rived at in the case of the prize for astronomy, but a sum of 3,000 lire has been awarded to Professor Filippo Angelitti in consideration of his valuable work in editing and discussing the unpublished writings of Professor Carlo Brioschi. The prize for philology has been divided between Professor Angelo Solerti and Professor Remigio Sabbadini, and finally a Ministerial prize of 1,500 lire for natural science has been awarded to Professor L. Paolucci for his monograph on the fossil plants of the Ancona district. The Academy has recently elected the following associates and foreign members: National Associates—in physics, Professors A. Righi, A. Roiti, and A. Pacinotti; in geology and paleontology, Signore G. Scarabelli; in zoology, Professor C. Emery. Correspondent in mechanics, Professor C. Somigliana. Foreign Members—in mechanics, Professors A. G. Greenhill and V. Voigt; in physics, Professor W. C. Röntgen; in geology and paleontology Professor A. Karpinsky and Sir Archibald Geikie; in zoology, Professor E. Ray Lankester.

An ichthyosaurus 20 feet in length, the head two feet across, has, as we learn from *Nature*, recently been uncovered in the Warwickshire village of Stockton. The land is excavated by cement firms and has yielded many lower middle Lias fossils. The present specimen will, it it is said, be presented to the Natural History Museum by the owner of the quarry.

UNIVERSITY AND EDUCATIONAL NEWS.

It is reported in the daily papers that Miss Jennie Flood has given to the University of California her Menlo Park mansion, together with five hundred and forty acres of land, and four-fifths of the stock of a waterworks plant which she owns.

The National Council of Education has authorized the appointment of a committee of fifteen to investigate the whole subject of the establishment of a national university and to report to the Council at its next meeting.

At Princeton University Mr. A. H. Phillips and Dr. E. O. Lovett have been appointed to assistant professorships in mineralogy and mathematics, respectively.

Mr. A. A. Heller, instructor in botany in the University of Minnesota, has resigned his position to devote his time entirely to collecting. Professor Conway MacMillan may be addressed in reference to the Exchange Bureau.

The State Department at Washington has received from Minister Conger at Pekin information that Dr. William A. P. Martin has been appointed President of the University of China, recently established by imperial decree. Dr. Martin was President of Pekin University for nearly thirty years. He is a citizen of the United States, but went to China as a missionary about forty years ago. Associated with Dr. Martin in the presidency is Hsu King Chang, now Minister to Russia. The selection of the corps of professors, some twenty, not including fifty native tutors, is left entirely to Dr. Martin.

Mr. E. G. Coker has been appointed assistant professor of engineering in McGill University.

Dr Rudolf Cohn, docent in physiological chemistry in the University of Königsberg, has been made professor. Dr. Zograf has been appointed assistant professor of zoology and Dr. Mrensbier assistant professor of comparative anatomy in the University of Moscow. Professor Hölder, of Königsberg, has been called to the chair of mathematics at Leipzig. Dr. Koetz has qualified as docent in chemistry in Göttingen and Dr. Smoluchowskie von Smolen as docent in physics in Vienna. Dr. Adam Nell, professor of mathematics in the Darmstadt Technological Institute, has retired, having reached the age of seventy-four years.

Professor Riedler has presented to the engineering laboratory at Berlin machinery valued at $30,000.

SCIENTIFIC LITERATURE.

Nature Study in Elementary Schools. By Mrs. L. L. Wilson, Ph.D., Philadelphia Normal School for Girls. Pp. xix+262. Price, $1.00. A *Reader* accompanying the same, pp. xv + 181. New York, The Macmillan Company.

This 'Manual for Teachers,' the first of the books mentioned, is planned to meet the needs of the ordinary grade teachers in the first four years of the public schools of a city. In its scope it includes studies of the weather, of

plants and animals, brief notes on stones and the constellations, and an appendix giving illustrations of pupils' work in drawing and composition. The introduction deals somewhat with pedagogy, and touches upon the program, methods, materials, excursions and related work.

The book has a freshness that springs from the rich experience of a teacher who has enlisted heart and brain in the work of introducing children to the vast domain of nature. The choice of material shows a wise selection, and the presentation is, as it generally should be, from the standpoint of function. Since the nature experience of children is acquired from the landscape as a whole, it is a question whether the author does not descend too rapidly to details. It is important to treat the great nature image of the children in its wholeness by the constant presentation and re-presentation of the entire landscape from the varying standpoints afforded by its different aspects, caused by its daily, seasonal and other and more gradual changes. It is only by such broad presentation that the natural setting of the various elements in the landscape—the soil, the sunshine, the water, the plants, the animals, etc.—will be preserved in the child's mind. The suggestions concerning the study of the weather are the best illustrations of the evils of piecemeal presentation. To place the child 'in loving touch' with nature is the aim as expressed in the introduction; but the advantages of a study of the weather are later stated to be cheapness of material, cultivation of observation and reason, a basis for geography and the establishment of habits of neatness and accuracy—none of which have any tendency to increase the child's appreciation of what these forces have to do in making up his great nature picture. The subject is still further isolated; it is, in fact, completely side-tracked through the method proposed by the author to approach it 'through the myths.' There is no more natural or scientific reason why the child should approach the study of the weather through the myths than there is that he should approach the study of a horse through the story of that celebrated equine of ancient Troy. The myths are simply fantastic nonsense, except so far as the children are able to interpret them in terms of what they themselves already have observed. The author of Cook's Myths, to which reference is made, by no means intends that her stories shall be used as an 'approach' to nature; on the contrary, in every case the study of nature has been made an *approach to the myths*. We must utterly despair of ever getting honest observation and direct, simple expression on the part of children as long as the teacher who guides them allows herself to be dominated or even inflenced by the infatuation that she must provide a 'basis' for language, literature or any other related subject.

The material chosen for study has generally been selected with due regard to the season, but the author has disturbed this natural arrangement by suggesting the study of germination in January and the indoor observation of unfolding buds in March. It is scarcely necessary to undertake the uphill task of teaching germination in mid-winter in the face of every boisterous protest that nature can utter, when by biding her time for a few weeks the teacher may receive the voluntary and cheerful assistance from the whole of sprouting creation. Buds are studied indoors that the eyes may be opened ready for the later developments outdoors. But, be it remembered, the real eye-opener is to see how the buds on the trees, environed by all the hazards of spring, gradually and safely unfurl the tender and delicate young leaves to the sunshine. With the proper presentation of outdoor nature in its season with children there is but little need of the usual devices for indoor study—certainly none whatever, unless called for to explain further something already observed under normal conditions.

The author is to be commended for her judgment and courage in the stand which she has taken regarding written expression, maintaining that but little is needed and that usually too much is demanded of children. She does not, however, give due weight to color work as a means of expression. For children, and for grown people too, the world exists mainly as a thing of color. The natural and easy mode of expression for this rich experience is by means of the brush. This form of expression is second to no other in scientific value. Excepting

motion alone, it is by color that the life condition is determined more clearly than by any other test. With less teaching than that given to any other mode of expression the pupils acquire amazing skill, not only in representations in color, but also in accurate expression of form.

The numerous selections from literature which the author has mentioned will be of great assistance to the busy teacher. They are well chosen and will enrich the study, provided they are not allowed to dominate the observation. They should be used only as the personal experience of the pupils with nature will warrant it.

The READER which the author has prepared as a companion book is composed of myths, stories and poems which are suggested more or less clearly by various natural phenomena. The selections are good, and in general the rendition is excellent. For this particular aspect of nature study, if such it may be considered, the book leaves but little to be desired.

The author seems inclined, however, to magnify the importance of the relation of the myth to science beyond what it deserves. If teachers follow the author's suggestions, that the stories be used to 'serve as an introduction to the science work,' the book will prove to be a veritable stumbling block for both teacher and pupil. Since the myths are assumed to be the outgrowth of direct observation of natural phenomena, and since they are regarded as fanciful and more or less poetical interpretations of the same, it is difficult to understand why anyone should wish to reverse this natural process of their development in teaching children. Nature has the right to ask that we bestow directly upon her at least one square look before we place her at the mercy of the freaks of fancy. If begun early enough, and continued with considerable fervor through the first three or four grades, this introduction of the child to nature through the mists of fable and tradition will be effective enough to forever refract his vision of creation. In the incipiency of his experience with nature, there is no doubt that her large and somewhat terrifying aspects of cloud and storm and season seem surcharged with an almighty personality for which the myths offer a sufficient description and interpretation. But the child quickly passes through this stage and is probably pretty well clear of it when he enters the primary grades. Thereafter, the myths are really nothing more to him than a *history* of how an exceedingly primitive interpretation has been given to natural phenomena, and they should be treated as such. The standpoint of the pupil, while none the less interesting, has totally changed.

The author advises that the stories first be told to the child, and, afterwards, that they read them. The purpose of the story, that it shall vivify the pupil's own experience, will probably be best accomplished by the teachers' narration, and there seems to be no valid reason why the pupils at this time should be required to read them, especially if the teacher should find it necessary to 'thoroughly drill' upon all the new words. There is no surer way to spoil the effect of the story than by doing this. That silent reading, as suggested, should be encouraged is unquestionably true.

The considerable array of material which these books provide from both the scientific and the literary side will make them valuable for any teacher in the public schools, while the author's earnestness of purpose, strongly manifest throughout the work, will prove to be a lasting source of inspiration.

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NEW BOOKS.

Commercial Organic Analysis. ALFRED H. ALLEN. Third Edition with Revisions and addenda by the author and HENRY LEFFMANN. Philadelphia, Pa., P. Blakiston, Son & Co. 1898. Vol. I. Pp. xii + 557. $4.50.

A Short Manual of Analytical Chemistry. JOHN MUTER. Philadelphia, Pa., P. Blakiston, Son & Co. 1898. 3d American Edition. Pp. xiii + 228. $1.25.

Zoological Results. Based on material from New Britain, New Guinea, Loyalty Islands and elsewhere, collected during the years 1895, 1896, 1897. ARTHUR WILLEY. Cambridge, The University Press. 1898. Part I. Pp. vi + 120.