Unseen Shell-Producing Organisms

The realization that the water of the open seas contains great quantities of microscopic-sized, floating animals and plants is rather new to man.[2] Only during the last few decades have we discovered that a large proportion of these minute organisms live in hard, mineral shells which can contribute to the accumulation of sediments on the sea floor. (See Figure 28 for a magnified photograph of one of the most common types of these.) Even though the shells (usually called "skeletons") are more dense than water, they are kept afloat by tiny bubbles of gas which the animal or plant keeps producing in its protoplasm. These unicellular organisms grow and reproduce rapidly, and the old shells slowly sink to the bottom. Thus, throughout the years, there is a slow, steady "rain" or fallout of the shells, sinking down through the thousands of feet of water, to take their place on the bottom.

In the warmer parts of the oceans, most of these shell-producing organisms use calcium carbonate as the principal component of their skeletons, and the resulting deposit on the bottom is what we call "chalk." In fact, when we microscopically examine the natural chalk deposits which are now on land we find that they still contain multitudes of well-preserved skeletons of these creatures.

For the Bible student, as well as the oceanographic scientist, these deposits are of great interest. The chalk deposits on the ocean floor are many feet thick, over vast areas, and the constant production and deposition of the tiny shells provides us with a means of estimating amounts of time which have passed. This way of estimating amounts of time is particularly reliable on the higher parts of the sea floor, such as on the broad tops of what are called "rises." On these surfaces which are above the general level of the sea floor, the accumulations of the minute skeletons which sink down through the water can go on relatively undisturbed for long periods of time. And at these sites the deposition process is not disturbed by rapid turbidity currents, such as those which flow off the sides of continents and islands.

It is true that the use of the thicknesses of chalk deposits on the ocean floor as a measure of time can not be absolutely precise; but, since the ocean water is already teeming with the organisms which produce the chalk material, one could not postulate that the growth and abundance of such organisms was many times greater than it is today. (Of course we can not estimate how much more sparse their populations were in the past, so we admit that deposition could have been much slower at certain times in the past than it is now.) One reason that we can not postulate vastly greater abundance of these populations than exists at present is the universal law that in any over-populated area--whether on land or in water--the organisms crowd each other out, as they compete for food, oxygen, and minerals.[3]

Types of Chalk-Producing Organisms

Before we take up the topography of the ocean floor, and the