

## Science News a Century Ago

### Experiments with the Thermo-Electric Pile

ON April 24, 1837, writing from King's College, London, Wheatstone sent a note to the editor of the *Philosophical Magazine* (May 1837, 414) "On the Thermo-Electric Spark, etc." In this, he directed attention to some experiments recently made in Italy with Nobili's pile, the production of thermo-electric sparks and the effects of thermo-electric currents. The original experiments had been made by Cav. Antivori, director of the Museum at Florence, and Wheatstone had repeated them at King's College, where they were seen by Daniell, Faraday, Henry and Bache, of whom the last two were on a visit to Great Britain from the United States. The thermo-electric pile Wheatstone used had 33 elements of bismuth and antimony formed into a cylindrical bundle  $\frac{3}{4}$  in. in diameter and  $1\frac{1}{2}$  in. in length. The poles of the pile had wires leading to a mercury cup. One face of the pile was heated by a red-hot iron brought within a short distance of it, and the other was kept cool by ice. When contact was broken with the mercury cup, small sparks were observed. Writing of the results, Wheatstone said: "I conclude, therefore, that the experiment of Antivori is a real addition to our knowledge of electrical phenomena . . . it supplies a link that was wanting in the chain of experimental evidence which tends to prove that electricity, from sources however varied, is similar in its nature and effects, a conclusion rendered more than probable by the recent discoveries of Faraday. . . . It is not too much to expect, seeing the effects produced by a pile of such small dimensions, that by proper combinations the effects may be exalted to equal those of an ordinary voltaic pile."

### Ornithological Society

THE first general meeting of this Society, which was formed on October 21, 1836, was held on April 26, 1837, at the Thatched House Tavern, St. James Street, with Mr. N. A. Vigors, M.P., in the chair. Since the last meeting, 127 new members had joined the Society, and the Duke of St. Albans, the Earl of Derby and other noblemen had made the Society presents of valuable birds. Several birds belonging to the Society had already been placed in the enclosure in St. James's Park; and the Committee intended to apply to the Government for a plot of ground for the use of the Society, on the plea that the hardy birds would be exhibited in the parks.

### Changes in the Ova of Mammals

At a meeting of the Royal Society on April 27, 1837, Richard Owen communicated a paper by Thomas Wharton Jones entitled "On the First Changes in the Ova of the Mammifera, in consequence of Impregnation . . ." The report of the paper said: "The author having in a former paper described the structure of the unimpregnated ovum of mammiferous animals, now proceeds to investigate the changes which the ovum undergoes in consequence of impregnation. In the rabbit, the first perceptible difference is the addition of a thick gelatinous matter surrounding the parts of which the ovum was composed in its original state, and apparently derived from the ovaries. In the progress of development the vitellary membrane gives way, as happens in the ova of the newt, and of many of the oviparous animals. The gelatinous envelope acquired in the

ovary, and which is more especially circumscribed and defined after impregnation, constitutes the only covering of the vascular blastoderm, after the giving way of the vitellary membrane, and afterwards forms the chorion, which in rodent animals, at a further stage of development, presents itself under the form of a thin transparent membrane, very similar to the vitellary membrane of a bird's egg, and situated immediately outside the non-vascular and reflected layer of the umbilical or erythroid vesicle."

### Brewster and Forbes

AMONG the letters of J. D. Forbes is one written on April 28, 1837, to Sir David Brewster, a part of which ran: "Your experiments on absorption must be most interesting. I think Wrede, the first pages of whose paper Taylor has lately translated, has done something of the kind you allude to, if I understand it correctly. If I recollect well, he imitates the phenomena of absorption by combinations of thin mica plates, that is by the colours of thin plates.

"I will do my best to capture a Wolf's lens for you, on condition that you will not require an affidavit that I saw the wolf make use of it. To stare a wolf in the face in the Black Forest would be enough to throw any optical philosopher into a fit of reflection."

### The Zoological Society

THE anniversary meeting of the Zoological Society was held on April 29, 1837, at the Museum in Leicester Square, the Earl of Derby, president, being in the chair. The receipts for the year had been £19,123 14s. 10d., of which £9,463 2s. 0d. was from admission fees to the garden; the receipts from this source exceeded those of the previous year by £2,000. The giraffes had been a great attraction. The Society had 3,050 members, with 43 candidates, 112 corresponding members, 24 foreign and 10 honorary members. During the year 363,392 persons visited the gardens. The total number of specimens were 1,025, of whom 307 were quadrupeds, 704 birds and 14 reptiles. The number of specimens in the Museum was 6,720, and there had been 3,668 visitors.

### Medicine in Italy

THE April issue in 1837 of the quarterly *British and Foreign Medical Review* contains the following account from a correspondent of the state of medicine in Italy at that time.

"From what I have seen of the Italian physicians, I would remark that they display considerable learning and much acquaintance with ancient authors, yet in their practice they do not appear to advance beyond the days of Hippocrates or Galen. Following closely the footsteps of the great Father of Medicine, they closely watch the natural progress of the complaint, but unfortunately they do little either to assist or counteract the operations of Nature. In their practice they seldom employ anything like decision or vigorous measures to cut short disease, and even in the most acute complaints, they depend more on diet and regimen than on the use of medicines. I would not assert that they lose more patients than the English physicians; but I have no hesitation in saying that the bad effect of their mode of treatment is apparent in the immense number of chronic diseases which are continually presenting themselves and which might probably have been prevented from becoming such, had depletion been more freely resorted to in the acute stage of the disease."