

1997

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Recommended Citation

Winder, C. Gordon (1997) "Science and Christianity: The Positive Attitude," *Journal of Hindu-Christian Studies*: Vol. 10, Article 10.
Available at: <http://dx.doi.org/10.7825/2164-6279.1156>

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Science and Christianity: The Positive Attitude

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Historical Perspective

The Judeo-Christian Scriptures have been considered by literalists as true in every aspect, including references to the sciences. Scripture states that earth has four corners suggesting that the earth is flat. The sun rises in the morning suggesting that the sun goes around the earth, and earth with humankind is at the centre of the universe. The six days in the Genesis account along with the genealogical chronologies were used by Irish Bishop James Ussher (1581-1652) to calculate that the earth's origin was in 4004 B.C. The Genesis account relates that the origin of humankind, and all the plants and animals, is by creation, a "coming into existence out of nothing instantaneously".

Over time, scientists determined that the earth is a sphere; Copernicus and Galileo determined the earth and the other planets of our universe circle the sun; the first geologists came to the conclusion that the earth is very old; and Charles Darwin in his *Origins* (1859) concluded that all organisms are a product of biological evolution, with inference for mankind. Tension between conservative Christians and scientists heightened to the detriment of both Christianity and science; this has persisted to the present day.

The Conflict Attitude

The conflict attitude has been fostered by books and articles with titles such as *History of the Conflict between Religion and Science* by William Draper (1874); *A History of the Warfare of Science and Theology in Christendom* by Andrew D. White (1896);

and a series of essays entitled "The Fundamentals" published between 1911-1915 with such wishful-thinking titles as "The Passing of Evolution" by G. F. Wright, clergyman and self-taught geology professor. The philosopher/clergyman Alfred North Whitehead wrote in his *Science and the Modern World* (1926, p.126): "The conflict between science and religion is what comes to our minds when we think about this subject". The seeming antagonism remains commonplace with present-day essayists, with such statements as "And organized religion is under assault - from science" (*Presbyterian Record*, Sept. 1996, p.38); and "in many respects, science and religion have always seemed opposed" (*American Scientist*, Nov.-Dec. 1996, p.532). In all these examples, the "conflict" is between science and Christianity.

Science and religion, the two most influential philosophies of all human knowledge, are compatible for most other religions. Albert Einstein, a Jew, said "Science without religion is lame, and religion without science is blind". Maurice Bucaille, in his *The Bible, The Qur'an, and Science* (1987, p.121) wrote: "The association between the Qur'an and science is *a priori* a surprise, especially since it is going to be one of harmony, and not of discord". About the Bahá'í Faith, Brian Aull wrote that a fundamental teaching of the Bahá'í Faith is that science and religion are harmonious and complementary (*Journal of Bahá'í Studies*, 1, 2. p.1, 1988). Common sense dictates that as the teaching of the major religions - Hinduism, Buddhism, Judaism, Islam, Bahá'í, etc., - is compatible

with science, the same must hold true for Christianity.

Conservative Christians reject Darwin's theory because the Genesis account specifies that the origin of humankind was by creation, not evolution. Definition of terms and their consistent use is essential. Conservative Christians define the terms creation and evolution, and then use them interchangeably. My definition for evolution is "change with continuity", a material process, such as a lump of clay is made or formed into a pot. Contemplation of our world and universe brings the realization that virtually everything is changing, has changed, and will continue to change. Darwin's *biological* evolution describes the change as manifest by organisms within our world, present and past, where everything is changing. Creation is "something coming into existence out of nothing", a metaphysical concept, and consistent with Scriptural teaching. The origin of the universe, named the "Big Bang" by the cosmologists, was a creation, and considered aptly described by the opening statement of Genesis - "In the beginning, God created ...". The subsequent accumulation of the solid materials into stars, planets, moons, meteorites, etc., was a process of evolution by agglomeration.

That science should be compatible with Christianity can be inferred from the New Testament. In 1 Cor. 12:12-26, the adherents of Christianity - the church - are compared to a single body without division. This "body" is then compared to the human body made of eyes, ears, feet, etc., and every part is essential. This same analogy can be applied to any "body" such as an automobile, where, if any part is removed, the "body" becomes deficient and disabled. Furthermore, the analogy can be applied to the "body of human knowledge" and any attempt to remove or discredit one part has an influence on the whole. To discredit the scientific determination for the age of the earth has an influence on the whole body of scientific knowledge. Common sense dictates

that this conflict must be based on misunderstanding and a lack of perception.

Modern Science in the Judeo-Christian Scriptures

[Scripture verses from the New American Standard Bible (NASB), 1973]

Modern science is separated into major divisions of astronomy, biology, chemistry, geoscience, physics, all linked by mathematics. In addition there are the applied sciences of engineering, dentistry, and medicine. Science knowledge forms a continuous spectrum without any clear breaks. Some border areas have developed into specialized fields such as astrophysics, biochemistry, geophysics, geochemistry, physical chemistry, etc. Investigations in interdisciplinary sectors have yielded major discoveries. These in turn can be linked with other fields in the arts, humanities, languages, philosophy, and, logically, religion, and its subdivisions. The dominating influence of science on society, both beneficial and detrimental, can be illustrated by mentioning some of the discoveries and products - lasers, silicon chips, DNA, PCBs, radioactive elements, rocket propulsion, computers, artificial intelligence, cloning, teflon, vaccines, etc., etc. Although the conflict is identified as "religion with science or vice versa", not all science is in conflict with religion, only important theories in biology and geoscience. Amongst professional scientists - from astronomers to zoologists - Darwin's evolution is considered *the* most important theory of all science. But the contention is identified as "science", and thereby has a detrimental influence on all science. One trivial, but influential, fact is that in the King James (KJ) version of the Bible, 1 Tim. 6:20 mentions "science falsely so-called". When the King James version was prepared in the early 1600s, the word "science" meant all knowledge, whereas today the word applies to the physical and natural sciences. But that occurrence of "science" in the KJ has an influence on how

a conservative views science. In the NASB and other versions, the word is translated as "knowledge".

Several authors have written about the numerous modern scientific theories and hypotheses that can be recognized in Scripture, even concepts which have been discovered in the last half century. Such statements can be deemed prophetic because the authors, writing over 2000 years ago, lacked any scientific knowledge, instruction, and training.

1. Astronomy - Jeremiah 33:22 - "As the host of heaven cannot be counted." Observations made farther and farther into space reveal more and more galaxies and stars.

2. Genetics - Gen.31:10 - "the male goats which were mating, were striped, speckled, and mottled." The selective breeding of plants and animals to enhance desirable features for economic benefit is now a major industry. The recent cloning of a sheep raises the possibility of cloning humans, which causes concern.

3. Gravimetry - Isaiah 40:6d - "And weighed the mountains in a balance." A gravimeter is an extremely sensitive balance which can measure local variation in gravitational attraction. Taking measurements near a mountain can be used to calculate the weight of the mountain.

4. Paleomagnetism - Psalm 136:6 - "To Him who spread out the earth above the waters". The discovery, in 1959, of the earth's reversing magnetic field was essential for understanding "sea-floor spreading", the opening up of the Atlantic Ocean. "Continental drift" for the Atlantic, formulated five decades previously, was based on the similarities in the shoreline shape on either side. Subsequent research reveals that the earth's crust consists of several plates all of which are moving laterally.

5. Seismology - Psalm 60:2 - "Thou hast made the land quake, Thou hast split it open." Numerous references to earthquakes can be found in Scripture. During an

earthquake, great cracks can occur and blocks of the land can move vertically.

6. Structural geology - Zachariah 14:4b - "The Mount of Olives will be split in its middle from east to west by a very large valley, so that half the mountain will move to the north and the other half to the south". This describes the geological mechanism to form a graben, or depressed valley by gravity faulting.

Some earth features suggested in Scripture have been proven wrong by scientific determination. If Scripture suggests one understanding, and modern science indicates another, then accept the determination of science as probably correct.

1. Isaiah 11:12d - "From the four corners of the earth". This suggests that the earth is flat. Space probes have proven the earth is a sphere.

Job 26:10 - "He has inscribed a circle on the surface of the waters at the boundary of light and darkness". A light shining perpendicularly to a circle drawn on the circumference of a sphere produces a light and dark side. The spherical earth has day and night.

2. Psalm 104:22 - "When the sun rises". This and other verses are the basis for the geocentric model of the universe. Copernicus and Galileo established the heliocentric model. Galileo was tried for heresy by the Roman Catholic Church, which recently admitted the error.

Two major scientific determinations have been the principal basis for the science/Christianity conflict - the age of the earth, and Darwin's biological evolution. New understandings are now available to rationalize these two.

1. The Age of the Earth

In the early 1800s, when self-taught geologists - James Hutton, the Reverend Adam Sedgwick, Roderick Murchison, William Logan, James Hall, and others - began geological mapping in England, Wales, Canada, and the United States, and were measuring rock successions thousands of feet in thickness, the conclusion was

reached that the earth must be old. The Noachian flood with a duration of 371 days was insufficient to explain logically these great thicknesses. Distinctive index fossils, occurring in consistent sequences within and between continents, established a framework for determining relative ages of the rock successions. The old rocks were under the young rocks, and the succession of distinctive index fossils was the key for the relative ages. The absolute age of earth was first determined by radiometric methods in the early 1900s. The present oldest known rocks are just over four billion years. Determinations made by astronomers on stars and rocks of the moon indicate that the earth is probably about 4.7 billion years old.

There are two possible analyses of Scripture that allow for a great age for the earth: 1) the gap theory, and 2) the day/age theory. The first is based on the assumption of a great length of unrecorded history occurring between the first and second verses of Genesis 1. The day/age theory assumes that the days of Genesis are periods of great but unspecified length, and not 24 hours, cf. 2 Peter 3:8, "that with the Lord one day is as a thousand years". That number could be 10,000 years, or a million years, or even a billion years! Assuming that the days of Genesis are a billion years can allow the interpretation that earth is old, the same conclusion as derived from the scientific evidence. On this understanding, the arguments about the age of the earth from the scientific and Scripture evidence are rationalized. However, any attempt to equate the sequence according to Genesis and according to geoscience research should be avoided. Both merely indicate *earth is old*.

2. Darwin's biological evolution

The basic determination by Charles Darwin in his *Origins of the Species* (1859) was that the spectrum of organisms of the present and the past developed by the process of speciation, that is one species evolved into another species. All living organisms have a single ancestor which lived billions of

years ago. Darwin did not address the origin of life. The conservative Christians reject speciation because they argue Scripture specifies that each species was created individually. But Genesis specifies that the beasts were *made*, not created. Furthermore, speciation, Darwin's mechanism, can be understood in Scripture.

The phrase "after their kind" occurs ten times in Genesis 1, e.g., Gen.1:25: "And God made the beasts of the earth after their kind". Consider one beast designated as species D. All offspring through multiple generations of the first made individual of species D, are species D. Restate Gen.1:25: "And God made the *first made* individual of species D after its kind". Will the ancestor of the first made individual of species D, be species D? No! Because I have specified this as the *first made* individual of species D. The ancestor of the first made individual of species D must be a different species – say species A. Thus an individual of species A produced offspring, one of which was species D. That is the process of speciation, the basic principle of Darwin's biological evolution – in Scripture.

One other fact which I have never seen mentioned in a multitude of articles, essays, books, etc., on this contentious issue, is that the Hebrew word for "kind", pronounced "meen", can be translated as "species".

The Bible, and especially the Old Testament, is a prophetic book about religion, and also about some scientific concepts, including two concepts long considered as contentious – the age of the earth, and Darwin's biological evolution.

The Ultimate Positive Attitude

Over many years, in conversations and correspondence about this issue with a multitude of individuals – students, lay persons, scientists, clergy, etc. – I have perceived seven attitudes. This perception was first recorded in the November 1987 issue of *Geolog*, the Geological Association of Canada newsletter.

1. Science without Christianity

2. Christianity without science
3. Science against Christianity
4. Christianity against science
5. No science and no Christianity
6. Science and Christianity are not in conflict
7. Science and Christianity have a positive, compatible relationship

In February 1966, I explained these relationships in a paper at the annual conference of the New Scholars Society, Toronto. During the informal question and discussion period, I asked the members of the audience, individually, an original question: "What is God's attitude on the relationship between science and Christianity?" Noteworthy is the fact that every individual gave the same answer.

During December 1996 and January 1997, I sent by e-mail to hundreds of Christians across North America the following question within an explanatory letter.

What is God's attitude on the relationship between Christianity and science? are they antagonistic? or unrelated? or compatible? or some other word? (Please limit answers to one word.)

Almost 8% of the recipients responded

which is noteworthy considering the original question is about a contentious and emotional issue. More remarkable is that 78% of the respondents sent the same word as the audience at the NSS meeting – *compatible!!* One individual first replied "no conflict", and then changed to "antagonistic". But that was the only negative response.

My conclusion is that God's attitude is that Christianity and science must have a positive, compatible, and harmonious relationship, which presumably would be the conclusion already held by the adherents of other religions – Hindus, Buddhists, Jews, Moslems, Bahá'í, etc. A corollary must be that every Christian *must* hold the same positive attitude. Considering the pervasiveness and longevity of the generally held negative relationship, what is the time frame for the positive science/Christianity relationship to become the dominant attitude? One small recommendation toward that goal is that Christians should cease thinking about, and making reference to, "conflict", "controversy", "warfare", etc., and start thinking about the positive, compatible relationship between science and Christianity.