

lat.  $55^{\circ} 30'$ , and long.  $122^{\circ}$ ; 1877, Dr. G. M. Dawson, Whipsaw Creek, Similkameen River, B.C. and "Nicola Series," Lake Nicola, B.C.; 1878 Dr. G. M. Dawson; Queen Charlotte Islands, several localities; 1887, Mr. R. G. McConnell, Liard River, lat.  $59^{\circ} 16'$  and long.  $125^{\circ} 35'$ .

The publication is timely and valuable, and the plates which are to accompany the text, prepared by Mr. L. M. Lambe, are all ready, and will be issued shortly in conjunction with part 2 on "Fossils of the Hamilton Formation of Ontario," by the same author.

H. M. A.

ON ARCHÆOCYATHUS, BILLINGS, AND ON OTHER GENERA, ALLIED TO OR ASSOCIATED WITH IT, FROM THE CAMBRIAN STRATA OF NORTH AMERICA, SPAIN, SARDINIA AND SCOTLAND.—BY Dr. George Jennings Hinde, F.G.S., &c., &c.

Quarterly Journal of the Geological Society of London. Vol. XLV, Part I, No. 177. P. 125, *et seq.* This paper is the result of an exhaustive and critical study of the genus *Archæocyathus*, described by Mr. Billings in 1861 from the Potsdam limestone of L'Anse au Loup, Labrador, and giving its history as well as that of the allied genera *Ethmophyllum*, Meek, *Archæocyathellus*, Ford, *Protocyathus*, Ford, *Protopharetra*, Bornemann, *Coscinocyathus*, B. and *Anthomorpha* B. Then follows an interesting chapter on the "Mineral nature of *Archæocyathus*, and its allies," after which their "mode of growth and structure" are fully described—the descriptions of Billings, Meek and Bornemann having been amended by the undoubtedly ablest authority on fossil sponges, so that their true nature and affinities are now revealed. The new genus *Spirocycathus* has also been created by Dr. Hinde, to receive Billings' *A. Atlanticus*.

Regarding the affinities of the *Archæocyathinae*, Dr. Hinde holds the view that they "belong to a special family of the *Zoantharia sclerodermata* (corals) with near relationship (leaving *Anthomorpha* out of account) to the "Perforata."

Dr. Hinde then describes two new Genera: *Archneoscypbia* (which is proposed to include *Archæocyathus Minganensis*, Billings) and *Nipterella*, to include *Calathium? paradoxicum*, Billings, followed by a dissertation on *Trichospongia*, Billings. *Archæocyathus* is thus considered to belong to the special family *Zoantharia sclerodermata*, *Archæoscypbia*, is shown to be a lithistid sponge; *Nipterella*, n.g., the same, and the genera *Calathium* and *Trichospongia*, to be undoubted siliceous sponges.

A double page plate (Plate V.), of illustrations of the Cambrian *Archæocyathinae* and sponges accompany the text and shew the microscopic as well as macroscopic characters of the species represented.

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