admitted that this conclusion needs confirmation from future discoveries before it can be definitely accepted. The specimens on which the new genera *Coryphænopsis* and *Bayeria* (Fritsch) are founded are certainly remarkable.

Dr. Fritsch's section of the work shows that all the usual groups of Cretaceous Reptilia are represented in the Bohemian rocks. There are undoubted fragments of Plesiosaurs, and there is one interesting brain-cast which the author describes as probably referable to *Polyptychodon*. Dr. Fritsch, however, overlooks the fact that the skull of *Polyptychodon* is actually known in England, and is undoubtedly Plesiosaurian or Pliosaurian, not Mosasaurian. Chelonian remains occur, evidently representing turtles related to the small *Chelone Benstedii* from the English Chalk. Some fragments appear to be Mosasaurian, but those described under the new name of *Iserosaurus litoralis* are extremely problematical. Other fragments, ascribed without much reason to Dinosauria, scarcely suffice to justify the new names bestowed on them. Some good new figures of the interesting wing-bones of the small *Pterodactyl*, *Ornithocheirus hlavaci*, are given, and the volume concludes with a systematic list of species.

A. S. W.

Die Bedeutung des Experimentes für den Unterricht in der Chemie. By Dr. Max Wehner. Pp. 62. (Leipzig and Berlin: B. G. Teubner, 1905.) Price 1.40 marks.

THIS brochure forms part of a "Sammlung naturwissenschaftlich-pädagogischer Abhandlungen," and is very hard reading for an ordinary English chemist. It is divided into two parts, the first of which deals with the importance of experiment for attaining the object of chemical instruction, and the second with the importance of experiment in relation to method in chemical instruction. It is hard reading in the sense that one has to wade through detailed arguments which culminate in conclusions such as "description does not suffice for the instruction of the pupil in chemical processes," and "the development of the laws concerning chemical processes from experimental observations is more effective for chemical teaching than their deduction from quoted examples." The work is, in fact, an example of pure pedagogical exercitation, and it may be recommended with confidence only to those who have a liking for that kind of literature.

A. S.

Monographie des Cynipides d'Europe et d'Algérie. By l'Abbé J. J. Kieffer. Tome second. 2me. fascicule. Pp. 289-748; plates ix-xxi. (Paris: A. Hermann.) Price 18s.

THIS is the conclusion of vol. vii. *bis* of André's great series of monographs, "Spécies des Hyménoptères," and completes the Cynipides, or gall flies. The previous portions have already been noticed in NATURE (vol. lxvii. pp. 124-5, December 11, 1902, and vol. lxviii. p. 221, July 9, 1903), and the part now published completes the Cynipides, 5e tribu, Figitinæ; and also includes the Evaniinæ (divided into two tribes, Evaniinæ and Gasteruptioninæ), the Stephanides, Trigonulides, Agriotypides, general supplements, a "Catalogue méthodique et synonymique," extending from pp. 653 to 741 (double columns), and general indices.

The plan of the work is uniform throughout, and as the previous portions have already been discussed at considerable length, an extended notice is here unnecessary.

W. F. K.

NO. 1871, VOL. 72]

The Gum-Bichromate Process. By J. Cruwys Richards. Pp. 119. (London: Iliffe and Sons, Ltd., n.d.) Price 2s. 6d. net.

THIS process of photographic printing is about fifty years old, but it is only during the last ten years or so that it has been adopted for practical purposes. When first introduced it was deliberately rejected, because it was not equal to the then known processes in reproducing the detail of the negative; latterly it has been taken up and very much appreciated by some of those who desire to be able to alter or "control" their photographic printing, and so obtain results that, while they can lay no claim to mechanical accuracy, more nearly please the æsthetic taste of the worker. At the present time there are more methods of photographic printing than there were a generation ago that are excellently adapted for the purposes of photography pure and simple; therefore the gum-bichromate process is still more than it was then a process for the specialist in the direction named. The author of this volume is well known as a successful worker of the method. He gives his own formulæ, and states clearly the practical details that he prefers to follow, but he also describes the methods of others. He is a warm advocate of "multiple printing"; that is, after coating the paper, exposing, developing with warm water aided with a brush or by other mechanical means, coating, exposing, and developing a second or even a third or more times, so gradually building up the picture with the maximum opportunity of "control." It will be obvious that every possibility of improvement in the hands of the skilful is a probability of error in the hands of the artistically ignorant, and that the process does not claim attention from a photographic point of view at all, but as enabling an artist to express his ideas with less trouble and perhaps with more accurate drawing than if he worked wholly by hand. The volume includes several reproductions of the author's works, some of them showing the print in its various stages of evolution.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

Recent Changes in Vesuvius.

I BEG to enclose a somewhat free translation of a letter I have recently received from Prof. G. Mercalli, of Naples, concerning certain changes which have taken place in Vesuvius this year. During a visit to the mountain on August 14-16, I was able to approach quite near to the sources of the lava streams described by him, and also to examine the remarkable tunnels formed at certain places by the cooled surface of lava streams which had subsequently diminished in volume, or had even "run dry."

During the week preceding my visit, many incandescent bombs of pasty rock had been ejected from the crater at the summit, mostly in the direction of the side facing Pompeii, and these successively rolling down the ash-slope presented a beautiful spectacle at times. The lava streams proper often presented that curious double appearance, due to the fact that the colder and darker scorïæ, floating down the stream, keep to the more swiftly-moving current in mid-stream, and avoid the sides.

Yesternight (August 20) but one of the lava streams referred to by Prof. Mercalli was visible from Naples, the other having apparently ceased.

The explosions of Stromboli are occurring at intervals of about 3½ minutes.

R. T. GÜNTHER.

R.M.S. *Oroya*, off Stromboli, August 21.

Lava Stream of May 27, 1905.

IN the months of April and May of this year Vesuvius began to show an increased activity, and in the crater, which was about 80 metres in depth, a small cone began to form; it increased rapidly, and by the middle of May had risen to a height of about 15 metres above the level of the enclosing crater.

From May 25 to May 27 violent explosions occurred, which were heard in all the villages on the mountain-side,

FIG. 1.—Source of lava stream of August 26, 1903. From a photograph by Prof. G. Mercalli, taken April 15, 1904.

and were accompanied by the ejection of much red-hot and liquid matter. These explosions ceased almost suddenly on the evening of May 27, and at about 6.45, a small lateral outlet, "A," burst through the north-west flank of the great cone at a height of about 1245 metres, and at the point where a seam in the mountain-side showed where the traces of the last eruption of August 26, 1903, still lingered.

A few hours after the first, a second outlet was formed, then a third, "B," both lower down, at an altitude of

FIG. 2.—Vesuvius as seen from the Observatory Ridge, May 29, 1905. From a photograph by Prof. G. Mercalli.

about 1180 metres, and both westward of the first, and nearer the station of the funicular railway.

For some weeks lava issued from these outlets and flowed down the mountain-side in two parallel streams, which from Naples had the appearance of two lines of fire running down the slope of the great cone; towards June 25 the current from "A" ceased, but the stream from "B" continued, and flows more actively than before.

On reaching the base of the great cone (800 metres), the

lava piled itself up in the space between the cone and the hill formed by the lava-flow of 1895; a stream branched off, first toward Mount Somma, but afterwards in a south-south-west direction, and a small stream more fluid than the main body ran to within a short distance of the electric railway which plies between the observatory and the lower funicular station. Near the fumarole "B" a small heap of scorïæ (a dribble-cone), about 4-5 metres in height, has sprung up; but apart from the explosions attendant on its formation, and which only lasted a few days, there has been no disturbance in the regular flow of the great streams.

The line of white steam seen in Fig. 2 shows the position of the outlets and the course of the lava streams as seen from the observatory ridge; the black smoke issuing from the crater indicates the cloud of non-incandescent dust which was cast up after the partial falling in of the walls of the smaller cone on the summit.

We may perhaps attribute the frequency in these latter years of the lava streams from lateral outlets to the increased height of Vesuvius (now about 1330 metres), for the column of fluid lava, when inside the cone, is forced up to a higher level and exerts greater hydrostatic pressure on the sides of it, which are, moreover, much seamed. Formerly, when the mountain was lower, as, for instance, between the years 1840 and 1850, the lava streams generally flowed from the top.

The Millport Marine Station

SINCE the efficiency of such an institution as a biological station is so largely dependent upon the completeness of its library, I do not think any apology need be offered for appealing to those readers of *NATURE* who are interested in marine biology for assistance in an endeavour to bring together for the use of those working at the Millport Marine Station as complete a collection as may be possible of works having any bearing on the fauna and flora of the European seas. The station already possesses a considerable proportion of the more important monographs, as well as a number of useful pamphlets; but there are still lacking many reference works of importance, and I am sure that copies of some of these will exist among the duplicates in many a naturalist's library. I would also urge the claims of the Millport Station upon the generosity of authors for separate copies of any papers they may publish; and in this connection it should be noted that the council of the association has recently agreed that all material intended for private research shall be supplied absolutely free of charge.

This occasion may also be utilised to point out some of the advantages which the Millport Marine Station offers to the research student. The fauna of the Clyde area is an extremely rich one, and the water in the vicinity of the station is of most remarkable purity, so that even quite delicate species can be readily kept alive in the tanks. A small steamer, the *Mermaid*, specially built for scientific research, is constantly at work during the summer months, and brings in daily an abundant supply of material. The tank-room, only part of which is open to the public, has recently been greatly extended, and now has facilities which are probably unsurpassed anywhere for the accommodation of invertebrates and the smaller vertebrates; the tanks are mostly of glazed fire-clay, and capitally adapted for observation and experiment. Besides a well-equipped private research room, there are seven screened compartments in the general laboratory affording ample accommodation for nine students, while a large class-room recently added has benches for forty-five students.

The station is lavishly equipped with apparatus of all kinds—for instance, the student will find here every facility for advanced physiological work. In fine, I think it may fairly be claimed that nowhere in the British Isles will the student find facilities for research on marine biology such as exist at Millport; and, indeed, I know of no marine station elsewhere which can, all things considered, offer greater advantages to the biologist. Lastly, it may be mentioned that although the fees are very low, there is never any difficulty in arranging for a free table.

S. PACE (Director).

Millport Marine Station, N.B.