

means of which we should be enabled better to understand both the past and the future, and to judge more clearly of the present.

The important bearing which the work at the Naples and similar stations had on the elucidation of this law was then pointed out. "Every fish, every crab, every Medusa is the result of a long process of development, which we have to trace, and the determination of which the Zoological Station is intended to facilitate. That is its purpose; it was for that end that I built it, and for that reason I have asked you to lend your support to my efforts."

#### THE "VILLE DE CALAIS" BALLOON ASCENT

PARIS, May 3.

WE made our ascent yesterday from La Villette gas-works at 1.25 P.M., and landed safely in a field at Creney, a small country place four miles south-east of Troyes, which is about 100 miles south-east from Paris. After having made observations during a little less than six hours, our grapnel was let down at ten minutes past seven. There were three of us in the car—M. Duruof, Mr. Marriott, an English correspondent in Paris, and myself. The maximum altitude reached was about 12,000 feet. The ascent was very gradual, and the above height was reached only at six o'clock. No sensible effect was perceived, although the temperature of the air, which on the ground was about 50° F., was no more than 26° at this altitude. We tried several experiments, with what success it remains to determine on examination of the apparatus. Some of the results, however, I am able to state here.

We had suspended to the net a number of cages containing small birds and guinea-pigs. The current of gas had a decided inclination to flow in a certain direction, and we had not ascended 6,000 feet when one of the birds was found dead by suffocation. It was the only bird exposed to the inhalation of the current of gas, and no other was injured. It was proved by a careful autopsy executed this morning by Dr. Lionville that this bird had perished by intra-osseous hæmorrhage in the cranium. The hæmorrhage had taken place on both sides, and without any lesion appearing to the exterior.

We discovered that not less than four different banks of clouds were being carried over Paris and its vicinity. Before the end of our journey the clouds had considerably diminished in thickness, and the blue sky appeared. I was able to take some thermo-solar observations with a blackened bulb thermometer *in vacuo*.

As the effect on our constitutions of our 12,000 feet trip was very trifling, I am of opinion that the experiment may be scientifically conducted gradually to an immense altitude, independently of previous catastrophes.

W. DE FONVIELLE

#### NOTES

As we announced some months ago (Dec. 24, vol. xi. p. 153), Prof. Huxley is to undertake the duties of Prof. Wyville Thomson's chair of Natural History in the University of Edinburgh during the present summer session. Prof. Huxley gave his introductory lecture on Monday afternoon to a large audience. He was accompanied by Principal Sir Alexander Grant, Principal Tulloch, St. Andrews, and the members of the Senatus, and was enthusiastically received. He expressed at the outset a hope that at this time next year Prof. Thomson would be among them again, full of health and vigour, laden with the spoils of the many climes through which he had travelled, and a sort of zoological Ulysses, full of wisdom for their benefit. He then took a general view of his subject, put before the class

the considerations which resulted from the careful study of a single animal, the Crocodile; an animal which was worthy of attentive study, as it might be said that a knowledge of its organisation was the key to the understanding of a vast number of extinct reptiles, and the key to the organisation of birds; while it helped them to connect the higher with the lower forms of vertebrate life, and was, in part at any rate, the key to the history of past life upon the globe. There might be asked respecting this animal, as respecting every other living thing—first, what was its structure? second, what did it do? third, where was it found? and fourth, in virtue of what chain of causation had this thing come into being?—this last having only been recently recognised as one of those questions which might legitimately be put. He then proceeded to describe the organisation of the Crocodile—its morphology, physiology, and distribution; and remarked that there were few animals about the palæontological history of which they knew so much, as they could carry back its history through the tertiary and secondary epochs. The answer to the last question constituted Ætiology, or the science of the causes of the phenomena of morphology, physiology, and distribution. Here, as in all cases where they had to deal with causation, they left the region of objective fact and entered that of speculation. With their present imperfect knowledge, the only safe thing they could do in attempting to form even a conception of the cause of this extraordinary complex phenomenon was what a wise historian would do—stick by archaeological facts. He pointed out that palæontological facts showed that there had been a succession of forms of that animal to the present day, the oldest being something like the Lizard.

THE Instructions prepared for the use of the officers of the Arctic Expedition in their Scientific work are now nearly complete, and all the courses of instruction, comprising the use of magnetical, astronomical, and meteorological instruments and of spectroscopes, will be concluded next week, many officers from both ships having taken part in them. We believe that the present arrangement as to date of leaving, the 29th instant, may be considered as final. We have already stated that the exploring ships are to be accompanied as far as Disco Island by the *Valorous* for the purpose of enabling them to fill up with stores and coal at the last moment. At the suggestion of the Council of the Royal Society, advantage will be taken of the presence of this ship to make observations in a little explored region, her homeward voyage being employed in carrying out such a physical and biological exploration of the southern part of Baffin's Bay and the North Atlantic between Cape Farewell and the British Isles as may serve to complete the work which is being so successfully prosecuted in other seas by the *Challenger*. Mr. J. Gwyn Jeffreys, the coadjutor of Dr. Carpenter and Prof. Wyville Thomson in the *Porcupine* expeditions, which first demonstrated the feasibility and scientific importance of this kind of exploration, has volunteered for the service, and he will take with him as his assistant Mr. P. Herbert Carpenter, who did good work when accompanying his father in the *Porcupine*, and who will especially take charge of the physical inquiries.

M. CORNU'S lecture on the velocity of Light at the Royal Institution to-morrow evening is looked forward to with great interest. We believe he intends to speak in French, though his knowledge of English renders him quite competent to make use of that language if he chose. An account of the results attained by M. Cornu will be found in NATURE, vol. xi. p. 274.

HOFRATH HEINRICH SCHWABE died at Dessau on April 11; he reached a patriarchal age, having been born on Oct. 25, 1789, at Dessau. He retained his faculties to the last, although he had been compelled for many years to relinquish his favourite astronomical studies, which in 1857 had won for him the Royal Astronomical Society's Gold Medal.