But I do not attach much weight to the pedagogical principle, succinctly stated by Dooley that "It doesn't matter what you teach a boy, so long as he doesn't like it." To give point to my attitude, I have frequently asked the question "Why should a girl be required to 'pass' in mathematics as a condition of entering an American college and (usually) of graduating from an American high school?" Is algebra, as usually taught, a subject of such unique educational excellence in general education, and does it in so exceptional a measure train the mind or give rise to the appreciations and insights which we call culture, that it should have the monopolistic position in our secondary schools which we now give it? To me this is an important question; and in asking it, I have no intention of depreciating the values, demonstrable or assumed, which that subject may still possess for a large proportion of the one million three hundred thousand pupils now found in our public high schools.

DAVID SNEDDEN

COLUMBIA UNIVERSITY,
July 18, 1916

THE SOUTHERN BULLFROG, RANA GRYLIO STEJNEGER

THE southern bullfrog was first pronounced a distinct species by Dr. Leonhard Stejneger of the U. S. National Museum in 1902.[1] Miss Dickerson in "The Frog Book" (1906) describes and gives photographs of this southern frog. It has been reported only from Pensacola, Kissimmee and Ozona, in Florida, and from Bay St. Louis, in Mississippi. It is evident that little is known concerning the limits of the range of this frog.

Although the frog was first obtained at Bay St. Louis, Mississippi, it appears to have been known to some of the older naturalists more than a century ago. It is interesting to note that William Bartram appears to have been well acquainted with this frog and considered it distinct from the common bullfrog, *Rana catesbiana*. This excellent naturalist, on page 272 of his book, "Travels through North and South Carolina, Georgia, East and West Florida" (1792), says:

> The largest frog known in Florida and on the seacoast of Carolina is about eight or nine inches in length from the nose to the extremity of the toes; they are of a dusky brown or black color on the upper side, and their belly or underside is white, spotted and clouded with dusky spots of various size and figure; their legs and thighs also are variegated with dark brown or black; and they are yellow and green about their mouth and lips. They live in wet swamps, on the shores of large rivers and lakes; their voice is loud and hideous, greatly resembling the grunting of swine; but not near as loud as the voice of the bullfrog from Virginia and Pennsylvania: neither do they arrive to half the size, the bullfrog being frequently 18 inches in length and their roaring as loud as that of a bull.

From Bartram's description of the color and markings, one can not say with certainty that he did not confuse the southern bullfrog to some extent with the common bullfrog, which is also known to extend its range into Florida. However, his description of the voice makes it certain that he had heard the frog *Rana Grylio* as named by Stejneger.

H. A. ALLARD

WASHINGTON, D. C.,
April, 1916.

[1] "A New Species of Bullfrog from Florida and the Gulf Coast," *Proc. Nat. Museum U. S.*, Vol. 24, pp. 211–215, 1902.

SCIENTIFIC BOOKS

Outlines of Industrial Chemistry. By FRANK HALL THORP, Ph.D., with assistance in revision from WARREN K. LEWIS, Ph.D., professor of chemical engineering in the Massachusetts Institute of Technology. Third revised and enlarged edition. Published by the Macmillan Co., New York. Cloth. 8vo. Pp. 665. Price $3.75.

As the second edition of this well-known text-book appeared in 1905, a material revision of its pages was found necessary and many sections have in consequence been altogether rewritten with elimination of obsolete matter and introduction of new material.

One of the problems which must necessarily present itself to the writer of a one-volume text-book on so extensive a subject as industrial chemistry is to know how to choose the

fundamental facts needed to enable the student to get a properly proportioned picture of an important individual industry. Too much detail can not be indulged in or the book soon becomes encyclopedic and the relationship and interdependence of related industries is lost sight of. German text-books on chemical technology, like Wagner's well-known work, become ultimately too bulky to be available as text-books, and of quite a number published in that language there is at present only one that may be called sufficiently inclusive and yet remains compacted into one volume of modern size, viz., Ost's "Chemische Technologie," which has in consequence run quite rapidly through many editions.

Professor Thorp planned at first to omit metallurgy because it was generally treated separately in special text-books, but he has reconsidered this, and Part III. of the present edition is devoted to metallurgy. He has sought to economize space by leaving the chemistry of coal-tar colors out of special consideration, although a classification of them according to the conditions of their application in dyeing processes has been found necessary. With the awakening interest in the establishment of an American dye-color industry, it will probably be found desirable to take up the chemistry of coal-tar intermediates and ultimate color products for all advanced chemical students. When congressmen and the daily newspapers begin to discuss the merits of our new dye-color tariff, the graduates of our technical schools must be ready to talk intelligently on the subject.

The new edition of Professor Thorp's book covers, however, a great range of important subjects and covers them well, presenting the outlines of processes clearly and making the subject interesting to the reader or student.

As an illustration we would note the article on Glass Manufacture on pp. 196 et seq. The presentation shows the clearness of view acquired by the teacher who has learned clarity of expression by the experience of the classroom. The same may be said of the section on Pigments, p. 222, which is excellent in form and substance. If we may be allowed to criticize the treatment of some of the sections, we would say that the asphalt section is hardly adequate in its handling of either the chemistry or the technology of this important subject, and the present view of asphalt as polymerized petroleums rather than oxidation products is not mentioned.

Similarly under the Match Industry we find no mention of the use of P_4S_3, phosphorus sesquisulphide, in the manufacture of the "strike-anywhere" matches which have come in with the legislation against the use of white phosphorus for match compositions.

The modern theories with regard to colloids are noted and in several sections, the phraseology of modern colloid chemistry has been applied to explain fundamental phenomena. We can not be sure that the understanding of these processes has always been improved by this unreserved application of colloid theories, as, for example in the explanation of leather manufacture on p. 573.

The book, however, as before said, is generally up to date and clearly written, with a uniformity of method of presentation which makes it much better for a text-book than works made up of contributed articles of varying degrees of value from a number of writers.

S. P. Sadtler

Urgeschichte der bildenden Kunst in Europa von den Anfängen bis um 500 vor Chr. Von M. Hoernes. Zweite durchaus umgearbeitete und neu illustrierte Auflage mit 1330 Abbildungen im Text. Mit Unterstützung der Kais. Akademie der Wissenschaften in Wien. Wien 1915. Kunstverlag Anton Schroll & Co., Ges. M. B. H. Pp. xiv + 661.

The period elapsing since 1898, when the first edition of this important work appeared, has been one of marked progress in our knowledge of prehistoric art. The author, being able to take full advantage of the opportunity, has made of the new edition practically a new work.

The first part deals with primitive art in general. Geometric art is found to be neither older or younger than realistic art. One can say however that it is the more common, the