



## IS SCIENCE A RELIGION?

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Science and religion have been in conflict for hundreds of years as each claims domain over similar territory. Once the heavens had much more religious significance as Galileo found to his dismay. Over time the heavens have been demystified so that now space is more a new region of exploration than veneration for most. The conflict over evolution vs. creation continues 150 years after Darwin, albeit with the new twist of intelligent design. Today the controversy over the use of fetal stem cells in research is in the news. This conflict arises from the differing perspectives of religion and science. Some religions now define the moment a human being begins whereas most scientists see more a continuum of life processes without sacred moments. Scientists see a new area for exploration while the religious see potential for violation of God's law. These arguments are more than academic debates as they profoundly affect our view of ourselves and how we deal with intimate processes of life.

In skirmishes over these vital issues it is perhaps not surprising that we now hear that science just presents another set of beliefs no more or even less significant than religion. Cultural anthropologists recently have weighed in, suggesting that scientists are but a cultural subgroup or cult with a set of customs and beliefs. Science it is said is full of true believers and is the equivalent of a religion. But can science really be a religion? First what are science and religion?

Science is defined as systematic knowledge gained through observation and experimentation. It is a natural philosophy that provides a systematic approach to obtaining knowledge via the scientific method. The scientific method has evolved over centuries and has now come to be described in terms of stepwise process. First, information, or data is gathered by experimentation or observation. A preliminary hypothesis is formed to explain the data. This hypothesis leads to implications that are tested by further experiments. If the hypothesis holds up to these tests, the hypothesis rises to the level of a scientific theory or law. If new data are found to be in disagreement with the hypothesis, a new hypothesis is formulated which better explains the data and this is then subjected to more experimental tests. Even an accepted theory may eventually be overthrown if enough contradictory evidence is found, as in the case of Newtonian mechanics, which was shown after nearly three centuries of acceptance to be an approximation, applicable only to speeds much less than that of light. Disciplines such as chemistry, physics, biology, etc. appeared over time from many discoveries, principles, laws, and concepts developed from the scientific method in a particular area of knowledge.

Religion is more difficult to define in as a precise fashion but most religions have common characteristics. A religion includes a system of beliefs, practices, teachings and ethical values which are taken on faith. Religion deals with primal issues, and ultimate concerns such as the meaning of life and death. Religion provides institutionalized teachings and rituals to deal with life processes and its tragedies. Religious codes of behavior allow individuals to judge the personal and social consequences of their actions, and give a frame of reference by which individuals may relate to their group. But religion is more than a philosophy or cookbook for life. Nearly all religions provide a focus for worship and have at their center an explanation for the wonder and mystery of the universe in the form of the supernatural being or higher power. This being is often credited with creation and may both cause and provide

relief from suffering. Thus expressed religion includes a cosmogony—creation story, mythology, theology and it is often here that it collides with science. Religions generally lack a means to test and modify their system of beliefs. As a result there are many religions while there is presumably only one science, although one might argue the disciplines of science provide distinction and separations.

Below are some words we might associate with religion and science. Note that they are in diametric opposition:

Religion—supernatural, intuitive, spiritual, belief, faith, trust, acceptance, certitude, piety

Science—natural, rational, materialistic, skepticism, doubt, incredulity, uncertainty, impiety

So it does not seem that science can be a religion, or does it? Could it be that science has some fundamental beliefs that makes it a religion such as:

1. Belief in a rational universe
2. Belief that the universe follows immutable laws (that do not change with time)
3. Belief in the scientific method to obtain knowledge

Are these proven facts? No. They seem to constitute the part of science that is based on a system of beliefs that gives the members a code of behavior and thinking and a frame of reference by which individuals may relate to their group. This is dangerously close to seeing science as some cultural anthropologists would i.e. a cult-like subgroup with shared beliefs and cultural patterns of behavior. This is not a view I share as it trivializes and misses the significance of science's power to bring understanding and knowledge.

However, this century's scientific revelations about the quantum universe place point 1 in question because at its core our universe does not allow for rational prediction of outcomes but only the probability for various outcomes for the same starting conditions. In other words experiments are truly

not reproducible at the atomic level unless you average over large number of events. Quantum theory drove Einstein crazy as he insisted it must be wrong as “God does not play dice with the universe”. We now know “God” is a gambler and a statistician as well as a physicist. Quantum theory is not a true disaster for science because quantum physics does allow for rational predictions of overall outcomes. The underpinning of reason to explain nature is weakened but not destroyed.

Point 2 is possibly wrong, as there is conjecture that as space expands the natural laws may change with time, or that there are other universes with different laws.

Point 3. Is the scientific method the only way to knowledge? Introspection, intuition, metaphysical experiences have been claimed by scientists as to how they received ideas. For example a famous organic chemist of the 19th century, Kekule, had a dream about benzene and came up with his famous (to chemists that is) theory about resonance; perhaps we are too rigid in defining the method.

Although science has a few assumptions, even these can be open for testing. The two of the three so-called beliefs given above are the equivalent of scientific hypotheses themselves open to observation and testing. The major assumption science makes is that there is a physical reality that is testable by the scientific method. One can't help but concede that science's role in the understanding of the universe would be diminished if it is limited to the rational in a universe that is ultimately irrational. But sciences' ultimate reliance on reason means that it cannot be a religion because it lacks one major article of a religion, faith. Faith is one of the world's greatest evils according to author and scientist, Richard Dawkins, as he sees its irrationality leading to enormous harm. A look at Middle East today might cause many to agree with him. However, in a world with no ready answers, religions and faiths do provide those necessary answers for living that rational science as yet cannot. Religion has provided mechanisms for survival not recognized by Dawkins. He sees the harm but not the whole picture.

Lets look at the weaknesses of science and religion in a form that true believers in each might express.

Religion on science:

Science isn't objective, it objectifies. It takes the many dimensions of reality and diminishes them to the few of time and motion. Reality isn't perceived by science; it is diminished by it. Science takes apart the whole and calls it the sum of its parts. It takes the warmth, color, and beauty of a sunset and calls it "a spectrally shifted diminishing solar photon flux". Science makes us less than we are and is therefore is itself a false religion that limits our vision of ourselves and our full development as spiritual beings.

Science on religion:

Religion isn't a path to knowledge. It imprisons man's mind with fixed beliefs that are unchangeable, untestable and unknowable. It brings false gods to our hearts and causes us heartache when they fall. We can't know the unknown except by free thinking and testing. Only by throwing out bad ideas and beliefs can we advance. Religion as practiced by most is just an opiate for the masses. It doesn't review or test its antiquated ideas it institutionalizes them as articles of faith and makes everyone suffer the consequences. Science gives us the only perspective on reality that we can be sure of.

Both diatribes hit on weaknesses inherent in each. Clearly science and religion provide competing philosophies of reality and because of this they can be true adversaries. Both are incipient in their development and attempt to represent differing portions of reality, natural vs. supernatural, that in large part neither overlap with each other nor with reality itself in many instances. Where they do overlap a conflict naturally arises because they disagree on what constitutes proof. Science has a means to change built in and clearly has the upper hand on "knowledge". Religion largely deals with part of reality not presently accessible to science but seems to change or by developing new religions that may grow or die

based on some principle of religious Darwinism. I see religions as still necessary for our development as a species. With no guidebook for life given to our ancestors, it makes sense that human groups without an effective religion had a lower probability for survival and this may pertain to the future as well. Will therefore a future more “true and fit” religion develop; one that accepts the knowledge of science and puts it into a more complete tapestry? Perhaps, if this religion seeks to test and modify its beliefs with a new equivalent of the scientific method for religion. Then perhaps science and religion could together yield a fuller understanding of the universe. To quote Einstein “The further the spiritual evolution of mankind advances, the more certain it seems to me that the path to genuine religiosity does not lie through the fear of life, and the fear of death, and blind faith, but through striving after rational knowledge.” Perhaps the beginnings of a “religious method” toward truth are in this statement, assuming of course a rational universe.