

for five weeks," he writes to Diodati, in 1637, "oppressed with weakness and other infirmities, from which my age, seventy-four years, permits me not to hope release. Added to this, *proh dolor!* the sight of my right eye, that eye whose labours (I dare say it) have had such glorious results, is for ever lost. That of the left, which was and is imperfect, is rendered null by a continual weeping." Thus the poor old man complained, until finding that his blindness was incurable, and that his many ills were increasing, he ceased repining, and begged his friends to remember him in their prayers, till his unhappy chequered life was closed by death.

G. FARRER RODWELL.

OUR BOOK SHELF

Reptiles and Birds. A Popular Account of their various Orders, with a Description of the Habits and Economy of the most interesting. By Louis Figuier. Illustrated with 307 woodcuts. Edited and adapted by Parker Gillmore. 1870. (London: Chapman and Hall.)

A VERY pretty book for a drawing-room table. The description of the several families of both reptiles and birds is filled with anecdotes culled from all sorts of writers, some of them sufficiently amusing, others, to say the least, of doubtful accuracy; witness the following in reference to the stork:—"The inhabitants of Smyrna, who know how far the males carry their feelings of conjugal honour, make these birds the subject of rather a cruel amusement. They divert themselves by placing hen's eggs in the nest of the stork. At the sight of this unusual production the male allows a terrible suspicion to gnaw his heart. By the help of his imagination he soon persuades himself that his mate has betrayed him; in spite of the protestations of the poor thing he delivers her over to the other storks who are drawn together by his cries, and the innocent and unfortunate victim is pecked to pieces." We should like to see this cruel amusement played out once to the bitter end, and should then, but not till then, believe it.

The drawings and woodcuts are as excellent as they are numerous.

Beiträge zur Lehre von den Functionen der Nerven-centren des Frosches. "Essays on the Functions of the Nerve-centres in the Frog." By Prof. D. Fried. Goltz, of Königsberg. pp. 130. (Berlin, Hirschwald, 1869.)

THIS little brochure, which, though small, contains the result of much work, is divided into four sections. 1. On the reflectorial excitation of the voice in frogs. 2. On the physiology of generation in the frog. 3. On the inhibitory influence which can be exerted on the reflex actions; and 4. On the seat of the mind (Seele) in frogs; beside investigations on the centre for the maintenance of equipoise, and the centre for locomotion. It may be observed that notwithstanding the experiments were all undertaken in frogs, those little martyrs to science, yet that some of the results at least have a direct bearing on the functions of the centra in the higher animals, and even on man himself. The results of his experiments in reference to the seat of the mind are at variance with those of Pflüger and others, who hold that the spinal cord participates with the brain in its possession. M. Goltz maintains, on the contrary, that the brain is the *exclusive* seat of all intellectual processes, and consequently, that a frog from which the whole encephalon has been removed, is an organism presenting only a complex series of reflex processes. The removal of the *cerebrum* alone deprives the animal of all voluntary movement, and of all those

faculties which are included under the general head of consciousness; it still retains, however, certain powers of co-ordination. If the corpora quadrigemina are then removed, it no longer possesses the power of preserving the equipoise of its body or the accommodation of its movements. The corpora quadrigemina therefore, he concludes, constitute the centre for the maintenance of the equilibrium of the body. The cerebellum, on the other hand, is the centre for locomotion of the whole body.

Schriften der Naturforschenden Gesellschaft in Danzig
Neue Folge, Zweiten Bandes, Zweite Heft, 1869.

THE Danzig Natural History Society publishes annually a part of its Transactions, which, although but little known in this country, often contain valuable papers. In the part for 1869, which we have just received, we find an elaborate memoir by Dr. Bail, on the epizootic fungi which affect the caterpillars injurious to forests, and it is some comfort to think, that while these vegetable parasites do nothing but mischief among the silk establishments of the south of Europe, they are regarded as serviceable in other quarters. This part also contains the continuation of M. A. Menge's valuable monograph of the Prussian spiders, of which the author has now described and figured 157 species. This memoir is indispensable to the archaeologist, and is in itself a wonderful result of the most minute research—research so minute, in fact, that the author is unfortunately led to magnify the importance of slight differences, and thus to establish a great number of new genera upon very slight grounds. M. Menge also describes and figures a species of scorpion and two species of spiders from amber; each of the latter forms the type of a new genus. Dr. Bail contributes a short but interesting paper on the occurrence of androgynous flowers in monœcious and dicecious plants. Besides some minor communications on subjects connected with natural history, the part contains two memoirs which one would hardly expect to find in the Transactions of a society of naturalists, namely, a description of the construction and theory of a marine distance-measurer, and an investigation of the moon with reference to its ellipsoidal form, by M. E. Kayser, who describes himself as "Astronomer to the Natural History Society of Danzig." The former of these papers is illustrated with three folding plates.

Notes on Microscopic Crystals included in some Minerals.

By Isaac Lea. From the Proceedings of the Academy of Natural Sciences of Philadelphia. Read February 16 and May 11, 1869.

IN these two papers the author gives an account of the minute crystals included in sapphire, garnets, and several other minerals, which in some cases are arranged in a number of definite planes, so as to give rise to the appearance seen in the so-called "star sapphires." The essays are illustrated by a plate, which shows the character of the crystals in a very satisfactory manner. The author is, however, not quite correct in thinking that such included crystals had not been previously described by several authors. Söchtig, in his excellent work,* gives an account of some facts similar to those observed by Mr. Lea; and Messrs. Sorby and Butler, in their paper on the microscopical structure of rubies, sapphires, &c.† describe "the small plate-like crystals, often triangular in form, with an angle very acute. They are very thin, and arranged parallel to three principal planes of the sapphire," and are thus precisely like those now figured by Mr. Lea. There can be no doubt that the study of the minute crystals included in minerals often throws much light on their origin, and they play a far more important part than is often supposed, and serve to explain some of the discrepancies met with in their chemical composition.

* *Einschlüsse von Mineralen u. s. w.* Freiberg, 1860.

† *Proceedings of the Royal Society*, vol. xvii., p. 291.