging for a shameful armistice, and have opened the way to the most disastrous concessions. On one hand, the Germans are methodically pillaging the richest and most productive parts of the country, on the other the flood of refugees and the scarcity of transport are creating chaos and famine. Workers have left their factories and hungry children wander along the roads. Bit by bit, defeated France is handed over to the tender mercies of the conqueror. She can no longer even remain neutral; she is being dragged into the war on the side of the Germans.

Faced by such a situation, the duty of Frenchmen resident in Great Britain is clear. Some of them have lived in Great Britain for a long time; others have arrived since the disaster. Let the former recall that they have enjoyed here the liberties of a great democratic country, and the prestige of their own native land; that they must now defend these liberties and restore this prestige. Let those who have lately arrived remember that, coming from a country which has betrayed the common cause, they have nevertheless been received here as friends, have been helped and comforted. There is now no time to hesitate or weigh the consequences. Let all become combatants in the cause of the British Commonwealth of Nations, which remains the cause of France. Gathered around General de Gaulle in the Association "Les Français de Grande Bretagne", bound in a common brotherhood with the British, let them ensure, by increasing work and propaganda, the persistence of that spiritual unity which, even more than race or territory, is the essence of France.

Prohibition of High-Frequency Apparatus

THE Home Secretary has made an Order in the interests of national security forbidding any person in the United Kingdom to use or possess high-frequency apparatus having a high-frequency output of more than 10 watts, except under permit from the Postmaster-General. Such permits may be issued only to hospitals, clinics, or other institutions providing medical or surgical treatment, which are provided by a local authority or supported wholly or partly out of any public funds or by a charity or by voluntary subscriptions; to manufacturers who require to use high-frequency apparatus; to makers of and dealers in such apparatus; and to persons in charge of laboratories used for purposes of research or instruction.

It is explained that the danger of interference at a vital moment to the wireless communications of the Services and to the radio control of our own aircraft is so great that it has been found necessary to issue the prohibition. The operator of this type of apparatus is nearly always unaware of the interference it is causing, and it is most difficult for the Service being interfered with to locate the source of interference. The Order came into force on September 2. Permits to use such apparatus may be obtained from the Engineer-in-Chief, Radio Branch, General Post Office, Harrogate, Yorks.

Smoke Abatement

THE National Smoke Abatement Society has issued the fourth war-time issue of its journal *Smokeless Air*. The Editor justifies this effort by the necessity for keeping in view the ideal of a cleaner atmosphere when the time comes for post-War reconstruction so that such an opportunity shall not be lost for want of forethought. Prominence is given to a recent

paper by H. H. Thomas and P. J. Askey describing work at the Liverpool Gas Co. on the production of reactive coke by alkali activation. For some years it has been known that a little sodium carbonate alters the mode of burning of carbon, making it blaze more freely. The quantity of alkali necessary can be replaced to a great extent by lime with a corresponding reduction of cost. The authors record results of a large-scale trial in which coal treated with 1.25 per cent lime and 0.5 per cent sodium carbonate was carbonized in normal gas retorts. The coke so produced over a period of seventeen months has been sold to Liverpool consumers for use in the fireplaces in normal use and to the general satisfaction. In ease of combustion the fuel compared favourably with low-temperature coke, with the advantage that it was made in standard gas-making plant at high temperature, without sacrifice of the yield and output of gas—factors of importance in ensuring economical working.

Malaria in Costa Rica

A. A. GUZMÁN discussed the problem of malaria in Costa Rica at the Eighth American Scientific Congress on May 17. Due to climatic variations because of altitude, malaria is distributed irregularly in Costa Rica, most of it being confined to the low coastal areas and the Nicaraguan frontier, although some high valleys are also infected. Since the greater part of the inhabitants live on the high central plateau, in the cities of Alajuela, Cartago, Heredia and San José, the incidence of malaria is lower than would otherwise be expected. In 1938 and part of 1939 more than 9,000 primary school children in 168 localities were examined for spleen enlargement, the results indicating that six times as much malaria occurred in areas less than 1,000 ft. above sea-level as in higher regions. Blood smears from every child with splenic enlargement, and from one third of the rest, were examined microscopically, 3,981 smears from 9,226 children (43 per cent) being examined. Giemsa stain was used. *P. vivax* and *P. falciparum* were found throughout the malaria region; *P. malariae* was most common on the Pacific coast and in the Province of Guanacaste.

The scarcity of funds for malaria control work resulted in a decision to begin by carrying out permanent work in two localities, and proceed on the basis of an annual appropriation to carry forward the work of draining centres of population, before attempting to deal with malaria in rural areas. The work was begun in 1939 in Liberia, capital of the province of Guanacaste, which had the highest splenic index among school children, with the installation of drainage ditches made of pre-cast concrete sections as used by Dr. D. P. Curry in the Panama Canal zone. At the same time the town of Las Cañas, similar in conditions to Liberia, was left unsanitated as a control. The splenic index in Liberia was reduced to one fourth of the original figure; that in Las Cañas remained unchanged. Drainage work was then begun in Las Cañas in 1940. During 1939, 6,908 concrete inverts, 9,573 side slabs, and 145 sections of concrete pipe were made in the Liberia

shop. By December 1939 slightly more than 4 km. of ditch had been laid in the Liberia area, at a total cost, including heavy equipment, of approximately 18,600 dollars, to which the Costa Rican Government contributed about 87 per cent and the Rockefeller Foundation 13 per cent.

Exposure to Fluorine in Industry

W. Machle and E. E. Evans (*J. Indust. Hyg. and Toxicol.*, 22, 213; 1940) have reviewed the literature on the effect of industrial exposure to fluorine and record the following personal observations. They found that five years of intermittent exposure to concentrations of fluorine which were harmful to rabbits and monkeys were tolerated by a group of industrial workers without clinical or röntgenological evidence of damage and without injury to the blood as shown by hæmatological examination. Comparative examinations showed them that the exposure of the workers resulted in the absorption of more than three times the normal amount of fluorine. Experiments on animals indicated that this continuous absorption would result in the deposit of abnormally large amounts of fluorine in the teeth and bones, but clinical evidence of this kind has not yet appeared.

Pre-Columbian Burial in Panama

AN archaeological expedition to Panama of the University Museum of the University of Pennsylvania, under the leadership of Dr. J. Alden Mason, has discovered the tomb of a chief or official in which the intrinsic value of the personal ornaments recalls the stories of the early Conquistadores of the wealth of the Central American caciques in precious metal, to which the finds of Dr. Alfonso Caso on Monte Alban in Mexico have also borne eloquent testimony. The find was described by Dr. Mason in a first report of the expedition before the Eighth American Scientific Congress in Washington, D.C. He described the burial, it is stated in a brief report circulated by Science Service, as a pit 11 ft. deep. In it had been laid the body of the chief, "resplendent . . . in shining gold". His ornaments included gold cuffs and anklets, great shining disks of this metal ornamenting his clothing, golden ear-clips, bells, and beads. From layers of broken pottery, Dr. Mason concludes that the mourners must have danced on or trampled pottery into the grave in some burial rite. This discovery was made in a vegetation-covered graveyard on a plantation in Coclé Province, one hundred miles west of Panama City. The origin of the people responsible for the burial has not yet been determined; but the culture differs from that of both Maya and Aztec and points to South rather than North American affinities. The find is dated as belonging to the period 1300–1500 of our era.

Australia's Electrical Requirements

AN Australian correspondent writing in the *Electrical Times* of August 22 says that the rapid expansion of secondary industries in Australia has been particularly noticeable in the production of electrical machinery, equipment and appliances to