

Lawson Tancred will entertain at tea those members who take the excursion to Aldborough. Those who are interested in textiles are invited by the British Research Association for the Woollen and Worsted Industries to visit its laboratories at Torridon on Thursday, Sept. 1.

Through the courtesy of the Leeds Choral Union a concert will be given in the Town Hall on Sunday,

Sept. 4, at 8.15 p.m., and the items on the programme include Grieg's "Concerto," Elgar's "The Dream of Gerontius," and Parry's "Blest Pair of Sirens."

On Tuesday morning, Sept. 6, at 12 noon, a Congregation of the University will be held in the Great Hall, at which a number of honorary degrees will be conferred.

Science and Industry in Italy.

THE opening on May 28, by the King of Italy, of the Volta Centenary Exhibition at Como is a reminder to the world of the progress of

the patrons Signor Benito Mussolini and Senatore Guglielmo Marconi. The site of the Exhibition is the spacious eighteenth-century mansion, Villa Olma, once the property of a great Milanese nobleman but now owned by the Commune of Como. It is in the fine ballroom of the villa, with its two-storied balconies, that many of the congresses will be held. In the villa itself is also displayed the collection of instruments illustrating Volta's own apparatus and his important inventions.

In 1899 another exhibition was held to celebrate the centenary of the discovery of the voltaic pile, but, as recorded in our columns at the time, on July 13 of that year practically the whole of the exhibition was destroyed by fire, and nearly all of the precious Volta relics perished—a loss to science only comparable with the destruction of Priestley's books, manuscripts, and apparatus in the Birmingham riots of 1791. Before the fire, however, photographs had been taken of the apparatus, and from these it has been possible to make replicas. The most interesting of these, perhaps, are the copies of the voltaic piles used by Volta in his demonstration in Paris when Napoleon attended a sitting of the National Institute, and the early forms of battery developed from the 'couronne des tasses.' As is generally known, Volta's invention of the pile was described in a letter written to Sir Joseph Banks on Mar. 20, 1800, from Como, and it was the information contained in the first part of the letter which led Carlisle and Nicholson to the experiment on the decomposition of water by the electric current.

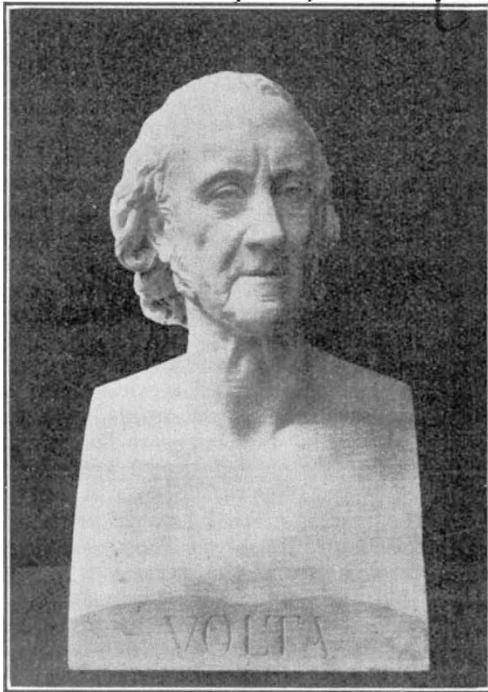


FIG. 1.—Copy of bust of Volta by Gio. Battista Comoli.

science and industry in Italy. The land of great poets and painters, of famous churches and universities, Italy was one of the first countries to witness the rebirth of scientific studies, and from the days of Leonardo da Vinci the lamp of science has been kept burning. Just as the labours of Galileo and Torricelli, of Boscovitch, Vesalius, and Malpighi, of Avogadro, Cannizzaro, Secchi, and Schiaparelli have added lustre to her schools, so has the work of a long line of eminent hydraulic engineers engaged in harnessing the rivers of the Alps and Apennines made Italy famous as a nation of constructors.

Inaugurated to commemorate the centenary of the death of Volta, who passed away at Como on Mar. 5, 1827, the Centenary Exhibition has among

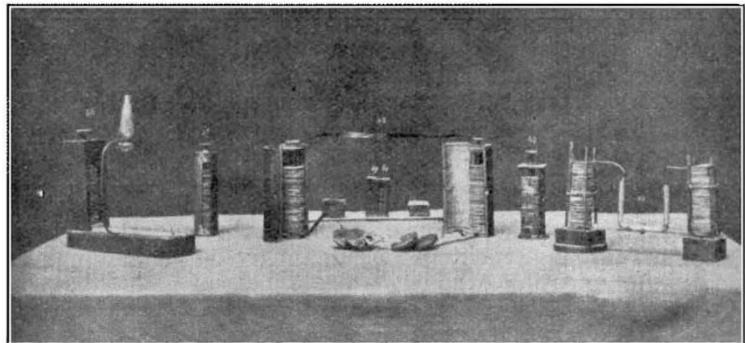


FIG. 2.—Examples of Volta's experimental piles.

In the grounds of the Villa, temporary buildings have been erected, and in these and the house itself are displayed the various exhibits. The two

most important sections of the exhibition are the International Exhibition of Electrical Communication and the National Electric Water Power Exhibition. To the former Senatore Marconi has lent a valuable collection of apparatus, some of which was used in his earliest experiments, together with a number of transmitting and receiving instruments which were used in the days before the advent of the thermionic valve. Among the apparatus is a copy of that employed by Senatore Marconi in his experiments at his father's house at Bologna in 1895. No fewer than thirty-five states, including Great Britain, have sent exhibits, while the Italian Government have installed a short-wave radio station of 25 kw. power which will be working.

Of the work of the Italian nation in the extension of hydro-electric power generation and transmission, much information is given by charts, photographs, etc., supplementing the review given by Prof. Emirico Vismara and others at the World Power Conference held at Wembley in 1924. Italy has taken a leading part in hydro-electric power development, and Prof. Vismara recalled

rainfall, but with no coalfields, hydro-electric plants are a necessity to Italy, and these are now linked together so as to cover almost completely large portions of the country. It is an interesting economic feature, however, that with the development of electric power from water the importation of coal tends to increase and not decrease.

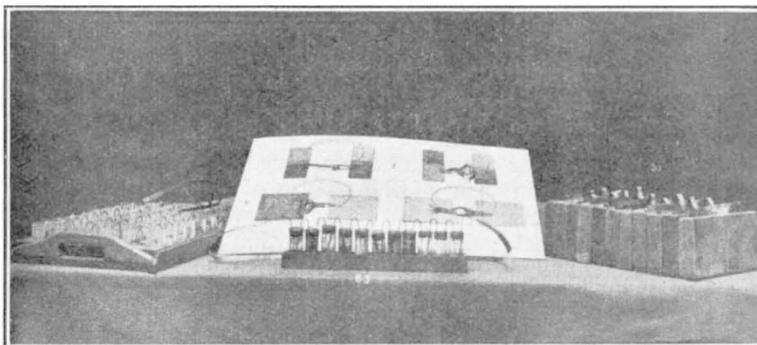


Fig. 3.—Early voltaic batteries and experiments on frogs' legs.

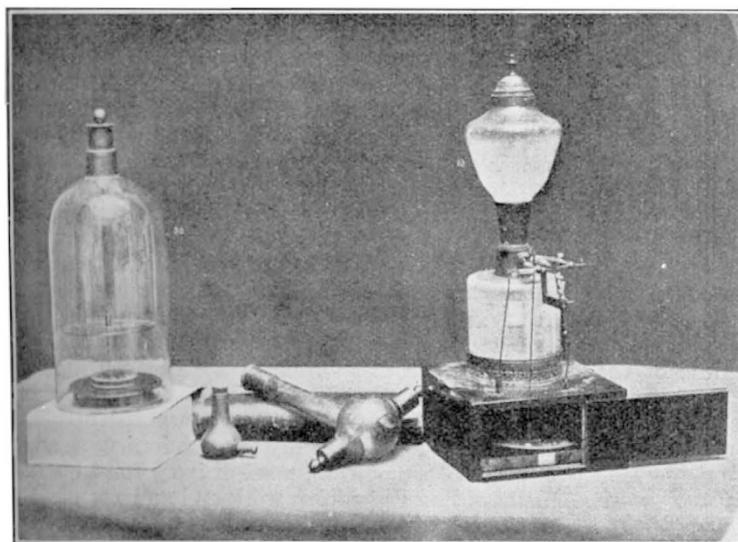


Fig. 4.—Volta's hydrogen lamp, electric pistol, and apparatus to test theory of hail formation.

how, on the completion of the transmission line from Tivoli to Rome, 25 kilometers at 5000 volts, in July 1892, Kelvin, Ayrton, Preece, Crookes, Swan, Crompton, and others telegraphed: "The English Electricians send greetings to Electricians of Italy on completion of splendid enterprise of Tivoli, and wish them every success." Another notable achievement was the line from Paderno to Milan, carrying current at 13,000 volts. With her great mountain chains, with an abundant

During the course of the Exhibition, which will be open from May until October, many congresses will be held, amongst which the most important will be the Congress of Physics and the International Congress of Electrotechnics. Distinguished scientific workers, many of them of international repute, from Austria, Canada, Denmark, France, Germany, Great Britain, Holland, Italy, Russia, Spain, Sweden, Switzerland, and the United States, will attend the Congress of Physics. The universities of Great Britain will be represented by Dr. F. W. Aston, Prof. W. L. Bragg, Prof. A. S. Eddington, Sir Ernest Rutherford, Sir J. J. Thomson, Dr. J. A. Fleming, and Prof. O. W. Richardson; Canada by Prof. J. C. McLennan; and India by Prof. M. Saha. At the conclusion of the Congresses the delegates will be conducted to Venice, Florence, and Rome, as the guests of the Italian Government, and the great national commemoration of Volta's centenary will take place at Rome in the Capitol on Sept. 19. The entire arrangements appear to have been planned on a scale worthy of the occasion, and worthy of the place science should take in the daily life of every progressive nation. Centenary celebrations nowadays follow each other with increasing rapidity, but the Volta centenary commemoration is one which does homage to an outstanding figure in Italian science, whose discoveries have led directly to the applications of science by which Italy has become a great industrial nation.