

The New Biology

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What is the value of the "new biology" for a Christian? Perhaps we should first explain that there definitely is a new type of biology being taught in most colleges and universities, and in many high schools of the United States. The new biology does not reject the facts and principles of former courses in this discipline, but it has taken on a considerably different direction.

Fifty years ago, biology courses usually consisted mainly of (a) the identification and naming of many kinds of plants and animals, and (b) the learning of as many facts as possible concerning the structure and parts which made up those organisms. The functions of the plants and animals were greatly neglected, and a study of the supposed evolutionary relationships of the organisms often took the place of physiological studies. But with the end of World War II a rapid change in biological education began. Government-sponsored research during the war demonstrated many new facets of the intricate chemical activities which go on in living things. The old idea that protoplasm is little more than a mixture of water, proteins, and minerals was dispelled forever. Scientists were now discovering that every living cell—whether in plants, animals, or man—is a complex chemical factory. Each cell is too small to be seen without a microscope, but it nevertheless possesses at least a few thousands of kinds of chemicals, and carries on hundreds of chemical reactions each moment throughout its life.

Up to twenty years ago the amoeba was often referred to as a very "simple"

animal. But now practically all biologists recognize that there is no such thing as a simple animal or plant. Even if the organism possesses only one cell, it has most of the complex chemical activities which are found in a human cell—plus several additional ones, in most cases.

For the non-Christian these discoveries have been interesting and intriguing, but for the alert Christian they are the thrill of a lifetime. Biological science has now uncovered a vast quantity of evidence to support the Christian's claim that life is too complex to have just "happened" or "evolved!" Thus, it has turned out that the very scientists who many thought would discover more evidence against the Bible, have presented us with more evidences to *strengthen* our faith than we can even make use of. We, of course, regret that so many of those scientists continue to ignore the spiritual significance of what they have discovered.

When David the Psalmist considered God's works in relation to a living human being he exclaimed, "Such knowledge is too wonderful for me; it is high, I cannot attain unto it" (Ps. 139:6). But modern biological research has revealed the human body to be a thousand times more complex than any of the ancients knew. Approximately eleven hundred years after David's time the Greek anatomist Galen began to make some careful studies of the structure of the human body. The many facts which he and his successors learned about the intricate structure of the muscles, inner organs, and other parts of the body were astounding and exciting. However, all studies of anatomy have turned out to be rather elementary compared to what is now known about the chemical activities of the cells in man and other organisms.

As modern biologists and chemists have ferreted out the facts concerning what cells do in living organisms, they have also come to realize that a knowledge of cellular activity is of greatest importance in biological studies. So, this has become one of the most prominent parts of the usual courses in biology. Now we spend at least as much time in learning *how organisms live* and function as in naming and describing their structure and appearance.

Here at Grace College we have not completely converted our biology courses to the new chemical ("Molecular") approach, but we do include a sizable amount of this material in our teaching. We feel that a biologist should still spend a good amount of his time studying whole organisms and how they are constructed. But we are truly thankful to be able to make a major part of the course deal with the functions and activities of the living cells of which our bodies are largely composed. ▼

Model of a small segment of the Master Molecule, the long, complex, twisted, ladder-shaped molecule called deoxyribonucleic acid—DNA—which is carried within the chromosomes found within the body cells. Photo used by permission of Xerox Exhibit Center, Xerox Square, Rochester, N.Y.

