conglomerates to sandstone, limestone and shale being sometimes supposed to form a basis sufficient to draw well defined lines between rocks of different systems. If, however, we traverse any of our coasts of the present day we find in very limited space the greatest variety of beach. Here we have a stretch of fine sand, passing speedily into grit and soon becoming a rough shore covered with loose stones of various sizes, while a little further on, this may possibly, especially near the mouth of some small stream, give place to beds of soft clayey mud. In one place we have a considerable accumulation of sea shells which may, however, be only local, and we may traverse long stretches of shore without observing any trace of organic life. Now precisely similar conditions must have, to a great extent, prevailed in early times, and the variously composed beaches of that period have now become the hard stratified rocks which are distinguished by the terms Cambrian, Silurian, Devonian or what not, as the case may be, the fine clay mud becoming shale, which by alteration passes into a hard clay slate, the fine sandy stretch will form a bed of hard sandstone or possibly a glassy quartzite, while the pebbly beach will pass into a conglomerate which may be interstratified, and often is, with beds of shale and limestone, and yet all these various kinds of rock are of precisely the same age, notwithstanding their great diversity of character.

Although we may undoubtedly assume from the advanced type of many of the Cambrian fossils that a long ancestry of earlier forms must have existed, of which the traces have been removed, the fact is patent that the increase in species is wonderfully greater as we advance to more recent periods. From the fossils collected also from all available points on the world's surface we find that a wonderful uniformity in order of life existed, so that from the strata of New Zealand or Australia precisely the same forms are obtained as are found in the rocks of Great Britain, Norway and Canada to the Rocky Mountains.

While, however, the forms of marine life speedily increased, we do not find indications of land plants till we reach the later portion of the Silurian period. Of sea weeds, however, there was a great abundance even in the earlier eras. But in the Devonian period plant life assumed great proportions. The hillsides and marshes were beautiful with the green of that earliest land vegetation. Further we know that