

TELEOLOGY: PURPOSE EVERYWHERE†

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The word "Teleology" is derived from the Greek "telos" meaning "end" or "teleios" meaning "complete" and "logos" or "word," "body of thought." The study is one of final causes, of purpose in nature. C. Wolf used the term in his book, *Logic*, 1728.

While Aristotle taught purpose in nature, it was during the seventeenth century in this country that this subject developed. Together with the revival of interest in the Holy Scriptures at the Reformation went the expansion of the study of the natural world. So there occurred an increase in knowledge of both the spiritual and the physical.

The great Sir Francis Bacon saw the pursuit of natural science as being "to the glory of God and the relief of man's estate." The work of the leading Puritans was important here.

John Wilkins, 1614-1672, Bishop of Chester, wrote *A Discourse concerning the Beauty of Providence in all the Rugged Passages of it*, 1649, and then his noted work *On the Principles and Duties of Natural Religion*, published posthumously in 1678.

John Ray, an ejected minister at the Restoration of Charles II, devoted himself to natural science and produced a monumental and influential book in 1691, *The Wisdom of God manifested in the Works of Creation*. Three times enlarged by him, it passed through some eight further editions up to 1827.

George Berkeley, 1685-1753, Bishop of Cloyne, the eighteenth century philosopher, following this view, saw God's attributes in "the works of nature, which discover so much harmony and contrivance in their make" as he wrote in his *Treatise concerning the Principles of Human Knowledge*, 1710.

Later William Paley's *Natural Theology or evidence of the Existence and Attributes of the Deity, Collected from the appearance of Nature*, similarly exerted great influence, being required reading in the universities. It was in its twentieth edition by 1820.

To-day Dr. R. E. D. Clark's *The Universe and God*, 1939; and *The Universe: Plan or Accident*, 1949, cite plenty of evidence from modern discovery for the existence of the great Planner.

There seems to be purpose everywhere and in everything. Formerly this was recognized by many, but in modern times the subject has been disregarded and relegated to a mere half-column in the most recent edition of the *Encyclopedia Britannica*.

E. H. Haeckel, 1834-1919, the German Zoologist, notorious for his faked diagrams to foster the theory of evolution, picked out exceptions to purpose, mocking the idea by using the term "Dysteleology." However, the advances of science have told against him. For example the idea of the uselessness of vestigial organs has been exploded as their purposes have come to light.

Further, the intricate structure and interworking of organs, cells and secretions all make the idea of chance less and less acceptable. The increased interest during recent years in the study of Ecology, or the relationship of plants to one another and to their environment, shows a greater recognition of purpose in the natural world.

It would be foolish to think that the purpose for everything is known. Much needs to be discovered about the value of disease, pests and weeds on the physical plane. But on the moral, an explanation is available in the doctrine of man's fall and punishment, following the intrusion of Satan, the Destroyer. Because all is not known, we do not reject the whole study, any more than the physician ceases his treatment or the researcher his pursuit of knowledge owing to lack of complete success.

John Ray stated that the works of God in creation shows His wisdom in: I. Their Formation. II. Their Order or Harmony. III. Their End or Use. So we may think of how the complexities and varieties of structures and of the methods of functioning show the extent of the Creator's skill.

For a brief review of a sample of these wonders, the following five groups may be considered:

I—THE EARTH AS A PLANET. This sphere is unique within the limitations of our knowledge. Its range of temperatures and pressures, the composition of its atmosphere, the existence and amount of water and of numerous other compounds, make it just suited for the continuance of life as it was in the beginning.

This is in complete contrast to the conditions obtaining on other planets and recently confirmed by the space probes. The now familiar lunar exploration has shown how inhospitable is that sphere to terrestrial life. Neither can scientists

†This paper was published in July, 1970, as Pamphlet No. 177 by the Evolution Protest Movement, A. G. Tilney, Hon. Secy., Santhia Stoke, Hayling Island, Hants, England PO11 0LL. Reprints are available there at 5d. per copy. This is reprinted by permission of the author.

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conceive of any form of life that would be possible in the conditions found elsewhere than on the Earth,

II—THE PROPERTIES OF MATTER. The law of gravity makes for stability and order, enabling work to be done and goods to be stored. The weightlessness of the lunarnauts produced amusing results, but made many normal activities high impossible.

The phenomena of magnetism and electricity have proved valuable in former times for giving direction and assisting detection by means of the ancient lodestone. While to-day much of the activity of modern man with his machines is due to the use of the forces and principles involved in these phenomena.

How much might be said of the general properties of the gases, liquids and solids found in the Earth. The melting points, boiling points, densities, solubilities, conductivities and the like suggest a Guiding Hand has adjusted them so that the materials are of use to man. Here for example, the higher specific gravities of many ores is of assistance in their separation.

Water, almost a universal solvent with its suitable temperature range from melting to boiling point, is a remarkable case of purpose. Its peculiar properties of having its maximum density at four degrees Centigrade, and its crystals floating, thus preventing complete freezing up and assisting unfreezing, adds to its unique value in the Earth.

III—CHEMISTRY. In this sphere there are the remarkable cycles involving the elements oxygen, hydrogen, carbon and nitrogen. The simplest of these, for example, may be that in which oxygen is removed from the air and used by animals, and restored by plants, which will have absorbed it in the form of carbon dioxide produced from it by the animals. Thus a balance is effected to enable life to continue.

The element calcium, by means of a soluble chloride in milk and in the blood stream, supplies what is necessary to form the insoluble phosphate needed for the formation of bones and teeth. Yet this absorption is dependent on the presence of vitamin D in the food. The elements of the group, namely strontium and barium, have many similar properties, but cannot be so used, and are moreover lethal, as we think of the strontium fallout from nuclear fission and the use of barium in poisons.

Carbon is another element with markedly unique properties. Its high valency and ability to combine both with the electro-positive element hydrogen and with the electro-negative oxygen make it the constituent of very many compounds in the natural world, so that Organic Chemistry is defined as that of the carbon compounds.

Here again the most similar element to carbon, i.e., silicon, is very different, and could not conceivably be used as a substitute. In fact silicon itself, is an element of first importance, being the next most abundant to oxygen in the Earth's crust, and forming the silicates, which are the basic substances of most rocks.

Single atoms of certain elements are vital parts of biologically important compounds. The familiar green color of plants is due to chlorophyll. This is a very large molecule composed of many atoms, but within it is a single atom of magnesium. This compound is essential to life, being the catalyst enabling photosynthesis to build up compounds in plants.

Iron also occurs as four single atoms in the complex twin molecule of thousands of atoms and a molecular weight of about 68,000, known as hemoglobin. Here, owing to its special properties, it is able to combine ("rust") with oxygen to transport it to tissues where it is released and carbon dioxide removed. One author stated that iron rusting is an "unfortunate" property, but here it is essential to life. Incidentally the rusting or oxidation of a number of metals helps to remove the remains of man's discarded and disfiguring machines!

Thyroxine, an essential hormone, is a complex compound secreted by the thyroid gland. It has been synthesized, and as such has proved a blessing in treating diseases of that organ. The presence of four atoms of the comparatively rare element iodine in the molecule produces its peculiar and important properties.

A certain sickness in some Australian sheep was shown to be due to the absence of cobalt from the soil. Subsequently it was found that a single atom of this element was an integral part of the complex compound known as Vitamin B 12. This is essential for the manufacture of red corpuscles in the bone marrow.

The assertion is therefore made that these elements situated in these vital components show the wise work of the Designer, rather than the blind chance processes of supposed evolution.

IV—THE BIOLOGICAL FIELD. The fluids of the animal bodies all carry the signs of design. Blood, the carrier of the body, containing all the substances needed for its upbuilding and activities, as well as those to be eliminated, is wonderfully contrived. So too is the four-valve pump which controls its flow.

The miracle of the egg, with its peculiarly strong shell, is the story of two liquids and two cells which, without more than a steady application of gentle heat, can produce the new life of the creature which lays it. In all species the reproductive process is a miracle, beyond the conception of man's mind or remote chance.

Milk too is a marvel, eminently suitable for its purpose of feeding the young. Wonderfully secreted and containing all the substances necessary for the proper development of the offspring, it also provides a valuable food in many cases, for other creatures including man.

The alimentary canal with its attached glands and blood vessels is much more complicated, intricate and remarkable than the most sophisticated industrial plant. Essentially just one main tube, it is more than a factory producing a variety of products. Through a wise Designer, it, without apparent conscious direction, absorbs food, sorts, processes and allocates it, eliminating waste and keeping itself in constant repair. It uses and produces most complex chemicals in its digestive action, which may be described in part, but which are neither understood nor reproduced in the laboratories of the most advanced scientists.

Even the air with its precise worldwide balance of suitable gases, small variations from which prove lethal, shows evidence of design to suit the various forms of life dependent on it. This view is rather to be preferred to that of its being accidental, or the result of some fantastic processes of evolution of these numerous varieties of creatures combining to adapt the composition of the atmosphere or themselves to its use.

Numerous well-known structures of familiar creatures all point to design, rather than chance or some gradual development. The intricate organization of the ant hill is one example. Similar are the wasp's nest and the beehive with the regular hexagonal cells. The queens, drones, workers and their particular functions suggest a Super Organizer in the beginning.

The spiders with webs produced perfectly from the first, indicate something built-in, and that needs a Builder. Birds' nests of the many species are similar structures. Who too gave the birds their light strong feathers for flight and bones of minimal weight? Man's most intelligent efforts

in this form of transport are extremely clumsy in comparison.

The fine formation and beauty of diatoms; of insects, especially butterflies and moths; of plants, particularly in their flowers and seeds, are indicative of the quality of the Designing Hand behind all. The Lord reminded men that Solomon in all his glory was not arrayed like one of these. (Matthew 6:28-29).

V—THE INANIMATE FEATURES OF THE EARTH'S CRUST. These appear as designed for specific purposes. Thus in the rocks are to be found building materials, minerals, metals, fuel and the basis of soil. The mountains serve as watersheds, stores, shelters, boundaries and objects of beauty and recreation. The lakes are reservoirs, the rivers means of transport, communication and purification, while the seas are great food factories. Man is the center of all this purpose.

Sir Julian Huxley, as reckless and illogical as his ancestor T. H. Huxley, stated his "glorious paradox," that blind chance gave rise to purposeful man. The truth is that the Almighty Designer put purpose in creation which was provided for man and to be controlled by man (Genesis 2:8-9. Psalm 8:6). This control is seen increasingly through modern technology, although it often works blindly without a goal or Divine direction.

Evolutionists may declare, "What was needed, came!" or "What was present, was adapted by life!" But how did it come, how would the need be known, or how can adaptation occur without an Agent? Man for all his intelligence does not know where he is going, or what to adapt, neither can he, as the Lord said, add a cubit to his stature. (Matthew 6:27).

The creationist states, "God foresaw and provided all." Just as man is advised by a textbook or maker's handbook how to deal with a mechanism, so he needs to heed the Creator's Book, the Bible, in order to learn the right use of the Creation.