they were continued in some regions into that period without a break. Moreover, it has now been ascertained beyond doubt that plant and animal life had already appeared upon the earth during pre-Cambrian time. Hence the term Palæozoic, or Primary, which has hitherto been used to denote the older fossiliferous systems that terminate downward at the base of the Cambrian rocks is no longer strictly accurate, unless it is extended so as to include the very oldest strata in which organic remains have been found. Geologists have agreed to fix the base of the Cambrian system at the *Olenellus*-zone, already referred to. It is quite evident, however, that at any moment a new series of fossils may be discovered below that horizon, and it will then be matter for consideration whether such a series should be included in the Cambrian fauna or be made the palæontological basis for the designation of a still older geological system. In the present meagre state of our knowledge regarding these ancient rocks, it seems the most prudent course to take in the meantime the platform of the *Olenellus*-zone, which has now been recognized in many parts of the globe, as the Cambrian basement, and to fix there provisionally the downward limit of the Palæozoic series of systems. That series will thus include all the older sedimentary formations from the bottom of the Cambrian to the top of the Permian system. The strata embraced under the comprehensive designation of Palæozoic consist mainly of sandy and muddy sediments with occasional intercalated zones or thick masses of limestone. They seem everywhere to bear witness to comparatively shallow water and the proximity of land. Their frequent alternations of sandstone, shale, conglomerate, and other detrital materials, their abundant rippled and sun-cracked surfaces, marked often with burrows and trails of