

SCIENCE AND FAITH

Part 1: Building the Foundation: Truth

Part 2: The Word of God

Part 3: Biblical Faith

Part 4: The Limits of Science

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WORD REVEALS TRUTH

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THE WORD OF GOD



Current view of truth:

Upper Story: Values, Private Sphere
(Personal Preferences, Nonrational, Noncognitive, Religion)

Lower Story: Facts, Public Sphere
(Scientific Knowledge, Rational, Verifiable, Science)

Biblical view of Truth:

Gen 1:1, John 1:1, 2 Timothy 3:16; 2:15
(the *rhema* reveals the *logos*)

BIBLICAL FAITH



FAITH

TRUTH
(*rhema—logos*)

Faith always stands on what we believe to be true.
Biblical faith never acts apart from biblical Truth.

The Limits of Science

- Has science disproved the existence of the soul?
- What can and can't science tell us?
- 1. What is science?
 - Science (from the Latin *scientia*, meaning "knowledge" or knowing) is the effort to discover, and increase human understanding of how the physical world works.
 - Mathematics and philosophy are prior to science.
- 1. Mathematics (intuitive knowledge).
 - Archimedes (c. 287-212 B.C.) work was translated into Latin in 1544 – this introduced some of the mathematical methods essential to the development of modern science.

The Limits of Science

1. Mathematics (*intuitive* knowledge).
 - Rene Descartes (1596-1650) was highly influential in establishing an emphasis on mathematical analysis within the theory of science, eventually leading to the current scientific method.
 - Sir Isaac Newton (1642-1727) set forth his theory on gravity in *The Mathematical Principles of Natural Philosophy* (1687).
 - Why important?
 - It plays a vital role in expressing scientific models.
 - Observing and collecting measurements.
 - Hypothesizing and predicting results.

The Limits of Science

2. Philosophy (*inductive* knowledge).
 - Our current scientific method derived largely from Robert Grosseteste (1175 – 1253) and Francis Bacon (1561–1626).
 - Bacon stressed careful observation and a systematic collection of information "to unlock nature's secrets."
 - A central concept in science and the scientific method is that all evidence must be empirically based (dependent on evidence that is observable by the senses).
 - Empirical refers to the use of working hypotheses that are testable using observation or experiment.
 - An empirical result is often referred to as an experimental observation.

The Limits of Science

2. Philosophy (*inductive knowledge*).
 - Current scientific method:

Knowledge
evaluate
analyze
experiment
hypothesis
observation
 - Observation: A black crow
 - Unicorns don't exist.
 - Note: science is never capable of proving the non-existence of anything! (unicorns, the soul, or even God)
 - The universe was formed by a large explosion.

The Limits of Science

2. Two distinct realms of science: Popperian and non-Popperian.
 - *Popperian* (or critical rationalism) – science that is clearly falsifiable and is thus typically considered empirical (at least in a very broad sense).
 - *non-Popperian* is science that is not falsifiable.
 - *Falsifiability* (or testability) is the logical possibility that an assertion can be shown to be false by a singular observation or experiment.
 - For example, the assertion that "all rabbits are white" could be proven false (falsified) by finding a single black rabbit.
 - Popperian sciences: chemistry and physics.
 - non-Popperian sciences: anthropology, paleontology, cosmology (composition and laws) or cosmogony (how)

The Limits of Science

- Note:
 - "Our ways of learning about the world are strongly influenced by the social preconceptions and biased modes of thinking that each scientist must apply to any problem. The stereotype of a fully rational and objective 'scientific method,' with individual scientists as logical (and interchangeable) robots is self-serving mythology." [Steven J. Gould, *Natural History*, 103(2):14, 1994]
 - "... science is not as empirical as many scientists seem to think it is. Unobserved and even unobservable entities play an important part in it. Science is not just the making of observations: it is the making of inferences on the basis of observations within the framework of a theory." [D. Hull, *British Journal for the Philosophy of Science* 16(61):1-18, 1965.]

The Limits of Science

3. History of the current scientific method.
 - Prior to the Enlightenment, it was believed that laws in the Universe came from a *relational* and *rational* Being and using scientific methods of enquiry into the particulars one could discover truth about the absolutes.
 - This completely dispels the specious claim that the Christian worldview hindered science.
 - Rather, the Christian epistemology made modern science possible.

The Limits of Science

3. History of the current scientific method.
 - Both Alfred North Whitehead (1861-1947, mathematician and philosopher) and J. Robert Oppenheimer (1904-1967, known as "the father of the atomic bomb" was a theoretical physicist who contributed widely to the theories of quantum tunneling, relativistic quantum mechanics, quantum field theory, black holes, and cosmic rays) have stressed that modern science was born out of the Christian world-view.
 - "Christianity was needed to give birth to modern science." [J. Robert Oppenheimer, "On Science and Culture" *Encounter*, 19(4):3-10, 1962]

The Limits of Science

3. History of the current scientific method.
 - Whitehead said that Christianity is the mother of science because of "the medieval insistence on the rationality of God."
 - Whitehead also said that because of the rationality of God, the early scientists had an "inexpugnable belief that every detailed occurrence can be correlated with its antecedents in a perfectly definite manner, exemplifying general principles. Without this belief the incredible labors of scientists would be without hope."

The Limits of Science

3. History of the current scientific method.
 - Scientists working within a Christian worldview:
 - **Nicolaus Copernicus** (1473-1543), astronomy—heliocentric cosmological revolution
 - **Galileo Galilei** (1564-1642), astronomy—According to Stephen Hawking, Galileo probably bears more of the responsibility for the birth of modern science than anybody else, and Albert Einstein called him the father of modern science.
 - **Johannes Kepler** (1571-1630), astronomy—eponymous laws of planetary motion
 - **Robert Boyle** (1627-1691), turned chemistry into science (regarded as the first modern chemist)
 - **Nicholas Steno** (1638-1686), father of geological strata and pioneer in anatomy
 - **Joseph Lister** (1827-1912), famous London surgeon and discoverer of the antiseptic treatment of wounds

The Limits of Science

3. History of the current scientific method.
 - Scientists working within a Christian worldview:
 - **Sir Isaac Newton** (1643-1727), astronomy, physics, mathematics, and chemistry—universal gravity and the laws of motion
 - **Robert Hooke** (1635 – 1703), an English polymath who played an important role in the scientific revolution
 - **Carolus Linnaeus** (1707-1778), “father of modern taxonomy”
 - **Michael Faraday** (1791-1867), contributed to the fields of electromagnetism and electrochemistry
 - **Louis Pasteur** (1822-1895), discovered that many diseases were caused by germs and showed that life comes only from life
 - **Gregor Mendel** (1822-1884), “father of modern genetics”
 - **William Thomson, 1st Baron Kelvin** (1824-1907), mathematical physicist and engineer (electricity and thermodynamics)

The Limits of Science

- **Conclusion:**
 - Science is only a partial and incomplete insight into the way things really are.
 - Science, by its very nature, can only hint at actual reality.
 - Things we don't really have a solid understanding of:
 - Energy
 - Matter
 - Space
 - Light
 - Gravity
 - Time
 - Information
 - **Colossians 2:8** – a very important warning.