

12. The growth bands exhibited by ancient and modern corals and mollusks, which appear to be an accurate indicator of the daily growth rate of these organisms, as well as the number of days in the year at the time when the animal was living. It has been known since the beginning of this century that the corallites of some kinds of modern corals possess annual growth bands. Now, within the last decade, it has been learned that these corals possess two lesser orders of growth bands or ridges between the annual rings, the one marking the growth increments of synodical, lunar months; the other the increments of daily growth. When certain fossil corals from the deeper strata, e. g., from Devonian rocks of New York and Ontario, are examined they are found to show growth bands very similar to those of modern corals, except that the number is approximately 400 instead of 365, apparently indicating 400 days in the year. A very similar phenomenon has been observed in the case of certain bivalve mollusk shells.¹²

13. Ancient, large organic banks (also known as reefs in most geologic literature), together with the evaporite deposits which cover them. These are found in numerous oil fields, usually at a depth of several thousand feet, and underlain by more layers of fossil-bearing rock. The organic banks themselves contain large assemblages of invertebrate and plant fossils, with a considerable number of delicate colonial forms remaining in situ.¹³

14. Various types of complex cyclic deposits exhibited in oil fields and elsewhere. Both the main cycles and the sub-cycles are significant. A study of the solubilities and textures of the materials deposited is essential for an understanding of cyclic deposits; e.g., the highly soluble layers which appear in some of these cycles require a recognition of environmental changes to bring about sufficient concentration of the sea water for the precipitation of the soluble minerals. Solubilities can be obtained from the Handbook of Chemistry and Physics, and textures can be obtained from the literature of petroleum geology.¹⁴