

Is truth still of value? [EDITORIAL]

In 1633, when Galileo was sentenced to life-long arrest, the heliocentric world model of Copernicus was in conflict with the Ptolemaic one and the literal interpretation of the Bible, which described the earth resting on a firmament and the stars and planets orbiting around it. Indeed Psalm 19, verse 6 says "It (the sun) rises at one end of heavens and makes its circuit to the other..." The Ptolemaic system was already shaken in 1610 by Galileo's observation that the planet Venus, located closer to the Sun than the Earth, has phases like the moon. The conjecture of Tycho Brahe, that the Sun moves around the Earth just as the Moon does and that all the other planets move around the sun was still compatible with the Bible. The Clergy was ready to accept the view that the Copernican model was a hypothesis, a possibly useful mathematical description but not the final truth. At the time it was guided by the view that science can never deliver final proof because God has the power to change and modify the evidence. About 100 years later, the Copernican model was no longer a theory but became fact.

The trial proceedings against Galileo happened in the aftermath of the Reformation where the restoration of Catholic authority strengthened orthodox positions, specifically the strict exegesis of the Bible and the Aristotelian concepts and schools. But there was no unanimous condemnation of Galileo on the part of the Clergy. Galileo was rehabilitated in two steps - first in 1741, when his "Complete Works" were taken from the Index of the Roman Catholic Church and then in 1992 in a process guided by Pope John Paul II.

In the same year the Catechism of the Catholic Church was approved which starts with the words: "In the beginning, God created heaven and earth." That the universe has a beginning is an inspiring agreement between modern cosmology and Biblical Genesis. Truth and faith are different categories which both remain of eminent importance for human beings independently of each other and which are complementary and not alternatives, neither needing compromise nor reconciliation. Knowledge in natural sciences does not unavoidably lead to atheism. Science deals with knowledge, religion with human existence, dignity and the sense of life.

To a large degree disconnected from organised religions is the creationist movement which challenges scientific procedures and methodologies and attacks the theory of evolution as the potentially weakest element of the natural sciences. Though the long-term goal of this movement may be the implementation of dramatic changes in western social and political structures, it is an immediate threat to the fundamental roots and principles of scientific work. Placing the theory of evolution and Intelligent Design (ID) on an equal footing implies the abandonment of the requirement that scientific conclusions and progress are based on empirical data, that they must be confirmed by experiment in a reproducible form, that a mathematical description must be possible, that they must be free of internal contradictions, and that they must allow predictions with the potential of new discoveries. The ID movement is not restricted only to the USA (Kansas); it also has supporters in Europe. The claim of the creationists that ID must be included in the biology curricula and taught at schools as a conceptual alternative to the theory of evolution also finds supporters both in the European Parliament and in national governments. A member of the Council of Europe, Guy Lengagne, wrote a report on "The dangers of Creationism", which was not approved immediately by the Council. He commented on this refusal by saying: "We witness how the return to mediaeval times is initiate"...

There are strong forces wishing to discredit science (and often technology also) that involve for this purpose the public which often does not have the necessary information or awareness. A frequent form that this takes is the misuse of the role of falsification. Instead of seeing it as an important element of the scientific method and a basic requirement that a scientific result or statement has to meet - un-falsifiable concepts are un-scientific - it is often used as a general acknowledgement that science leads to arguable results only. As a consequence, so their argument goes, any other hypothesis not gained by scientific methodology can co-exist and has to be equally well accepted.

In spite of all the enlightenment in the Western societies, the value of truth is of declining importance. It is replaced by what could be called fabricated truth, a commodity which is defined, for example, by the form of its presentation, by the backing it obtains from the media or the resonance it has with the public but which has not been gained by scientific methodology. The case made by the creationists is to put scientific results on the same footing as the literal understanding of the bible. This method is, however, not restricted to the issues of Genesis. Fabricated truth might have a larger appeal and be less complex (boring), less contradictory and more plausible than scientific truth, and might offer a more simplistic view of the world. Fabricated truth therefore has a strategic value or it can be manipulated to obtain one. Fabricated truth can be used to defend or justify doctrines; its potential can be exploited for political, social or other goals. Scientists must remain vigilant and should not refrain from confronting fabricated truth, should challenge it with scientific truth and defend its results and the principles and methods used in gaining them.

Friedrich Wagner, President of the EPS

Publicado en Europhysicsnews

2007.Volume 328 - number 5