

because of its nearness to the Chambered Organ, the capsule of which is the Governing Organ of the animal's movements; the Chambered Organ, however, is, as a rule, actually above the Infrabasals.

P. 318, line 10, for "basals and infrabasals" read "infrabasals (as well as basals)." The quotation from Wachsmuth and Springer, in inverted commas, refers only to infrabasals; the application of it to basals was inaccurate and at the same time weakened my argument. Nevertheless a mere correction would not be quite fair, for it is a fact, as Mr. Wachsmuth has elsewhere pointed out, that the basals also are proportionately large in the young.

Pp. 320 *et seqq.* The sign $R+$ is of course the same as $R\times$ of p. 333 and of Plate XIV.; but R' is an intentional difference. An unfortunate though blameless mistake in sending out the proofs prevented me from correcting them quite as closely as I could have wished.

P. 323, 2nd and 3rd lines from bottom. Some may think that they see a misrepresentation here. I have represented Messrs. Wachsmuth and Springer as saying that the azygos plate is as much radial as inter-radial. A correct quotation would have been "the azygous plate in *Baerocrinus* is &c." But since they consider this plate in *Baerocrinus* to be homologous with the radianal (which I do not), and since they in the very next sentence imply that it is in an ancestral stage, it is clear that a simple and exact quotation would not have given their complete meaning but would have tended to confuse the issues. Accuracy, even pedantic accuracy, is not to be despised; but to one summarizing an argument, the spirit usually seems more worthy of retention than does the letter.

On a few Californian Medusæ. By J. WALTER FEWKES.

The author gives the results of his investigations on the Medusæ of the coast of southern California—chiefly of the Santa Barbara Channel, into which the vast waters of the Pacific carry many strange organisms. He describes a new *Pelagia* (*P. panopyra*), a new *Aurelia* (*A. labiata*), which, however, closely resembles *A. flavidula* of the Atlantic shores, and *Polyorchis penicillata*, A. Agassiz, a form having intermediate characters (resembling both *Anthomedusæ* and *Leptomedusæ*), for no otocysts occur on the margin of the umbrella as in the former, while the reproductive organs are on the radial canals, as in the latter. Another form, *Dipurena*, has an umbrella like *Sarsia*, but with nine short, clavate, marginal tentacles. The reproductive organs occur in the manubrium, as in the genus mentioned. *Microcampa*, n. g., again, has six radial canals instead of four, and a single, club-shaped, inflexible tentacle. It is probably an immature form. Another Medusoid is *Hybocodon*—probably near *Steenstrupia*—in which the buds arise near the long solitary tentacle bristling with rings of nematocysts. Each bud has a single tentacle. The interest in connexion with this form is the more vivid since a very similar form is found in St. Andrews Bay, though in the latter case the much larger buds present two tentacles, while in the adult two shorter tentacles occur near the long one, each springing from a similarly enlarged base. Mr. Fewkes figures these two tentacles, but is of opinion they arise from the buds. As at St. Andrews the buds showed two tentacles, further investigation on this point would be satisfactory. The author concludes his very inter-

esting paper, which is illustrated by six beautiful plates, with a notice of *Sarsia rosaria*, probably from a *Syncoryne* abounding on the piers of a wharf, and with notes also on a Campanularian, on *Willia*, *Athorybia*, and *Verella*.
W. C. M.

Chemical Researches on the Fossil Tests of Foraminifera, Mollusca, and Crustacea. By M. STANISLAS MEUNIER.

M. de Folin having obtained a flocculent residue by the treatment of Nummulitic rocks from Biarritz with acids, came to the conclusion that this was of organic nature, and regarded it as *sarcodic material*. He called the author's attention to the subject, who carefully repeated the experiments upon Nummulitic rocks from the neighbourhood of Paris. Examples of *Nummulites lævigatus* were partially dissolved in dilute hydrochloric acid until they were quite cleared and milk-white; they were then dissolved in fresh acid, and the residue, amounting to 2.233 per cent. of the Nummulites, was examined.

This residue had the appearance of very fine clay, but on heating to redness some portions on platinum foil they became brown, then carbonized, and after combustion left a reddish residue. On heating the substance in a tube with some soda-lime a strong evolution of ammonia took place. It is therefore a nitrogenous substance.

This supposed animal substance, however, forms only 16.66 per cent. of the flocculent mass, and the mineral material associated with it renders analysis difficult. The results of analysis, given with some reserve, are as follows:—

| | |
|--------------------------|-------|
| Carbon | 64 |
| Hydrogen | 5 |
| Nitrogen | 12 |
| Oxygen (difference)..... | 19 |
| | <hr/> |
| | 100 |

The author has repeated the experiments with similar results in the case of other French Foraminiferal rocks.

By the advice of M. Milne-Edwards he extended his researches to the fossilized tests of various Mollusca and Crustacea, among which he cites *Psammocarcinus Hericartii* and *Cytheræa splendida*, and in all cases obtained the organic compound with the same composition and properties. As in the case of the Nummulites the substance is light grey, with a peculiar silky lustre, and it is mixed with a very considerable amount of mineral elements, consisting especially of small acicular crystals of carbonate of lime.

The author believes that in the organic compounds obtained we have a residue of the fossil animals which may be compared with the carbonaceous combustibles of vegetable origin, and that it is to their presence that we must ascribe the discovery of nitrogen so frequently repeated by Delesse in his analyses of sedimentary rocks.
—*Comptes Rendus*, March 17, 1890, p. 597.



Fewkes, Jesse Walter. 1890. "On a few Californian Medusæ." *The Annals and magazine of natural history; zoology, botany, and geology* 5, 486–487.

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