a literateur, yet he foreswore in part his allegiance to science to serve his country.

France had honored him by the bestowal of many favors in recognition of his labors. Member of the Institut, 1900, grand officer of the Legion of Honor, 1886, perpetual secretary of the Academy of Sciences, 1889, succeeding Pasteur; but she also made him senator for life, 1881, gave him the portfolio of the Minister of Public Instruction and the Fine Arts, 1886, and made him Minister of Foreign Affairs, 1895, and he served his country with ardor.

The fiftieth anniversary of his first scientific publication was celebrated at the Sorbonne on November 24, 1901. Official delegates of foreign scientific societies voiced their congratulations. The French Academy, in a stirring discourse delivered by Moissan, 'tendered him its homage and thanked him for having given it a little more of truth.' All departments of the government were represented at this unique festival. A beautiful medal, by Chaplain, bore on its face the likeness of Berthelot and the inscription, 'La Synthese Chimique. La Science Guide l'Humanité.' On the reverse side the savant appears seated before his laboratory table, on which is placed now classical apparatus, while above are two figures typifying the inscription 'Pour la Patrie et la Verité,' and the president of the republic, M. Loubet, as he handed him this gift, kissed the dear old man in token of the love and gratitude of the nation and in behalf of his admirers of all other nations.

Berthelot was particularly happy in his surroundings. He was constantly in his laboratories in Paris, Meudon and elsewhere; it was here that his *positive* science claimed him. In late years he resided in the Institut, a palace formerly occupied by Cardinal Mazarin. It was here, surrounded by his family and friends, that he enjoyed his *ideal* science.

He married early in life a beautiful and charming woman by whom he had five children, the four sons surviving. The forty-five years of married life came to a dramatic end. Both husband and wife suffered from heart trouble. Berthelot, anxious about his partner's failing health, was ever watchful. He left her to be present at the semi-monthly meeting of the academy, but returned shortly —only in time, however, to be with the beloved one in her last moments. Shattered by the blow he was led to a couch in his work room. Alas! The strain had been too great and his own heart, weakened by age and the present anguish, ceased beating.

On March 25 this noble man and woman were given public obsequies. The great Pantheon was filled with the representatives of all branches of the government from President Fallières down. The edifice was crowded with distinguished men and women. As the two bodies rested on catafalques M. Briand gave an eloquent discourse. Afterwards the body of Berthelot was placed on another catafalque before the church and the army passed in review, saluting the great dead. In the afternoon the public did him homage, and towards evening he and his dear wife were placed in the crypt, not far from the remains of Victor Hugo.

In his peroration to the second congress Berthelot summed up his views of life; he fulfilled them in his own:

> Our duty is clearly outlined. Let us be doing, that is let us work! Work without cessation; let us try to be useful. Diligence and the love of mankind! This is the true aim of both home and public life.

CHARLES G. DOREMUS

THE GEOLOGICAL SURVEY AT JAMESTOWN

Under the general direction of Mr. David T. Day, a comprehensive exhibit of the geologic, topographic, and hydrographic work of the United States Geological Survey will be made at the Jamestown Tercentenary Exposition. The geologic data will be prepared by Mr. J. S. Diller, the topographic by Mr. H. M. Wilson, and the hydrographic by Mr. M. O. Leighton.

A pillar of mounted geologic maps will be one of the most important exhibits. It will include maps from 70 of the Survey's folios, representing areas throughout the United States.

Special maps have been prepared showing the general distribution of important economic mineral products east of the Rocky Mountains. These will include maps showing the

distribution of coal and iron, of oil and gas, of cements, phosphates, and glass, of gold, silver, copper, lead, and zinc. The minerals and ores whose distribution is shown on the economic maps will be illustrated by a small collection of specimens in an adjoining case.

The colored geologic map of North America, which was prepared by the Survey in cooperation with the Geological Surveys of Canada and Mexico for the International Geologic Congress, which met in Mexico last fall, will also be exhibited.

A collection of coals and other economic minerals, the distribution of which is shown on the economic maps, will be presented.

On the flat surface of a map it is difficult to show clearly the relief of the country represented, but by means of a model it can be fully expressed. For this reason a number of models have been prepared to illustrate some of the most important relief features and economic resources of the country tributary to the Jamestown Exposition. These include geologic models of the southern Appalachian region, the New River coal field, and the Philadelphia region, a topographic model of the Atlanta-Chattanooga region and a topographic and geologic model of Alaska. A collection of Alaskan minerals will be especially interesting when studied in connection with the model of Alaska.

The educational series of rock specimens prepared by the Survey for teaching geology will be exhibited. Two hundred similar collections, each containing 156 specimens illustrating the various types of rocks, have been distributed to the universities and colleges of the country.

The machine used by petrographers for grinding thin sections of rocks will be exhibited. The method of preparing thin sections and their kaleidoscopic appearance under a polarizing microscope will be illustrated.

A complete set of survey publications, including topographic and geologic maps, annual reports, monographs, professional papers, bulletins, water-supply papers, and mineral resources will be on file.

The method of storing and arranging the large number of maps and folios for convenient use in public and private libraries has been given much attention, and the best cases yet devised for the purpose are exhibited.

RESEARCH FELLOWSHIPS IN ENGINEERING AVAILABLE AT THE UNIVERSITY OF ILLINOIS

The University of Illinois has extended and strengthened the field of its graduate work in engineering by recently establishing ten Research Fellowships in the Engineering Experiment Station. These fellowships have an annual value of $500, and are open to graduates of approved universities and technical schools, both American and foreign. They must be accepted for two consecutive collegiate years, at the expiration of which period, if all requirements have been met, the Master's degree will be granted. Preference will be given to men who have had some experience in practical engineering work outside of college. The appointments will be made upon the recommendation of the Station Staff of the Engineering Experiment Station, and upon the approval of the Faculty of the Graduate School and the President of the University.

The Engineering Experiment Station, it may be explained, is a department connected with the College of Engineering. It was established in 1903 for the purpose of carrying on investigations along various lines of engineering, and for the study of problems of importance to professional engineers and to the manufacturing and industrial interests of the state. The work of the station and the college is closely related, the heads of the several departments of the college of engineering constituting the station staff. The investigations are carried on by the members of the staff directly, sometimes by a fellow as graduate work, sometimes by a member of the instructional force of the college, and frequently by special investigators belonging to the station corps.

The various laboratories of the station and the college offer exceptional facilities for investigational work, being well-equipped with the most modern apparatus. During the past four years about $300,000 has been appro-