EDITORIAL COMMENTS

Dr. E. Norbert Smith, Director of the Creation Research Society Grasslands Experiment Station, discusses some areas of research that could be performed by creationist biologists. In particular Dr. Smith feels that a new biological taxonomy needs to be developed. Future Quarterlies will contain research work presented from a creationist viewpoint. Dr. George Howe's letter to the editor on keeping the Biblical creationism model separate from the creation science model should interest you. I feel that a thorough discussion of this issue will benefit our readers.

Dr. Don De Young views the properties of water from a design perspective suggesting that these are no accidents but the result of planning. Ralph Ancil discusses the importance of philosophy in the origins debate. Creationists have capably explored this subject for many years pointing out the need for Biblically-based scientific activity.

The treatise by Dr. Robert A. Herrmann develops some interesting ideas on falsifiability and verification in science. Other interesting concepts are developed in the Letters to the Editor and Panorama. Possibly many of you could contribute to the Quarterly in these sections. Again I encourage you to send your comments to me on any aspect of the creation model of science.

Emmett L. Williams, Editor

INVITED PAPER

THE ROLE OF CREATION RESEARCH IN MODERN BIOLOGY

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Received 23 September 1983; Revised 3 February 1985

Abstract

The research to be performed by creationist biologists is discussed. A new biological taxonomy is needed. Plants and animals are not evolving but are already adapted for their particular ecological niche.

Introduction

There are individuals in the modern world who do not want any reference to God in schools, government, literature or science. Although their activities are detrimental to the Creation Research Society (CRS), they should not be a major concern of our organization. Many contemporary scientists claim that the creation viewpoint is detrimental to modern science, that the creation model is untestable and that "creation research" is counterproductive or impossible. This charge is a serious one and if true should cause us to disband and donate our assets to charity. Members of CRS have rejected evolution for scientific reasons and have proposed to re-evaluate all of science from a creationist viewpoint. What, then, is our role in modern science? This is of particular importance as we begin our experiment station research.

It must be remembered that wholesale rejection of a creationist philosophy by the scientific community is a recent event in the last 100 years. Certainly there have been atheists among the great scientists in the past and evolutionary thought can be traced back thousands of years, but the fact persists that much of the foundations of modern science were laid down by scientists working within a creationist philosophy . . . and that environment was obviously productive. Some historians would agree that the scientific revolution only took place because of the Reformation.

It has been argued that since creationists dismiss all of creation as a supernatural event—a miracle; there is nothing left to study. Nonsense! Science deals with far more than origins. In a strict sense science is limited to repeatable observations and thus origins is scientifically off limits for both the creationist and evolutionist. However, much of science is descriptive. Obviously the description of some anatomical part, a newly described butterfly, or a recently isolated chemical substance from a cellular organelle may be accomplished equally well by creationists or evolutionists. It is when the origin of the anatomical part, butterfly or cell organelle is considered, that the creationist and evolutionist disagree. Such disagreement in no way diminishes the significance of the descriptive work nor should it raise serious questions about the credibility of the investigator.

Much of the progress of science has been made by disagreement. When science fails to doubt, to cross-examine its basic premises, theories and dogmas, then science as we know it will die. Even if the creationists are totally wrong, science will progress because we have forced a closer examination of the facts. Science is strengthened by learned dissension.

The final test of true science is in its ability to describe nature and make valid predicitions. It is on this latter point that the creation and evolution models are diametrically opposed. Testable predictions from the two models will differ in many areas. We must therefore work on clearly defining the creation model, on making predictions from that model and then testing the predictions. If indeed the creation model is more valid than the evolution model then a greater majority of our predictions will prove valid and greater scientific progress will be made. Somehow we must get away from trying to "prove" creation or "disprove" evolution. Such discussions are not central to the business of science.

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It has been argued that creationist thinking impedes research. Before showing this statement untrue, it might be pointed out that in some areas, evolutionary thinking has slowed modern science. In their eagerness to prove evolution, fossil hoaxes were made that to this day cloud an objective evaluation of man's fossil record. Ernst Haeckel was demonstrably fraudulent in his eagerness to prove that ontogeny recapitulates phylogeny.

Of a more serious nature is the prediction based on evolution that the human appendix was vestigial. Many healthy appendices were removed routinely during surgery to correct some other life threatening dysfunction. Of course modern medicine now recognizes the function of the appendix and it is no longer routinely removed if healthy. Countless thousands of humans were needlessly subjected to additional surgical trauma and higher risks because of an invalid notion supported by evolution.

Hindsight is normally accurate, but the creationist prediction would have led to retaining the healthy appendix even if its function were unknown since an infinitely wise Creator would not have given man useless organs. It can be argued that our understanding of the function of the human tonsils, thymus and pineal was delayed as a result of evolutionists viewing them as vestigial.

Our understanding of the details of amphibian and reptilian (especially crocodilian) cardiovascular physiology was also delayed because of the acceptance of rigidly held stereotyped views of some sort of progression of pulmonary and systemic circulation on an evolutionary sequence from fish to mammal.

Creationists too have erred in their eagerness to prove creation. Much of the remaining stigma against creationists is attributable to poorly written pseudo-scientific creationist arguments of 25-50 years ago or the dogmatic confrontational style of some current creationists.

While creationists and evolutionists can agree on many areas of descriptive applied science there are many areas where the philosophical differences become obvious. It is in these areas that we must begin defining and redefining our model. Certainly we must not stop with model building, but must get on with the business of scientific research. As members of CRS, we not only reject evolution for scientific reasons but also accept the Biblical account of creation as factual, and from this Biblical creation model see several productive areas of research as evident—proving that creationist thinking does not impede research.

After Their Kind:

Even a cursory look at Genesis 1 reveals its Author was emphasizing the point that several distinct types of plants and animals were created. The phrase "after their kind" (or after its kind) occurs nine times in Genesis 1. It was applied to terrestrial plants, fruit and trees, aquatic animals, birds, terrestrial animals and cattle. Such pronouncement prohibits common ancestry and, along with other passages, provides a basis for creationist taxonomy.

Perhaps no other area of biology needs as much re-evaluation as taxonomy. If evolution is a false premise, then taxonomy must be re-worked from a creationist viewpoint. There will be disagreement among creationists as to what constitutes a Genesis "kind"[1-5] and the limits of horizontal adaptation or microevolution. We also must use all the modern methods of taxonomy including numerical methods and various biochemical and genetic techniques. Perhaps creationists can develop a more natural and lasting taxonomy than presently exists.

Certainly, the creation of many separate kinds in the beginning precludes searching for transitional forms. The lack of transitional forms is perhaps the strongest supporting evidence for creation and has been adequately dicussed many times.

And God Saw That It Was Good:

A second recurring phrase is a divine value judgment. The phrase that "God saw that it was good" appears seven times in Genesis 1 and is a pronouncement regarding light, land and sea as well as terrestrial vegetation and fruit trees, sun, moon and stars, aquatic animals and birds and terrestrial animals. All of creation (including man) is seen as very good (Gen. 1:31). Besides a value judgment the phrase carries a meaning of completeness or perfection. This statement has endless ramifications and provides a stimulus for research in diverse areas. Since each kind of living form was pronounced good a quantitative homogeneity of adaptation is implied. Each plant or animal is ideally adapted for its particular ecological niche. The approaches to adaptation (qualitative adaptation) are endless, but the degree is constant. In an evolutionary framework, succeeding generations are thought to be evolving in the direction of increased adaptation. Phylogenetically, homeothermic birds and mammals are thought to be more advanced or better adapted for a thermally extreme environment than heterothermic amphibians and reptiles inhabiting the same habitat—quantitative heterogeneity of adaptation. The creationist view is that all organisms from amoeba to elephant are equally adapted for survival albeit they use different approaches. This view has obvious significance in studies of natural history, ecology and zoogeography and should lead to productive research.

That each organism was good or complete at the beginning implies much more. Useless structures did not exist. A structure found today that seems useless either fuctions in a way not yet understood or functioned prior to the Fall. Either way such anomalies should be studied.

Embryonic development too must be viewed from a functional viewpoint making the recapitulation of alleged phylogenies absurd. If man goes through a stage where gill slits are present (and this is debatable), then the slits function outright in some way or are necessary for the orderly development of later structures.

Implied in a perfect creation also is the concept of natural regulation of animal populations eliminating the need for starvation, illness and predation to limit animal populations. No doubt the curse altered many aspects of natural history, but studies of predator-prey relations and the natural regulation of animal (and plant) populations should be instructive to the creationist.

Conclusions

As creationists we must strive for exellence in reseach. We must demand the highest possible training for ourselves and our students. We must not stop interacting with secular scientists. We must continue to publish research in peer-reviewed, secular, scientific journals and attend scientific meetings. A re-evaluation of science demands interaction. Let us be judged on how our testable predictions perform in the open arena of science. Indeed, there is a place and need for good research by creationists in modern science.

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EDUCATIONAL COLUMN

THE WATER OF LIFE

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Received 16 November 1984; Revised 9 April 1985

Abstract

The solid, liquid, and vapor states of water are discussed from a design perspective. Many physical properties of water such as heat capacity are described and compared with other materials. The importance of the hydrogen bond is emphasized. Implications of water's behavior regarding evolution, the hydrologic cycle, and the anthropic principle are summarized.

Introduction

It pours down on the earth at the rate of 1.5 trillion tons a day. It covers 72 percent of our planet's surface, 70 billion gallons for every person alive. This common compound called water has long been considered a cheap and humdrum resource with the lowly formula H_2O. Many people assume that the world owes them a pure stream from their faucet. However, closer inspection reveals that water is by no means an ordinary resource. In space it is an extremely rare compound—only slight traces are found on other planets. On the earth, its physical properties are carefully matched with the needs of the land and its inhabitants.

Consider a cup of cool, clear water. In the absence of dissolved gases and minerals it is colorless, tasteless, and odorless—nothing could be plainer. But what is really within this refreshing and essential drink? A few swallows comprise about 10 "moles" of water, a measure of the quantity of matter. One mole consists of 6×10^{23} molecules, also called Avogadro's number. At 10 moles, the simple cup of water contains hundreds of more water molecules than the total number of stars in the entire visible universe! An individual molecule is just under one-billionth meter in diameter. This small size results in immediate benefits to us. That is, water molecules are able to readily pass through our body membranes in vital fluid circulation. In the cup there are actually 18 varieties of H_2O molecules. This results from the fact that hydrogen is available in the isotopes H^1, H^2 (deuterium) and H^3 (tritium). The latter two have one and two neutrons in the nucleus. Oxygen also takes the isotopic forms O^{16}, O^{17}, and O^{18}, giving rise to 18 different possible H_2O combinations altogether. By far the most common form is $H^1{}_2O^{16}$, since these particular isotopes dominate. The molecule $H^2{}_2O^{16}$, called heavy water, was discovered in 1934 by Harold Urey. It occurs naturally to the extent of 200 parts per million, so trillions of these heavy molecules are harmlessly swallowed with every drink. As with all materials, heavy water has many useful purposes. Thus far it has been found most useful as a neutron moderator in nuclear power reactors.

The water molecule is very stable, breaking down into separate hydrogen and oxygen atoms only at about 3000°C. It simply cannot be destroyed in the environment, only polluted. Of course water does not burn, even though hydrogen alone is very explosive in the presence of oxygen. And just what are the water molecules doing in a filled cup? Rather than lying still, in which case the water would be frozen, they are in rapid motion. At room temperature their speed averages 1,000 miles per hour! With each molecule experiencing millions of collisions each second, the surface of the water is deceptively smooth. A few molecules are continually being given higher than average speeds by rear-end collisions. These molecules, if at the liquid surface, are able to leave the cup altogether and evaporate into the air. A few stray water molecules in the air are also continually falling into the cup! And beyond the liquid state, gaseous water vapor and solid ice likewise display countless intriguing properties. Water's characteristics have been discussed by others, usually from the perspective of "coincidences" or "eccentricities" of nature.[1-9] Instead, the purpose of this study is to explore the wonders of water in praise of the infinite Creator.

The Liquid State

I will send down showers in season;
there will be showers of blessing.
Ezekiel 34:26b

PHASE CHANGE The liquid state for any material is bounded by two temperatures. The low temperature is the melting or freezing point where the solid and liquid may exist together. This particular temperature depends on the strength of molecular bonds and also on the molecular weight of the material. Similarly, the boiling or vaporization temperature also is a function of molecular interaction. It is interesting to compare water with some other substances that have a similar molecular and electron structure such as H_2S, H_2Se, and H_2Te. The elements oxygen, sulfur (S), selenium (Se), and tellurium (Te) all occur

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