

# The Scientific Method

"It's only a Theory!"

by Lloyd Harrison Whitting

Sharing space with the religious world is very much akin to sharing space with a very large cat, such as a cougar or lion. You know you are regarded as prey by an animal that

intends to eat you, whereas you have no intentions at all toward it except a desire to be elsewhere and unmolested. You feel forced to defend yourself with whatever is available, and to avoid becoming its next victim. It serves only one purpose: to kill. You know that, if allowed to survive, you can (and will) serve many purposes throughout your life. It will use its instinctive emotions

to drive itself to the kill; you will use, to the best of your ability, science to develop your defense.



The one thing religion and science can agree on, is that when the truth becomes known, religion becomes science. The reason is in the method each uses to propose truth. The scientific basic method follows a set of steps from inspiration toward theory, whereas religion stops at inspiration, calls it "revealed", and converts it into dogma. We don't start out with theory in science, nor hypothesis, but to discover "why", "if", or "how". Hypotheses require certain steps to be climbed to reach them, with theory being above the top step.

Step 1: At the very start, the scientist has made an observation, been inspired by an idea, or read something he wants to learn more about. At this point he may write a description of

it, including his best speculations and opinions, and what he may hope to learn about it, from which he may gain a sense of where he should go next. He may dump the idea at this point, or decide he is, after all, interested enough to invest some of his time to learn more about it, and will have a better idea of what it is he wants to learn.

Step 2: His own thoughts now squared away, and with a purpose in mind, the scientist begins his research. He will pour over journals, search the Internet, talk to his peers to see what other people may have thought or learned about the subject. He will assess the pros and cons of it, read about others' experiments if there were any, and aim for a balanced notion of all the probabilities, try to understand what might be right about what others have done, and what might have gone wrong. He may have learned enough by this time to realize he would be wasting his time to go farther, or he may become excited by a flash of insight that may provide new lead-ins to understanding.

Step 3: Only after step 2 has been completed can a prediction be made about the outcome of all the scientist's efforts. His statement in which he makes his prediction is called his hypothesis, often misstated as his 'theory', something that he will get to after much more hard, careful work and data have been assessed, sorted, culled for flukes, evaluated, challenged and verified not only by his own efforts, but by how closely others, in other places, have matched his results. The hypothesis is only the beginning of a long chain of events that may lead to a theory. Right now, he can only make a prediction about what that theory may say.

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You will receive a little book, How to be an Atheist in a plain envelope in immediate response.

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Step 4: Now he must decide what kinds of experimentation would be most appropriate for his hypothesis. The nature of his hypothesis and its subject matter will limit experimentation to only a few approaches: Will he be required to use double-blind or triple-blind trials? Will he be able to mix some ingredients to watch their reactions, or their effects upon something else? Is it about a device that he will have to build in several variations to see if any of them work as predicted? Will he have to resort to laboratory animals because it would be too risky at this point to try it out on people? Is there something about his hypothesis that makes it untestable? Only after knowing the answers to questions such as those can he begin to experiment and record his results, or decide there is no way he can continue.

Step 5: Methodology for experimentation is rigorously defined, and requires careful documentation of all aspects of experiments while underway, careful handling of the data,

subjects and materials to avoid contamination from any potential sources, and careful evaluation of any workers or assistants to assure that no prejudices may introduce 'dirt' into the results. Only after all of that has been completed and the experiments performed can the scientist subject the results to an analysis. His new data will be cataloged, assessed, sorted, culled for flukes, evaluated, challenged and verified much the same as for his development of the original hypothesis. Does his data support his hypothesis, counter it, or make a neutral statement? He may decide that his unsatisfactory results render the experiments invalid, the hypothesis invalid, or that he realizes another kind of experiment is required to bolster his results, whether contrary to or in support of his hypothesis. This step may take years to accomplish, or may never arrive at a satisfactory end, even though several scientists may be working independently on the problems by this time.

Step 6: Only after all the foregoing can the scientist arrive at a conclusion which may now, if the results warrant it, be regarded as a full-fledged theory. While even the dictionary supports the naming of assumptions, hypotheses, speculations, opinions and conjecture as theories, doing so gives them a status they do not deserve, as you can plainly see from reading this, and demeans the value of the scientist's efforts, the scientists themselves, and science in general.

A good case could be made, of course, to show that may be the purpose behind it.

The methods of science and religion are, of course, widely divergent. Science investigates objects and phenomena to find its information, using a evaluative process known as objective. Religion gains its information from scriptures and apologia while using an evaluative process known as subjective. Both may start out from an assumption, but their assumptions will be derived from the two vastly different evaluative processes. While I may feel reluctant to not bite my tongue while writing about such subjects, as have so many in the past, I cannot feel apologetic where open expression is the only valid way to present the truth, and where religionists seldom repay their opponents in kind.

Science and religion serve vastly different purposes, also: Science works to be self-correcting while religion works to be self-endorsing. The aim of science is to gain true information and keep it corrected according to whatever it uncovers in its ongoing quest. The religious get disgusted with science's constant updating, and believe their 'truths' are perpetually valid and must be spread unchanged and unchallenged throughout the world (with a few exceptions, of course).

To defend their claims of immutability, religion has developed a process called apologia, wherein the disparities between doctrine and reality get explained by religious leaders and others familiar with the scriptures and with religious history. This has often led to major rifts, during which a segment of the membership either breaks off because it has adopted the new apologia, or because it has refused to. That is how all the divisions have formed among the Arabic-derived Abrahamic religions (mainly Judaism from which Xianity and Islam

branched) and then formed subdivisions within themselves, with seemingly endless branching. That serves to explain why some sects of some cults seem to laughably out of touch and maybe even dangerously so, whereas others seem to possess a firm grasp of reality.

Science tends to avoid that problem and, over the long haul, has demonstrated itself to be a unifying process. Philosophy is, of course, to science what theosophy is to religion. While religion tends to honor those theosophers with which it happens to agree, science tends to drop erroneous philosophies, another matter at which religionists point with smirks on their faces. As erroneous philosophies get banished from prominence, they will of course retain their adherents, who will struggle with religionlike fervor to regain their once favorable status. New philosophies will sooner or later take their place, and over time even the speculations of science's distant admirers gains increasing rectitude.

The quest for evidence emphasizes differences between the scientific approach to finding truth and the religious. Objectivity demands the kind of evidence and materials that can be directly examined and discussed. Mathematical formulae may be applied in many cases, especially in the stage where predictability gains importance, so that after finishing the testing tangible evidence is required to match results with reality.

Religionists may try to imitate that process at times when they wish to appear 'scientific', the difference being that they will apply numbers to their apologia, or to their assumptions, but have seldom run any actual experiments or any kinds of tests to validate their scripture-based reasoning. Religion deals with the kinds of incorporeal subjects that will remain forever untestable, and so will struggle forever to demonstrate its claims as having merit that must, at best, be taken for granted. Such claims have mostly been grandfathered into our psyches, to reside there as troublesome memplexes that haunt us with their effects more than with any actual presences, so that no one knows quite how to dispel them, and none quite agree whether anyone should.

Other authors, much more knowledgeable about such things than I'll ever be, have written what amounts to tomes about the subject of memes, but have yet to stir up any kind of major rebellion against them, or even much controversy about them. People feign disinterest, and scientists decry the absence of tangible material. For their lack of a tangible presence memes might as well be gods, and for their untouchability, they may very well be regarded as such, somewhere deep within some hidden location where mental bowels may be cleansing such careful minds of pollution.

A historical appraisal will show that all of this is not lost to religion. Due to the effects of advancing apologia, religions today (especially in the advanced cultures) vastly differ from even as little as a century ago, that being enough lapse of time so all the oldest adherents have passed on, so the newest members are affected less from edicts of the distant past than they are by the science and technology of the present. This time lag may seem advantageous to some, who may consider it to be a kind of 'safety factor' that keeps humankind from

rushing too headlong into a future wherein we may lose control.

Religionists who appear at your stoop to argue you into their flock will generally be from the most aggressive breed of their cult, sent on a mission by their leaders to face the

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world with their testimonials and messages. They may actually know little about their creeds, may know little about their scriptures, and all they may know of science has come from the apologia they have taken in doses for however long they have been members of their sect. Here is where you get to observe the religious method of science, and learn the details of the differences. You will also, after a few bouts of such observations, understand why it fails as science and does not deserve the name.

Religious Science draws upon ancient writings for its source of knowledge, which in turn depends upon apologia for explanation. In most instances of such writings, no one knows the author's name, nor anything about him, except to accredit 'God' for the work. Such writings most likely passed from person to person through word of mouth or as the result of priestly efforts according to the religion, and eventually got scripted by enterprising people who may have had their own reasons for doing so. Too, most of today's religions inherited their creeds from a series of older religions and modified them to suit their purposes or to settle disputes, or both.

Such settlements were the beginning of apologia for each religion, and so the scriptures to which they refer contain traces and wholesale documents as products of that apologia. Apologia serves to justify the religion, never to uncover truth. Religious science serves, not to uncover truth, but to find ways to defend the religious doctrines so they will escape all appearances of tarnish.

You can perform a little personal experiment to verify that for yourself, if you would care to do so. Choose a disputed subject, especially one in which you feel interested. Pose a question about it, perhaps one you have been exposed to a bit of controversy about. Apply the scientific methods to that question

(you may need to restate it to do so) and see how far you can get with it.

Next, apply the religious version of science to it, which is to evaluate it according to scriptures and doctrine. Can you find anything at all about it in the scriptures, or does what

you find require apologia to even apply to the question at all. Does most of the religion's information come from the scriptures?— or from the apologia that serves to justify religion's views? Once you have made those determinations, subject them to objective science's methods one more time, and see if they hold up. Are religion's decrees testable?— or, were they stated in some way that served to prevent that? Can you make a prediction from them that can be tested in some fashion? If so, does that prediction pass muster, or did the religious decree turn out to be counterproductive? Can you find any truly testable reasons for disparities between the religious statement and the one made by science? If need be, can you find your own questions and work to discover their answers?

Do so, and one prediction you can rely on is that you will learn why this century's science will be the next century's religion, thanks to apologia.

Comparative examples:

1. When the levees broke during the Katrina hurricane, a religious statement was issued that the flood had resulted from the presence of homosexuals in New Orleans. The objective statement was that the levees had not been constructed or maintained in a manner required for them to withstand the force of the predicted category four hurricane. The objective prediction resulted from a study of natural events that led up to the hurricane; the after-the-fact religious statement was derived from religious sanctions against homosexuality. How can you decide which is true?

2. In the same year, June of 2006, a tsunami killed tens of thousands (as many as 230,000) of human beings, many of them vacationers who visited the affected islands at that time. Those who escaped thanked God for sparing them. Using the same religious standards that were applied to New Orleans, why do you think they escaped while the thousands whose loss they mourned did not? Also applying the standards for New Orleans, for what were they punished, and were all those who perished guilty of something of which the spared were not? Could it, too, simply be an inevitable natural disaster that happened in much the fashion and for the reasons that scientists described?

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