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Science and Religion: Enemies for life?

Rosagemma Ciliberti[1], Chiara Tesi[2], Roberta Fusco[2], Alessandro Bonsignore[3], Marta Licata[2]

[1] Section History of Medicine and Bioethics, Department of Science of Health, University of Genoa, Genova, Italy; [2] Centre of Research in Osteoarchaeology and Paleopathology Department of Biotechnology and Life Sciences, University of Insubria, Varese, Italy; [3] Section of Legal and Forensic Medicine, Department of Science of Health, University of Genoa, Genova, Italy

Summary. The article published by Prof. Antonio Neviani in 1896 offered us an interesting opportunity to discuss about the teaching of human evolution in schools today. Already at the end of the nineteenth century, Neviani complained about the fact that the teaching of the theory of evolution was not present in schools. Here, we present the thought of Neviani and we invite to reflect on the prohibition, still present in some countries, of the teaching of Darwin's theory. (www.actabiomedica.it)

Key words: Antonio Neviani, teaching of the theory of evolution, Darwin's theory, Paleoanthropology

Science and faith: an ancient battle

It is probable that in the history of scientific thought in the last two centuries, apart from the complex and unprecedented contemporary bioethical problems, no theory has been so charged with philosophical, theological and social implications that has so deeply divided the international scientific community as the evolutionary one (1).

Together, and perhaps even more, of what has been a revolution from the scientific point of view, the Darwinian thesis has, in fact, modified the world view, including the position of man in nature, to an not inferior extent to what happened in the Copernican breakthrough.

For many aspects, the impact of this theory is even more subversive than the Copernican revolution that dethroned Earth from its presumed centrality in the universe, because its consequences directly invest the dimension of time and space which, consequently, is relativised and subjected to mere rules of historical contingency.

Therefore, it is understandable how the advancement of knowledge in fields such as genomics, epigenetics and biology of development constantly solicit new assessments of biological evolutionism. This has also involved, in addition to its scientific dimension, the anthropological one connected to the impacts, of this new interpretative code of biological reality and of the same "Human Phenomenon" (recalling a famous work by Teilhard de Chardin), on the mentality, culture, religious experience and, in different ways, also on the quality of human and social life.

In reading evolutionary dynamisms, extremist tendencies together with a rhetorical use of complexity can easily lead to relativistic results: yesterday as today.

The resistance in the past and the recent various attempts to exclude Darwinian evolutionary theory from school curricula testify to the continuing difficulty in addressing these issues objectively, free from ideological conditioning.

The analysis of some relative cases for the inclusion of the Darwinian evolutionary theory in the scholastic programs solicits some considerations in the subject of the relationship of science and faith and of the defense of a rational debate.

The case of yesterday

Previously, in an article published in 1896, the author Prof. Antonio Neviani complained about the fact

that in schools natural sciences were the least subjects taught and that the teaching of the theory of evolution was not present (2). In particular, he emphasized that it was this theory that advanced all the various types of scientific studies.

It is interesting to note that Prof. Neviani carried out a survey during those years on teaching natural sciences in the Italian high schools.

He approached all the high school professors, some of the University and some of the private school professors.

Neviani reported that among the various questions, the 21st question asked: "Is it useful to make the theory of evolution known? Within what limits?"

Only 6 professors answered no, while 76 others agreed to the teaching of the theory of evolution.

Of the 76 professors, Neviani stressed that 38 answered yes without any observation; 12 intended that the maximum development be given to this study and the basis of all the teaching be made of it; by contrast, 23 asked that they give themselves very simple notions and in the most concise way. He noticed that two, fearful of who knows what, answered yes, but added: for the animals, excluding the man. Finally, there was a professor who, after a good yes, wrote: but as a historical document.

Neviani was pleased to note that all the professors, while making some reservations, approved the teaching of the theory of evolution. In particular, he reported the observation made by one of them:

"The undersigned has no complaints against the theory of evolution, of which he sees very well if not the possibility, if not for the fact of reality ... and this theory, the writer and his colleague (also a priest) teach fluently and without any fear with some reservations, etc ... Here, he recommended that in this regard he does not suggest anti-clericalism£.

"Assuming that no scientific theory has anything to do with clericalism, or with Catholicism or any other profession of political or religious faith, I consider universal science to be so, I can not but notice that there are very few priests so tolerant; for it is sufficient, for example, for it to have been experienced by a visitor to some lent, hearing of the usual critiques against Darwin and the Darwinists being thrown from the pulpit." […].

"It is certainly not my intent to take into consideration here or even to mention only works, memories or speeches made against evolutionism. Scientific works and facts with conscience, are to be taken seriously, and they must be studied with the greatest weighting, for this reason I would go too far out of the theme that I proposed; but I can not fail to remember a speech held in Rome, where we talked about the new scientific doctrines with so little seriousness of arguments, that, if everyone were to judge by this alone, we could live quietly, [...] and not deal with anti-evolutionary theories, whatever they are (2) (Prolusion read in the solemn distribution of prizes to young people of the Gymnasium-Liceo del ven. Seminary of St. Peter's in the Vatican on January 30th, 189).

So, the distinguished professor would like a science based on Catholicism [...].

He did not approve the modern scientific direction in any way, so much that he exclaimed:

"As is the case of all the strangest and most absurd theories (these principles). They are reflected on all branches of the scholarly man, so that all disciplines more or less materialize in form and substance, and appearing in the splendor of the most recent treaties. Scientists hid their most obscene and humiliating ideas.

So, we see anthropology reduced to purely physical science; psychology is based on experiences of the nervous system, in order to know the amount of heat that develops in the brain in the formation of thought; the time that takes a feeling to be transmitted to the nerve centers ..."

He also adds

"Even linguistics, a new science that studies the slow passage from ancient to modern languages, discovers the natural link that must exist […] and solves the most important problems of philology and history. We wanted to address a false way, submitting it to the laws of dreamed organic evolution, and here comes a truly symptomatic phrase medicine itself has become atheistic and materialistic".

Neviani commented asking were these absurdities and errors of modern naturalism.

Neviani went on to say that the denial of the utility that has brought about the application of the experimental method and of the evolutionary concept, in every branch of human knowledge, is precisely how

to negate the light of the sun in the clear afternoon of a beautiful day! He also reflected on the struggle between creationists and evolutionists.

In May 1891, Huxley wrote that, even if the efforts made by the proponents of the evolution theory had produced considerable fruit during forty years, it was necessary that the younger generation did not rest on the laurels reported by those who had struggled so much and considered the battle only half won.

Today's cases

The Turkish education ministry has announced that Darwin's theory of evolution will be excluded from high school programs, starting from 2019 (3). According to the Turkish government these arguments cannot be understood by the students and therefore the training curriculum must be "simplified" so that education is in line with local and national values.

It should also be remembered how, at the time of the Ottoman Empire, "materialist" thinkers like Abdullah Cevdet and Suphi Ethem had translated several evolutionary works, including the works of Ernst Haeckel.

During the years of the nationalist republic Atatürk, the theory of evolution entered school textbooks and popular culture.

Even Italy, while not ceasing to honor the evolutionary disciplines, has not escaped fundamentalist and pseudo-religious temptations (4-6).

In the legislative decree n. 59 of 19 February 2004 National indications for personalized study plans in the Secondary School of First Degree, the teaching of evolution was omitted. The list of topics to be discussed no longer included: "The evolution of the Earth", "The appearance of life on Earth", "Structure, function and evolution of living beings", "The biological and cultural origin and evolution of the human species".

The massive protests from the scientific community, including the Accademia dei Lincei, led the Italian Minister to nominate a technical commission, presided over by the Nobel Prize winner Rita Levi-Montalcini and in February 2005, she delivered the final "report". This relationship, which established that "the study of evolution is essential for an integral vision of life" since neglecting Darwinism "would seriously damage the intellectual formation of young people, who must open themselves to the observation of reality with a critical sense" (7).

Based on these considerations, the commission asked the Ministry to recognize as soon as possible the importance of Darwin's teaching both in primary school and in both cycles of the secondary school. The teaching was then reintroduced in 2005. But, Italy is a country full of surprises. In 2006, another program review commission again took up the texts and the expressions "Darwin", "biological evolution", "human evolution" were again eliminated. Similar attempts to influence national educational policy have occurred not only in the United States, but also in Russia and in many European countries (4).

What in any advanced country is a fundamental acquisition of science and culture, as well as an indispensable framework for understanding the whole complex of life sciences, in Italy - in that period - it has become a linguistic taboo.

Also, at international level, the Council of Europe in 2007 addressed the issue of teaching creationism in schools as an alleged scientific theory (Parliamentary Assembly of the Council of Europe 2007). In discussion there was no possibility of presenting Creationism in matters such as the History of Thought or Religions, or even Cultural Anthropology or the like, but rather the opportunity to present Creationism as a scientific theory, to equal the others. After extensive discussion, the issue was put to a vote.

The plenary assembly opposed the teaching of creationism as a scientific discipline. Disregarding the inconceivable need for a vote to decide on an issue of this nature, the result achieved would seem consistent with the principles of a secular society. However, the more detailed analysis of the conduct of the vote calls for considerations worthy of interest.

There were 47 nations present, 76 parliamentarians voted; 48 denied scientific relevance to Creationism, 25 expressed their adherence to teaching, considering it a scientific discipline and 3 abstained. In Italy: 3 out of 4 voted for the opportunity to present Creationism as a scientific theory to be proposed to students on a par with the theory of Evolutionism and only 1 parliamentarian expressed himself in the op-

posite direction. The Belgians, Swiss, French, Swedish, and the English voted unanimously against the teaching of creationism as a science.

Alongside Italy's position were Poland (8) and Slovakia. Serbia, Iceland and Moldova who also voted in favor of Creationism, which unanimously voted in favor of teaching this concept, considering it to be truly scientific, on a par, if not superior to other theories.

At the moment, numerous creationist organizations are increasing their activity in many countries and this goes together with the weakening of evolutionary teaching in schools (7, 9, 10, 11).

In Israel, teachers say that many students do not even know about evolution (12).

The Israel Ministry of Education considers the evolutionary theory to be a certain fact, without dealing in any way with the seeming contradiction between this theory and the Genesis creation story.

Recently (2018) (13) the Minister for Higher Education in India stated that Darwin "was scientifically wrong" and demanded that the theory of evolution be removed from school programs because no one "has ever seen an ape turn into a human being" (14).

Nevertheless Bast et al. showed that 68.5% of the participants accepted evolution, which is very high compared with other countries of the world (15).

The teaching of evolution and creationism is controversial to many people in the United States (16-18). In addition, in some countries the inclusion of evolution in the curriculum is a recent event (19).

Discussion

The cases mentioned above, which in some way go through a wide period of time (in relation to the formulation of the evolutionary theory), address the problem of the scientific nature of the thesis of creationism and are both emblematic of the enduring complicated relationship between science and faith.

The reference to greater *complexity* and, above all, to that of compatibility despite the radical difference, can help to overcome the prejudices that derive from too superficial readings of this complex relationship (20).

In this regard Einstein's definition "Science without religion is lame, religion without science is blind" is well founded, and therefore convincing.

The courageous and, at the same time, prudent interpretative program on the possibility of a meeting (in the sense in any case of their specific autonomy) between science and religion of the French Jesuit Teilhard de Chardin deserves to be recalled with due appreciation.

He is, in fact, a profound connoisseur of evolutionary theory and at the same time a promoter within the Catholic Church of a reconciliation (in the sense of compossibility without any opposition) between science and religion, criticized the fanaticism of those positions that denied the legitimate presence of complexity and, together, of the diversity between reason and faith (21).

Furthermore, the absence of an incompatibility between evolutionism and faith is explicitly expressed in the essays entitled Wer ist das eigentlich - Gott? (München 1969) in which Joseph Ratzinger states that the pre-Darwinian idea that "every single species" is "a given of creation, that, thanks to God's creative work, exists, since the beginning of the world, alongside other species as something unique and different", is a vision that "contradicts the idea of evolution and today has become unsustainable" (22).

Ratzinger proposed to separate the two spheres: "the doctrine of evolution cannot possibly incorporate faith in creation. In this sense it can rightly indicate the idea of creation as unusable for itself: it cannot be among the positive materials to which it is bound by method".

On the other hand, however, biological evolution "must leave the question open if the problematization of faith is not legitimate and possible for itself. Starting from a certain concept of science, at most it can be seen as extrascient, but it cannot in principle prohibit any question about man addressing the question of being as such. On the contrary, these last questions will always be indispensable for the man who lives face to face with the Last and cannot be reduced to what is scientifically documentable".

The thought of Ratzinger therefore at leasts partly supports the thesis of the Jesuit Teilhard de Chardin.

The distancing of the future Benedict XVI from biblical creationism, still supported today by the Prot-

estant world and, unfortunately, even by some Catholics, is clear: "it has been eliminated by the theory of evolution. The believer must therefore accept the achievements of science and admit that the manner in which he had imagined creation, belonged to a prescientific conception of the world, which has become indefensible today".

Eminent scientists, both biologists like Kolman, and physicists like Planck, have recognized the right, so to speak, of citizenship to the faith within science. The total difference between reason and faith does not compromise either trust or authority in either one or the other. However, this orientation was anticipated by Pascal, whose scientific stature in the field of mathematics and physics is widely and universally known. In fact, he stated: "The last step of reason consists in recognizing that there are an infinite number of things that surpass it. He is very weak if he does not recognize her".

Recently, moreover, by virtue of the exceptional development of mathematical logic, scientists like Gödel have identified the impossibility of proving whether some basic statements of the mathematical system are true or incomplete (23).

Even authoritative biologics and doctors, such as Monod and Deduve, affirm the opposite conception of mere chance for the rise of life or, on the contrary, that of its finalistic character. Agnosticism is therefore present in the contemporary age as regards the possibility of having a rigorous scientific certainty of the finalistic interpretation as far as the rise of life is concerned.

Therefore, from an epistemological point of view, Kant's conception of the relationship between science and faith is derived from the necessity to subordinate reason to faith.

Like all scientific theories, the theory of evolution is based on the use of the logical-rational method: it can be publicly challenged - and indeed it is desirable and opportune that this be done - to highlight its shortcomings and increase, with a further theoretical elaboration and empirical research, its explanatory power. This, of course, provided that we operate within the rules of mathematical logic.

Even democracy itself is based on logical-rational argumentation. In fact, it allows the whole community to accept or reject solutions and choices freely adopted through a logical-rational analysis based on argumentation and public discussion. And it is always on the basis of the same rules of rational argumentation that these choices can be continually questioned and revised.

Conclusions

At the dawn of the third millennium, the relationship between science and faith continues to be the subject of debate, equal to that in which in the sixteenth and seventeenth centuries the two "greatest systems of the world", the Ptolemaic and the Copernican, were compared.

This is certainly a frontier theme, like those addressed by contemporary bioethics. Also in this case the plurality of competences and the interdisciplinary can be the real key to open the discourse on the single disciplines. Furthermore, the rational approach and the methodological rigor are the essential premises to defend the scientific evidence and the rational debate.

In both cases, it is the responsibility of academic staff to provide fundamental notions correctly and effectively, freeing them from any ideological conditioning.

Identifying and understanding the possible sociocultural barriers, the errors of the science of the past and intuitive reasoning factors that make evolution so difficult to grasp can help teachers and students deal with these existential issues in the most appropriate way (23, 24).

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Correspondence:
Marta Licata
Centre of Research in Osteoarchaeology and Paleopathology
Department of Biotechnology and Life Sciences,
University of Insubria, O. Rossi, 9 21100 Varese, Italy
Tel. +39 0332217534
E-mail: marta.licata@uninsubria.it