

# CORAL REEFS AND RELATED CARBONATE STRUCTURES AS INDICATORS OF GREAT AGE

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## ABSTRACT

Non-radiometric evidences for long periods of time in earth's history, which do not indicate an evolutionary origin for life on the earth, are abundant. Data concerning these evidences are available in the literature of petroleum geology, and in other geologic reports, but these have been overlooked or disregarded by the recent creationist movement. Many large, biologically-built, in situ, structures are found within limestone and dolostone formations throughout the world. The growth, burial, and carbonate cementation of these indicate the passage of a significant number of years for each layer. It is considered important and proper that we regard the natural laws which govern biological growth and growth rates to have been essentially constant ever since the creation of life on the earth. Evidences for accepting these laws as stable are numerous.

Modern coral atolls in the Pacific give every evidence of having been formed by the natural growth of corals and lime-secreting algae. Eniwetok atoll is a "cap" of approximately 4,600 feet of coral-algal reef material, resting on an extinct volcanic cone which rises two miles above the ocean floor. The fastest known growth rate of 8 mm per year for such reefs can not be simply applied to this thickness because periods of growth stoppage and weathering are revealed at several levels in the drilling cores.

Ancient, buried coral reefs exist in some of the oil fields of Alberta, Canada. Some of these closely resemble the form of living atolls of the Great Barrier Reef, with many kinds of identifiable fossils in them. Some of these ancient atolls rise to a height of 800 feet above the foundation sediments upon which they rest. Both the foundation sediments and the layers which later buried the reef indicate the passing of long periods of time, because of the evaporitic nature of the layers. Above these layers are more than 4,000 feet of sedimentary rock strata, much of which is limestone of types which could not have been formed rapidly.

The Great Bahama Bank is a very large structure, composed entirely of carbonate sediments, most of which were produced by biological processes. It rises abruptly from the sea floor to a thickness of more than 17,000 feet. Additional drillings made within the past 3 years indicate that carbonate sedimentologists have been correct in taking this bank to have formerly been an active coral atoll. All across the present surface of the atoll we can readily observe the continuing processes of carbonate sediment production by many kinds of lime-secreting organisms. These and the process of ooid formation have added approximately 35 meters of sediment since the time that coral growth became drastically reduced. The present rate of this addition is approximately 30 centimeters per thousand years.

Fossilized hardgrounds and stromatolites, resulting from biological growth, exist at many stratigraphic levels in most parts of the world. The types of organisms which encrusted the upper surfaces of the hardground layers and formed the stromatolites are usually well known. Vertically repeating sequences of these hardground and stromatolite layers exist at many locations.

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