

GRZEGORZ BUGAJAK

“REASON AND FAITH”. THE PROBLEM OF THE SEPARATION OF DISCIPLINES*

Abstract. The paper maintains and reinforces a viewpoint that science and religion (theology) are methodologically and epistemologically independent. However, it also suggests that this independence can be overcome if a “third party” is taken into account, that is – philosophy. Such a possibility seems to follow from the thesis of incommensurability and the thesis of underdetermination formulated and analysed in the current philosophy of science.

Keywords: reason; faith; religion; philosophy; science

1. Introduction. 2. Parties to the conflict (dialogue partners). 3. Standard: independence. 4. Independence – examples. 5. Going beyond the “separation doctrine”. 6. Conclusions.

1. INTRODUCTION

The dispute about “reason” and “faith” is as old as a human rational reflection on the world, at least in the European cultural area. It is quite commonly agreed that the fundamental turn, which was made in thinking about the world at the turn of the 7th and 6th centuries B.C. in ancient Ionia, was that mythical and religious explanations were replaced by reflections made solely by the force of reason. Indeed, antiquity did not present that issue in the form of an exclusionary alternative: *either* mythical stories and religious messages contain the truth *or* it can only be achieved by separating ourselves from irrational sources of knowledge and standing in opposition to them, nevertheless, the foundations of the conflict, of which the best-known manifestations are the Galileo affair, disputes over

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Darwin's theory of evolution, or today's discussions caused by such authors as Richard Dawkins¹ or Steven Hawking², can be already found in the Ionic origins of rational human thought. Therefore, in contemporary philosophical reflection, it is worthwhile to ask a question about the role of philosophy in this dispute, whose old sources are simultaneously the sources of its own.

This manuscript addresses this question. However, before we can answer that, it is necessary to define sides of this conflict (or, as some prefer, partners of the dialogue), called here "reason" and "faith", in more detail. Then we will present arguments – supported by historical examples of emerging disputes and their solutions – for the most appropriate and justified, as it seems, approach to describe and shape relations between the parties to the conflict (resp. dialogue), which are defined as *independence* or *separation*. The indication of the norm of independence will be, in turn, the basis for a cautious attempt to take a further step: going beyond – after all – the "separation doctrine". However, the possibility of making such a step, without falling into polarised stances (e.g. statement of convergence), which at the same time means something more than just a search for metaphorical coincidence between "reason" and "faith", is suggested by some of the achievements of contemporary philosophy of science that we will point out. These include the thesis of underdetermination and the thesis of incommensurability. The notion of the *postulated ontology* of (scientific) theories found in them seems to indicate the title and contemporary role of philosophy in the dialogue between "faith" and "science". It would be an attempt to build the image of the world which is as coherent as possible, the sources of which would be located in the ontology that is being discovered (and perhaps also partly constructed), which is "postulated" in given theories, formulated in various fields of knowledge.

1 See e.g.: R. Dawkins, *Bóg urojony*, transl. P. J. Szwajcer, CiS, Warszawa 2007.

2 Hawking's anti-religious comments are quite subdued, nevertheless, clear and can be found in almost all of his popular science texts. The most famous one is *A Brief History of Time: From the Big Bang to Black Holes*.

2. PARTIES TO THE CONFLICT (DIALOGUE PARTNERS)

Both words ("reason" and "faith"), defining sides of the comparison and used in the title, have slogan-like quality and thus their use here is inaccurate. This can be justified, however, by the need to indicate identifiable issues in a quite easy way. However, to clarify the issue under consideration, it should be noted that "reason" is here synonymous with rational knowledge, i.e. the knowledge that is acquired in sensual and intellectual cognition, the results of which are intersubjectively communicable and verifiable. Moreover, quite importantly in the context of our problem, sources of this knowledge can only be natural. This kind of knowledge has been acquired by philosophy since its emergence; the ideal of "natural reasonableness" distinguished it from beliefs, myths and legends. In modern times, this ideal of learning about the world was taken over by natural sciences. Therefore, the first part of our comparison is rational knowledge, once acquired in terms of philosophy, whereas in modernity – in natural sciences as well³.

Faith, in the proper sense, is an individual attitude of a person. As one of the most outstanding Catholic theologians of our times, K. Rahner, states, faith is a private response to God's revelation. This revelation is not only, and not primarily, a notification in the intellectual sphere, but

3 Certainly not every kind of philosophy, and, in any case, not every proposition that is called in such a way, leads to such understood knowledge. However, there are also types of philosophizing that can meet the criteria of rationality and bring valuable knowledge of the world. It is also worth noting the word "also" used above. It is true that many traditional philosophical issues have been taken over by natural sciences over time, reformulated in terms of them (usually to a more specific form), and are now being solved within the framework of these sciences. However, this does not mean, as some people want, that the philosophical reflection on the natural world is an anachronism. A closer consideration of this problem exceeds the scope of this article and is secondary to its content. In particular, those who share the opposite view and maintain the thesis about the death of the philosophy of nature as a result of intensive development of science can – without prejudice to main theses of this text – consider that the ideal of rational knowledge of the world is nowadays only achieved in natural sciences. This is because the content of these sciences is sometimes compared with religious truths, similarly like e.g. in medieval times – truths of "pure reason", i.e. philosophy, were compared with religion (see examples provided further in the text).

a call to consecrate one's life to God revealing himself⁴. The reality of faith therefore concerns the subjective level of human beliefs and, above all, attitudes, and as such cannot be reasonably compared with the objective content of rational knowledge. Admittedly, there is no doubt that for specific people such a subjective level of the drama "reason and faith" is very important, and for many – the most important; but also because it is a subjective level, everyone interested in it must look for solutions on its own – that is, individually and subjectively. An attempt at a rational comparison between "reason" and "faith" can take place when we talk about the sphere of faith in question, that is, the content of beliefs about the world that can be contained in religious truths. The latter, in turn, are analyzed and explained in theology (or rather in theologies – there are theologies of various religions) understood in a wider sense as a scientific discipline⁵. In this sense, the word "faith" is used in the title. Thus, the slogan-like term "reason and faith" should be understood here as referring to the comparison of rational knowledge, nowadays mainly scientific (in the narrower sense of the term "science"), with religious truths, the meaning of which is specified in theology. In the further part of the article, the term "science" will be used in a narrower sense – as a synonym for natural sciences, while the other side of the comparison will be called theology or religion⁶.

3. STANDARD: INDEPENDENCE

I. Barbour puts in order the arguments of proponents of the "doctrine of separation of levels" and distinguishes their two basic forms: science and religion (theology) that have opposing methods and different languages.

4 See: K. Rahner, H. Vorgrimler, *Mały Słownik Teologiczny*, transl. T. Mieszkowski, P. Pachciarek, PAX, Warszawa 1987, 534.

5 In opposition to the narrow understanding of the term "science" as a synonym for natural sciences.

6 Naturally, religion, theology and faith are terms that usually mean different realities. Their interchangeable use in this article, however, is justified by a fairly common convention, in which analyses of such issues as those addressed in this text are used interchangeably as "science and faith", "science and religion", or "science and theology".

Barbour sees the opposition of methods in what he calls an epistemological dichotomy: the source of knowledge in theology are revealed truths, whereas in science – human reason and empiricism (observations and experience)⁷. To put it more strictly, it should be said that the fundamental diversity of sources of knowledge in these disciplines forces the use of methods that are not so much contradictory, but simply different. Indeed, it is difficult to imagine testing the dogma of world creation in a laboratory, or – in terms of the traditional treatment of scientific theories as something more than “texts” born in a particular culture – interpreting Einstein’s general theory of relativity using hermeneutic methods.

According to Barbour’s reconstruction, those who consider both scientific theories and formulations of religious truths to be “language games” used for various social purposes indicate differing languages. Using such an approach, the function of religious language is to encourage to adopt certain attitudes in life and to be guided by selected moral principles, while the function of the language of science – prediction and retrodiction concerning the course of phenomena. In particular, scientific theories are useful tools for such prediction and, consequently, for creating technological applications, without claiming the right to be true. In this (linguistic) sense, religions cannot make such claims either, therefore, they cannot be either consistent or inconsistent with scientific theories⁸.

Although the approach outlined above does indeed allow the statement of complete independence of the scientific and religious spheres to be substantiated, it is hard not to notice that it is unacceptable within the framework of Christian theology, according to which dogmatic statements describe the existing reality and are entitled to truth-qualification as much as possible, although, naturally, the criteria for evaluating the truthfulness of such statements are not and cannot be empirical. The neo-positivist reconstruction of science as a language game does not seem to be accurate. Without entering here into

7 See: I. Barbour, *Jak układają się stosunki między nauką a teologią?*, op. cit., 14.

8 See *ibid*, 18–19.

polemics about the validity of a realistic or anti-realistic (including neo-positivist) approach to scientific theories, we advocate the former: scientific statements are statements about existing, non-objective reality, which are entitled to truth-qualification. Naturally, this weakens the linguistic argument for the separation of science and religion, but it does not invalidate it. The thesis about the linguistic diversity of these fields can be understood most simply, i.e. as a statement of the obvious fact that these fields are linguistically incommensurable. This means that for many (certainly the vast majority) terms of the language of science there is no translation into religious terms and vice *versa*. In science, it is impossible to give any sense to such terms as “sin”, “grace” or “salvation”, just as the terms, let us say, “point particle” or “initial singularity” cannot be translated (and such translation, if it were possible, would be pointless) into the language of theology.

A Protestant theologian, L. Gilkey (who is an expert in American trials against “scientific creationism”), compares the arguments for the independence of science and religion in a slightly different way and presents them in several groups. First of all, the subject of these fields is different: objective, repetitive data for science, the beauty and order of the created world as well as the experience of inner life (where human faces such realities as guilt, trust, forgiveness) for religion. Therefore, the experience, and sometimes also the logical content of theory, is the source of scientific knowledge, while revelation is the source of religious knowledge. Moreover, science answers the objective questions of “how”, whereas religion answers the questions of “why”, i.e. questions concerning the meaning and purpose of life and events. Finally, the language of science is used to formulate quantitative, testable predictions, while religious language is, because of God’s transcendence, symbolic and analogical⁹. It is difficult to rationally oppose the arguments quoted here, and their strength is also demonstrated by the fact that they neither become entangled in controversial theses concerning the theory of scientific cognition nor are they based on interpretations of the phenomenon of religion that are unacceptable in Christianity.

9 See *ibid*, 16–17.

The arguments discussed above for the thesis of independence of science and religion are of methodological and epidemiological nature. A factual argument should be added to them. As St. Thomas Aquinas already pointed out, it follows from the very fact of Revelation that faith and knowledge can't be the same¹⁰. If, by rational reasoning, one could have discovered identical – and all – truths we knew by faith, the Revelation would have been superfluous. Naturally, this is not an “interdisciplinary” argument – it can only be formulated and recognized based on (Christian) theology, which makes it irrelevant in discussions with those who do not recognize theological sources of cognition. However, for a Christian theologian or a believer looking for answers to various questions that arise between science and faith, this is an important argument.

4. INDEPENDENCE – EXAMPLES

The thesis about the separation of cognitive planes of science and theology has repeatedly been an argument in the discussions on specific issues in which reason and faith seemed to clash. An example of such an issue is the dispute over the eternity of the world¹¹. The question of whether the world has always existed or whether its existence is limited in time has been already asked since ancient times. It is clear that in a culture associated with Christianity, proclaiming the dogma of creation, the answer had to be unequivocal. As many philosophers attempted to justify the thesis about an eternity of the world, medieval times developed three strategies of “defending” the truth about the creation of the world, thus its temporal limitation, against such philosophical “attacks”¹². Some tried to polemize with the philosophical thesis about the eternity of the world, using philosophical arguments

10 Thomas Aquinas, *Questiones disputate de veritate*, 14,9.

11 See: O. Pedersen, *Konflikt czy symbioza? Z dziejów relacji między nauką a teologią*, transl. W. Skoczny, Biblos, Tarnów 1997, 194–197.

12 Bearing in mind that philosophical considerations in pre-modern times can be considered as an equivalent of present scientific investigations, the example quoted here can be treated as one of the manifestations of the conflict between science and religion.

as well. An example is provided by the views of St. Bonaventure, who formulated a kind of mathematical “proof”, by reducing it to contradiction, against the thesis about the eternity of the world. According to him, a world that eternally exists would have to exist for an infinite number of years. As each year has twelve months, the world’s lifetime calculated in months would have to be expressed by the number twelve times greater than infinity. It is impossible, in his opinion, because such a number is unthinkable. A different strategy was chosen by averroists, who pointed out that the thesis about the temporal finiteness of the world is a philosophical thesis, while the conviction about its eternity – a truth of faith. Since both theses belong to a different cognitive order, it can be argued that both are true. This was an application of the well-known doctrine of double truth, according to which a thesis can be true in theology and false in philosophy at the same time (and vice versa). In a sense, the doctrine of double truth is a variation of the “doctrine of separation of levels” that we defend here. However, it is an extreme variety, “resolving” all possible disputes between religion and philosophy (today: science) already at the starting point, especially without the need to penetrate into the substance of a specific issue. The thesis about the methodological and epistemological independence of religion and science is, however, neither equivalent to the doctrine of double truth, nor this doctrine follows from our thesis. This is evidenced by the third medieval approach to the dispute over the eternity of the world, which can be both qualified as referring to the separation of levels and avoiding the risky theory of two truths. Among the proponents of this approach was St. Thomas Aquinas, who in his polemics with Bonaventure claimed that – indeed – adding to the infinite number was possible (that is, for example, adding something to the infinite number of years of the world’s existence, to obtain a “greater” infinity expressed by the number of months of the eternal world’s existence) and the world could have an infinite past. We only know from the article of faith (*sola fide*), based on the truth revealed in the Scriptures¹³, that this is not the case.

13 See: O. Pedersen, *Konflikt czy symbioza? Z dziejów relacji między nauką a teologią*, op. cit., 196.

Thomas believed that the temporal finiteness of the world is true – as we know from Revelation. In philosophy, in turn, one can reasonably argue also for its eternity, but philosophically this dispute is unresolved. Thus, philosophy (let us recall again: today we would say “science”) can neither support nor refute the theological view of the temporal beginning of the world. Aquinas’ stance is a medieval example of applying the thesis of independence of science (rational cognition) and religion to a specific problem of temporal characteristics of the world. This is because the methodological and epistemological separateness of these fields shows that with scientific arguments it is impossible to support or refute a religious view, and religious theses have no such power with respect to scientific views.

The above-mentioned example of the discussion about an eternity of the world, shows that the “doctrine of separation of levels” was applied long before anyone called it in that way, and, in particular, it is not only today’s way of defending the truths of faith against supposed attacks of science, “invented” as a result of such attacks.

A more contemporary example of the application of the thesis about the independence of science and religion are some positions formulated in the dispute over Darwin’s theory of evolution.

The first years after the release of *On the Origin of Species* were marked by numerous disputes and doubts raised concerning Darwin’s theses. A substantial part of these doubts was formulated by scientists and was strictly scientific. For instance, the reasons for Darwin’s postulated variability in the world of living beings were discussed, the role of natural selection as the main factor responsible for the adaptation of organisms to their living environments was questioned, as well as, accepted in the theory of evolution, time scale and dating of some fossil finds. Most of these doubts have been resolved over the years in favour of the theory of evolution, but it is worth remembering that Darwin’s first adversaries primarily argued with him on his own, scientific framework¹⁴.

14 This means that not every argument against the Darwinian way of explanation must necessarily be religiously motivated, which is worth taking into account in the analyses

Independently from scientific disputes, there were also philosophical discussions, which appeared very fast, largely due to misunderstanding of main theses of the theory of evolution in religious circles, or due to a deliberate over-interpretation of this theory by some scientists, such as E. Haeckel, who claimed that the theory of evolution was invented only to put Christianity and the Church in a bad light. An anecdotal example of a peculiar “religious fear” of the theory of evolution is a statement made by the wife of one of the Anglican bishops, who, learning about this theory, was to shout out: “Evolving from apes! My God, may it not be so; and if it is, may it not be spread!”¹⁵. The fear of Darwin’s ideas also found far more official tone. In the Episcopal Church’s edict¹⁶, we read that if the evolutionary hypothesis was true, the Bible would become a terrible fiction¹⁷. This position is an expression of the belief (*tertium non datur*) that either evolutionism is true (so the Bible is lying), or the revelation contained in the Scriptures is true, which must entail the rejection of Darwinian ideas.

In addition to such views, which proclaim an irremovable conflict between the religious truths of Creation and the theses of the theory of evolution, more balanced positions also emerged in the Anglican Church. The reaction of J. McCosh, Rector of The College of New Jersey (today’s Princeton University) to the theory of evolution, actually, to its questioning in church circles, were words: “We give to science what belongs to science and to God what belongs to God. When we face scientific theory, our first question is not whether it is consistent with religion, but whether it is true”¹⁸.

Such a position is, as we can see, an attempt to dismiss the disputes between science and religion about the theory of evolution, by refer-

of contemporary disputes about evolutionism and creationism.

15 P. Barrett, *Science and theology since Copernicus. The search for understanding*, T. and T. Clark, London – New York 2004, 98.

16 The Episcopal Church is an Anglican community operating in the United States.

17 As cited from: C. A. Russell, *Cross-currents: interactions between Science and Faith*, InterVarsity Press, London 1985, 149.

18 As cited from: P. Barrett, *Science and theology since Copernicus. The search for understanding*, op. cit., 101.

ring to the thesis about the independence of these fields. F. Temple, later Archbishop of Canterbury, went a little further in his views. He seemed to see not only the lack of conflict between science and faith in this issue but also suggested a kind of compatibility of the truth of Creation with the new theory: "[The Creator] equipped certain particles of matter ... with such inner forces that living creatures like these we observe today have evolved in the ordinary course of things"¹⁹.

The question of whether it is possible to go beyond the doctrine of separation of levels in a methodologically legitimate and "safe" way and to seek some kind of compatibility of scientific and theological truths will be addressed in the last part of this article.

Similar positions to those described above can also be found in the Catholic Church's reaction to the developing theory of evolution. Those included both voices of strong opposition to the new theory and positions indicating – considered as appropriate here – the thesis of independence of religious and scientific truths. The first ones include, for example, a statement by a German theologian, J. Pohle, who wrote in his 1908 *Manual of Dogmatic Theology*: "The description of creation in the Book of Genesis is realistic – it is a true story. Darwin offends God who directly created a body of the first man"²⁰.

Such careless formulations that can be found not only in the views of the then theologians remain private views, even if their authors were among the most prominent representatives of their field. However, those views can be found also in official statements. For instance, the Pontifical Biblical Commission, in a 1909 document, announced that the basic truths of faith included: the conviction that God is a direct creator of the first man, the truth that a woman takes her origin from the body of the man, and the statement that all mankind has its roots in a unique, single beginning²¹. This opinion

19 As cited from: J. Moore, *The Post-Darwinian Controversies*, Cambridge University Press, New York 1979, 220.

20 J. Pohle, *Lehrbuch der Dogmatik*, Verlag von Ferdinand Schöningh, Paderborn 1908, 427.

21 From: J. Tomczyk, *O rozdzielności płaszczyzn*, Na początku... 13(2005) 7–8, 250. It seems that this opinion is indeed difficult to reconcile with main theses of the the-

probably requires careful interpretation, but the polemical tone is clear regarding certain statements of Darwinism.

In addition to such statements, which seem to suggest – like some above-mentioned statements made by representatives of the Anglican Church – an irremovable dichotomy between the theses of science and the truths of faith, there are also supporters of the thesis of independence among representatives of the Catholic Church from the early 20th century. According to one of the most famous Catholic theologians of the time, B. Bartmann, the proper “answer” of the theology to the theory of evolution is to distinguish physical order from a spiritual one. There is no need – writes Bartmann – to reject the hypotheses about the evolutionary origin of human. It can be argued that God created the human soul from nothing, while the body from existing matter²². It seems that the author suggests some form of the thesis about evolution as a “way” of creation, also familiar in present-day Catholic thought²³. L. Janssens also spoke in a similar spirit when he stated that from a theological point of view, for the truth that God created human, it was not important how the human body had been created²⁴.

The resolution of the dispute between the theory of evolution and the dogma of creation, referring to the “doctrine of the separation of cognitive levels”, found its official tone in Pope Pius XII encyclical, *Humani Generis*, of 1950. In this document, we can read: “... the

ory of evolution, and even more broadly, with some basic theses of modern biology. One might think that it was, among other things, an attempt to “defend” the original sin doctrine. A proper understanding of this dogma in the light of the achievements of modern science is one of real (as opposed to a great number of apparent ones) problems facing today's theology, as well as considerations in the field of “science and religion”. This problem is taken up e.g. by A. Anderwald, *Początki człowieka a grzech pierworodny. Od konfliktu do integracji*, in: *Kontrowersje wokół początków człowieka. Między Biblią i antropologią*, eds. G. Bugajak, J. Tomczyk, Wydawnictwo św. Jacka, Katowice 2007, 287–297.

22 B. Bartman, *Lehrbuch der Dogmatik*, Freiburg 1911; quoted from: J. Tomczyk, *O rozdzielności płaszczyzn*, op. cit., 251.

23 See e.g.: K. Kloskowski, *Filozofia ewolucji i filozofia stwarzania*, vol. 1: *Między ewolucją a stwarzaniem*, Wydawnictwo ATK, Warszawa 1999, 190–213.

24 L. Janssens, *Summa Theologica*, Freiburg 1912; quoted from: J. Tomczyk, *O rozdzielności płaszczyzn*, op. cit., 251.

Teaching Authority of the Church does not forbid that, in conformity with the present state of human sciences and sacred theology, research and discussions, on the part of men experienced in both fields, take place with regard to the doctrine of evolution, in as far as it inquires into the origin of the human body as coming from pre-existent and living matter – for the Catholic faith obliges us to hold that souls are immediately created by God”²⁵. In this papal statement, as in the views of Catholic theologians cited above, one can see not only the affirmation of the methodological and epistemological thesis about the independence of scientific and theological research but also the reference to the ontological position of soul-body and spirit-matter dualism. As our deliberations concern the aforementioned thesis of independence, this ontological strand appearing in theological solutions to the dispute about evolution will be omitted here²⁶.

The above-mentioned considerations were aimed at presenting arguments in favour of the thesis – and illustrating it using examples of solutions to specific problems – that science and theology (religion) are two fields that are methodologically and epistemologically separate. This thesis, however, is not the last word that can be uttered in relation to the issues raised here. Because it is clear that although, as stated in the introduction, the final solution to the alleged conflict between science and religion is within worldview framework, thus it is a subjective solution, in the construction of such a worldview, if it is to have the value of rationality, there is no way to avoid objectivised deliberations, guided by the question of how “actually” the world and our place in it finally look. Regardless of the validity of the thesis about the separation of science and theology, the subject of these fields, although studied from significantly different points of view, is – at least in part – the same: a world investigated by natural sciences is the world created by God.

²⁵ Pius XII, *Humani Generis*, no. 36.

²⁶ It seems that reading the truth about human creation in the spirit of Cartesian dualism is neither the only way nor the most popular one to interpret it in the history of Christian doctrine.

Is it possible, therefore, to go beyond the “doctrine of the separation of levels” in a methodologically proper way, without falling into either scientific simplifications, proclaiming the conflict of certain religious truths with scientific achievements, thus falsity of the former²⁷, or into unjustified optimism, maintaining that science and religion are convergent in reality²⁸? The last part of this article indicates that this question can be answered positively.

5. GOING BEYOND THE “SEPARATION DOCTRINE”

Some suggestions related to the possibility of going beyond the claim of independence of science and religion (but without its negation), thus to the possibility of building a coherent picture of the world, which would contain elements of both scientific knowledge and religious (theological) beliefs seem to result from two theses formulated and analysed in contemporary philosophy of science. These include the thesis of incommensurability and the thesis of underdetermination.

The thesis of incommensurability was originally formulated in the context of T. Kuhn’s question concerning scientific change. Successive scientific theories, concerning the same area of reality, are very often linguistically incommensurable. This means that in the transition from older theory to newer one there is such a significant change in the meaning of theoretical terms in these theories that it is impossible to translate them from the language of one theory to

27 Some state, for example, that religion formulates opinions about the material world – e.g. when it talks about miracles – so its claims fit perfectly within the scope of scientific interests and “on closer investigation they turn out to be scientific claims”. Therefore, religious claims would be subject to typically scientific falsification. See: R. Dawkins, *Snake Oil and Holy Water*, Forbes ASAP, 10.04.1999.

28 The conviction about the possibility of the convergence of science and religion is stipulated by the physicist and Nobel laureate – C. Townes: “The purpose of science is to discover order in the universe and thus understand the things we see around us, including ourselves. ... The purpose of religion can be defined ... as understanding (and thus acceptance) of the purpose and meaning of our world and what our place in it is. ... Understanding the *order* in the world and understanding the *purpose* of the world are not the same, however, they are not very far apart” (C. Townes, *Gathering of the Realms: The Convergence of Science and Religion*, Science and Spirit 10(1999)1, 18–19).

the language of another. At the same time, however, we are usually entitled to claim that a newer theory is better than its predecessor. This is possible because it can be demonstrated that the older theory somehow anticipated certain characteristics of the successor, which have been preserved (and highlighted) in the latter. Hence, if one can make such an evaluation of two linguistically incommensurable theories, holding the superiority of a newer theory over its predecessor, the incommensurability is not equivalent to incomparability²⁹.

The thesis of incommensurability was therefore originally related to the theories created in the same branch of science. Moreover, the considered theories were supposed to concern the same area of reality. However, it seems that it can be extrapolated to cases of theories from various fields, which are even more linguistically incommensurable, for example, by comparing scientific and theological theories³⁰. Such a comparison would not be intended, obviously, to evaluate the superiority of one theory over the other. The conclusion from the suggested here extrapolation of the thesis of incommensurability is more modest: it simply turns out that the theories in science and theology, although undoubtedly linguistically incommensurable, can be compared, thus there can be a platform of their "meeting". This, in turn, makes it possible to avoid the extreme consequences of the claim of independence of these two fields and ultimately leads to the conclusion that independent theories may "meet" methodologically and epistemologically.

The second form of the thesis of incommensurability, called the ontological form, offers even more than just opening the possibility of "meeting" two incommensurable theories. This form of the thesis in question states that two theories are incommensurable if, when they concern the same scope ("fragment" of reality), they suggest various, nonempirical features of this reality. This is what happens

29 See: Z. Hajduk, *Z ogólnej teorii związków inter- oraz intrateoretycznych*, in: *Filozofia a nauka w myśli księdza Kazimierza Klósaka*, eds. Z. Liana, A. Michalik, OBI – Biblos, Kraków – Tarnów 2004, 137–139.

30 The concept of "theological theory" certainly differs in meaning from that of "scientific theory". However, this does not seem to prevent us from extrapolating the thesis of incommensurability to these two "types" of theory.

with scientific theories on the one hand and with theological theses on the other. If their subject is, at least in part, the same (the world investigated in sciences is, after all, the “scene” and in some aspects also the subject matter of Revelation), then they can formulate – and they are formulating – statements about their subject that point to different “nonempirical features” of this world. However, such distinctness does not mean – which emerges indirectly from the thesis of incommensurability – that only one of these theories is right and the other must be wrong.

It is worth asking at this point what are these “nonempirical features” of reality, suggested by different theories of the same subject matter. The answer seems to be guided by the second of the above-mentioned theses from the scope of the theory of scientific cognition: the thesis of underdetermination.

There are three formulations of the thesis of underdetermination that are not identical: linguistic, classical (usually called the Duhem-Quine thesis) and ontological³¹. Leaving aside a detailed discussion of these formulations, it is enough to note that each of them contains the conviction that scientific theories include ontological theses in a certain (not direct and not ambiguous) way³². This is most clearly noticeable – according to its name – in the ontological form of the thesis in question. It states that there are empirically equivalent theories³³, but they differ in terms of postulated ontology. That means two things. Firstly, the theories “postulate” some kind of ontology, that is to say, on their basis, it is possible to formulate certain statements concerning the basic, ontic structure of the reality to which they refer. This “postulated ontology” are the previously

31 Cf. P. Zeidler, *Spór o status poznawczy teorii. W obronie antyrealistycznego wizerunku nauki*, Wydawnictwo Naukowe IF UAM, Poznań 1993, 33–34.

32 The analysis of individual formulations of the thesis of the underdetermination from the point of view of contained in them ontological strands can be found in the paper: G. Bugajak, *O postulowanej ontologii teorii naukowych*, *Studia Philosophiae Christianae* 40(2004)2, 315–322.

33 The empirical equivalence of a theory means that the set of empirical consequences (observational sentences possible to bring out from the theory) is the same for both theories.

mentioned "nonempirical features" of incommensurable theories. Secondly, such ontological theses are not subject to empirical verification. The latter conclusion follows from – also formulated by Quine – ontological relativity dogma. This principle expresses the conviction that providistic power is what really matters in scientific theory. What we recognize in such a theory as fundamental features of reality is irrelevant from the point of view of the theory itself³⁴. In other words, although theories "postulate" some kind of ontology, they do not "force" it.

6. CONCLUSIONS

The above-mentioned considerations lead to the conclusion that in the case of concrete scientific and theological theses –for example concerning the alleged conflict between the theory of evolution and the belief in the creation of the world and human by God – an attempt can be made to read this "postulated ontology" that is hidden in these theories and create a coherent, philosophical picture of a fragment of reality to which both theories relate. Creating such a picture would be the task of philosophy, especially given the fact that in the face of ontological underdetermination of initial theories, the reading of ontology suggested in them is a matter of their some philosophical interpretation. Such an interpretation cannot be completely arbitrary – after all, its framework is determined by the form of analysed theories. At the same time, however, the proper selection of philosophical interpretative tools may lead to "reconciliation" of both theories at the level of philosophy.

The outlined procedure does not violate the principle of independence of science and theology because the construction of a coherent, ontological picture of some fragment of reality, to which the theories of these two fields refer, is not done within the framework

³⁴ "The ontological relativity dogma" is formulated by Quine in such works as *Theories and Things*, Cambridge, Mass. 1981, and *Pursuit of Truth*, Cambridge, Mass. 1990.

of either of them, but consists in introducing a “third partner” to dialogue. It is the philosophy which acts here as an interpretative tool and a platform for “meeting” ontological conclusions that are drawn out independently from both sources: scientific and theological.

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Grzegorz Bugajak

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