presented by Admiral Sir M. Culme-Seymour, Bart., K.C.B.; a Kite (*Milvus ictinus*), British, presented by Mr. E. A. Wilson; a Hedgehog (*Erinaceus* sp. ?) from the Erkomit Hills, Eastern Soudan, presented by Mr. J. U. Coxen; a King Parrakeet (*Aprosmictus scapulatus*) from Australia, presented by Mrs. Lyons; three Chameleons (*Chamæleon vulgaris*) from North Africa, presented by Mr. E. Palmer; two Moorish Tortoises (*Testudo mauritanica*) from North Africa, presented by Mr. A. J. Aitchinson; two Black Tortoises (*Testudo carbonaria*) from Granada, W.I., presented by Mr. Thomas Ottway; seven Pratincoles (*Glareola pratincola*), European, deposited; a Levaillant's Amazon (*Chrysotis levaillanti*) from Mexico, a Yarrell's Curassow (*Crax carunculata*) from South-east Brazil, a long-tailed Glossy Starling (*Lamptornis æneus*) from West Africa, purchased; an Asiatic Wild Ass (*Equus onager*), a Great Kangaroo (*Macropus giganteus*), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

COMET GIACOBINI.—Our previous ephemeris of this comet was inclusive up to October 1. A Centralstelle Circular gives us a continuation of this ephemeris, based on new elements (September 5, 8, 11) calculated by Dr. H. Kreutz.

1896.		R.A. h. m. s.	Decl. ° ′	log Δ	B.
Oct. ...	5·5 ...	18 22 35	−12 2·5	0·1651	0·9
	9·5 ...	33 42	12 28·5	0·1706	0·9
	13·5 ...	45 8	12 51·4	0·1764	0·9
	17·5 ...	56 51	13 10·9	0·1826	0·9

COMET SPERRA.—With regard to the comet, information about which was communicated by a Science Observer Special Circular (No. 113), a Kiel Circular gives us an ephemeris which Prof. Lamp has calculated from new elements based on observations on September 6, 10, 13. Mr. Sperra describes this comet, as he observed it on August 31, as a nebulous object west of Zeta Ursa Major, an interval of an hour and a quarter showing distinct motion. Mr. Brooks, who had had notice of this discovery on September 4, also found the comet. Various new observed positions are given in *Astronomischen Nachrichten* (No. 3379) by several observers.

Prof. Lamp's ephemeris is given below :—

1896.		R.A. h. m. s.	Decl. ° ′	log Δ	B.
Oct. 6·5	...	16 53 22 ...	+43 59 6 ...	0·2478	.. 0·6
10·5	...	17 11 36 ...	41 44·7 ...	0·2569	... 0·6
14·5	...	17 28 24	39 29 0 ...	0·2671	... 0·5
18·5	...	17 43 56 ...	37 14 9 ...	0·2785	... 0·5

PROF. LUDWIG PHILIPP V. SEIDEL.—The current number of *Astronomischen Nachrichten* contains a short obituary notice, by Prof. Seeliger, of Prof. v. Seidel, who died recently in Munich, after a long illness. He was born in the year 1821 at Zweibrüchen, and studied in the universities of Königsberg, Berlin, and Göttingen, in which he attended the lectures of Bessel, Jacobi, Dirichlet and Gauss, with the two former of whom he became intimately acquainted. Seidel's scientific work was not only restricted to pure mathematics, but also to astronomy. In the former, his researches are well known, and of great importance is his "Note über eine Eigenschaft der Reihen, welche discontinuirliche Functionen darstellen," which contains a beautiful and important conception of regular and irregular convergence in the theory of series. He took no small part in Jacobi's well-known work on the secular perturbations of the major planets, in which he undertook the computations of extensive numerical results. Jacobi's proposal of obtaining by successive approximations the numerical solution of a system of normal equations of several unknowns, was further worked out in detail and extended by Seidel himself. No less interesting are the optical works Seidel completed in conjunction with Herrn C. A. Steinheil; among these may be mentioned his numerous dioptical investigations, which marked a distinct progress in this direction. These and other researches were of great importance in connection with Steinheil's photometric investigations.

THE BRITISH ASSOCIATION.

SECTION I.

PHYSIOLOGY.

OPENING ADDRESS BY W. H. GASKELL, M.D., LL.D., F.R.S., PRESIDENT OF THE SECTION.

WHEN I received the honour of an invitation to preside at the Physiological Section of the British Association, my thoughts naturally turned to the subject of the Presidential Address, and it seemed to me that the traditions of the British Association, as well as the fact that a Physiological Section was a comparatively new thing, both pointed to the choice of a subject of general biological interest rather than a special physiological topic; and I was the more encouraged to choose such a subject because I look upon the growing separation of physiology from morphology as a serious evil, and detrimental to both scientific subjects. I was further encouraged to do so by the thought that, after all, a large amount of the work done in physiological laboratories is anatomical—either minute anatomy or topographical anatomy, such as the tracing out of the course of nerve-fibre tracts in the central and peripheral nervous system by physiological methods. Such methods require to be supplemented by the morphological method of inquiry. If we can trace up step by step the increasing complexity of the vertebrate central nervous system; if we can unravel its complex nature, and determine the original simpler paths of its conducting fibres, and the original constitution of the special nerve centres, then it is clear that the method of comparative anatomy would be of immense assistance to the study of the physiology of the central nervous system of the higher vertebrates. So also with numbers of other physiological problems, such as, for instance, the question whether all muscular substances are supplied with inhibitory as well as motor nerves; to which is closely allied the question of the nature of the mechanism by which antagonistic muscles work harmoniously together. Such questions receive their explanation in the researches of Biedermann on the nerves of the opening and closing muscles of the claw of the crayfish, as soon as it has been shown that a genetic relationship exists between the nervous system and muscles of the crayfish and those of the vertebrate.

Take another question of great interest in the present day, viz. the function of such ductless glands as the thyroid and the pituitary glands. The explanation of such function must depend upon the original function of these glands, and cannot, therefore, be satisfactory until it has been shown by the study of comparative anatomy how these glands have arisen. The nature of the leucocytes of the blood and lymph spaces, the chemical problems involved in the assigning of cartilage into its proper group of mucin compounds, and a number of other questions of physiological chemistry, will all advance a step nearer solution as soon as we definitely know from what group of invertebrates the vertebrate has arisen.

I have therefore determined to choose as the subject of my address "The Origin of Vertebrates," feeling sure that the evidence which has appealed to me as a physiologist will be of interest to the Physiological Section; while at the same time, as I have invited also the Sections of Zoology and Anthropology to be present, I request that this address may be considered as opening a discussion on the subject of the origin of vertebrates. I do not desire to speak *ex cathedrâ*, and to suppress discussion, but, on the contrary, I desire to have the matter threshed out to its uttermost limit, so that if I am labouring under a delusion the nature of that delusion may be clearly pointed out to me.

The central pivot on which the whole of my theory turns is the central nervous system, especially the brain region. There is the *ego* of each animal; there is the master-organ, to which all the other parts of the body are subservient. It is to my mind inconceivable to imagine any upward evolution to be associated with a degradation of the brain portion of the nervous system. The striking factor of the ascent within the vertebrate phylum from the lowest fish to man is the steady increase of the size of the central nervous system, especially of the brain region. However much other parts may suffer change or degradation, the brain remains intact, steadily increasing in power and complexity. If we turn to the invertebrate kingdom, we find the same necessary law: when the metamorphosis of an insect takes place, when the larval organs are broken up by a process of histolysis, and new ones formed, the central nervous system remains essentially intact, and the