

submarine continuations of the river-valleys of Western Europe and Western Africa.

In 1910 the retired Professor published a thin autobiographical volume, entitled *Reminiscences of a Strenuous Life*. His career, like that of many other public servants, was quiet, uneventful, and not unsuccessful. It included sufficient leisure for such work as he chose to undertake, outside the sphere of his official duties, and of this leisure he diligently availed himself in the preparation of his contributions to the scientific literature of the time. Though much of his writing may not be enduring, it must be admitted that he has left his mark on the records of English geology.

Those who knew Edward Hull best will always remember him as a leal-hearted friend, who through a long life maintained the honour of a gentleman and carried with him cheerfulness and good will wherever he went.

A. G.

NOTE.—On June 1, 1914, Professor Hull was one of those friends who wrote and congratulated the Editor on the completion of fifty years of the GEOLOGICAL MAGAZINE, and was indeed one of the four famous geologists, then surviving, who had contributed to the 1864 volume of that journal, viz., the Rev. O. Fisher, M.A., F.G.S.; Sir Archibald Geikie, O.M., K.C.B., P.Pres.R.S., etc.; Professor W. Boyd Dawkins, M.A., D.Sc., F.R.S.; and Professor Hull, M.A., LL.D., F.R.S., etc., Professor Hull himself having during the fifty years made 119 communications to this Magazine. We had prepared a complete list of the titles of Hull's books and papers, amounting in all to over 250. As a selected series had already been published by Professor Hull at the end of his *Reminiscences of a Strenuous Life* in 1910, and the full list would have occupied more than ten pages, we could not devote so large a space in this number, and the intention had therefore reluctantly to be abandoned.—EDITOR GEOL. MAG.

GEORGE CHARLES CRICK.

BORN OCTOBER 9, 1856.

DIED OCTOBER 18, 1917.

BORN at Bedford on October 9, 1856, the son of Dr. F. W. Crick of that town, George Charles Crick was educated at the Modern School there. Subsequently he passed through a course of studies at the Royal School of Mines, South Kensington, from 1875 to 1881. His career there was noteworthy, for he successively passed 1st Class in Physics (1875-6), 1st Class in Biology (1876-7), 2nd Class in Chemistry (1877-8), 1st Class in Geology (1878-9), 1st Class in Mechanics, 2nd Class in Mineralogy, 2nd Class in Palæontology (1879-80), and 1st Class in Mechanical Drawing (1880-1), thus winning the Associateship.

For some short time he acted as one of the curators to a notorious private collector, but on January 1, 1881, he entered on duty as Clerk and Assistant Secretary to "H.M. Commission to enquire into Accidents in Mines etc" of which Sir Warington W Smith was

Chairman, and he continued to act in that capacity till the termination of the Commission in 1886.

Meantime in November, 1881, he undertook work in a voluntary capacity in the Geological Department of the British Museum (Natural History), and was then employed as a temporary Assistant in 1882; on April 19, 1886, he was taken on the establishment as an Assistant of the Second Class.

At the Museum he was given charge of the Fossil Cephalopoda, then much in need of attention, and throwing his whole heart into the work has left it one of the best arranged and indexed collections in the institution.

This group was at that time in process of being catalogued by Mr. A. H. Foord, who writes as follows: "I had the happiness of knowing the late Mr. G. C. Crick for many years, as I was intimately associated with him in the Geological Department of the British Museum. Our work running on similar lines we wrote several papers jointly for this Magazine and for the *Annals and Magazine of Natural History*. Great patience and minute attention to details were conspicuous in all his work, and his researches were therefore highly valued by students of palæontology in the branch which he made his own, viz. the Belemnites and the Ammonites. He will be greatly missed by all his colleagues." Crick further assisted Foord largely with the first two volumes of the *Catalogue of Fossil Cephalopoda in the British Museum*, issued in 1888 and 1891, and was joint author with Foord of the third volume (Bactrites and Ammonoidea, *pars*), published in 1897: whilst he compiled the *List of Types and Figured Specimens of Fossil Cephalopoda in the British Museum (Natural History)*, which saw the light in 1898.

Sixty-seven papers, including seven written in association with A. H. Foord, and one with R. Bullen Newton, stand to Crick's credit in various scientific publications. In the course of these, seventy-four new species are described and three new genera founded (*Amphoroopsis*, *Styracoteuthis*, and *Belemnocamax*). This is quite a moderate number for any student of fossil Cephalopoda, but his inclinations were ever toward the morphological side of his subject, and especially any feature of mechanical interest. This is very evident in his beautifully constructed model of the *Ascoceras* shell, and of the guard and phragmocone of the Belemnite, as well as in the question of the attachment of the animal to its shell in Nautiloids and Ammonoids. The first instalment of his memoir on this last question, that dealing with the Ammonoidea, was brought before the Linnean Society of London in 1898, and appeared in their Transactions. This important communication was very highly esteemed, and led, in conjunction with his other work, to the award by the Geological Society in 1900 of a moiety of the Barlow-Jameson Fund. The second part of the memoir, that treating of the Nautiloidea, was practically complete at the time of his death, and it is hoped that, with other of his literary remains, this may yet be published. Indeed, it would have appeared before had it not been for the meticulous care he bestowed on all his writings, which led him to withhold them from publication until

satisfied that the last possible item of information had been obtained, whilst a contributing cause of delay was to be found in the state of his health.

Never robust, he became on more than one occasion so seriously ill that his life was despaired of; still, he made marvellous recovery, and for some years had been so much better that he even participated for a time in Red Cross work. Whilst conscious himself of his precarious condition, he happily had no premonition of his sudden end, and the afternoon before was discussing with Dr. Kitson the geological age of some Ammonites from Nigeria, and making plans for future work. The following morning he passed quietly away at his Wimbledon home, and a few days later was interred at Luton.

Modest, quiet, and unassuming, ever ready to assist others, Crick endeared himself to all with whom he came in contact; even one who had not seen much of him writes "he always seemed a lovable little man". As such he will be sincerely mourned, not only by his widow, but by a very wide circle of friends.

Crick was elected a Fellow of the Geological Society in 1881; he joined the Geologists' Association in 1887; was one of the original members of the Malacological Society of London on its foundation in 1893; was elected a Fellow of the Zoological Society in 1896; and of the Royal Geographical Society in 1916. He was also a member of the Bedfordshire Natural History Society, of which his father was one of the founders, and frequently read papers before them.

B. B. WOODWARD.

LIST OF THE SCIENTIFIC WRITINGS OF G. C. CRICK.

1889. (In association with A. H. Foord.) "On the Muscular Impressions of *Ceolonautilus cariniformis*, J. de C. Sowerby, sp., compared with those of the Recent *Nautilus*": GEOL. MAG., Dec. III, Vol. VI, pp. 494-8, 2 woodcuts.
1890. (In association with A. H. Foord.) "On the Muscular Impressions of some Species of Carboniferous and Jurassic Nautiloids compared with those of the Recent *Nautilus*": Ann. Mag. Nat. Hist., ser. VI, vol. v, pp. 220-4, 6 text-figs.
(In association with A. H. Foord.) "Descriptions of new and imperfectly defined species of Jurassic Nautili contained in the British Museum (Natural History)": *ibid.*, pp. 265-91, 18 text-figs.
(In association with A. H. Foord.) "On some new and imperfectly defined species of Jurassic, Cretaceous, and Tertiary Nautili contained in the British Museum (Natural History)": *ibid.*, pp. 388-409, 9 text-figs.
1893. (In association with A. H. Foord.) "On a New Species of *Discites* (*Discites Hibernicus*) from the Lower Carboniferous Limestone of Ireland": GEOL. MAG., Dec. III, Vol. X, pp. 251-4, woodcut.
1894. (In association with A. H. Foord.) "On the Identity of *Ellipsolites compressus*, J. Sowerby, with *Ammonites Henslowi*, J. Sowerby": *ibid.*, Dec. IV, Vol. I, pp. 11-17, pl.
(In association with A. H. Foord.) "On the *Temnocheilus coronatus*, M'Coy, from the Carboniferous Limestone of Stebden Hill, near Cracoe, Yorkshire": *ibid.*, pp. 295-8, woodcut.
"On a Collection of Jurassic Cephalopoda from Western Australia—obtained by Harry Page Woodward, F.G.S., Government Geologist—with Descriptions of the Species": *ibid.*, pp. 385-93 and 433-41, Pls. XII and XIII.

- (Review.) “*Nanno*, a new Cephalopodan type,” by J. M. Clarke : *ibid.*, pp. 561-2.
1895. “On a New Species of *Prolecanites* [*P. similis*] from the Carboniferous Limestone of Haw Bank Tunnel, Skipton, Yorkshire”: *Trans. Manchester Geol. Soc.*, vol. xxiii, pp. 80-8, 4 pls.
1896. “Notes on some Fragments of Belemnites from Somaliland”: *GEOL. MAG.*, Dec. IV, Vol. III, pp. 296-8.
- “On *Goniatites evolutus* (Phillips) and *Nautilus elongatus* (Phillips), etc.”: *ibid.*, p. 413-19.
- “On a Specimen of *Cocconeuthis hastiformis*, Rupp., sp., from the Lithographic Stone, etc.”: *ibid.*, pp. 439-43, Pl. XIV.
- “On the Aperture of a Baculite from the Lower Chalk of Chardstock, Somerset”: *Proc. Malac. Soc.*, vol. ii, pp. 77-80, text-figs.
- “On the Pro-ostacrum of a Belemnite from the Upper Lias of Alderton, Gloucestershire”: *ibid.*, p. 117, pl. ix.
1897. “On an example of *Acanthoteuthis speciosa*, Münster, from the Lithographic Stone, Eichstädt, Bavaria”: *GEOL. MAG.*, Dec. IV, Vol. IV, pp. 1-4, Pl. I and woodcut.
- “On the Fossil Cephalopoda from Somaliland, collected by Dr. Donaldson Smith”: Appendix F in Dr. Donaldson Smith’s *Through Unknown African Countries*, pp. 426-9.
1898. “On an example of *Acanthoteuthis Ferussacii*, Münt., from the Lithographic Stone of Solenhofen, Bavaria”: *Proc. Malac. Soc.*, vol. iii, pt. i, pp. 57-60, pl. i, etc.
- “On the Muscular Attachment of the Animal to its Shell in some Fossil Cephalopoda (Ammonoidea)”: *Trans. Linn. Soc.*, ser. II, vol. vii, pt. iv, pp. 71-113, pls. xvii-xx.
- “Descriptions of new and imperfectly known species of *Nautilus*, from the Inferior Oolite, preserved in the British Museum (Nat. Hist.)”: *Proc. Malac. Soc.*, vol. iii, pt. iii, pp. 117-39, 15 illustrations.
- “On a deformed example of *Hoplites tuberculatus*, Sby., from the Gault of Folkestone”: *GEOL. MAG.*, Dec. IV, Vol. V, pp. 541-2, text-fig.
1899. “Note on *Ammonites euomphalus*, Sharpe”: *ibid.*, Vol. VI, pp. 251-6, text-figs.
- “On some new or little-known *Goniatites* from the Carboniferous Limestone of Ireland”: *Ann. Mag. Nat. Hist.*, ser. VII, vol. iii, pp. 429-54, text-figs.
- “Notes on the Fossils from the Chilian Andes, collected by Mr. Fitzgerald’s Expedition”: Appendix B in E. A. Fitzgerald’s *The Highest Andes*, pp. 333-7.
- “Note on *Ammonites calcar*, Zieten”: *GEOL. MAG.*, Dec. IV, Vol. VI, pp. 554-8, text-figs.
1900. “On the Horizon and Locality of *Nautilus truncatus*, Sowerby”: *ibid.*, Vol. VII, p. 154.
- “Note on *Nautilus (Ephippioceras) clitellarium*, Sowerby”: *ibid.*, p. 560.
- “Note on Zieten’s type-specimens of *Ammonites polygonius* and *Amm. discoides*”: *ibid.*, p. 561.
1901. “A Chalk Ammonite, probably *A. Ramsayanus*, Sharpe”: *ibid.*, Vol. VIII, pp. 251-3.
- “Note on a Dibranchiate Cephalopod from the London Clay of Sheppey”: *Proc. Malac. Soc.*, vol. iv, pp. 256-8.
1902. “On the type-specimen of *Belemniteuthis montefiorei*, J. Buckman”: *ibid.*, vol. v, pp. 13-16, pl. i.
- “Additional Note on *Ammonites calcar*, Zieten”: *GEOL. MAG.*, Dec. IV, Vol. IX, p. 47.
- “Note on the genus *Tmægoceras*, Hyatt”: *ibid.*, pp. 127-8.
- “Note on *Nautilus robustus*, Foord & Crick”: *ibid.*, pp. 342-6.
1903. “Note on Dr. J. E. Gray’s type-specimens of Jurassic Ammonites from India”: *Proc. Malac. Soc.*, vol. v, pp. 285-9.

- “On *Ammonites robustus* (R. Strachey, MS.), H. F. Blanford, from the Himalayas”: *ibid.*, pp. 290–5, text-fig.
- “Notes on some specimens of straight-shelled Nautiloidea, collected by the Rev. Samuel Couling, M.A., Ching Chow fu, Kiachow, North China”: *GEOL. MAG.*, Dec. IV, Vol. X, pp. 481–5, Pl. XXII.
- “Note on *Vestinautilus crassimarginatus*, A. H. Foord”: *ibid.*, pp. 552–5.
1904. “Note on *Pericyclus fasciculatus*, F. M’Coy, sp.”: *ibid.*, Dec. V, Vol. I, pp. 27–33.
- “Notes on the Cephalopoda belonging to the Strachey Collection from the Himalaya”: *ibid.*, pp. 61–70, 115–24.
- “Note on a remarkable Belemnoid from the Chalk of Flamborough Head”: *Proc. Geol. Assoc.*, vol. xviii, pp. 283–5, figs.
- “Note on *Actinocamax*, Miller; its identity with *Atractilites*, Link.”: *GEOL. MAG.*, Dec. V, Vol. I, pp. 407–10.
- “Note on two Cephalopods obtained by Lieut.-Col. Skinner, R.A.M.C., from the Valley of the Tochi River on the N.W. Frontier of India”: *ibid.*, pp. 490–3.
- “Description of a Nautiloid, *Pleuromutilus pulcher*, n.sp., from the Carboniferous Rocks of England”: *Proc. Malac. Soc.*, vol. vi, pp. 15–20, pl. ii.
- “On a new form of Carboniferous Nautiloid (*Amphoreopsis paucicamerata*) from the Isle of Man”: *ibid.*, pp. 134–7, pl. viii.
1905. “On a Dibranchiate Cephalopod, *Styracoteuthis orientalis*, n.gen. and n.sp., from the Eocene of Arabia”: *ibid.*, pp. 274–8.
- “On a specimen of *Cyrtoceras (Meloceras) apicale* [Foord] from the Carboniferous Limestone, Kniveton, Derbyshire”: *GEOL. MAG.*, Dec. V, Vol. II, pp. 62–5.
- “On some Fossil Cephalopoda from North Cornwall, collected by Mr. Howard Fox, F.G.S.”: *ibid.*, pp. 154–60.
1906. “Note on a rare form of *Actinocamax (A. grossouvrei)* [Janet] from the Chalk of Yorkshire”: *Naturalist*, pp. 155–8, pl. xvi.
1907. “Cretaceous Fossils of Natal”: *Third Report Geol. Surv. Natal*, pp. 163–250, pls. x–xv.
- “The Cretaceous Rocks of Natal and Zululand and their Cephalopod Fauna”: *GEOL. MAG.*, Dec. V, Vol. IV, pp. 339–47.
- “Note on two rare forms of *Actinocamax* from the English Upper Chalk”: *ibid.*, pp. 389–95.
- “On the Arms of the Belemnite”: *Proc. Malac. Soc.*, vol. vii, pp. 269–79, pl. xxiii.
1908. (In association with R. Bullen Newton.) “On some Jurassic Mollusca from Arabia”: *Ann. Mag. Nat. Hist.*, ser. VIII, vol. ii, pp. 1–29, pls. i–iii.
1909. “Note on two Cephalopods collected by Dr. A. P. Young on the Tarntaler Köpfe, in Tyrol”: *GEOL. MAG.*, Dec. V, Vol. VI, pp. 443–6, Pl. XXVI.
1910. “On *Belemnocamax boweri*, n.g. et sp.”: *Proc. Geol. Assoc.*, vol. xxi, pp. 360–5, pl. xxviii.
- “Note on two Cephalopods from the Chalk of Lincolnshire”: *GEOL. MAG.*, Dec. V, Vol. VII, pp. 345–8, Pl. XXVII.
- “Note on the type-specimens of *Ammonites cordatus* and *Ammonites excavatus*, J. Sowerby”: *ibid.*, pp. 503–5.
- “Snakestones”: *Naturalist*, pp. 145–6.
1911. “Notes on Carboniferous Cephalopoda from the neighbourhood of Exeter”: *Quart. Journ. Geol. Soc.*, vol. lxxvii, pp. 399–413.
1915. “Note on *Nautilus Mokattamensis*, A. H. Foord, from the Eocene of Egypt”: *Proc. Malac. Soc.*, vol. xi, pp. 286–90, pl. and text-figs.
- “On a Dibranchiate Cephalopod (*Plesiotheuthis*) from the Lithographic Stone (Lower Kimmeridgian of Eichstädt, Bavaria)”: *ibid.*, pp. 313–18, pl.

1916. "Note on a gigantic Cephalopod Mandible": *GEOL. MAG.*, Dec. VI, Vol. III, pp. 260-4.
 "Note on the Carboniferous Goniatite *Glyphioceras vesiculiferum*, de Koninck, sp.": *Proc. Malac. Soc.*, vol. xii, pp. 47-52.
 "On *Ammonitoceras tovilense* [n.sp.] from the Lower Greensand (Aptian) of Kent": *ibid.*, pp. 118-20, pl. vi.
1917. "Note on the type-specimen of *Crioceratites bowerbankii*, J. de C. Sowerby": *ibid.*, pp. 138-9, pl. vii.
 "Recent Researches on the Belemnite Animal": *Abstr. Proc. Geol. Soc.*, Sess. 1916-17, pp. 12-13.

MISCELLANEOUS.

THE ROYAL SOCIETY MEDALS: AWARDS FOR SCIENTIFIC RESEARCH.—Of the two Royal Medals to be awarded this year by the President and Council of the Royal Society, the King has approved of one being awarded to Dr. John Aitken, F.R.S., for researches in cloudy condensations, and the other to Dr. Arthur Smith Woodward, F.R.S., F.L.S., V.P.G.S., Keeper of the Department of Geology in the British Museum (Natural History), and one of the Editors of the *GEOLOGICAL MAGAZINE*, for his researches in Vertebrate Palæontology. We offer him our hearty congratulations on this well-merited honour. For his life and portrait see *GEOL. MAG.* 1915, pp. 1-5, Pl. I.

THE WOODWARDIAN PROFESSOR OF GEOLOGY IN THE UNIVERSITY OF CAMBRIDGE.—This Chair, founded by Dr. John Woodward in 1722, and rendered illustrious by Professor Adam Sedgwick, who held it from 1818 till 1872, when he was succeeded so happily by one of his former pupils, Professor T. McKenny Hughes (1873-1917), is now followed by another well-known Cambridge geologist, John Edward Marr, Sc.D., F.R.S., who for thirty years or more has fulfilled the important post of University Lecturer in Geology and College Lecturer in St. John's. This election by the Senate has been received with great satisfaction not only by University men but by geologists at large, amongst whom Professor Marr is well known and universally esteemed. A sketch of his life and work, with a portrait, as an "Eminent Living Geologist", appeared in this journal in July, 1916 (pp. 289-95, Pl. XI).

LENHAM BEDS AND MIOCENE ROCK FROM THE NORTH SEA.—Mr. R. B. Newton, who recently described these interesting deposits in the *Journal of Conchology*, xv, 1916-17 (*GEOL. MAG.*, June, July, 1917), and *Quart. Journ. Geol. Soc.*, lxxii, 1916, respectively, has now arranged a temporary exhibition series of the two faunas. Those interested can see these specimens in the Gallery of Fossil Mollusca at the British Museum (Natural History), on request, during the next few months.
