As confirmatory of Darwin's theory of descent, they possess a value neither greater nor less than that of all other animal classes. The lecturer's forthcoming work on the Foraminifera of Mauritius will contain much detailed evidence in support of his views.

In the discussion which followed, Herr Wacker suggested that the point of difference between Carpenter and Moebius lay in the fact that Carpenter had regard to the sarcode rather than to the skeleton, to which latter Moebius attached the greater importance.

The second paper was given by Dr. Gabriel, whose subject was "The Classification of the Gregarinæ." He objected to Stein's classification, hitherto the sole and undisputed one, on the grounds that it no longer fully represented the existing state of our knowledge. This view he was able to support, which he did at some length, and submitted to his hearers a new classification of his own.

In the Section for Anatomy and Physiology Prof. Tauber of Jena lectured upon "Two New Anæsthetics," with which he had experimented upon frogs, rabbits, and dogs. Both anæsthetics produced a scarcely appreciable change in the pulse and respiration, on which account they might be of great value for surgery. And in demonstration of their action Dr. Tauber proceeded to experiment upon a pigeon and a rabbit.

On Tuesday, September 21, at the second general sitting, Prof. Moebius of Kiel read a paper "On the Food of Marine Animals." In the sea therefore is generated by far the greater number of animal types, and these again in quantity and in bulk are throughout regulated by the existing supply of nourishment. This in its turn depends upon the organic matter of plants, which in the sea also supply nourishment to its inhabitants. In our own seas, the North Sea and the Baltic, marine grasses are discoverable near the coast, while twenty to fifty metres lower are other kinds of plants; deeper still, if we search, we shall find few or none. Loose strips of plants that have been torn away from their roots have been brought up from a depth of some hundred metres; in the Baltic and the North Sea these form a dark, soft, spongy mass. Nothing living is visible in this if placed in a tub; but if strained through a sieve, tiny mussels, snails, and crustacea become visible. In the depths of the sea-mud lining the bottom are countless worms, mussels, and little animals which feed upon the spongy mass. Flounders and other fish penetrate into these mud-depths and devour the animals that are there. Where the sea-bottom however is formed of soft clay, nothing beyond a few worms here and there will be found. Thus in the deeper portions of the Mediterranean, otherwise so rich in animal life, nothing at all is discoverable. The Professor in the course of his remarks went on to show that the supply of nourishment to the inhabitants of the sea was now and would be hereafter undiminished; and thus that the propagation of animal life in the sea would continue unchecked, so long as the mighty ocean itself should last.

SCIENTIFIC SERIALS

Bulletin de l'Academie Royale des Sciences (de Belgique), No. 7.—A Hyperoodon captured on the strand at Hillion (Côtes-du-Nord, France) in December, 1879, by M. van Beneden.—On Mysticetes with short fins, from the sands in the neighbourhood of Antwerp, by the same.—On determination of albuminoid substances of the blood serum by circumpolarisation (modified method of Hoppe Seyler), by M. Fredericq.—Contribution to a study of the *rôle* of insects in the pollinisation of heterostylous flowers (*Primula elatior*), by Mr. MacLeod.

SOCIETIES AND ACADEMIES

PARIS

Academy of Sciences, September 20.—M. Wurtz in the chair.—The following papers were read:—On the odours of Paris, by M. Sainte-Claire Deville. He analysed some of the moist black earth exposed in a trench in the Rue St. Jacques. The amount of salts in the impregnating liquid indicates considerable concentration (which can be easily explained). The dust from horses' shoes and from wheels of vehicles is thought to be the origin of sulphides and protoxide of iron, and of the dark coloration. The escape of gas, estimated at about a tenth of the gas circulating in the pipes, furnishes part of the sulphur, the carbonated hydrogen and the coal-tar which abounds. Through this escape the sub-soil is rendered wholesome (in the author's opinion), and cannot exhale any dangerous odour. There is a slight smell of sulphuretted hydrogen (not worse than that from sulphurous mineral waters), and a smell of healthy empyreumatic products.—M. de Tchihatchef presented a work of his on Spain, Algeria, and Tunis, but treating chiefly of Algeria. Such questions as the material and moral results of the annexation to France, the mode of action of the new administrative and social institutions, the assimilation of the Arab and the Christian elements, &c., are treated; the author has also studied the geology and botany of the country.—Observations of the new planet Coggia (287) at the Paris Observatory (equatorial of the western tower), by M. Bigourdan.—On a new experiment for showing the direction of the rotation communicated by bodies to polarised light, by M. Govi. A pure spectrum is produced with rectilinearly polarised light, and a plate of rock crystal is interposed, giving a dark band; also an analyser. The spectrum and analyser have a joint movement of rotation (one end of the spectrum being at the centre of the circle of which the spectrum represents the radius). The dark band moves along the spectrum (during rotation) one way or the other according to the nature of the quartz plate (dextrogyrous or lævogyrous). If the motion be sufficiently rapid for the impression on the eye to be continuous, one may trace out in space, or on a screen, opposite spirals. Curious variations are obtained by interposing plates of mica, gypsum, &c.—Study of telluric lines of the solar spectrum (Nice Observatory), by M. Thollon. With his powerful spectroscope, he has resolved the telluric groups B, D, and α of Ångström into their simple elements, separating these elements from each other, and from the other metallic lines.—On the liquefaction of ozone and on its colour in the gaseous state, by MM. Hautefeuille and Chappuis. They passed some highly ozonised oxygen (prepared by their new process) into a Cailletet apparatus. From the first strokes of the piston the capillary tube appeared azure blue. With several atmospheres' pressure the gas became of an indigo blue, the mercury meniscus looking steel blue through it. Sudden liberation from 75 atm. produced a mist, indicating liquefaction (300 atm. were necessary in the case of oxygen). Ozone is a little less easy to liquefy than carbonic acid. If the ozonised oxygen be not compressed slowly and in cold, the ozone is decomposed, giving a strong detonation and a yellowish flash. Thus the mixture contains an explosive gas.—On Brunton's tunnelling machine, by M. Biver. This gives an account of results with the machine as used in the lignite pits in the Fuveau Valley. It appears, *inter alia*, that of 51 horse-power of the motor only 12·4 was transmitted to the machine, 38·6 being lost.—Telescope with double action for pointing long-range guns, by M. de Broca.—On losses in manufacture of vinegar, by M. Garcin.

CONTENTS