

compared with the collateral data obtained in the course of Dr. Reisner's work in Egypt.

In an appendix Mr. W. H. Crosthwaite describes the topographical work carried on by himself, Mr. T. D. Scott, and Mr. G. W. Murray, and their maps, printed in the Survey Department, appear in the volume of plates.

There are complete lists of cemeteries excavated, graves, objects found, and an index.

This report deals only with the first season's work. During the second season Dr. Reisner had to relinquish work in Nubia in order to take charge of excavations in Samaria and at the Giza Pyramids; but the first winter's work proved to be so illuminating that Dr. Reisner was able to hand over to Mr. Firth, who succeeded him, a knowledge of the history of Nubia, which has amply been confirmed at each new site. This winter the survey will reach Korosko and be brought to a conclusion.

When the final results are published the Egyptian Government may congratulate itself on having provided the means for completing the most thorough archaeological examination of such an extensive tract of territory, as Lower Nubia is, that has ever been undertaken.

It only remains to express the hope that the unique collection of antiquities collected with such infinite care and skill, and constituting a tangible record of the history of Nubia, will receive the treatment they deserve.

G. ELLIOT SMITH.

GERMANY AND THE PROTECTION OF NATURE.

THE German intellect has a wonderful turn for organic science. Its achievements in this sphere are admittedly unrivalled, and the workers may be counted by the thousand. Such names as Hofmeister, Haeckel, Virchow, Weismann, Sachs, Pfeffer, and Verworn are only a fraction of one per cent. of the list. Consider, for instance, the contributions to a single department, as shown annually in Just's "Botanische Jahresberichte." The typical English attitude, on the other hand, to nature, and especially to organic life, is hardly that of sympathetic study. It may rather be described as amused, or patient, condescension. This patronising habit receives its only modification in the case of "sporting" animals, or the more spectacular birds and mammals; and these are but the materials for a "show," *pour passer le temps*. The Press pours out a flood of "nature books," as the factories pour out toys, to amuse the children. Popularisation is the curse of the age. An up-to-date book on any branch of organic science is not to be found. Instead of a regular issue of sane, scientific accounts of progress, we have outlines for the use of schools, or productions the aim of which is the titillation or excitement of the unintelligent by means of the illustrations, if it cannot be done by the text. Work that does count appears not more often than once in a decade. It is consequently soon out of date. Such books, moreover, are generally too encyclopædic, and their allocation to different departments is far from being scientifically impartial. The various meanings of the term "nature" supply a most interesting study: a corollary may be found in the meanings of the term "natural history." If so vague and obsolete a term is still to be used it should connote the science

¹ "Bilag zur Naturdenkmalspflege." Edited by Prof. H. Conwentz. Erster Band. Pp. xi+510. (Berlin G. Bräder Borntraeger, 1910.) Price 10 marks.

of all nature, as did the good old phrase "natural philosophy."

The practical English instinct also wastes much energy in exploiting the principle of "design" in nature, and in exercising the habit of "drawing a moral." But it is really far more practical to confine the attention to the mechanism of the phenomena, and to leave teleology to metaphysics. Here, and in other matters relating to the study of nature and to the practical application of science, the German intellectual habit can give us a lesson.

It is refreshing to see a great scientific, and veritably practical, movement carried on without any pandering to amusement, pedagogy, or sentimentalism about "nature." This is distinctly the character of the scheme, the progress of which has frequently been noted in these columns, to preserve the natural monuments of Germany. The term comprises the humblest lichen no less than human monuments, such as the Porta Westfalica.

In Prussia the scheme is highly organised and is a State department. Here we see the cooperation of what we should call municipal and district and county councils with, practically, every man of science in the province, and every voluntary society or association. The German Emperor is patron of the committee for the Hohenzollern district. Every square mile of the country is investigated; when anything approaching a "centre," whether geological or ecological, or even for one characteristic species of animal or plant, is found, that centre receives State protection. The protection, it is well to note, is efficient. The maps printed in the first volume of the "Beiträge" show a remarkable list of such centres reclaimed for nature from man.

This volume of 500 pages records the work done in Prussia during the last five years. The editor, Dr. H. Conwentz, has from the commencement been the moving spirit of the scheme, and he is to be congratulated on a remarkable record of success. But, as we have tried to show, the ultimate factor in this success is the German scientific spirit, which here has the advantage of cooperating with patriotism. It will deserve still more of humanity if its example in this matter is able to inspire other countries.

A large proportion of the volume is occupied by reports, now collected, which were noticed in NATURE on their first appearance. The most noteworthy of the new matter is a long and very interesting account of the parallel movement in Denmark, with which the distinguished botanist, Prof. E. Warming, has had much to do. Even a country like Denmark is full of interesting centres of wild nature. The protected colony of *Sterna anglica* is particularly noticeable. The lengthy report of the second conference for *Naturdenkmalspflege* in Prussia, held at the end of 1909, reveals a remarkable combination of enthusiasm and organisation. What especially appeals to us in the whole scheme is its thoroughness and comprehensiveness. We read of a score of "bird reservations," and we find that the protection is more than a mere name. We also read—and to the English mind it reads very strangely—of State-protected wild flowers. Of protected landscapes, "beauty spots," Prussia has about forty; bits of geological interest number, so far, about thirty. What are significantly styled the "remains" of the plant-world and the animal-world are fairly numerous, but we should suppose the lists to be capable of considerable extension. The foreign reader may desiderate the Latin name in every zoological and botanical species cited. This is not always given, and the disentangling of identity from popular German terms is not easy.

A very precarious but highly interesting operation is that of assisting the development and propagation of wild creatures and wild plants in their natural homes. Some observations have been made on the subject now and again, and a few isolated experiments are on record, already suggestive of remarkable correlations between development and environment. The principles behind such correlations are wide reaching, and, as ecology has begun to show, of great practical importance. In due course, no doubt, the German scheme will include such experiments, care being taken to prevent that very easily obtained result, the absolute extinction of a species.

A. E. CRAWLEY.

THOMAS RUPERT JONES, F.R.S.

BORN in Wood Street, Cheapside, on October 1, 1819, Rupert Jones, after a long and eminently useful geological career, passed away in his quiet retreat at Chesham Bois on April 13, in his ninety-second year. His father, a silk merchant and throwster, had business premises in Taunton as well as in London, and Rupert Jones spent his early years in Somerset, receiving school education at Taunton and Ilminster. There the fossiliferous beds of the Lias attracted his attention, and the bent of his mind was directed towards science rather than commerce. In 1835 he was apprenticed to a surgeon at Taunton, and he completed his service at Newbury. Geology absorbed all his spare time, and many of his early observations in the neighbourhood of that Berkshire town were published in a pamphlet in 1854. After 1842 Rupert Jones was engaged for some years, chiefly in London, in medical practice. Familiar with the use of the microscope, he applied it with signal success to the study of fossil microzoa. His researches now brought him into contact with William Harris, of Charing, who had gathered a fine collection of Chalk fossils, including the minuter organisms. That geologist also possessed a daughter who became the first wife of Rupert Jones.

In 1849 his monograph of the Entomostraca of the Cretaceous formation of England, his earliest important work, was published by the Palæontographical Society. In the following year he was appointed assistant secretary to the Geological Society of London at Somerset House, where his ability and precision were shown in the editing of the society's quarterly journal. Ever busy, he edited during the years 1854-58 the last editions of Mantell's "Geological Excursions round the Isle of Wight," "Medals of Creation," and "Wonders of Geology." He likewise prepared for the Palæontographical Society further important monographs on the Tertiary Entomostraca (1856), and on Fossil Estheriæ (1862). In 1858 Rupert Jones was appointed lecturer on geology at the Royal Military College, Sandhurst, and four years later professor, when he resigned his post at the Geological Society, and removed to Farnborough, in Hampshire. In association with Dr. Henry Woodward he edited the first two volumes of *The Geological Magazine* in 1864-65, and among other works edited the "Reliquiæ Aquitanicæ" of E. Lartet and H. Christy (1875), and the second edition of "Dixon's Geology of Sussex" (1878).

His special studies were not neglected. He contributed to scientific societies and journals numerous original articles on recent and fossil Foraminifera, and Entomostraca (Ostracoda and Phyllopora), subjects on which he came to be recognised as the leading authority in this country. Much work, moreover, was done in conjunction with his friends, W. K. Parker, H. B. and G. S. Brady, Henry Woodward,

J. W. Kirkby, and others. Thus he received aid in the preparation of the monographs on the Foraminifera of the Crag (1866-97), and on British Carboniferous Entomostraca (1874-84). In 1880 Prof. Jones retired to London as the special teaching of geology at Sandhurst was then abandoned by the military authorities.

His interests extended over a wide geological field, and he had a profound knowledge of the literature. South African geology especially attracted him. In later years he gave much attention to the antiquity of man, and wrote on the plateau implements in 1894. Of sturdy build, though below the average height, he was of a cheery disposition, prone to jocularity, but ever ready to give earnest help to others. Proof-correcting he regarded as one of his recreations. Prof. Jones was elected F.R.S. in 1872, and the Lveu medal was awarded to him in 1890, by the council of the Geological Society. He was president of the Geologists' Association in 1879-81, and president of the Geological Section of the British Association at Cardiff in 1891. H. B. W.

NOTES.

A MOST important discovery in regard to the existence of man in early Pleistocene or Pliocene strata has been made by the Marquis of Cerralbo in Spain. In the alluvial deposits of the River Jalon, which is an affluent of the Guadalquivir, he has discovered very abundant remains of undoubted *Elephas meridionalis* in contact with well-characterised implements of human workmanship of the proto-Chellean type. Photographs of the specimens and of the cuttings in which they occur have been received from the Marquis in Paris, and Prof. Marcelin Boule left Paris in Easter week in order to examine the site and the specimens. It is possible that *E. meridionalis* may have survived in the south of Europe from Pliocene into early Pleistocene times, but the association of implements of human workmanship with this early species of elephant is altogether new. This discovery tends to confirm the truth of Mr. Moir's contention that the admitted proto-Chellean flint implements discovered last year by him in Suffolk, and exhibited at the Geological Society in the autumn, are really anterior to the Red Crag deposit beneath which they occur. It is to be hoped that Mr. Moir will soon publish an illustrated account of his discovery.

A VERY interesting expedition is about to visit the neighbourhood of Astrakhan. It consists of a party of trained medical observers, provided with all appliances for research, organised in Paris, and under the personal direction of Prof. Elie Metchnikoff. The object of the expedition is two-fold. It will study the history of the endemic foci of plague in the neighbourhood of Astrakhan. The cause of the repeated outbreak of plague in this region, which although usually on a small scale is of almost regularly annual occurrence, will be investigated in the light of our present knowledge of the relation of rat-like animals and fleas to plague. A second object is to investigate the causes of the singular difference of susceptibility to phthisis presented by the Calmuck Tartars and the Russian town population. It appears that the Calmucks when living their usual nomadic life in tents are free from phthisis, yet when young Calmucks (semi-adult) are brought into the towns to be "educated," they invariably contract phthisis and die. What is the reason of the less susceptibility of the Russian town population? Is it due to immunity conferred by other microbes than that of tuberculosis which have escaped detection hitherto, and