suggestions rather than fixed outlines which can be slavishly followed. The purpose of this is to enable the teacher to modify and direct the work in large part according to his own ideas, as many teachers would naturally desire to do. Opinions may differ as to the feasibility of this mode of presentation. More responsibility is placed on the teacher as well as more labor, and the method may be better or worse than the usual course of laboratory outlines, depending on the qualifications of the person giving the course.

A part of the work is printed in larger type for students who have time for only a limited course in the subject. At the ends of the chapters there is a series of topics and questions for additional investigation in the laboratory, field or library. The book which consists of 481 pages includes sufficient material to keep an average class busy for two or three years, but the teacher is expected to select from it what he deems suitable for the conditions he has to meet. It is a work which stands in marked contrast to many of the infantile treatises which have recently appeared and which religiously abstain from including anything which is liable to tax the gray matter of the student. It is evident that a good deal of thought and effort have gone into its making, and it has consequently a degree of character and individuality which is rare among the members of its genus.

The price, $2.50, may unfortunately tend to limit its use in secondary schools, but the general make-up of the book is excellent, and it is well illustrated with 240 figures, many of which are new. S. J. H.

SCIENTIFIC JOURNALS AND ARTICLES

The American Naturalist for October is mainly devoted to the third of a series of "Studies of Gastropoda," by A. W. Grabau, this being "On Orthogenetic Variation in Gastropoda." The author notes the general disregard of the immature stages of development, and considers this a decided mistake. He also points out that the mollusks are perhaps the best organisms for the study of ontogenetic stages between the embryo and the adult, since these stages are permanently recorded in the shell; he also considers the gastropods the best for study. J. A. Allen discusses "Mutations and the Geographic Distribution of Nearly Related Species in Plants and Animals," pointing out that the different views held by botanists and zoologists are partly due to too sweeping assertions, partly to misunderstandings and partly to deductions drawn from dissimilar conditions. Under "Notes and Literature" is a detailed account of the various and important exhibits made at the meeting of the Seventh International Zoological Congress.

Bird Lore for September-October has the second, and final, article by F. H. Herrick on "Bird Protection in Italy as it Impresses the Italian." Roughly speaking, protection seems to impress him as eminently undesirable and that the more of his own and his neighbor's birds that can be killed the better. It is this feeling that leads to so much trouble between our Italian immigrants and game wardens. W. W. Cooke has the fifth, final and very brief paper on "The Migration of Thrushes," and there is considerable information regarding "The Starling in America," showing that it has commenced to spread. There are quite a number of communications, some favorable in tone, on the English sparrow. The report of the Audubon Societies records the establishment of two more bird reservations in the Gulf of Mexico, and contains encouraging reports of those already established.

The Bulletin of the Charleston Museum for October contains a paper by William G. Mazyck on the "History of the Museum" previous to 1798, showing that it was in existence even prior to 1778. Under Ornithological Notes is recorded the first capture of Bewick's wren, *Thryomanes bewicki,* on the coast of South Carolina.

The Museums Journal of Great Britain for September contains an article on the Malmo Museum which contains many picturesque groups of animals, although there seems to be a tendency to show rather too much of the cruel side of animal life. In the notes it is stated that the resignation of E. Ray Lankester as director of the British Museum has

been accepted, but will not go into effect at present.

The Museum News of the Brooklyn Institute for November has a good article on Zuni masks, and notes on the recent expedition to South America which secured among other things several Matamata, *Chelys fimbriata*, and examples of the huge jabiru, *Mycteria*. Three of the Matamata have been deposited in the New York Zoological Park. The leading article in the Children's Museum section is on "The Value of an Escort" in that institution.

SOCIETIES AND ACADEMIES

THE AMERICAN PHYSICAL SOCIETY

THE fall meeting of the Physical Society was held at Columbia University on Saturday, October 19, President Edw. L. Nichols presiding.

The following papers were presented:

L. A. BAUER: "Results of Careful Weighings of a Magnet in Various Magnetic Fields."

C. B. THWING: "On the Emissivity of Molten Iron and Copper."

LEIGHTON B. MORSE: "The Selective Reflection of Carbonates as a Function of the Atomic Weight of the Base."

F. C. BROWN and JOEL STEBBINS: "The Variation of the Light Sensitiveness of the Selenium Cell with Pressure."

ERNEST MERRITT: "The Recovery of Selenium Cells after Exposure to Light."

F. L. TUFTS: "Wave-length—Luminosity Curves for Normal and Color-blind Eyes."

F. C. BROWN and JOEL STEBBINS: "The Effect of Radium on the Resistance of the Selenium Cell."

J. BARNETT: "An Investigation of the Electric Displacement and Intensities Produced in Insulators by their Motion in a Magnetic Field, and its bearing on the Question of the Relative Motion of Ether and Matter." (By title.)

It was announced that the annual meeting would be held this year in Chicago in connection with the meeting there of the American Association for the Advancement of Science during convocation week, and that in consequence the usual Thanksgiving meeting at Chicago would be omitted.

ERNEST MERRITT,
Secretary

THE AMERICAN CHEMICAL SOCIETY. NORTHEASTERN SECTION

THE seventy-eighth regular meeting of the section was held at the Richardson Hotel, Lowell, Mass., on October 25, at 7:30 P.M., Vice-President F. G. Stantial in the chair. Forty-two members and guests were present. Professor Louis A. Olney, of the Lowell Textile School, president of the section, presented a paper upon "Standard Methods of Determining and Recording the Relative Permanency or Resistance of Coloring Matters to the Common Color Destroying Agencies."

In general the value of a dyestuff depends upon its resistance to the ordinary color weakening or destroying agencies, or to use the terms of the trade, upon its fastness. Other properties must also be considered in the ultimate valuation of a dyestuff, namely, its solubility, its affinity for fibers, and its equalizing power.

The qualities demanded of any particular coloring matter depend upon the conditions to which its uses will necessarily subject it, therefore the requirements vary greatly. Taking any dyestuff at random, we may find it to be particularly well suited for one branch of textile work, and wholly unfit for another.

With the numerous variations in requirements, the question of fastness becomes of great importance, and much responsibility rests with the textile colorist in the selection of the proper dyestuffs in any particular case.

If standard methods could be established whereby the relative fastness of dyestuffs to the common color destroying agencies could be determined, and the results recorded in such a manner as to permit of their being used as standards of general reference, the problem could be very much simplified, and the reports given in regard to the properties of dyestuffs more reliable.

It was the purpose of the paper to show that the establishment of standard methods was by no means an impossibility, and to make certain suggestions, which had resulted from work carried on at the Lowell Textile School during a period of five years, with the object of formulating such methods. While the speaker was by no means ready to offer such a