

Scientific method and the nature of truth

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Course web site: www.covingtoninnovations.com/tough (may move to church web site later)

Recommended reading (this list will be expanded):

Donald Williams, *The Young Christian's Survival Guide*

Kreeft and Tacelli, *Handbook of Christian Apologetics*

Covington, "Christianity in a Postmodern, Relativistic World," on course web site

Melton, "[Faith and Science](#)" (video; click on link; if pressed for time, start at 19:23)

Henry F. Schaefer, *Science and Christianity: Conflict or Coherence?* (2nd edition, 2016)

"A writer who says that there are no truths, or that all truth is 'merely relative,' is asking you not to believe him. So don't." – Roger Scruton

The intellectual climate has changed!

20 years ago, the main issue seemed to be whether modern science conflicts with Christian belief.

Now we're facing something much stranger – the idea that there is no truth to be had, that nothing has ever been proved true *or* false, so believe what you feel like, but don't claim it's true!

The following are not *theories* (that could be proven true or false) but *attitudes* or *movements*.

Premodern(ism) – Catch-all name for anything before or outside the next two. Not a movement.

Often associated with tradition and traditional authority.

Modernism – the expectation that everything old should be replaced with something new and scientific.

Science is the most prestigious intellectual activity. "Prescientific" people were ignorant and superstitious.

Only the things studied by science really exist (matter and energy); not spirituality, beauty, etc.

Modernism extends to the arts (modern art and music) and theology (new doctrines for modern times).

Key assumption: **Science, or at least reasoning, can settle all questions.**

Does not value tolerance; people should find out the *right* answer and accept it.

Postmodernism – a reaction against modernism, first in the arts, then in all areas of intellectual activity.

Popular especially in literature departments; views imagination (not science) as the most prestigious thing.

Book, *The Postmodern Condition*, Jean-Francois Lyotard, 1979, claimed that science had failed to deliver.

Technical claim: There is "no metanarrative," no big picture, no emerging consensus tying together our knowledge.

Key assumption: **We do not know anything with certainty;** there is no objective reality.

You have a right to believe whatever you want, but you don't have a right to "impose" your beliefs on others.

Consequence: Reason cannot settle questions; **all debates are just power struggles.**

Claims to value "tolerance" but often hypocritically.

Classifying an idea as premodern, modernist, or postmodernist **does not tell you whether it is true**, only what kind of tastes it appeals to. (Some truths and some errors are popular in each one.)

My response: A revolt against the excesses of modernism was needed.

People were expecting science to deliver something it never can: total certainty about everything all the time.

We have to balance two facts: **our knowledge is limited** but **the truth is out there** (objective reality).

Modernism and postmodernism fall off the same horse on opposite sides.

Yes, we have preconceptions. But facts can overrule our preconceptions. That's why we call them facts.

Is there a conflict between Christianity and science?

Some people say there is. Common 20th-century view: Only "scientific" knowledge is genuine knowledge. Everything else (including religion) is "prescientific myth."

Some people present a distorted view of history in order to make it appear that everybody before the 20th century was ignorant and stupid, and that the church has always been anti-science.

Example: They tell you Christopher Columbus discovered the earth was round. Actually, the roundness of the earth was well known to educated people since ancient Greek times.

Example: They tell you the church persecuted Galileo for his Copernican astronomy. That is only partly true. Galileo himself enjoyed provoking conflicts; a different person in the same situation could have won support. And who are the other scientists the church persecuted besides Galileo? Any?

Example: The play "Inherit the Wind" describes Tennessee fundamentalists prosecuting a schoolteacher for teaching evolution. Actually, the Scopes trial was a carefully arranged publicity stunt (see Larson, *Summer for the Gods*).

Unfortunately, many Christians assume that Christianity is anti-science, and thus that they should be anti-science too!

In particular, Christians often tell each other to simply avoid certain areas of scientific investigation. (Why? All truth is God's truth.) We need Christians to go into evolutionary biology, neuropsychology, and other fields that are often considered anti-Christian.

The scientific world-view descends directly from Judeo-Christian religion.

Science developed in only one part of the world. That's no accident.

Jews, Christians, and Muslims believe in a Creator who made an orderly, understandable universe and authorized us to investigate and utilize it. Thus, science and technology are legitimate.

Animists, who believe that the rocks and the trees have souls, feel that they shouldn't tamper with nature for fear of offending the spirits.

Hindus and Buddhists generally believe that the physical world is a distraction that we should try to get free of.

Atheists can't explain why it is even possible for us to understand the universe around us.

Aristotle, the greatest Ancient Greek scientist, was not part of our religious tradition, but on his own arrived at the belief "that there must be an immortal, unchanging being, ultimately responsible for all wholeness and orderliness in the perceptible world" (not Zeus, etc.) (*Internet Encyc. of Philosophy*, summarizing Aristotle, *Physics* 8.)

What is the "scientific method"?

There is no single, fixed "scientific method" for distilling raw data into Truth. Instead, at the cutting edge of research, dealing with unfamiliar phenomena, scientists often disagree as to what methods are valid.

Most scientific investigation involves controlled experiments, where you compare one thing to another (e.g., to find out whether a chemical causes cancer). In astronomy and geology, controlled experiments generally aren't possible; you have to rely on observations instead, and there is less opportunity to test whether your interpretations are correct.

Scientific evidence must be available to all through reproducible experiments or observations. Mystic enlightenment or ancient authority is not scientific evidence.

Scientific claims must be testable. If there is no way to tell whether a theory is true or not, it is not a scientific theory.

Why might a theory be untestable?

(1) Maybe the theory fits too many possible facts – doesn't actually rule anything out. Predictions made by fortunetellers often have this quality. Nothing could happen that would actually prove them false. Such theories are generally considered worthless.

(2) Maybe the theory is incomplete, so we can't tell how it actually applies to a test situation. In that case, it needs to be worked out further.

(3) Maybe the theory is outside the scope of science, so that testing by observation is not relevant to it. (Some other kind of testing may still be possible.) Theorems in mathematics fall into this class; we test them by logic, not by observation.

(4) Maybe the evidence we need is just not available, so we are never going to be able to do a controlled experiment. Theories about historical events are in this category. We have to follow the weight of the available evidence. (Courtroom arguments generally try to make the most of limited evidence, acknowledging that no further evidence can be obtained.)

Important distinction: It is one thing to say that something (e.g., God) is beyond the scope of scientific investigation (or that scientific investigation yields little information about it); it's quite another to say it doesn't exist. Yet many people who are trying to adopt a scientific world-view get confused about this. (Real scientists don't believe in poetry or music???)

A first peek at the evolution issue

Some opinions, which I will defend next time:

- The scientific evidence for evolution does not provide any evidence against the existence of God, the authority of the Bible, or any essential Christian doctrines.
- Among Christians there is a wide spectrum of opinions about evolution. We need to acknowledge this and keep an open mind.
- Christians have nothing to fear from any legitimate scientific investigation, since truth does not conflict with truth.
- Evolution is a major field of science. The puzzle will not be solved with a few quick strokes by laymen or popular writers. (Including me!)

Distinguish evolution as a scientific theory and evolution as a philosophy of life:

In the late 1800s people already wanted to believe that the universe was automatically self-improving.

They also wanted to make atheism feasible by eliminating the argument from design.

They thought Darwin's theory of evolution provided scientific evidence for their views, so they accepted it enthusiastically (C. S. Lewis, "The Funeral of a Great Myth," in *Christian Reflections*).

Today, some people see evolutionary science as an alternative to Christianity – evolution is, for them, a religion, or at least an explanation of the meaning and purpose of life. We need to address this on scientific as well as theological grounds.