of Sir John Herschel since the method has distinctly fallen into disfavor.

Hostile criticism might easily select other and similar matter for adverse judgment, but much as the book is thus disfigured it remains well worth the writing and the reading thereof.

One feature remains which should not be left unnoticed, since in some measure it serves to correct false impressions elsewhere produced. The active and fecund imagination of William Herschel called into existence a swarm of fancies and hypotheses, some of which have become integral parts of the fabric of modern astronomy, while others have been consigned to the intellectual rubbish heap. Types of each class, the failure as well as the success, are presented to the reader, who, without the light which they cast upon the mental characteristics of the man, might well cry out, here is no flesh and blood, but a demi-god set to unravel the universe.

G. C. C.

SCIENTIFIC JOURNALS.

THE JOURNAL OF COMPARATIVE NEUROLOGY. DECEMBER, DOUBLE NUMBER.

On the Brain of Necturus maculatus. By B. F. KINGSBURY. A monograph of 65 pages, accompanied by 3 plates, gives the results of the application of the newer methods of staining to the difficult subject of the amphibian brain. The following points are selected from the summary:

1. As compared with certain smaller urodeles, the brain of Necturus is greatly elongated. This appears to be due largely to a greater inequality between the rates of growth of the brain and skull. This is shown, it is thought, especially by (*a*) the almost entire absence of a pons flexure, (*b*) the length of the olfactory nerves, (*c*) the extent of the diatela.

2. A callosum is considered to be entirely absent in the amphibian brain; what has been generally regarded as such is here thought to be a hippocampal commissure, in part at least, although the homology should be dependent on comparative study.

3. An olfactory tract upon the extreme ventral surface of the cerebrum may be traced to the region just caudad of the infundibulum, presumably the region of the albicantia.

4. The paraphysis is well developed and in communication in the adult with the encephalic cavities. The postparaphysis of some authors is not regarded as a true evagination.

5. The ental origins of the cranial nerves are worked out more less completely. For general results reference may be made to tables on pages 179 and 191 of the text. In particular, the motor portion of the facial nerve is shown to have the same mode of origin as in the majority, at least, of vertebrates. The first two roots of the vago-glossopharyngeal group, stated to be the representative of the lateral nerve of 'fishes,' and the nerve termed 'dorsal seventh,' are composed of fibers of the same appearance and terminate in the dorsal region of the oblongata in the neighborhood of the eighth nerve.

6. Mauthner fibers were demonstrated in the adult *Necturus*, *Amblystoma* and *Diemyctylus*. *Amblystoma* is a land form, hence there is no direct correlation with an aquatic mode of life.

7. Myelinic nerve fibres from the mesencephal pass to the ectal surface of the brain immediately ventrad of the epiphysis; these may possibly represent a parietal nerve.

The Cortical Optical Centres in Birds. By DR. LUDWIG EDINGER.

Dr. Edinger is continuing his interesting studies on the phylogeny of the cerebral cortex. He has previously maintained that the olfactory nerve is the first to effect cortical connections and that the cortex of the Ichthyopsida is exclusively olfactory in function. He now finds in the birds a tract which he names the tractus occipito-tectalis, which puts the optic nerve into similar relations with the cortex. This tract becomes medullated some weeks after hatching, exactly as in the mammals, where it has the same termini. The appearance of this tract he correlates with the remarkable visual powers of birds.

In an editorial note Prof. Herrick criticises Dr. Edinger's position with reference to the evolution of the cortex. In particular he differs from Dr. Edinger's opinion that the olfactory function is the only special sense which enters the psychic life of infra-avian vertebrates, but believes that we have evidence that reptiles also

have their optic associations. In fishes even he has already demonstrated an indirect connection between the optic tectum and the axial lobe, which latter must be regarded as functionally and probably morphologically equivalent to the cortex of the higher forms.

In a second editorial Prof. Herrick discusses *Neurology and Monism.* He advocates a *dynamic monism* which stands in strong contrast with the analytical monism of Lloyd Morgan, as presented especially in his recent work on Comparative Psychology. Interesting applications are hinted at in the field of algedonics.

The concluding sixty pages of the number are devoted to book reviews and the bibliography of the half-year past.

SOCIETIES AND ACADEMIES.

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, JANUARY 7, 1896.

Dr. Benjamin Sharp made his second communication on the ethnology of Alaska and Siberia, based on collections made by him the past summer during the cruise of the U. S. Revenue Cutter 'Bear.' He described a large collection of instruments, weapons and household utensils and exhibited a number of lantern illustrations.

A minute of the Academy's appreciation of the clearness of judgment, knowledge of affairs and courtesy of personal intercourse which had been the characteristics of the administration of the retiring President, General Isaac J. Wistor, was adopted.

JANUARY 14.

A paper entitled 'New Species of the Halicoid Genus Polygyra,' by Henry A. Pilsbry, was presented for publication.

Mr. Henry A. Pilsbry exhibited and described a specimen of Pleurotomaria from Mullica Hill, N. J. It resembles P. solariformis and P. perlata, but is much more discoidal and is probably the imperfectly described P. crotaloides of Morton.

JANUARY 21.

Papers under the following titles were presented for publication: 'Descriptions of New Species of Mollusks,' by Henry A. Pilsbry; 'The Molting of Birds, with special reference to the Plumages of the Smaller Birds of eastern North America,' by Witmer Stone.

Mr. Edw. Goldsmith described a peculiar crystallization as the result of long-continued evaporation of solutions of Iodide of Potassium. The crystalline form is hexagonal and resembles that which has been obtained from kelp liquids.

Prof. Edw. D. Cope exhibited and described the remains of fossil Balænidæ, of which he had determined sixteen species from the Neocene of Maryland, Virginia and North Carolina. The ear bones of an apparently undescribed Balænoptera and of a Balæna, apparently identical with affinis, were also described.

A resolution was adopted urging on the attention of the Smithsonian Institution the desirability of continuing the rental of a table at the Naples Zoölogical Station for the benefit of American students of biology.

JANUARY 28.

A paper entitled 'Contributions to the Zoölogy of Tennessee, No. 3, Mammals,' by Samuel N. Rhoads, was presented for publication.

The newly elected President, Dr. Samuel G. Dixon, resigned the professorship of histology and microscopic technology in consequence of increase of executive duties.

Dr. Benjamin Sharp continued his communication on the ethnology of Alaska, based on collections made by him during last summer's cruise of the U. S. Revenue Cutter 'Bear.'

In continuation Dr. D. G. Brinton spoke of the supposed influence of Asiatic emigration on the primitive civilizations of America. Reviewing the subject as illustrated by languages, myths, industries, arts and physical characteristics of the tribes, he expressed the belief that there was no reason to suppose that any such influence had been exerted. He was aware that in holding this belief he stood almost alone among American ethnologists, although his views were in harmony with those of some of the best European authorities.

A special committee of the Entomological Section of the Academy reported a mode of exterminating the tussock moth, Orgyia leucostigma, with which the trees of the city streets and squares are so badly infested.