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Theology Under Siege: Reflections of a Troubled Philosopher and a Believer

Abstract
The transposition of the theological expression into the framework of epistemology suggested by the contemporary philosophy of science is a long-desired project. The presented article offers an overview of the different epistemological and methodological issues that arise when this expression is carried out in the common sense paradigm. It turns that once the necessary change into the mode of knowledge acquisition of contemporary science is made, one can significantly improve theology's both methodological and conceptual foundations. In particular, this concerns the use of abstract concepts to better penetrate the intricacies of the Divine nature as well as the non-classical logics to improve theology's inferential basis. The resulting question of the contextuality of theology, namely, its dependence on the conceptual framework and the picture of the world, is also surveyed. Consequently, theology can be perceived as a lexically open project. In conclusion it is argued that while the contemporary theology should retain its common sense exposition for the pastoral and catechetical purposes that allows for the efficient transmission of faith through intuitive knowledge, the state-of-the-art theological research must reach out to to abstract conceptual frameworks to assure the depth of its penetrative insight.

Keywords
theology, philosophy of science, picture of the world, logic

Introduction

Most of the readers who are about to read this article certainly expect that the main challenge towards theology formulated here will commence from sophisticated scientific arguments. To their surprise, just the opposite will happen. Doing theology is by all means a noble task in itself but, ultimately, the exposition and explanation of the revealed truths should lead to the strengthening of faith. In other words, the measure of theology is whether by providing a profound intellectual grasp of the Divine it is able to win converts. Theology must lead to the encounter of the living and transforming God, if it fails achieve this it becomes like abstract mathematics: it treats of lofty things that hardly anyone understands but – unlike mathematics – stands no chance of finding a respectable application. The brute fact is that currently we are witnessing a crisis of faith. Once fortresses of faith and pillars of Christianity, the Western European countries face a visible collapse of their cultural identity that had in the past flourished nurtured by the vivifying spirit of the Gospel of Christ.

It is no surprise that calls for new evangelization are so abundant. Rarely, however, do these calls prompt for the reestablishment of what, following the thought of St. Augustine, St. Anselnm of Cantenbury would name *fides quaerens intellectum*, namely, the conterpunctual union of faith and reason that reached its climax in the Western mediaeval thought mostly through the works of Saint Thomas Aquinas.[1] After all, these are not emotions but the human intellect that firmly adheres to the truth. Although the proposals of the restoration of the faith are many, in this article I will be arguing that in order that faith in God main regain its broad impact in society it is imperative that it finds its way back into the human intellect. In other words, that the truth of Revelation is absorbed, lived and put into practice through a penetrating insight into the nature of the Divine things. It remains beyond doubt that this noble enterprize qualifies as one of the central tasks of theology. By bringing in private moments of reflection into a what is expected to be a scientific study I wish to emphasize that the consideration presented in this article means to me more than just

1 For an excellent exposition on the relations of faith and reason in the mediaeval thought see: J. Pieper, *Scholasticsim: Personalities and Problems of Mediaeval Philosophy*, South Bend 2001.

to write another research paper and this is the reason why I feel particularly honored to be offered to initiate a hopefully fruitful discussion. Ultimately, it is about deep understanding of and the most intimate relation with the One who gives sense to my existence.

As I will be trying to show, the contemporary theology too often fails to enter into a fruitful dialogue with many aspects of human intellectual activity among which science plays the prominent role. It is a given fact that the mentality of the modern man is dominated by the scientific world view and for a good reason because science offers precise explanations of the workings of nature acquired by means of rigoristic analytical methods yielding knowledge with a high degree of certitude. Moreover, it turns out that such methodology has already made its way into theology in the form of the so called *analytic theology* pursued largely by thinkers of the Anglosaxon provenience.[2] Although lots of efforts are being made to neutralize the conflict between science and faith[3] still some genuine scientific achievements are viewed as a danger to faith. For instance, this includes the theory of evolution which faces the frequent objection of materialism and the denial of finality due to its stochastic character.[4] The claims of the cognitive sciences seem to pose even more threat for they openly cast doubt on the adequacy of such central theological concepts as soul, free will and person. On the other hand, however, leading scientists who can claim substantial contributions to the progress of science such as Stephen Hawking[5] and Richard Dawkins[6] promote scientific atheism asserting that science yields sufficient grounds to deny the existence of God and to qualify supernatural religion as a sign of intellectual immaturity and retardation. In light of these tensions anyone who genuinely wishes to remain a believer and – at the same time – to seriously treat the achievements of science as the unveiling of the Divine rationality finds himself or herself in the state of intellectual cleavage of what in truth should present itself as a coherent picture emerging from God as a cause of everything that exists.

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2 O. D. Crisp, M. C. Rea, *Analytic Theology*, Oxford 2009.

3 E.g., J. Polkinghorne, *One World: The Interaction of Science and Theology*, London 1986.

4 E.g., G. J. Keane, *Creation Rediscovered*, Rockford–Illinois 1999.

5 S. Hawking, L. Mlodinow, *The Great Design*, London–Toronro–Sydney–Auckland–Johannesburg 2010.

6 R. Dawkins, *The God Delusion*, Boston–New York 2008.

After what has been a somewhat lengthy introduction, I wish to turn into a more rigorious survey of why I think that theology of today necessitates a major overhaul on both systematic and methodological levels. As a way of engaging in my inquiry, I wish to begin with a famous quote of St. Augustine from his *Genesi ad Litteram*. As its main focus, the quote challenges the credibility and the pastoral effectiveness of theologians who refuse to equip themselves with basic knowledge of the main tenets of the contemporary science. Here is what St. Augustine says:

> Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbit of the stars and even their size and relative positions, about the predicable eclipses of the sun and moon, the cycles of the years and the seasons, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience. Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn. The shame is not so much that an ignorant individual is derided, but people outside the household of the faith think our sacred writers held such opinions, and, to the great loss for whose salvation we toil, the writers of our Scripture are criticized and rejected as unlearned men. If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven, when they think their pages are full of falsehoods on the facts which they themselves have learned from experience and the light of reason?[7]

In the first step I formulate my main objection to the contemporary theology by pointing to the dominating reliance on the common

7 St. Augustine, *De Genesi ad Litteram 1*, 19–20, in: St. Augustine, *Opera omnia*, accurante J.-P. Migne, Parisiis 1865, col. 260f (Patrologiae Cursus Completus. Series Latina, 34).

sense notions in its discourse. I expand at some length what the major drawbacks of such state of affairs are and I explain why the conceptual foundation of the natural sciences points towards the use of abstract notions as more adequate in the description of reality at the fundamental level. In particular, this concerns metaphysics applied in theology. Next I move onto an epistemological consideration in which I wish to demonstrate that the common sense cognition is a special case of the way human mind grasps reality in general. I conclude this consideration with the presentation of the Skolem–Löwenheim Theorem stating that truths of faith can be expressed in a variety of conceptual systems (philosophies). This in turn justifies the introduction of the category of *the picture of the world* which is very helpful in showing the *contextual* character of the expression of theological truths. As a formal tool that would guarantee the precision of concepts applied I introduce the method of the invariants of the conceptual systems in analogy the common property of the key physical theories being the theories of invariants of the groups of transformations. Finally, I arrive at the conclusion that although the common sense representation of the truths of faith must be retained for a general believer, the theological research must reach out to the abstract conceptual frameworks to allow for a deeper insight into the Divine reality.

The Common Sense or Why Theology Limps

In the strictest sense, my main point of critique that I wish to voice at this point concerning theology is that it has not sufficiently enriched its method and conceptual content beyond what is warranted by the common sense knowledge. To be more specific, this concerns three basic objections: (1) the common sense epistemology which confines the conceptual content to what is given in direct perception, (2) the resulting exclusive reliance on the common sense concepts as the only foundation to build theological knowledge, (3) the exclusive use of the Aristotelian two-valued logic as an inferential tool. As it has been already mentioned in the introduction, the following fundamental philosophical concepts come to the fore: causality, substance, matter, space, time, free will, soul and person.

The common sense is in itself a category that is somewhat difficult to define.[8] For the purpose of this study, however, it will be assumed that to accept something on a common sense basis means to accept it uncritically as self-evident in how it is perceived. The term has its origins in the Aristotelian philosophy and carries on two important moments: (1) that perceptions of things are shared by all and (2) that they constitute the foundation of knowledge that must be accepted without further inquiry into its adequacy.[9] In other words, self-evidence is the ultimate reason to refrain from any form of critical approach. As I will venture out to demonstrate, the common sense knowledge termed often *pre–scientific* in the sense of being acquired before the onset of the contemporary scientific method reveals several aspects of continuity with the knowledge named as scientific. The natural consequence of such a state of affairs is that theology should expand its theoretical apparatus following to how it develops with the most advanced standards of knowledge.

Now let me turn my attention to the two major drawbacks that make the common sense knowledge a weak conceptual foundation for theology. These include: (1) the relative character of the common sense knowledge and (2) the inadequacy of the common sense concepts on the natural level of physical description. In regards to the first concern, it is quite easy to observe that the commonality of the common sense, namely, its normalization and objectivity within a large class of cognizing subjects is highly disputable due to the diversified character of what actually becomes the object of the self-evident knowledge in the daily life experience. For instance, for anyone who lives on the surface of the Earth the common sense experience is that the Earth is indeed flat while for a pilot of a jet, on the other hand, the curvature of the Earth registers as a self-evident truth. In short, the common sense conceptual framework is considerably relativized to the cultural and social condition and thus bears a contextual character. Instead of yielding an absolute conceptual foundation for theology, this framework directly leads to epistemological relativism.

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8 E.g., S. Zabieglik, *Krzywe zwierciadło filozofii, czyli dzieje pojęcia zdrowego rozsądku*, Warszawa 1987.

9 Aristotle, *Metaphysics*, Bk. III, 996 b; M. Krąpiec, *Poznawać czy myśleć*, Lublin 1994, p. 247–255.

The second drawback of the common sense concepts in theology is that founding theological knowledge on these concepts results in a marked epistemological hindrance. This problem is best exemplified through the specificity of one of the key physical theories of the 20th century, namely, quantum mechanics. Quantum mechanics is a theory that provides the physical explanation of the phenomena at the atomic level with a high degree of accuracy. One of the main conundrums surrounding the theory is the persisting lack of its satisfactory interpretation, that is, the relation of its theoretical entities to the observable objects of the physical reality.[10] The main reason this is that the abstract character of the Hilbert space formalism of quantum mechanics prevents to relate these two domains in a straightforward manner. If we make one step further, however, and claim that the theoretical structure of quantum mechanics does indeed reflect the ontological structure of the physical reality that underpins the phenomenal, we end up with an abstract picture of the physical reality radically incompatible with any common sense ontology.[11] Moreover, if we regard the quantum mechanical theoretical structure as an element of the Divine design of the Universe in which the Divine Nature itself is refracted, shouldn't then this nature demand a description with a far more abstract conceptual framework than it applies at the natural level of physical reality? In other words, should not God in Himself be far more abstract compared with the abstractness of what He has created? In addition to the abstractness we could add another term regarding the specificity of the mathematical structure that frequently invoked by Roger Penrose, namely, that of its *sophistication*.[12] Inasmuch that the abstractness of a mathematical entity means its remoteness from the common sense, sophistication denotes the richness and the high level ordering of the entity's internal structure. To put things in short, should not God be in His essence both infinitely *abstract* and *sophisticated*? Did not Einstein always maintain that "subtle is the Lord, but malicious He is not?".

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10 E.g., C. Isham, *Lectures on Quantum Theory*, London 1995.

11 An excellent testimony to the growing awareness of how quantum mechanics violates the common sense perception can be found in: W. Heisenberg, *Physics and Philosophy*, New York 1958.

12 R. Penrose, *What is reality?*, in: B. Brożek, J. Mączka, W. P. Grygiel, *Philosophy in Science: Methods and Applications*, Kraków 2011, p. 25–32.

Now let me provide a handful of examples illustrating how a strict adherence to common sense concepts and disregard for the fact that the progress of science calls for their revision and development may lead to severe obstruction of a rational inquiry both on part of theology and science. The early critics launched against the theory of evolution were aimed as the defense against generally understood *materialism.*[13] It must be clearly remembered that the term materialism relies on the common sense understanding of matter as a physical body confined to a spatiotemporal location an thus exposed to experience by human senses. Moreover, the common sense understanding perceives the material to be in opposition to the immaterial following the Aristotelian hylemorphism where matter remains entirely passive and can only play a role of a receptacle of immaterial forms. If such perspective is adopted – as it had been the case in the 19th century and it seems to be to a noticeable degree now – mater cannot be the source of organization out of itself for then it takes on the Divine creative role and poses a threat to the existence of God Creator altogether. The common sense understanding of matter, however, did not migrate into the discourse of the physical sciences and was entirely eliminated from for these sciences that exclusively employ abstract mathematical structures in the theoretical account of the observed phenomena[14]. The explanation why human cognitive apparatus conceptualizes physical reality as objects restricted to a spatiotemporal location containing mass belongs to the domain of the cognitive sciences in which the physical sciences may eventually play a significant role.

A separate line of argumentation voiced against the theory of evolution rests on the common sense interpretation of probability. If, following Aristotle, probability or – more precisely – chance is interpreted as the lack of rationality and that chance is only due to the lack of knowledge of causes then the stochastic character of the natural selection truly seems like a violation of the rational scientific method.[15] However, what seems irrational to the common sense perception

13 Concilium Vaticanum II, Constotutio dogmatica *Dei Filius*, Canones, 1. De Deo rerum omnium creatore, in: H. Denzinger, *Enchiridion symbolorum definitionum et declarationum de rebus fidei et morum*, a cura di P. Hünermann, Bologna 2003, no. 3021, 3022.

14 M. Heller, *Ewolucja pojęcia masy*, in: M. Heller, A. Michalik, J. Życiński (red.), *Filozofować w kontekście nauki*, Kraków 1987, p. 161–163.

15 Aristotle, *Metaphysics*, 1065a; *Physics*, 197a.

receives its conceptual support as one moves to abstract mathematical structures. It turns out that mathematics offers an axiomatized theory of probability in which thanks to the works of Kolmogorov probability is founded on the mathematically sound theory of measure. Moreover, physical sciences clearly attest to the rationality of probability for there are instances of theories incorporating probability to its formalism whereby they yield excellent empirical predicitions.[16] If probability can be associated with the scientific rationality of the mathematical type, then the arguments accusing the theory of evolution of its alleged irrational character lose their support.[17]

Much greater challenge to the common sense conceptualization and its adequacy, however, seems to be coming from within the cognitive sciences. The rapid development of these sciences in recent decades has shown the need to revise the conceptual content of such key concepts in theology such as soul, free will and person. In short, the cognitive sciences call for the in–depth restructuring of anthropology that fringes upon the meaning and understanding of human spirituality. In this survey I wish to devote more more attention to the notion of soul.[18] Its origins reach back to the ancient Greece and it is thanks to Aristotle that we have inherited the tripartite sharp distinction between the vegetative, sensory (animal) and the rational (human) soul.[19] The distinctive features of the human soul include reason and free will. It is not an exaggeration to state that such an understanding of anthropology underpins the entire classical and contemporary theological discourse placing theology on extremely shaky conceptual foundations. Michael Tomasello brings forth an intriguing empirical argument to criticize the notion of the soul thus conceptualized.[20] He states that until the 19th century

16 The two main theories that base their formalism on probability are statistical mechanics and quantum mechanics. Inasmuch as in statistical mechanics probability plays only the statistical role and thus bears the epistemological character, the quantum probability reflects the probabilistic nature of the microworld. Moreover, both types of probabilities engage different mathematical foundations.

17 M. Heller, *Philosophy of Chance. A Cosmic Fugue with a Prelude and a Coda*, Kraków 2012.

18 For an excellent review of the transformation of the concept of the soul from the point of view of the cognitive science see: J. Brehmer, *Pojęcie duszy w naukach kognitywnych*, Filozofia Chrześcijańska 7 (2010), p. 37–63.

19 Aristotle, *On the Soul*, 413a-432b.

20 M. Tomasello, *Historia naturalna ludzkiego myślenia*, Kraków 2015, p. 255–256.

the full information necessary to properly spell out how the human species differs from animals was unavailable. The "European experience" made a false impression of a marked gap between man and animals as observed within his own household consisting of birds, cats, dogs and sometimes wolves and foxes. The missing information came with the acquisition of hominids into the European zoos. In order to make his account more colorful, he recalls the visit of the British queen Victoria in the London Zoo when in response to her encounter with the orangutan Jenny she exclaimed that "it was unpleasantly human."

Be that as it may, the important revision into the understanding of the nature of the human soul is that its difference in comparison to the animal (sensitive) soul becomes significantly blurred. As Tomasello clearly points out, the hominids are capable of using the cognitive self-control as opposed to the mere behavioral self-control proper to the classically understood sensitive soul.[21] The thinking activity of the hominids involves three components: (1) the ability to use abstract cognitive representations and to locate particular experiences within their network, (2) the ability to make inferences based on these representations and (3) the ability to track the process of their own decision making.[22] The major difference of these cognitive abilities of the humanoids with respect to the humans, however, consists in that these abilities support competition and exploitation of others rather than cooperation and communication as it is the case for humans. Furthermore, the blurring of the rational – sensitive barrier finds its conformation in the *somatic markers hypothesis* advanced by Antonio Damasio. On this view, the decision-making process in heavily influenced by the emotional responses.[23] Finally, the nature of the decisive making process itself can be advanced as the last example of the inadequacy of the sharp distinction between the sensitive and the human soul. It is currently maintained that this process is not a movement of the free will as single power of the rational soul but it is a complex scheme of processes combining concerted action of the distinct neuronal structures of the human brain.[24]

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21 M. Tomasello, *Historia naturalna*, p. 50.

22 M. Tomasello, *Historia naturalna*, p. 53–59.

23 A. Damasio, *Self Comes to Mind: Constructing the Conscious Brain*, New York 2010.

24 S. A. Spence, *The Actor's Brain: Exploring the Cognitive Science of Free Will*, Oxford 2009.

One needs to remember, however, that instances of the conceptual dogmatism cemented by philosophical standpoints can be pointed out in the history of science as well. For instance, Newton's insistence on the corpuscular character of light was an obstacle to its competing undulatory representation supported by the famous two-slit Young experiment and the eventual development of quantum mechanics. Furthermore, the absolutization of the Newtonian dynamics by Immanuel Kant whereby he elevated the Euclidean spatiotemporal perception into the status of a priori categories of perception hindered the development of geometry by obstructing the discovery of the non-Euclidean geometries. Had this obstacle been not removed, Einstein's general theory of relativity would never have been formulated. And finally, it is Einstein himself who was not willing to give up his philosophical convictions leading him to introduce the cosmological constant in his field equation to secure the static picture of the Universe and to engage in a heated debate with Niels Bohr whether physical reality can be governed by indeterministic laws as stipulated by quantum mechanics. Inasmuch as in the first case Einstein admitted it to be one of his greatest errors, he has never quit his strongest conviction that "God does not play dice." Be it science or theology, the following quote from Einstein equally applies to both:

> Concepts which turned out to be useful in the ordering [of experience], gain such an authority for us, that we easily forget of its terrestrial origin and we accept them as having the characteristics of an unchanging reality. Consequently, we assign them the status of "the necessities of thought," "the *a priori* data" etc. Errors of this kind often pose a barrier to the scientific progress.[25]

No Metaphysics, No Science

There exists a widespread opinion that science has proven metaphysics to be a purely rhetorical enterprize devoid of sense and incapable of producing knowledge. This standpoint, however, rests on the neopositivistic view of science with the criterion of empirical verifiability as the sole criterion of scientific rationality. Studies in the history and

25 A. Einstein, *Ernst Mach*, Physikalische Zeitschrift 17/7 (1916), p. 101–104.

philosophy of science have clearly demonstrated that physical theories make an ample use of objects that are not empirically verifiable and yet play central role in the mathematical formalism of a given theory.[26] For instance, physical fields such as gravitational or electromagnetic qualify as metaphysical in the Kantian sense of entities remaining outside of the realm of experience. Moreover, contemporary debates in the philosophy of science center on the issue of the *scientific realism*, that is, the question whether scientific theories can be considered to formulate approximate truth statements regarding the mind-independent physical reality.[27] Interestingly enough, the position of the *structural realism* implies that realism thus understood pertains not to objects but to structures.[28] Clearly enough, formalized sciences have retained their ability to predicate of the extramental realities.

Metaphysics in theology serves primarily as the *preamble of faith* where certain truths are acquired by the light of the natural reason thereby giving a foundation for the acceptance of revelation as rational. A proof of the existence of God is an example of the preamble. For instance, the Aristotelian metaphysics with the corrections introduced to it by St. Thomas Aquinas gave the foundation to the Thomistic theology. Similarly, a theology may be constructed using Hegelian metaphysics.[29] In a broader sense, metaphysics is necessary in theology to assure the rationality of discourse engaging theoretical entities in its narration that cannot be related to experience. As a continuation of what has been argued so far, the objections to the use of a common sense conceptual framework can now be applied to metaphysics in view of its use in theology. In short, any common sense based metaphysics must admit of its *relative* and *non-abstract* character.

In order to see how a more appropriate metaphysics could be identified, I wish to recall the relation of physics to metaphysics in the

26 E.g., A. Chakravartty, *A Metaphysics for Scientific Realism: Knowing the Unobservable*, Cambridge 2007.

27 E.g., S. Psillos, *Scientific Realism: How Science Tracks Truth*, London–New York 1999.

28 J. Worall, *Structural Realism: The Best of Both Worlds?*, Dialectica 43 (1989), p. 99–124.

29 E.g., P. C. Hodgson, *Hegel and Christian Theology: A Reading of the Lectures on the Philosophy of Religion*, Oxford 2005.

common sense based philosophy of Aristotle.[30] Inasmuch as metaphysics also termed the first philosophy deals with the analysis of *ens qua ens* in abstraction from physics, metaphysics remains conceptually dependent on the physics of its origin. As Obolevich explains: "The object of the metaphysical consideration is often located at the extension of a natural inquiry and culminates in it." The obvious conclusion that I wish to stress now is the following: if contemporary physics offers a much greater insight into the workings of nature, should not the metaphysics built upon it lead to a much deeper grasp of what the most fundamental principles of *ens qua ens* are? One of the most famous and yet controversial examples of such an attempt is the *process philosophy* of Alfred North Whitehead.[31] The search for a new metaphysics – on the other hand – was openly contested by Józef Bocheński. He claimed that the complexity and diversity of contemporary knowledge makes any synthesis of the scholastic type impossible and only the analytical approach is justified.[32]

An Epistemological Consideration

In the next step I wish to deepen my criticism towards absolutizing conceptual frameworks in theology and restricting them to the common sense by turning to an epistemological problem of the acquisition of the theological knowledge. Theology exercised in the common sense Aristotelian–Thomistic paradigm in particular rests on the epistemological assumption that knowledge is acquired by means abstraction of the forms of things that exist in the physical reality independently of the human mind. In short, this implies that we get to know things as they are. The Aristotelian–Thomistic epistemology takes this standpoint as its fundamental assumption and claims that thus the objectivity of cognition is properly secured. In such perspective, the human

30 T. Obolevitch, *Kilka uwag na temat relacji fizyki i metafizyki u Arystotelesa*, in: S. Wszołek, R. Janusz (red.), *Wyzwania racjonalności*, Kraków 2006, p. 472–486.

31 The seminal ideas are contained in Whitehead's *Process and Reality*. For extensive discussion see, e.g., L. S. Ford, *The Viability of Whitehead's God for Christian Theology*, Proceedings of the American Catholic Philosophical Association 44 (1970), p. 141–151; J. Życiński, *Teizm i filozofia analityczna*, t. 2, Kraków 1988, p. 157–254.

32 J. Bocheński, *Między logiką i wiarą: Z Józefem Bocheńskim rozmawia Jan Parys*, Montricher 1992, p. 77–94.

mind is entirely passive and cognition is understood as the commencement of the existence of a particular form impressed upon the mind. Such mechanism of cognition is considered as self-evident and further inquiry into its nature is usually eschewed.[33]

Moreover, the Aristotelian–Thomistic epistemology rests on an ontological assumption that the existence of things is *prior* to their cognition by the human mind and that cognition is made possible solely on the assumption of the existence of its object in the external physical reality. I will make an effort to show that such an inference relies on a series of arbitrary assumptions which – once revealed – show why the inverse is true, namely, that the Aristotelian–Thomistic epistemology takes on as self-evident and real what indeed is a mental construct contingent upon the ontological standpoint of *the direct (naive) realism*. According to this standpoint, things are taken to exist as they are perceived and that they are the objects of direct experience. Consequently, the human mind is capable of attaining truths on the external reality according to the correspondence theory of truth.

In light of the works of the two influential philosophers, David Hume and Immanuel Kant, the cognitive mechanism maintained by the Aristotelian–Thomistic tradition demands a major overhaul. It is frequently maintained by the strict adherents of this tradition that both Hume and Kant have destroyed the realistic metaphysics and realistic epistemology.[34] However, I would like to present a more balanced opinion in that matter by claiming that instead of being destructive by their critical approach they revealed the arbitrary assumptions hidden in this tradition and thus enabled further scientific progress. Moreover, their critical approach did not abolish the claims of the the Aristotelian–Thomistic heritage but – on the contrary – it helped to demonstrate the range of its applicability. This strategy is analogical, for instance, to how the fifth postulate of the Euclidean geometry has been proven to be an arbitrary assumption once the generalized non-Euclidean geometries were discovered.

Multiple volumes have been devoted to the study of Hume's and Kant's legacy. For the purpose of this study, however, it is sufficient to bring out the most important tenets of their ontological and

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33 An in-depth exposition of the Aristotelian–Thomistic epistemology can be found in: J. Owens, *Cognition: An Epistemological Inquiry*, Huston 1992.

34 E.g., E. Gilson, *Methodical Realism*, Front Royal 1990.

epistemological doctrine to shed the necessary light at the problem in hand. In case of David Hume the central tenet is the distinction between *the relations of ideas* and *the matters of fact*. As a result, Hume released the necessary relation between the conceptual and the factual whereby the necessity of thought no longer implied necessity on the part of the objective reality. It is on that basis Hume launched his famous attack on the notion of causality. The contribution of Kant, on the other hand, consisted in showing that the human mind plays an *active* role in the human condition. Clearly, he went too far by absolutizing the Newtonian mechanics as he insisted on the a priori character of the spatiotemporal categories by means of which the human mind structures experience whereby Kant became an obstacle in the discovery of the non-Euclidean geometries. The active role of the human mind in representing the external reality, however, finds its solid confirmation in the contemporary cognitive sciences.

The lifting of the assumption of the necessary relation between the ideas and the facts as well as the postulate of the active (critical) role of the human mind lead into a situation in which in the process of cognition the mind equipped with its conceptual framework confronts the sensory material in a manner in which it cannot uncritically abstract forms from but the sensory content has to be absorbed within the pre-existing conceptual framework. By way of analogy from mathematics, this situation can be likened to a vector being projected into a coordinate system where the vector takes on the role of an empirically established proposition and the coordinate system assumes the role of a conceptual framework. As a result, different coordinate systems will yield different coordinates of the physically same vector whereby their active role comes to the fore. Two important remarks need to be made at this point. Firstly, it is easily seen that the Aristotelian–Thomistic epistemology based on the direct realism is a particular case where a conceptual framework is selected that is *generally covariant* with the sensory content. General covariance is a technical mathematical term that plays a key role in Einstein's theory of relativity whereby Einstein achieved the total independence of the field equation from the choice of the coordinate system.[35] Given that the human mind

35 E.g., J. Norton, *The Physical Content of General Covariance*, in: J. Eisenstaedt, A. Knox (eds.), *Studies in the History of General Relativity: Einstein Studies*, vol. 3, Boston 1992, p. 281–315.

is furnished with conceptual content of an extremely diversified provenience, the conceptual framework generally covariant with the sensory material can be qualified as an extremely special case of all conceptual frameworks resident in the human mind. This shows clearly that Hume and Kant combined did not contribute to the collapse of the the Aristotelian–Thomistic tradition – but to the contrary – they ultimately helped in clarifying its limitations. Secondly, the proposed analogy greatly assists in understanding why the content of a particular sensory material may be projected into a variety of conceptual systems instead of being rigidly restricted to the covariant one. However, what is most important from the point of this study, this conclusion justifies the applicability of different philosophical systems to the exposition of the Divinely revealed truths and gives a definite warning against the absolutization of any conceptual frameworks as foundational for theology.

As a last argument in the polemics with the aforementioned absolutization, I wish to resort to the inherent properties of the formal systems implied by *the Skolem–Löwenheim Theorem*.[36] The theorem stipulates that there exist many models (interpretations) for a given logical formula. Strictly speaking, this concerns the formulation of a set of axioms that allow for the specification of the properties of a given set of objects. In light of the theorem, a set of axioms will turn out true in many domains leading to the semantic indeterminacy of language. As Życiński clearly points out, the effect of the Skolem-Löwenheim Theorem on the language can be compared to the role that the Heisenberg indeterminacy principle plays in physics by restricting the use of the language of the classical physics in the domain of quantum mechanics. The importance of the Skolem-Löwenheim in theology manifests itself in that it poses a definitive epistemological barrier to the enthronization of any conceptual system as a preferred one in the exposition of the truths of faith. In other words, each conceptual system carries on intrinsic limitation of its explanative power thereby showing its relative character. There is no doubt that the Skolem-Löwenheim Theorem casts a shade of epistemological skepticism on the theological enterprize exercised in a mode narrowed down to a particular conceptual system.

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36 For the in-depth analysis of the content and the philosophical consequences of the Skolem-Löwenheim Theorem see: J. Życiński, *Teizm i filozofia analityczna*, t. 2, Kraków, p. 18–46; J. Życiński, *Świat matematyki i jej materialnych cieni*, Kraków 2013, p. 121–134.

Pictures of the World

With the proper epistemological tools in hand, now I wish to focus on how these tools maybe of assistance in providing a foundation for the theological inquiry. In a way, this is a possible contribution into a long lasting struggle of theology to recover after the attack on the credibility of theological knowledge launched by David Hume. In particular, the Humean critics of metaphysics undermined the classical rational foundation of theology. In her penetrating book entitled *Theology in the Age of Scientific Reasoning*, Nancey Murphy surveys the different proposals on how the claims of theology can be justified in the paradigm of the paradigm of the probable knowledge proper to the method of the contemporary science.[37] In particular she concentrates on the application of the idea of research programs proposed by Imre Lakatos to theology. Inasmuch as such an approach offers a possible setting of theological inquiry in accordance with the scientific method, I prefer to resort to a more fundamental conceptual analysis which was clearly signaled by Ian Barbour as he suggested the application of the theory of models to theology.[38]

As Heller clearly points out, theology has its origin in the meeting of the human thought with the Revelation.[39] This statement well accords with the epistemological situation presented above where a revealed truth is projected into the contextually conditioned conceptual content of a human mind. For instance, the New Testament revelation was received in the context of the amalgamate of the Greek, Roman and Hebrew cultures. In order to subject these complex processes to a more rigorious analysis, I will follow the line of argumentation put forward by Heller and Liana.[40] In order to properly clarify this issue, a hermeneutical category of *the picture of the world* is introduced. According to Liana, the picture of the world is firstly "a certain complete set of convictions on the fundamental characteristics and the mode of the functioning of the Universe, man and cognition itself."

37 N. Murphey, *Theology in the Age of Scientific Reasoning*, Ithaca–London 1990.

38 I. Barbour, *Myths, Models, Paradigms. A Comparative Study of Science and Religion*, New York 1976.

39 M. Heller, *Wszechświat i słowo*, Kraków 1981, p. 16.

40 Z. Liana, *Teologia a naukowe obrazy świata*, in: J. Mączka (red.), *Wiara i nauka*, Kraków 2010, p. 70–71.

And, secondly, Liana expands by adding that the picture of the world is "a certain intellectual background or a specific background knowledge of all possible cognitive behaviors of man with the theological and scientific cognition inclusive." Clearly then, the category of the picture of the world allows to bring out the relativization of cognition to the historical conditioning of the cognizing subject whereby cognition becomes a function of culture and language. Consequently, as Liana stresses, the historical conditioning of the subject implies that no pure, absolute, subject-independent knowledge is ever possible.

The history of philosophy, however, yields examples where the influence of the subject's condition on knowledge acquisition was neutralized where only the object of cognition would exclusively determine the content of knowledge. The Aristotelian epistemology discussed above yields such an example. If this scheme were transferred to the area of religious cognition, the entire passivity of the cognizing subject would imply that God could directly communicate Himself to man thus shortcircuiting all human cognitive powers. Therefore, it seems that claiming the existence of the Divine semantics, namely, that there exist notions by which God can directly make Himself known to the human mind, would imply the absolute character of all religious beliefs. In other words, truths on the Divine nature would become known to men in an intuitive rather than a discursive manner. The assumption that there exists a revealed and universally valid conceptual knowledge exclusively designed for the communication of the Divine truths turns out to be entirely ill-founded. This is succinctly summarized by Józef Bocheński in the following quote:

> Religion is written with a human language and as such it has to obey the laws of human semantics. It is a great error of theologians who claim that if religion is given by an outside-of-this-world agent, the rules of the human semiotics don't apply to it. And this is not true.

The application of the category of the picture of the world comes to a great assistance in clarifying two crucial moments in how the theological language functions in the expression of the truths of faith. First of them relates to the obvious problem of the interpretation of the Sacred Scriptures. In particular, the literal interpretation taken to the extreme implies that, as Liana rightly points out, "the revealed truth exactly matches the literal content of the text and this content could

be always and everywhere identically understood." The key issue from the point of view of this study is to emphasize that if the literal interpretation of the scriptural text is treated too rigidly, it can easily lead to the absolutization of the picture of the world contained in it. This in turn results in immediate conflicts between the teachings of the Scriptures and the evolving picture of the world achieved on the natural level where the picture generated by the sciences plays a dominant role. The category of the picture of the world helps to understand why the scriptural message had to be relativized to the picture of the day and that the language in which the Revelation is formulated always bears the historically and culturally conditioned subjective component of the one to whom it was communicated. The account of the creation of the Universe by God in the Book of Genesis is the most frequently quoted example in this regard.[41]

The second and far more contentious issue where the category of the picture of the world comes to the fore is the function of language in dogmatic definitions. Currently, the theologians speak of a phenomenon called the *development of doctrine* or, in the stronger sense, the *development of dogma*.[42] The idea fared quite badly as far as the declarations of the Magisterium of the Church. It was numerous times charged with relativism and eventually qualified as modernist.[43] One needs to remember, however, that in order to be able to declare something as relativistic it is necessary to point out an absolute with respect to which relativism can be identified. As I took pains to demonstrate so far the the Aristotelian–Thomistic conceptual framework on the basis of which the Church claimed the absolute character of its conceptual framework practically until Vaticanum II does not fulfill these standards. The truth is that the burden of the proof of the absolute character of this framework rests in the hands of its proponents! As I will now venture out to show, the relation between the picture of the world applied in the expression of a truth of faith and the content of the truth itself turns out to be so intimate that the change of the picture of the world may affect the very understanding of the given truth. In particular, I wish to focus on the controversial issue of the Divine action in the Universe which was the subject of a series of conferences organized

41 E. g., Pius XII, Encyclical Letter *Humani Generis*, 1950.
42 E.g., International Theological Commission, *The Interpretation of Dogma*, 1989.
43 Pius X, Encyclical Letter *Pascendi*, 1907.

by the the Vatican Observatory (Rome, Italy) and the Center for Theology and the Natural Sciences in Berkeley (USA) bearing the common title *Scientific Perspectives on Divine Action.*[44]

The characterization of the way God acts in the Universe demands a model through which one can conceptualize how the Divine causality may interfere within the created order to carry out the decrees of the Divine Providence. Before the onset of the contemporary scientific method whereby the ontologies spanned by the theoretical formalisms offered a viable alternative, the prevailing model was founded upon the Aristotelian concept of causality visualized as an agency exercising its causal influence by means of a physical contact with the thing moved. Hence comes the Aristotelian dictum *omne quod movetur ab alio movetur* as well as the idea of the motionless Primus Movens, the origin of all motion.[45] The natural order of things was determined by the totality of their natures with the possibility of a direct Divine intervention aimed at the execution of special tasks reaching out beyond the entire natural order.[46] This doctrine bears the name of *interventionism* and was crucial to the classical ontological understanding of miracles precisely as interventions of the Divine causality beyond what is warranted by the competence of the natural causes. Also, the doctrine gave the strong support for the *transcendence* of God where a clear line could be drawn between the natural and the supernatural. The advent of the contemporary scientific method offering the account of the workings of the Universe by means of theories using abstract mathematical formalisms as their foundation, however, forced a major change in the model of the Divine action within the natural order by shifting the emphasis on the *immanence* of God through the laws of nature rather that being ontologically entirely other as is the case in the classical model. This conclusion finds its expression in the doctrine of *panentheism* with Arthur Peacocke as one of its most prominent figures where the created

44 E.g., R. J. Russell, P. Clayton, K. Wegter-McNelly, J. Polkinghorne, *Quantum Mechanics: Scientific Perspectives on Divine Action*, California 1995; R. J. Russell, N. Murphy, A. Peacocke, *Chaos and Complexity: Scientific Perspectives on Divine Action*, California 2001.

45 Aristotle, *Physics*, Bk. VIII; *Metaphysics*, Bk. XII.

46 E.g., Thomas Aquinas, *Summa Contra Gentiles*, III, 77, http://www.corpusthomisticum.org/scg3064.html (20.11.2016).

order is represented as *immersed* in God.[47] It is not unlikely that such a change of the model of the Divine action may even call for a reformulation of the fundamental understanding of the nature of God. For instance, the possibility of God's *mutability* in its interaction with the world is often conveyed by the *God's body* metaphor.[48] There is no doubt that this inference stands in clear opposition to the classical doctrine on the immutable nature of God. Such state of affairs manifestly points to a more fundamental role of the picture of the world than being just a variable vehicle of an invariable truth. Are there any remedies to assure that the objective character of truth will in some way be nonetheless retained?

A Quest for Objectivity

As I now move on to how remedy the concern formulated above, I wish to begin with the proposal of the *lexically open philosophy* put forward by Józef Życiński.[49] He suggests that the best analogy for its support can be drawn from mathematics where given axiomatic systems are often enriched and improved to assure their better adequacy as foundations of the inferential systems. Similarly, in philosophy this should be refracted in the continuing effort to enrich the conceptual capacity of a given language to increase its explanative power in the penetration and interpretation of new areas of reality discovered by the natural sciences. As one source of enrichment Życiński names the mutual interaction between different conceptual systems whereby concepts from one system may benefit by gaining new content available only as they begin to participate in the discourse formulated outside of the framework of their origin. Of course, as Życiński observes, this kind of enrichment must be subjected so strict analytical methods in order to prevent the unjustified dispersion and mixing of the conceptual contents and the ultimate blurring of the otherwise clearly stated semantic boundaries.

47 For a concise introduction into panentheism in theology can be found in: M. W. Brierley, *Naming a Quiet Revolution: The Panentheistic Turn in Modern Theology*, in: P. Clayton, A. Peacocke (eds.), *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World*, Grand Rapids–Cambridge 2004, p. 1–14.

48 E.g., S. McFague, *The Body of God: An Ecological Theology*, Minneapolis 1993.

49 J. Życiński, *Teizm i filozofia analityczna*, p. 39–46.

In my opinion, the methods of invariants of the conceptual systems qualifies as a suitable analytical tool in this regard.[50] The first intuition for such an approach can be directly gleaned from the specificity of the category of the pictures of the world. As it has been stated above, this category is expected to allow for the delineation of the contextual layer of the picture of the world involved in a theological statement from the invariable truth of faith that such a statement is supposed to mediate. The use of the method of the invariants was tacitly suggested by Michał Heller in his support for the philosophical pluralism in theology.[51] It certainly echoes one of the most important characteristics of many contemporary formalized physical theories, namely, their being theories of invariants of a group of certain transformations.[52] This the main thesis of the *Erlangen program* put forward by Felix Klein, one of the most renowned German mathematicians of the turn of the 19th and 20th century.[53] The main idea of applying the methods of invariants consists in extending its use to the conceptual systems or, more broadly speaking, philosophies whereby what remains an invariant in a set of conceptual systems qualifies for an objective truth freed from any contextuality. As I have shown in my study, the method yields also a valuable tool in identifying the *artifacts* of conceptual systems which cannot be used in the articulation of any objective truths of faith. The results of the studies on the application of the method of invariants of the conceptual systems are still quite preliminary and they will require a more in-depth inquiry into the *theory of invariants*.

The last point that I wish to make concerns the use of logic in theology. The strict adherence to the common sense ontology discussed above ontology is refracted in the structure of our language which allows us to make inferences based on the two valued Aristotelian logic with the *principle of non-contradiction* as its primary tool. The upshot

50 E.g., W. P. Grygiel, *Physics in the Service of Theology: A Methodological Inquiry*, in: B. Brożek, A. Olszewski, M. Hohol, *Logic in Theology*, Kraków 2013, p. 293–308.

51 M. Heller, *Wszechświat i słowo*, p. 26–27.

52 For instance, the special theory of relativity is the theory of invariants of the Lorentz group, the general relativity is the theory of the invariants of the groups of diffeomorphisms, quantum mechanics is the theory of the invariants of the groups of permutations and the standard model of elementary particles is the theory of the local gropus of gauge transformations,

53 E.g., R. Torretti, *Philosophy of Geometry from Riemann to Poincaré*, London 1978, p. 137–142.

of such an approach is that the logical necessity with the factual necessity are equated. In other words, whatever is logically inferred is automatically assumed to mind-independently exist in the objective reality. This property of the Aristotelian logic was clearly articulated by a famous Polish logician, Jan Łukasiewicz.[54] Moreover, Łukasiewicz also argued that the principle of non-contradiction is not an absolute rule of logic and a foundation of any other logical systems but the multi-valued logical systems not respecting this principle are also possible. This conclusion gives a clear support to the postulate I have been arguing in a previous paragraph, namely, that the common sense conceptual framework is but a special case of all possible frameworks with any degree of abstractness and sophistication. By way of extension, the common sense logic constitutes a special case of a more general logic with the principle of non-contradiction introduced as its basic law. This brings us to the idea of the systems of the paraconsistent logic which admit of contradictory statements and are more consonant with the logic of human beliefs.[55] Also, the systems of the paraconsistent logic have the property of not leading to explosion due to the classical principle *ex contradictione quodlibet*. From the point of view of this study, however, a special class of paraconsistent systems of logic is worth pointing out, namely, the *inconsistency-adaptive logic* formulated by Diderik Batens.[56] According to this logic, one should apply the rules of classical logic as long as contradictions do not occur and switch to the paraconsistent regime as soon as the classical system shows signs of explosion. As Dadaczyński clearly points out, the methodological chaos reigns in "that paradigm of theology, which maybe aptly described as 'touched by the spirit of Hegel'" due to the explicit tolerance of contradictions and is in need of urgent attention. Consequently, taking into account several other considerations he concludes that there are no grounds for "the meta-theological acceptance of contradictions occuring in theology."[57]

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54 J. Łukasiewicz, *O zasadzie sprzeczności u Arystotelesa*, Warszawa 1987.

55 A more detailed analysis of the role of the paraconsistent logic in religious thinking can be found in: M. Heller, *Sens życia i sens Wszechświata*, Tarnów 2002, p. 86–110.

56 D. Batens, *A General Characterization of Adaptive Logics*, Logique et Analyse 173–175 (2001), p. 45–68.

57 J. Dadaczyński, *What Kind of Logic Does Contemporary Theology Need?*, in: B. Brożek, A. Olszewski, M. Hohol, *Logic in Theology*, p. 39–60.

Conclusions

As the course of this study comes to a close, one may rightly wonder whether ultimately every believer will be expected to be proficient in science to secure rational support his or her faith. As I strived to show, this is obviously not the case for the common sense cognition is suitable for the catechetical purposes and for the teaching of faith in that it yields conceptual tools capable of giving sufficient grasp of the content of the truths of faith. This is guaranteed by the fact that the common sense cognition can be considered as a special case of the human cognition in general which, in my opinion, reaches the maximum of their possibilities in the scientific method as it employs abstract and sophisticated concepts (and possibly the non-Aristotelian logic) in the description of physical reality at the fundamental level. To put things in short, both the common sense and the scientific method indeed bring us closer to the truth although the scientific method does it to a much greater degree. Such type of epistemological rationality was famously termed by Karl Popper as *verisimilitude*.[58] It remains beyond doubt that the exclusive suitability of the abstract conceptual framework to theological research would almost lead to gnosticism where the full knowledge of the things Divine would be restricted only to the elect. As I explained, the great advantage of the common sense mediated knowledge is that its conceptual content is sufficient to reflect the truths of faith by means of concepts with which the cognitive apparatus of any believer – educated or uneducated – is equipped. This, however, does not justify the theological research to rest on the assumption that the common sense based knowledge exhausts the quest for the theological truth. On the contrary, following the challenge of St. Augustine presented at the outset of this study it should become the primary focus of theologians to reach out to the abstract conceptual frameworks developed within the formalized sciences to assure that the study of the things Divine will return most sophisticated and in-depth knowledge on the nature of God and His internal life. This is the condition *sine qua non* to retain theologians' credibility on the market of contemporary science. Moreover, in light of what has been explained, no theological doctrine should be regarded as final and the true obstacle to theolgy's quest

58 K. Popper, *Conjectures and Refutations. The Growth of Scientific Knowledge*, New York 1962.

for truth is the enthronization of any conceptual system as absolute and ultimately indispensable. Theology should always be open towards explanative enrichment as the exploration of the *loci theologici* in hand yields new theological data.

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