

ical objects which have been found in all countries, and have been described under the names of *Cruziana*, *Rusophycus*, etc. These are usually casts of impressions in what was the slimy surface of a mud sheet, sometimes an inch, sometimes a foot or more, in length, by from one to two inches in width. A deep sulcus traverses the middle, and the surface is marked by divergent and parallel, or curiously reticulated and inosculating ridges.

First noticed by Dr. Locke in Ohio in 1838, and named by Vanuxem in 1842 *Fucoides biloba*, by D'Orbigny in 1842 *Cruziana*, by Rouault in 1850 *Fraena*, and by Hall in 1852 *Rusophycus*, they have been since referred to under one or another of these names by most writers on geology. By the authors mentioned they were regarded as the impressions of seaweeds; but by Dawson, Lapparent, Briart, Hebert, Hughes, Nathorst, and J. F. James they have been considered the tracks of animals. Saporta, in the work under consideration, discusses their character and origin at great length. He pronounces them fucoids, and calls them *Bilobites*, taking the name from De Kay, and referring for authority to the first volume of the 'Annals of the New-York lyceum of natural history' (1824), where a paper is published by De Kay, "On the organic remains termed '*Bilobites*' from the Catskill Mountains," illustrated with one plate and four figures.

On referring to this paper, every American geologist will at once recognize in the fossil described, *Conocardium trigonale*, a characteristic mollusk of the corniferous limestone and the Schoharie grit. When the suture of this shell is exposed, the carinated valves present an appearance which led our earlier geologists to regard it as a crustacean allied to the trilobite, but distinguished by having two lobes instead of three. De Kay, though retaining the term '*Bilobites*,' recognized its molluscan character, and its resemblance to *Cardium*. From these facts it will be seen that *Bilobites* of De Kay has no relation whatever to *Fucoides biloba* of Vanuxem, or *Cruziana* of D'Orbigny, and the name has been erroneously applied by Saporta. The descriptions of Vanuxem and D'Orbigny bear the same date; but, the old genus *Fucoides* having been broken up and abandoned, D'Orbigny's *Cruziana* would seem to be the proper name for these singular objects. Hall's name, *Rusophycus* (called *Rysophycus* by Hughes as being more correct), is apparently a synonyme of *Cruziana*, and, published later, must be superseded by that.

Though we have thus obtained a name for these objects, their true character is as far from being demonstrated as ever, nor does it seem probable that the present diversity of opinion will soon be harmonized. Every one who has seen much of the exposures of shallow-water sediments, shales, and flagstones, will concede that many of the so-called fucoidal markings are of mechanical origin, and will accept Nathorst's view that such casts as *Eophyton* and *Panescorsea* are inorganic. Where the cast consists of a number of divergent ridges springing from a common stem like branches from a trunk, such as *Vexillum Sap.* (which, however, can hardly be distinguished from *Licrophycus* of Billings), the conclusion seems inevitable that the cast is organic, and the form is rather that of a plant than a sponge.

Although so far resulting in little demonstration, the discussion in which Saporta and Nathorst have taken the leading parts has excited much interest, and has been productive of an important series of experiments and observations. Doubtless in this, as in many other discussions, the truth will be found to lie between the views of the opposing leaders, yet science will be advanced by the stimulus to inquiry furnished by these very differences.

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PRONUNCIATION.

MEETING a book of this kind, admitting its possible utility, one naturally asks whether the pronunciations recommended are correct, with allowance for admissible variations; whether the description and representation of sounds are exact and clear, and whether the list of words likely to be mispronounced is judiciously made. The first and last of these questions suggest no severe criticism of this book, unless one considers only matters of detail. We mention only one. Paragraph 51, in the introduction, should be changed so as to make it clear that by 'antepenultimate vowel' is meant that in the Latin words referred to, not in the English, as is now absurdly said.

The second question shows the weakness and unpractical plan of the book. Passing by the introduction, which shows some careful observation, but has several hazardous assertions, we come to the body of the book. Here each page contains two columns, — on the right hand, the words in alphabetical order, but

A handbook of pronunciation. By LEWIS SHERMAN. Milwaukee, Cramer, Aikens, & Cramer, pr., 1885. 174 p., illustr 8°.

not perfectly so (witness *consols*) ; on the left hand, the same words, in the same spelling, but with various devices to show the pronunciation, such as the use of accents, acute and grave, heavy type for some letters, and smaller type for silent letters. The notation used is a new one, and the final result far from being readily intelligible. The proper course would have been to minimize the inconvenience to the user by making the left-hand column as simple as possible, using always only one sign for the same sound, and omitting silent letters altogether. If all the words are respelled solely to show their pronunciation, there is no excuse for not spelling phonetically.

NOTES AND NEWS.

THE local committee of the American association, which will hold its thirty-fourth meeting in Ann Arbor during the week beginning Wednesday, Aug. 26, announces that the general sessions will be held in University Hall, while rooms for the sectional meetings will be assigned in different buildings on the university grounds. The offices of the permanent and local secretaries and of the various committees will be established in the immediate proximity, together with an association post-office; and all letters, telegrams, and express packages bearing the letters 'A. A. S.' will be delivered close at hand. The university offers the use of its rooms for any lectures, or specially illustrated papers, which may be authorized by the standing committee. Sectional papers demanding experimental illustration may be supplemented by the use of the apparatus at hand. The university will furnish electricity, either from a dynamo, from a storage-battery, or from primary batteries, as may be needed by members reading papers on electrical subjects. Opportunity will also be given any member desirous of making an exhibit of apparatus, minerals, or scientific specimens of any kind, to properly display the same.

The committee is not yet ready to announce complete arrangements with the railways, but they state provisionally that over most of the lines return tickets will be furnished for one-third of the regular price to all who have paid full fare over the same line. Ann Arbor is situated on the lines of two railways, — the Michigan central, and the Toledo, Ann Arbor, and northern Michigan; and a special through train, for the exclusive use of members of the association, will be run by the former if a sufficient number desire, leaving Buffalo on Tuesday morning, Aug. 25, stopping for an hour or two at Niagara Falls, and reaching Ann Arbor in the evening of the same day. The two hotels at Ann Arbor are the Cook House and the Franklin House, where members will be accommodated at two dollars a day. A large number of rooms, with prices varying from fifty cents to a dollar a day, have also been engaged in private houses near the university grounds, where, to accommodate those

not offering board as well, a restaurant sufficient to accommodate three hundred persons at once will be established, at which, breakfast, dinner, and supper will be furnished at the uniform price of fifty cents. Private hospitality is also liberally promised by many citizens; and there is no question of sufficiency of accommodation, as most of the two thousand students who live in the city during term time will be absent on their vacation.

An evening reception on a day not specified will be given the association at the court-house, together with a lawn-party on the university grounds at the close of one of the regular sessions. The excursions committee has nearly completed arrangements for a trip, free of all expense, to the Saginaw valley, including a steamboat ride down the river, and view of the cities of Saginaw, East Saginaw, Bay City, and West Bay City, and the enormous industries in salt and lumber manufacture which have given the Saginaw valley a world-wide celebrity. This valley produces annually a billion feet of lumber, and the excursionists will see half a billion piled on the docks. In conjunction with these vast lumber operations will be seen the production of salt on a scale unequalled in the world, and employing the various improved processes. The committee has also arranged for excursions to Detroit and Mackinack Island, with side trips to Sault Ste. Marie, Pectoskey, and Marquette. Members wishing to make any special inquiries or arrangements should address Prof. J. W. Langley, local secretary, Ann Arbor, Mich.

— Matusoffski and Nikitine, well known for their travels in China and Sakhalin, have recently finished a new map of China; that is to say, of the Middle Kingdom, with the region bordering upon it. This chart is on the scale 1:4,200,000, and is the best yet issued in point of execution. Paderin, Uspenski, and Sheveleff have served as a committee on the orthography of proper names, with Professor Vasilieff as umpire in doubtful cases. It extends from the western borders of Corea to the Yung-ling Mountains, and between latitudes 16° and 45° north.

— The *Annuaire de Turkestan* for 1885 has just been issued by Messrs. Sokoloff and Lakhtin. Its contents are of unusual interest in connection with recent events, and comprise, among other things, a chronology of historical events from 1155 to 1884; a memoir on the Merv oasis and on the route between Khiva and the Caspian; notes on the Amu Daria; a description of Ferghana, of the museum at Tashkent, of the fisheries of Turkestan, and an account of public instruction in Turkestan.

— A special chair of geology has just been established in the Indiana university, and Prof. J. C. Branner of the Geological survey of Pennsylvania has been chosen to fill it. Professor Branner was for six years assistant geologist to the Imperial geological survey of Brazil. Prof. J. P. Naylor of Indianapolis has been elected to the chair of physics.

— Dr. Hermann Roskoschny has projected a series of geographical manuals on European and especially German colonization, under the title 'Europas kolo-