

every farmer knows. The reasons for these limits are several, but the most obvious of them are: (a) limited capacity of digestion, (b) limited area of absorption in the intestine, to transfer digested food and minerals to the bloodstream, (c) limited capacity of the circulatory system for carrying the digested food to all parts of the body, (d) limited quantities of the enzymes which are so essential in the construction of the molecules of protein, fat, carbohydrate, and skeletal materials which make up the body, and (e) limited capacity to receive and distribute oxygen to the cells of the body. (Any increase of cellular activity, such as in growth processes, requires an increase of oxygen supply.) All of these limitations exist because life and growth are based on natural laws of chemical activity within the cells of the organism. Since these natural laws of metabolism are a part of life, they were of necessity established by God simultaneously with the creation of life. Certainly it is his wisdom that planned the intricate activities which go on within cells. And we must recognize that God does not change the many natural laws which He has created, except in very special cases either for the benefit, or for the judgment, of man. In other words the laws which control the thousands of chemical reactions within living cells were so perfectly planned, and so carefully and delicately related to the physical environment, that there has been no need to make any appreciable changes in those laws.

Let us take the example of a coral animal (polyp) living and secreting a skeleton. The amount of skeleton it can secrete per unit of time is dependent on the rate at which the animal can take in and assimilate food, oxygen, and minerals. Food is taken in through the mouth by tentacles from the surrounding water and digested in a central cavity. The amount of digestive enzymes is of course limited. There is no blood circulatory system to convey digested food to other parts of the body, for example, to the cells on the outside of the body which do the secreting of skeletal matter; so the digested food has to be conveyed by the slow process of diffusion from cell to cell. Oxygen is readily obtainable from the small amount of that element which is dissolved in the water, but there are no gills; so the oxygen just has to diffuse into the animal through its outside epidermis, just as in a frog during hibernation. The maximum amount of oxygen found in water, at the temperatures in which tropical reef-forming corals grow (about 27° C.), is approximately 0.001%. (The amount of oxygen which can dissolve in water is dependent upon the temperature.)<sup>19</sup> Thus the intake of oxygen is limited both by the limited surface of the animal's body, and by the physical laws which determine the rate of diffusion. Likewise, the intake and secretion of the minerals which form the skeleton are limited. The calcium-secreting cells which form the skeleton can secrete skeletal matter no faster than they can take in mineral ions from the water, chemically reprocess these ions, and release them back to the outside as calcium carbonate. This intake of ions is dependent upon the physical laws of diffusion and the biological laws of cellular activity, both of which are fundamental, permanent laws established by God at creation. Thus we come to recognize these lowly creatures of the sea as "time keepers of the past."