especially important questions, such as relate to the economy of liquid fuel, the value of the steam-turbine, the form and proportions of propellers, the use of electricity and the value of electric apparatus and transmissions, the causes and preventions of corrosion of boilers, condensers and machinery, the best forms of boiler, the balancing of engines, the development of a storage battery suitable for naval use and the use of compressed air and of gas and oil engines.

The splendid work of the laboratories of the colleges and technical and professional engineering schools of our own country and, particularly, of Germany is referred to as illustrating the promise of this enterprise.

The Chief of Bureau devotes some space to the subject of the personnel and the organization of the naval establishment, stating that the 'Personnel bill' has thus far failed of complete and satisfactory result and asserting that it can only be expected that its purpose will be effected when the officers of the navy of every class cordially unite to carry its provisions into effect completely and efficiently. He quotes Mr. Roosevelt, who, in the original report upon this plan, asserted 'every officer on a modern war vessel has to be a fighting engineer.'

The union of the engineer corps with the line of the navy, however, has not been a complete success, so far as intended to provide the service with a body of officers equally at home above and below decks and capable of efficiently handling the great 'war-engine' in its every department and detail. The young officers should be given large and responsible charge of work in the engineering departments and trained as experts; otherwise that failure which was anticipated by many friends of the navy during the discussion of the bill, as a possibility if not a probability, must be looked for as certain.

It is stated that for every three officers taken from the engine-room for duty on deck, only one has been transferred from deck to engine-room, and the vitally essential care of motive power is coming thus to be impossible; unless, indeed, a radical change of method be adopted. The 'engineer's war-engine,' according to Roosevelt, must be in the care, each in his province, of a crew of officers and men competent, individually as well as collectively, to handle its complicated and costly machinery with efficiency and economy. Thus far the new provision of law has not insured even the maintenance of the former efficiency of the great machine. The condition is critical and the Chief of Bureau shows courage as well as discretion in his discussion of the subject.

R. H. THURSTON.

Roscoe-Schorlemmer's Lehrbuch der organischen Chemie. Von JUL. WILH. BRÜHL, Professor an der Universität Heidelberg. Sechster Theil, bearbeitet in Gemeinschaft mit Eduard Hjelt und Ossian Aschan. Braunschweig, Friedrich Vieweg und Sohn. 1901. Pp. xxxix + 1045. Price (bound), M. 24.

This is the eighth volume of the German edition of Roscoe and Schorlemmer's 'Treatise on Chemistry,' and is the sixth part of the portion dealing with organic chemistry. It includes a consideration of the vegetable alkaloids, glucosides and bitter principles, natural coloring matters, chlorophyll, lichen substances and such indifferent bodies of vegetable origin as have not been considered in previous volumes.

Somewhat more than one half of the volume is given to the alkaloids. The primary classification of these is based on the group characteristic of their structure. This gives the pyrrolidine, pyridine, quinoline and isoquinoline groups and a group containing alkaloids of unknown structure. Within each group they are further classified in accordance with the plant or family of plants from which they are derived, this latter classification depending on the well-known fact that alkaloids found in the same plant, and often those found in different plants of the same family, usually have closely related structures.

About one fourth of the book is given to the glucosides and about eighty pages are given to chlorophyll and the same number to lichen substances. The discussion of chlorophyll is especially full and satisfactory and includes a good bibliography of the subject. In this portion, especially, the needs of the biologist as well as of the chemist have been considered.

The general plan of the work includes a historical account of the discovery and study of the more important substances considered. While it lays no claim to that exhaustive completeness in detail which is characteristic of Beilstein's Handbook, it is much easier to secure from it a knowledge of the present views of the structure of particular compounds, and of the basis on which such views rest. Considerably more space is given to the alkaloids than is devoted to the same topic in Beilstein. The book covers the literature of its subject up to a very recent date and the information to be found in it is very reliable and satisfactory.

W. A. Noyes.

SCIENTIFIC JOURNALS AND ARTICLES.

The first number of the first volume of the *American Journal of Anatomy* was published on November 7, its contents being as follows:

'The Development of the Limbs, Body-wall and Back': Charles Russell Bardeen and Warren Harmon Lewis.

'The Intralobular Framework of the Human Spleen': Preston Kyes.

'Studies on the Neuroglia': G. Carl Huber.

'The Normal Histology of the Human Hemolymph Glands': Aldred Scott Warthin.

'On the Morphology of the Pineal Region, based upon its Development in *Acanthias*': Charles Sedgwick Minot.

The editorial board, consisting of Lewellys F. Barker, University of Chicago; Thomas Dwight, Harvard University; Simon H. Gage, Cornell University; G. Carl Huber, University of Michigan; George S. Huntington, Columbia University; Franklin P. Mall, Johns Hopkins University; Charles S. Minot, Harvard University; George A. Piersol, University of Pennsylvania, and Henry McE. Knower, Secretary, Johns Hopkins University, have sent with the first number the following prospectus: *The American Journal of Anatomy* has been founded to collect into one place, and present in a worthy manner, the many researches from our investigators, now scattered through many publications at home and abroad. Human anatomy in America needs as high a standard of reference as it has in other countries. Without such a standard it fails to make for itself any proper, satisfactory or stimulating impression. The best interests of modern scientific medicine will be greatly advanced by the upholding of such a standard in this fundamental subject through a journal of high character. Many aspects of comparative anatomy, embryology, histology and cytology are so intimately bound up with the problems of human anatomy that these subjects will be included within the scope of the new journal. It will be the aim of *The American Journal of Anatomy* to recognize this close natural relationship between the various branches of the science, and to publish results of the best original work of American students of anatomy. The most cordial assurance of support has been given by the collaborators, and this we believe is sufficient indication of the results to be expected. A number of generous persons, whose names will appear later, have given some financial support to help us in gaining a foothold in a suitable manner. The journal must, however, look to those who are to be benefited by its publication for its real and permanent support; and a good list of regular subscribers is expected and required to maintain it. It is hoped that those interested in promoting a worthy development of research in America, in the subjects included within the scope of this journal, will energetically assist us.

The October number of the *American Geologist* contains a number of interesting articles. John A. Dresser writes on 'The Petrography of Shefford Mountain.' The mountain discussed is one of a series of volcanic hills in the St. Lawrence Valley about fifty miles east of Montreal, Canada. The author concludes that the mountain is a laccolith, and that it contains three different flows represented by three different classes of rocks, viz: essexite, nordmarkyte and pulaskite. 'Paleontological Speculations,' by S. P. Gratacap is a continuation of a discussion begun in a number of a preceding volume. Mr. Warren Upham discusses 'Niagara Gorge and Post Glacial Time,' in which he gives some reasons based on recent investigations for estimating the duration of the Niagara River at 7,000 years. It is claimed that this estimate is more in harmony with estimates from other sources by Winchell,