is in a position to bear the whole of their cost. At the same time it is considered that if an industry can produce a practicable scheme, Government assistance in obtaining Parliamentary powers for a compulsory levy should be forthcoming. We hope to discuss this Report in more detail in due course.

Liebig and Faraday at York

IT is one of the benefits of international intercourse that visitors to a country often record in their letters and diaries their impressions and memories of men and institutions, for which we cannot be too grateful. From these records we get those glimpses of the past which often escape the historian. Thus from the memoirs of Bishop Taylor of Norwich we can picture the aged Haüy—who looked like a man picked out of a crystal—lecturing at the Jardin des Plantes, where, "as everywhere also, the utmost liberty is shown to all, but to Englishmen particularly your country is your passport"; while from the letters of Helmholtz we see Tait "a particular form of savage" at St. Andrews, where, devoted to golf, he could only be brought to talk of rational matters on a Sunday. Of all the men of science who visited England in the early days of Victoria, none was better known than Liebig, who was at York for the 1844 meeting of the British Association, and afterwards toured Great Britain in the company of Playfair, Daubeny, and Dean Buckland. After his return to Giessen, Liebig wrote a charming letter to Faraday, which was long treasured by the late George B. Buckton, and which through the kindness of Miss A. M. Buckton was published in full in the *Times* on Aug. 31. During this year's meeting of the British Association the letter has been on exhibition, and Miss Buckton proposes to send it to General Smuts, as a contribution to the newly built Witwatersrand Library. It is stated in the *Times* that the letter has hitherto been unpublished, but perhaps it should be pointed out that it was printed in W. A. Shenstone's "Justus von Liebig, his Life and Work", published by Messrs. Cassell and Co. in 1901. While Liebig's letter contains an interesting view of British science at the time, Frank Buckland has left us an equally interesting contemporary account of the happy surroundings in which Liebig lived and worked at Giessen.

Founders of the Royal College of Chemistry

THE memory of Liebig is also revived by an article, accompanied by a reproduction of a daguerreotype of five of his assistants, contemporaries in his laboratory at the University of Giessen, all of whom were pioneers of chemistry, which appears in the *Times* of Sept. 5. Three were German—Hofmann, Fresenius, and Will—and two were English—Gardner and Bullock, who were associated in 1845 in the foundation of the Royal College of Chemistry, of which Dr. Gardner was secretary and Hofmann the first professor of chemistry. That three of the chemists associated with the Royal College of Chemistry in its early days should be included in a single photograph will be of special interest to past and present students of the Royal College of Science, its lineal descendant. "Ninety years ago", says the writer of the article, explaining the picture, "five young men met for a solemn function. . . . They met to be photographed." He gives a list of the distinguished chemists trained by Hofmann at the College, of whom Prof. H. E. Armstrong survives.

The Chinese Earthquake of Aug. 14

AN earthquake of considerable severity occurred in the south-west of China at about noon (Chinese time) on Aug. 14, and was registered by seismographs throughout the world. From the records at six observatories, the officials of the U.S. Coast and Geodetic Survey place the epicentre in about lat. 27° N., long. 103° E. (Wire Report of Science Service, Washington, D.C., Aug. 16). This point lies near the northern boundary of the province of Yunnan, about seven hundred miles to the south of the province of Kansu, in which the destructive earthquakes of 1920 and 1927 occurred. Kansu is a thickly populated province, and it is possible that some thousands of lives may have been lost, though weeks may elapse before news reaches us from the central district. From the beginning of the sixteenth century, it has been visited by twenty disastrous earthquakes, by one of the latest of which, in 1888, about five thousand persons were killed. According to Mr. N. F. Drake (*Amer. Seis. Soc. Bull.*, vol. 2, pp. 40-91; 1912), the province of Yunnan is one of the most important earthquake districts of China. He represents the relative seismicities of the four principal districts—Fukien, Kansu, Chihli, and Yunnan—by the numbers 100, 98, 94, and 91.

The Rubber Industry in Malaya

THE rubber industry of Malaya is passing through the most critical period which it has yet experienced, so that the issue of a special rubber number of the *Malayan Agricultural Journal* (vol. 20, part 5) is of particular interest. The recent decision against compulsory restriction of rubber growing, though a disappointment to many, has, by removing the element of uncertainty, enabled the estates to frame their policy more clearly. Under-consumption rather than over-production is the cause of the present crisis, so that it is hoped to rectify matters by more intensive production on areas actually in tapping, and by improving the liaison between the scientific investigator and both producer and consumer. Already great reductions have been effected in the cost of production. Factory improvements, such as the construction and installation of batteries of light sheeting machines in cascade or file formation instead of in line, have facilitated and accelerated the handling of the coagulum, and more rapid methods of drying and smoking have been evolved. Economy has also resulted by the use of treated hessian for packing in place of the usual wooden chests. Considerable increase in the export of latex continues, and the extended application of this form of product to new uses is a hopeful sign of development on at least one side of the industry. Every effort is being made to study the best methods for growing and manuring the crop and for controlling the various diseases and insect pests which attack the rubber plant, so that when the industry

emerges from its present difficulties it seems reasonable to believe that a standard of efficiency of production will have been achieved such as was undreamt of in the prosperous time which formerly prevailed.

Briquette Method of Reafforestation

A SOMEWHAT novel method of sowing tree seeds is alluded to by Prof. Svend Heiberg, of the Department of Sylviculture of the New York State College of Forestry at Syracuse, in a Science Service Bulletin, dated June 29. Prof. Heiberg has been studying forestry methods in Europe, and was interested in a new type of seed-sowing developed in Norway which he terms "planting forests by the brick instead of by the tree". The seed bricks or briquettes are made of good soil and are $1\frac{1}{2}$ in. × $1\frac{1}{2}$ in. in size. Three or four seeds are placed at one end, near the surface. The briquette is then dipped in paraffin wax, except the side in which the seeds have been placed. The result is an easily transported product, which can be placed in the ground by means of a special tool designed for the purpose. A machine can turn out 16,000 briquettes in a day. Prof. Heiberg suggests that the idle lands of the United States may be reafforested by planting briquettes instead of trees. He has been experimenting with this new system of planting or sowing at the College, but has not yet had time to decide upon its successful possibilities. He realises that the method would only be practicable on bare land free of heavy weed growth. In the absence of any figures of cost and of data of success achieved, it is not possible to compare the cost of the method with ordinary broadcasting or patch sowing; but Prof. Heiberg is probably correct to a point in stating that "In the reafforestation of comparatively clear fields the briquette system will do away with tree nurseries. It has other important advantages. It permits the root system to develop normally and also avoids disturbance of the roots at the time of planting"—though these latter apply to all tree seed-sowing.

Tuberculosis in Cattle

THE eradication of tuberculosis from cattle herds is the subject of a recent article by James Mackintosh (*J. Roy. Agric. Soc.*, vol. 92), who, besides describing the steps already taken in England and other countries to reduce the incidence of this disease, offers some practical recommendations as to how it may be more effectively stamped out. Although eradication by means of vaccines designed to confer immunity is still in the experimental stage, the testing and separating of reactors from non-reactors has met with success in northern European countries and seems to be the most hopeful method for adoption in Great Britain. Greater uniformity is, however, desirable in the application and interpretation of these tests. The measures taken under the Tuberculosis Order, 1925, to destroy all animals suffering from 'open' tuberculosis having failed to attain their object in time to be of real value, amplification of the order is recommended so as to ensure a general systematic inspection of cattle, by means of which tubercle-free beef and dairy herds may be built up, with a possible development in the future of definite 'accredited' areas. In this respect the Milk (Special Designations) Order has been of definite use by providing the only official recognition in Great Britain for herds which have been tested and contain no reactors. The practicability of such a scheme as that issued by the National Veterinary Medical Association is made evident and the cost, if shared by the State, the local authorities, and the farmer, should not be heavy, whereas the benefit to the cattle industry and the community in general would be very considerable.

Cockles of the Thames Estuary

IN the *Southend Standard* for Aug. 4 and 11, Mr. Laurence Wells describes the local cockle industry, and has collected much valuable information ("The Cockle Industry of Leigh." Part I., "Early Use of the Cockle as Food and the Rise of the Industry at Leigh-on-Sea". Part II., "Natural History, Distribution, and Economics"). The natural knowledge of the fisherman is extensive. From experience and from observation he has acquired an intimacy with the ways of the cockle which would put many a naturalist to shame. Spawning time, free-swimming larvæ and the effects of the weather on them, their growing stages, and the strange sounds made by the young under the sand are all known to them. To the different parts of the animal he gives special names. He knows that if conditions are unfavourable the cockles may migrate to more pleasant surroundings. Cockles have been collected at Leigh for more than 150 years. To-day the industry is thriving and affords work for a number of men and women. The sand-banks and flats of the Thames estuary afford a habitat admirably suited to the needs of these bivalves, from Shoebury Sands for the whole length of the Maplin and Foulness Sands, known collectively as the "Maplins". The Leigh men also work along the Kent side as far as the Whitstable Flats; for 60,000 cwt. of cockles, minus the shells, are demanded from them annually, valued at £11,000. The boats are of a special design and peculiar to Leigh. The cockles are collected with a special rake and are cooked, according to law, in a steam oven, before being sent to market. Apart from the sale of the cockles themselves, there is a thriving industry in by-products from the shells. A complete account of the cockle, both historical and biological, is given in Mr. Wells's interesting article.

Electric Power and Village Industries

THE 'Sofina' (Société Financière de Transports et d'Entreprises Industrielles) controls a large number of industrial undertakings in all parts of the world. In its third annual report, interesting data are given of the rapid increase in the rate of the substitution of small electric motors in place of hand power in certain districts in France. In the St. Etienne district, for example, the small workshops have increased more than fifty times during the last seven years. The number of looms in 1925 was 214, but it has now increased to more than 11,000. In the Roanne district, the number of family weaving workshops has trebled in nine years. Home workshops for machining cycle parts have increased greatly all over France. It is pointed out that this substitution has enabled the