

ties in their anatomy or thrown any important light on their classification. Results seem to show that ancestral forms such as the Helioporidæ are to be sought rather in shallow water than in the abyssal zones. There are no representatives of the most characteristic of the Palæozoic Corals such as *Zaphrentis*, *Cystiphyllum*, *Stauria*, or *Goniophyllum* in the deep sea. Possible representatives of the Cyathonaxidæ have indeed been obtained in *Guynia*, described by Professor Martin Duncan, and *Haplophyllia* and *Duncania*, described by the late Count Pourtalès, but the Cyathonaxidæ are the least aberrant and characteristic members of the so-called *Rugosa*. Pourtalès justly felt doubtful whether the arrangement of the septa in four systems instead of six could in itself be considered as a criterion of the *Rugosa*, and in the cases of *Haplophyllia* and *Duncania* the septa may be described rather as devoid of any definite numerical arrangement than as exhibiting any tetrameral symmetry. Further, Mr. Moseley has lately examined, by means of sections, the structure of the soft parts of *Duncania* in a specimen provided by Mr. A. Agassiz for the purpose, and finds that with regard to the peculiar arrangement of the longitudinal septal muscles and the demarcation of the directive septa, the coral agrees essentially with the Hexactinaria such as *Caryophyllia*, and all other modern Madreporaria, the anatomy of which has been adequately investigated."

