

brother mortals in the avocations, but are subject to much the same weaknesses of mental bias growing out of their early training, their religious or other beliefs, the effects of dramatic demonstrations, or the emotional effects produced by oratory and clever sophistry, as contrasted with sound reasoning divorced from such considerations.

In this connection I should like to cite a few illustrations. Who will venture to measure the part played by the unique rings of the planet Saturn in determining the form of the nebular hypothesis of Laplace, until lately accepted doctrine though now shown to be untenable? Is it not easy to see that the doctrine of a solid "crust" above a liquid earth interior—a part of the nebular hypothesis—was set up and readily accepted because the theorist who devised it inhabited a region where water congeals during the winter season and floats upon its liquid equivalent—the analogy was carried over to the substance whose relative densities in solid and liquid form were not known, from analogy with a well-known substance. Only recently has it been definitely learned that congealed rock is heavier than its liquefied form. Again, the "centrum," or explosion, theory of earthquakes, which till recently held the center of the stage in seismology, can be traced to the fact that its founder was a builder of cannon, and acquired such prestige during the Crimean War through his knowledge of ballistics that he received unusual opportunities to study a famous earthquake under the Aegis of the powerful Royal Society of London. A secondary factor in the ready acceptance of his theory by physicists particularly, was his application of the brilliant studies of Huyghens on wave propagation. Examples might easily be multiplied in order to illustrate the controlling influence of fortuitous circumstances or of striking, as opposed to solid, arguments in determining the character of the body of accepted doctrine within a science. Each worker who has given attention to the subject, will surely have encountered similar illustrations within his own field, and I feel sure that if courses in the history of science were to be more generally under-

taken, they would hardly be abandoned through any lack of interest.

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#### DEMOCRATIC ORGANIZATION IN A COLLEGE DEPARTMENT

TO THE EDITOR OF SCIENCE: The work of the Entomological Division of the Minnesota Agricultural College and Station has increased to such an extent in the past four years, that, on November 1, 1915, a reorganization of the division took effect. Two other divisions were placed on the same basis. The new organization is as follows:

The name of the division is changed to that of Economic Zoology. It is divided into four sections: (A) Economic Vertebrate Zoology, Professor F. L. Washburn in charge, who, as state entomologist, also conducts nursery inspection work and has charge of work with mill and warehouse insects and with Minnesota Hymenoptera. Mr. Washburn retains his title of professor of entomology in the University of Minnesota. (B) Spraying and Tree Insects, Associate-Professor A. G. Ruggles in charge. (C) Field Crop Pests and Parasites, Assistant Professor C. W. Howard in charge. (D) Greenhouse and Truck Crop Insects, Assistant Professor William Moore in charge.

The administration of the division lies in the hands of a committee composed of the heads of sections. The chairman of the committee (an executive position) is appointed annually by the dean of the college, with the approval of the president of the university and of the board of regents. Professor F. L. Washburn was appointed chairman for the present year. The position of chairman carries with it that of entomologist to the experiment station and a state law provides that the station entomologist shall be state entomologist.

This organization is rather a remarkable step in the direction of greater democracy in the management of a university department and may interest entomologists and other science workers in universities.

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