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PHYSIOLOGY FOR DENTAL STUDENTS

CHAPTER I.

INTRODUCTORY: THE CHEMICAL BASIS OF THE CELL.

The Scope of Physiology.—Physiology is the study of the phenomena of living things, just as anatomy or morphology is a study of their structure. The study of anatomy is most logically pursued by starting with the simplest organisms and gradually proceeding through the more complex forms until man is reached. Except for certain fundamental functions, such as nutrition, which are common to all cells, this method is not the most suitable one to pursue in physiology, because in the lowest organisms all of the functions are crowded together in a limited number of cells—indeed, it may be in one single cell. It is easier to study a function when it is performed by a tissue or organ that has been set apart for this particular purpose than when it is performed by cells that do many other things. Another reason for paying more attention to the functions of higher rather than lower animals is that the knowledge which we acquire may be more directly applicable in explaining the functions of man, and therefore in enabling us more readily to detect and rectify any abnormalities.

During the embryonic development of one of the higher animals, a single cell, the ovum, produces numerous other cells, which become more and more collected into groups, in many of which the cells undergo very marked changes in shape and structure, or produce materials, such as the skeleton or teeth, which show no cell structure whatsoever. Thus we have formed the tissues and organs, each having some particular function of