

AMERICAN NOTES *

THE official report of the geological explorations prosecuted during the past summer by Prof. F. V. Hayden, under the authority of the Department of the Interior, has just been published by the Government in a well-printed volume of over five hundred pages, containing a full account of the geology and natural history of the region traversed. It embraces an article by Prof. Hayden upon the physical character and local geology of the different sections of his route, which extended from Cheyenne, by way of Fort Fetterman, South Pass, Fort Bridger, the Uinta Mountains, to Green River, and back again, *via* Bridger's Pass, to Cheyenne. This is followed by an account of the Geology of the Missouri Valley from Omaha to Salt Lake Valley, with observations on the mines, ores, coals, and salts. An appendix contains an article by Prof. Cyrus Thomas upon the agricultural possibilities of the country, with a list of the orthopterous insects, including a number of new species, followed by a number of special reports—as one by Prof. Meek, on the invertebrate fossils; on the Tertiary coals of the West, by Prof. Hodge; on the ancient lakes of Western America, by Prof. Newberry; on the vertebrate fossils of the Tertiary formation, by Prof. Leidy; on the fossil plants of the Cretaceous and Tertiary formations of Kansas and Nebraska, by Mr. Lesquereux; on the fossil reptiles and fishes of the Cretaceous rocks of Kansas, the fossil fishes of the Green River group, and the recent reptiles and fishes, by Prof. Cope; and on the industrial resources of Western Kansas and Eastern Colorado, by Mr. Elliott. Lists of the mammals, molluscs, and birds, of the coleoptera, hemiptera, and plants, are also included, together with an account of the general meteorology of the expedition. A large number of new species of different kinds are described, and the whole work forms a very important addition to our information relative to the geology, geography, and natural history of the West. — The second and third annual reports of the Peabody Academy of Science of Salem (for 1869 and 1870) have just been published, giving a gratifying account of the activity of that young and energetic society, which, although only in the third year of its existence, already ranks among the best establishments of the kind in the country, and which, in the number of excellent working naturalists associated with it, is rapidly making its mark. The donations to the museum of the academy during 1870 alone amounted to 195, received from 148 different persons. The identification of the specimens presented has been accomplished by the officers of the academy, aided by specialists in other parts of the country. The reports embrace references to several exploring expeditions instituted in the interests of the academy in different parts of the United States, as well as in Central America. The second number of the first volume of the *Memoirs* of the academy has also just appeared, and closely resembles typographically, as well as in size and other features, the well-known *Memoirs* of the Boston Society of Natural History, and of the Museum of Comparative Zoology. This part is occupied entirely by a paper upon the embryology of certain neuropterous and other insects, by Dr. A. S. Packard, jun., the Secretary of the Council.—Attention is called by the Panama papers to the extraordinary meteorological conditions that have lately prevailed throughout Central and South America, especially in the falling of large quantities of rain where previously such an occurrence was almost unknown. This unusual amount of precipitation is understood to have first occurred on the Isthmus of Panama, and to have resulted in disastrous floods at Aspinwall and elsewhere, of which an account has already been given. The climatic change seems to have travelled southwardly from that region, and to have involved successively a large portion of the chain of the Andes in its operations. The latest advices from Peru show that in localities hitherto perfectly rainless torrents have fallen to such an extent as to produce very great disasters. These have occurred at Payta, San José, Lambayeque, &c. The villages on the western slope of the Andes in Chili and Peru are not prepared for such an occurrence (of which many of the inhabitants had never had any practical experience), the sites and material of the buildings being alike unsuited to resist storms. The town of Lambayeque, containing seven or eight thousand inhabitants, is reported to have been entirely destroyed by the rain. The most southerly point reached by the rain at last dates seems to be the valley of Canete, which was inundated to the great damage of the sugar and other plantations. Much land has been totally ruined by the washing out of its soil, leaving behind a mere collection of gravel and stones. Vessels passing along the

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western coast at a distance of hundred miles and more experienced heavy rains where previously nothing but fog had been met with. The electric phenomenon visible around Mount Tacora, to which we recently referred, seems to have been a part of this same system of atmospheric disturbance, and connected with it was a widely extended arrangement of the telegraph lines in Chili, an event of extreme rarity.

SCIENCE IN VICTORIA

ONE or two interesting subjects were discussed at a recent meeting of the Royal Society of Victoria, and we are favoured by a correspondent with the following particulars:—Notes on the working of the great Melbourne telescope, which some time ago was inconsiderately pronounced to be a failure, which were read by Mr. Farie MacGeorge, who has had charge of the instrument since Mr. Le Sueur left. It was stated that the speculum polished by Mr. Le Sueur had worked very satisfactorily, and some fresh discoveries with regard to Sirius and the star δ were thus described by Mr. MacGeorge:—"On 9th Dec. 1870—indifferent evening—I noted all the faint stars near Sirius for future identification. On the 18th Jan. 1871, for the first time, I chanced upon Lassell's observations of Sirius in the 'Memoirs of the Royal Astronomical Society,' 1867. Mr. Martin there mentions having suddenly found a very faint star in the neighbourhood of Sirius which had, until then, escaped keen observers like Struve, Lassell, and himself, in the exquisite 4ft. equatorial at Malta. On comparing the position of this faint star—now called Lassell's Companion—with the faint stars noted by me on 9th December, it evidently corresponded with one noted on that date, so that with our great equatorial my eye, unbiassed by previous knowledge, detected at the first inspection on an indifferent evening an object which had long escaped these careful and experienced observers in the great Malta equatorial, an instrument of acknowledged excellence and equal aperture to our own. Several still fainter stars have since been seen near Sirius, two of them between Lassell's Companion, the star δ , and Sirius. So far as I have yet seen, any want of definition is evidently due to atmospheric defects, not instrumental ones, the power of definition being at all times in direct ratio with the goodness of the evening." Prof. Wilson made a suggestion to the society respecting an expedition to Cape York, in a steamer, to witness the Total Eclipse of the Sun on the 12th December next, the eclipse being visible along a portion of the northern coast of Australia. The proposal was favourably entertained, and an understanding arrived at that it should receive fuller consideration at the next meeting. The annual meeting of the Acclimatisation Society of Victoria was held on the 10th March, Dr. Black, the President, occupying the chair. In their customary report to the subscribers, the council, while regretting the smallness of their numbers, stated that under the management of the new secretary Mr. A. C. Le Sueur, the society bade fair to again become extensively useful. It was mentioned that four ostriches which had been received from South Africa had been taken charge of by Mr. Samuel Wilson, of Longerenong, and had now increased to sixteen, and there was every reason to suppose that their numbers would be considerably augmented in the course of this season. So far the experiment had been a marked success. Ostrich farming was a profitable occupation at the Cape colony, and it was hoped it would ultimately become so here. The climate of the Wimmera district, it was remarked, appeared to be well adapted to their habits; as a proof of which, the young Australian birds were now taller than the parent stock. It was stated, amongst other subjects dealt with in the report, that the society had done and was doing all in its power to encourage sericulture in the colony, and to this end had, in conjunction with Dr. Von Mueller, sent white mulberry cuttings and plants to all parts of Victoria. Some months ago a box of silkworm eggs was sent by the Governor of India to his Excellency the Governor, who kindly handed them to the society for distribution, and lately a supply of very superior Japanese eggs, such as were seldom sold to foreigners, had been forwarded by Dr. Bennett, the hon. secretary of the Acclimatisation Society of New South Wales. The Silk Supply Association of London, it was mentioned, in one of their reports recently published, recognised no less than 36,000 square miles of country in Victoria as well suited to the growth of silk; and when the numerous young plantations came into bearing a great stimulus would be given to this industry, which in all probability would, before many years, add materially to the wealth of the colony.