

this aid! We must admire them; but how rare they are!

Of these marvelous and rare ones is David Hilbert, the master of logical analysis in mathematics. Gifted with brilliant logical power of combination, he creates from out his very self, entirely by generalization, by separation, by union, by aggregation of mathematical concepts, so that no outer stimulus, dependent upon intuition, is recognizable. Logical rigor and elegance of demonstration are for him adequate requirements, and he is convinced that logical precision—rightly grasped—must lead, never to sterilization, but constantly to fruitful further development of mathematical ideas. He applies himself by preference in his investigations to the most difficult, long-unsettled problems, whose essence he with marvelous penetration is able so to seize, that his considerations not only completely solve these problems, but often bring to a final settlement also the whole theory to which these problems pertain.

Mention is then made, among many other achievements, of the wonderful 'Grundlagen der Geometrie' which seems destined to fix what men shall henceforth take as the axioms of geometry, and to establish the criterion of what shall be and shall not be elementary demonstrative geometry.

All hail! Poincaré the supreme mathematician, Hilbert the supreme logician, philosophers, scientists both!

GEORGE BRUCE HALSTED.

KENYON COLLEGE,
GAMBIER, OHIO.

THE CONGRESS OF THE UNITED STATES.

May 7.—Under a suspension of the rules, House Resolution 18,435 to authorize the Secretary of Commerce and Labor to cooperate through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries with the Shell Fish Commissioners of the State of Maryland in making surveys of the natural oyster beds, bars and rocks in the waters within the State of Maryland passed the House of Representatives.

May 7.—Under a suspension of the rules, House Resolution 13,543 for the protection

and regulation of the fisheries of Alaska, with amendments, passed the House of Representatives.

May 10.—Mr. Perkins, of California, introduced a bill (Senate 6,119) for the protection of animals, birds and fish in forest reserves of California. Referred to the Committee on Forest Reservations and the Protection of Game.

A NEW BUILDING FOR THE GEOLOGICAL SURVEY.

THE need of the United States Geological Survey for a new building in Washington, D. C., is most pressing, as every one who visits the survey in its present quarters must realize.

This bureau gives permanent employment to about 1,000 persons, and temporary field employment, chiefly in summer, to nearly as many more. Of this force about 600 are engaged at times, and during all of every winter, on office work in Washington. For their accommodation two buildings are at present rented, one at 1330 F Street, N. W., for general office work, and one in the adjoining alley for the exclusive use of the division of engraving and printing. The floor space occupied, including basement, amounts to 105,670 square feet, which is quite inadequate. Even the corridors have to be utilized for desk space or map cases. It is necessary to supply quarters for some employees in the National Museum and Smithsonian Institution and others are permitted for lack of proper office accommodations to work at home.

A large part of the survey office work is of such character as to demand much more space than that sufficient merely for the desks and chairs of employees. Chemists, physicists, photographers, petrographers, draftsmen, engravers, lithographers and other specialists must have room for their instruments, apparatus, maps, working specimens, drawings, lithographic stones, presses, etc. There is no doubt but that the degree of crowding to which the office force is now subjected diminishes the quantity and depreciates the quality of their work.

Even though the buildings now occupied by the survey were sufficiently commodious, they

could never be made suitable for the purposes of the bureau. The delicate physical apparatus is constantly affected by vibrations from the heavy printing presses. At least twenty-five rooms in the main building are so dark that it is impossible to work in them without the aid of artificial light. In the darkest of these rooms forty-five persons are working from 9 in the morning until 4:30 in the afternoon by the help of electric light. Unless they are soon provided with better-lighted rooms their vision will be permanently impaired and their capacity for work correspondingly decreased.

Not the least important reason for housing the survey in a modern, fire-proof building of its own is the consideration that government property and records valued at approximately \$6,000,000 are in constant danger of loss by fire. Recently, over \$10,000 worth of property was destroyed in twenty minutes by a fire in the photographic laboratory on the top floor of the main building. The buildings contain over 100,000 square feet of varnished and inflammable wooden partitions, along which fire could spread with great rapidity. Many of the records thus flimsily sheltered could not be replaced at any price.

What the survey needs is a strong, fire-proof, well-lighted building containing a net available space of at least 150,000 square feet, exclusive of basement and halls. Such a building would cost about \$1,200,000. The annual rent paid on the buildings now occupied is \$34,900, which is nearly three per cent. on \$1,200,000.

A bill for such a structure as is required was introduced in the senate by Mr. Frank P. Flint, of California, on March 21 and in the house of representatives by Mr. James S. Sherman, of New York, on March 26.

UNIVERSITY OF THE PACIFIC AND THE EARTHQUAKE.

THE University of the Pacific, San Jose, California, the oldest institution of higher learning on the Pacific coast, was damaged to the extent of about \$60,000, net, during the recent earthquake. East Hall, a large four-story brick building, the only building on the

campus seriously damaged, will be lowered to two stories. The fourteen rooms on the ground floor are occupied by laboratories. Two thousand dollars had just been put into additional equipment; but the entire loss of apparatus, chemicals, etc., will not amount to more than \$500. The Monday following the earthquake the laboratories were running as usual, as were the other departments of the university. The other buildings on the campus were not damaged except in the loss of plaster. The executive committee has decided to erect a two-story 'earthquake-proof' building to take the place of the upper half of East Hall. The Jacks-Goodall observatory on the southwest corner of the campus was not injured. Seven buildings owned by the university in San Francisco were entirely lost; but they will be rebuilt at once. The residence of President McClish was destroyed, but it will be rebuilt. Among the professors, the residences of Dr. Hatzell and Dr. Sawyer were the only ones damaged, and those but slightly. No lives were lost, but two students were injured by falling bricks.

NEW YORK OBSERVATORY AND NAUTICAL MUSEUM.

PRELIMINARY plans have just been formulated for the organization of a great marine museum for the city of New York. It is expected that this will mean to the navigator what the Metropolitan Museum means to the lover of art and the American Museum to the student of natural history. The new institution will take its place as one of the three great museums of the city of New York, and in it one can study the tides, navigation and marine instruments at first hand.

As the science of navigation is based on astronomy, it will be necessary to have an astronomical observatory as an adjunct to it. The capitals of Europe, London, Paris and Berlin, each has its magnificent observatory; and in the United States the cities of Washington, Boston, Chicago, San Francisco and Pittsburg, have their big telescopes and finely equipped observatories. The commercial capital of the United States, the second largest city in the