
THE SCIENCE-RELIGION RELATIONSHIP IN THE ACADEMIC DEBATE IN POLAND (1945-1998)

Paweł Polak^{1*} and Jacek Rodzeń²

¹ Pontifical University of John Paul II in Kraków, Faculty of Philosophy, Chair of History and Philosophy of Science, ul. Kanonicza 9, Kraków, 31-002, Poland

² Jan Kochanowski University in Kielce, Institute of History, Division for Research of Cultural Changes and Science, ul. Uniwersytecka 17, Kielce, 25-406, Poland

(Received 12 May 2021, revised 19 June 2021)

Abstract

The present paper presents a synthesis of the evolution of the Science-religion relationship in the academic debate in Poland, in the years 1945-1998. The purpose of the paper is to show the determinants and local specificity of the development of academic debate centred on Science and religion. First, we succinctly outline the socio-political, institutional and ideological determinants concerned with this debate in Poland after the Second World War. Then, we discuss the character and aspects of the onslaught on the Christian religion launched by the politically sanctioned ideology of Marxist materialism. In the subsequent sections we focus on the defence of the key issues concerned with theism and their in-depth study undertaken by Polish Christian intellectuals as part of the contemporized currents of the neo-Thomist philosophy. To conclude, we discuss more recent research projects, which are constructive and yet unrelated to neo-Thomism, and which fall within the compass of the Science-religion relationship, and which emerged in Poland towards the end of the 20th century, particularly in the Cracow academic milieu. The paper will end with conclusions showing the most important aspects of the specificity of the Polish religious thought in relation to Science.

Keywords: theology of science, cosmology, evolutionism, criticism, Marxism

1. Introduction

Today, the problematics of the Science-religion (*resp.* Science-Theology) relationship have a well-established status as an independent field of scientific research. Numerous research centres all over the world already have departments that deal with this issue in a multi-faceted (systematic and/or historical) manner. The detailed topics that are addressed in this area are often researched at a relatively high level of theorization and generality. Our paper accommodates the need for knowledge of locally construed determinants and contexts of development, as well as the character of the Science-religion relationship [1, 2]. The example that we have chosen to address in the present paper is the evolution

*E-mail: pawel.polak@upjp2.edu.pl

of these relationships in Poland, in a special historical period, i.e. from the cessation of the Second World War activities in its territory until the year 1998, when Pope John Paul II's encyclical *Fides et Ratio* was published, opening a new period of the discussions on relations between Science and religion.

In spite of a large number of debates conducted in that period, so far no work has been written that would synthetically approach the development of the issues in question. Such a work appears to be necessary for understanding of the significance of the concepts developed back then, as well as for future comparative analyses of various traditions of reflection on the relationships between Science and religion in the 20th century. Poland academic disputes on the relations between Science and Theology have been held almost exclusively among Roman Catholic intellectuals and this is also the perspective of the paper. This focus is due both to the small size of the Polish Orthodox and Protestant (mainly Evangelical Church of the Augsburg Confession in Poland) communities, and to the specificity of the theological views these communities proclaim. The Polish Orthodox and Protestant communities' theologies perceive scientific knowledge as separate from denominational doctrines [3, 4].

As the character of the Science-religion relationship is presented within a specific historical (political, social, institutional) reality, its scope is usually narrowed down to the relationship between knowledge and faith, or between Science and Theology, to name just two by way of illustration. Attempts are also made to define the current state of these relationships, referring them - as they are empirically identified - to their types known from literature, e.g. conflict, independence, dialogue, integration [5]. In the present paper we will not be referring to such a typology while discussing the academic debate that continued between scientists and Catholic intellectuals in Poland for more than fifty years. However, in the conclusions the essential evolution of the character of the Science-religion relationship will become distinctly discernible.

The first part of the paper will outline socio-political, institutional and ideological determinants of the debate on the Science-religion relationship in post-war Poland. The second part will address the character and aspects of the onslaught on the Christian religion launched by the ideology of Marxist materialism. In the third part we will focus on the defence of the key themes of theism and their in-depth study from the perspective of the contemporized currents of the neo-Thomist philosophy. In the last part we will discuss more recent research projects which are constructive, which fall within the compass of the Science-religion relationship and which emerged in Poland towards the end of the 20th century, particularly in the Cracow academic milieu. The paper will be concluded in a manner allowing for a synthetic approach to the most important factors affecting the relationships in question.

2. The determinants of the debate in post-war Poland

In 1945, when the Second World War was over, Poland fell under the political, economic and ideological influence of the Soviet Union during the

reign of Stalin. On the one hand, the new situation did not spare normal science, which was recovering from the collapse, or the Polish scholars, who had been decimated by the warfare (both the Germans and the Soviets were carrying out methodical genocidal actions against the Polish intelligentsia, even though the systematic German activities definitely accounted for far greater losses [6, 7]). On the other hand, the new socio-political conditions significantly affected the activity of the Polish religious organizations and their intellectual base. The above-mentioned facts constitute a marked turning point in the history of Poland, thereby marking off a new historical period.

In the period up to 1948, Poland saw reconstruction of the organizational structures of science, the basis being some pre-war institutions and the scientists who managed to survive the warfare. After 1948 the situation changed dramatically. An organizational and ideological offensive was launched against science and scientists, particularly after the establishment of the communist Polish United Workers' Party, which exercised real power in Poland. The teaching and researching autonomy of academic institutions was to a large extent limited, surveillance of scientists and their work increased and outstanding individuals were removed from universities, especially Humanities researchers. Marxist materialism, which was ostensibly Science-based, was regarded as the official world-view imposed by the authorities [8].

In the subsequent decades, the situation of the scientific world in Poland did not change radically, even though some political and social events gave rise to partial autonomization and de-ideologization of teaching and the research policy. The central and ideological control of Science in Poland was actually abandoned only after the regime change and politico-economic transition after 1989.

In post-war Poland, the domestic religious organizations, and particularly the Catholic Church with its predominant role in the country's religious life, were to some extent subject to processes analogous with the ones occurring in Science. However, unlike normal science, which was to become the communist authorities' tool useful in the achievement of the state's political and economic goals, both the Christian religion and the Catholic Church were from the very beginning treated as enemies to be eliminated from the public life [9].

Alongside the communist authorities' actions aimed at limiting the independence and freedom of the operation of Church institutions, harassment extended to theologians as well. In 1954, the faculties of Theology at the universities in Warsaw and Cracow were closed down without the consent of the Holy See. Some of their workers found employment at the Academy of Catholic Theology in Warsaw, which was supposed to operate under state supervision. At that time, the Catholic University of Lublin (established in 1918) was the only Polish university at which the faculties of Theology and Philosophy (established in 1946) operated independently of the Science policy imposed by the state.

Owing to the attempts made over a period of several years by Cracow Metropolitan Karol Wojtyła (later on Pope John Paul II), who as of 1968 and on behalf of the Polish Episcopate was dealing with the issues of ecclesiastical

sciences, in 1974 the Holy See conferred titles of pontifical faculties of Theology upon several theological institutes in operation (Cracow, Poznań, Wrocław). However, they were not institutions formally recognized by the Polish state [10].

In 1976, next to the Pontifical Faculty of Theology in Cracow, the Holy See decreed establishment of the autonomous Pontifical Faculty of Philosophy. However, because of the fear of possible reactions from the communists, it could only function as an institute of Philosophy affiliated with the Faculty of Theology. The same applied to other Polish faculties of Philosophy. Arguably, the communist authorities feared the activity of Christian philosophers more than the activity of theologians. Like in other sciences, Theology and Philosophy teaching and research at ecclesiastical universities regained their rights and autonomy after 1989. Noteworthy, as a result of the surge of discontent over the communist rule, as early as 1981, Pope John Paul II's involvement led to the establishment of a state-independent Pontifical Academy of Theology in Cracow, which at first was not recognized by the state authorities.

3. An onslaught on Christian theism from the materialist ideology position

From the very beginning, as the new political and social regime was taking shape in post-war Poland, Science and religion were on a collision course as part of the clash of the top-down imposed Marxist ideology and Catholicism. This conflict was running on many planes, including the social, organizational and ideological one. As for the ideological dimension, teaching and conducting research in academic circles were particularly afflicted. The ideology which was imposed on these milieus, and which was couched in a radicalized form of leninism and stalinism, especially affected the sphere of religious studies and the tradition of Christian philosophy.

3.1. Criticism of the Christian religion in the scheme of marxist religious studies

Religious studies are a particular type of an encounter between Science (primarily in the sense of Humanities and Social sciences) and religion. (In the Polish language the term 'nauka' has a broader semantic extent than the English term 'science', covering also Humanities and Social sciences. Hence, in the present paper we adopt a broader perspective that better captures its conception.) The religious studies pursued in the Polish academic milieu were in the post-war period treated as one of the tools used to disparage all social and intellectual values associated with human religious activity.

In 1957, in Poland the first post-war religious studies journal was established; its title was *Euchemer. Studia Religioznawcze (Euchemer. Religious Studies Review)*. Its founders were researchers connected with *Stowarzyszenie Ateistów i Wolnomyślicieli (Association of Atheists and Freethinkers)*, which was established in the same year. Apart from scientists, the association brought

together, inter alia, communist activists [11]. The name *Euchemer* was no accident, but a reference to a Greek philosopher and traveller who believed that man had created gods. This name served to express the essence of the activity that Polish religious studies scholars engaged in for almost fifty years, until the end of the 1980s. According to the views held by the majority of them, religion was merely a product of man's imagination. What is more, this product was harmful to himself and the social environment in which he lived. In this respect, the criticism of religion was no different from the views held by the so-called masters of suspicion (P. Ricœur) - Karl Marx, Friedrich Nietzsche and Sigmund Freud. According to religious studies scholars, scientific methods, especially ones employed by Social sciences and Humanities, could aid in identifying as well as overcoming the phenomenon of religion. In this role, Science was supposed to be an agent for progress and liberation. In fact, it became an instrument of ideology.

Among the main representatives of the Religious studies - as operating within the above formula - reckoned is, inter alia, Andrzej Nowicki, who first authored anticlerical writings, then philosophico-critical research papers on religious issues, as well as developed a concept of the so-called secular culture. He also promoted research undertaken as part of the so-called atheist studies and atheography [12]. Zygmunt Poniatowski was the author of the first Polish-language *Wstęp do religioznawstwa (An Introduction to Religious Studies)*, published in 1957 [13]. One of his original ideas was about grafting scientometric research onto the domain of religious and biblical studies. Other researchers, e.g. Tadeusz Margul or Mirosław Nowaczyk, searched for new methods to be employed in the analyses of the phenomenon of religion, such as phenomenology or concepts of myths and rituals [14, 15]. As late as 1988, in one of his last works, Witold Tyloch, another Religious studies scholar and expert in biblical and extra-biblical literature (e.g. the so-called Qumran Caves Scrolls), questioned the credibility of Jesus Christ as a historical figure, belittling the significance of Christianity as one of many religions [16].

The ideological trappings imposed from above on religious studies began to disappear after 1989. Many authors tried to apply diversified research methods to the studies of the phenomenon of religion in an as objective as possible manner. Christian researchers, mainly Catholic ones, also joined these studies. The leading institution was the Catholic University of Lublin, and the leading researchers were Sr. Zofia J. Zdybicka and Fr. Andrzej Bronk. In their works, next to empirical methods, they also called for introduction of non-empirical ones, chiefly philosophical as well as theological ones. They termed such a broadly defined interdisciplinary undertaking 'religiology' [17].

3.2. An ideologized onslaught on Christian philosophy

The ideological onslaught on non-Marxist philosophies that was mounted top-down was connected with the education reform in Poland, implemented by Jakub Berman from 1945, and aimed at collectivization and sovietisation of

education [18]. The process reached its climax in 1951, when independent institutions were closed down or reorganized. Elimination or marginalization of any philosophical thought alternative to Marxism, as well as ensuring the dominance of the new ideology in the intellectual and social life in Poland became the key elements in the changes. A particularly fierce attack was launched against the largest and most influential group of representatives of the Polish school of analytic philosophy (the Lvov-Warsaw School). In the period leading up to the outbreak of the Second World War, they constituted the most numerous group of academic philosophers, and as of the 1930s their achievements enjoyed international recognition. It is noteworthy that it was the representatives of the Lvov-Warsaw School who were the first critics of Marxism in Poland, next to the Catholic milieu gathered round 'Tygodnik Powszechny' (The Catholic Weekly) founded by Rev. Jan Piwowarczyk, and Rev. Kazimierz Kłószak (presented below).

The ideological attacks mounted by Marxists were also targeted at philosophical milieus that before the Second World War remained outside the influence of the philosophy propounded by the Lvov-Warsaw School. Among these was the Catholic University of Lublin and faculties of Theology (along with seminaries affiliated therewith), at which departments of the so-called Christian philosophy operated. These attacks were part of a broad, coordinated policy towards the Roman Catholic Church, the institutions of which provided strong support for those who did not want to submit to the imposed ideology [19]. It was the support of the Church that determined the exceptional position of Christian philosophy in relation to official Marxism. It was for this reason that the ideologized attacks on these philosophers were mounted parallel with various kinds of pressure, harassment, provocation and other action against Church institutions [20, 21]. The situation changed drastically only after Karol Wojtyła had been elected pope, when the ideological pressure met with increasing social opposition, even though it continued until the 1989 transformation.

The above-mentioned contexts in which Philosophy was pursued illustrate why on the part of theistic philosophers no serious attempts were made to find solutions leading to compromise with Marxism. The Marxists' attitude to Christian philosophy varied, fluctuating between deliberate silence over it, a substantive polemic, hateful attacks and attempts at ridiculing the opponent.

The main front of the ideological warfare between the Marxists and Christian philosophers ran through metaphysical, cosmological, doctrinal and fundamental issues. The disputes were often concerned with the philosophy of God and Anthropology, but the concept of scientificity became a particularly important point of contention [22]. Marxism used the term of scientificity in order to substantiate the vision of necessary, determined progress driven by class struggle. The issue of scientificity was also supposed to decide the import of the above-mentioned accusations from the sphere of religious studies. Generally, the postulated scientific character of Marxism was to automatically decide the validity of all Marxist propositions. Hence, the basic strategy in philosophical

polemics was to bring accusations of unscientificity against Christian philosophy, in which Marxists used elements adopted from positivist criticism. Because of this, theistic philosophers devoted a lot of attention to the development of methodological reflection aimed at showing the unfounded character of the accusations made from positivist and Marxist positions. Thus, a direct confrontation with Marxism enforced development of the Philosophy of Science and the Philosophy of Nature in the circle of Christian philosophers. This significantly affected the deliberation concerned with the science-religion relationship and undertaken in these milieus.

4. The defence and a new exposition of key themes of theism

The saturation attack on religion mounted by religious studies scholars and Marxist philosophers was countered by Catholic intellectuals with defence. The defence was not chaotic, but well-thought-out. It did not only consist in rational criticism of the main propositions of dialectical materialism, but it was also an opportunity to revive the traditional arguments and to better expose the key themes of theism. In this part of the paper we will primarily focus on the achievements of the thinkers developing philosophy inspired by the Christian doctrine.

Undoubtedly, the most prominent figure in the early period of the polemic with Marxism was the above-mentioned Rev. Kazimierz Kłósak, who was associated mainly with the Cracow milieu. His views on philosophy were above all shaped by a version of neo-Thomism called 'Leuven neo-Thomism'. It was a current originated by Cardinal Désiré-Joseph Mercier at the Catholic University of Leuven, Belgium, towards the end of the 19th century. A characteristic feature of this current was that Philosophy was pursued while taking into account the results of Natural science [23].

As early as 1948 Kłósak published two polemical works targeted at the doctrine of materialism. The first one was a response to an earlier book by a Polish Marxist and communist activist Adam Schaff [24]. In his work, Kłósak demonstrated that dialectical materialism in an unjustified manner referred to the results of Natural science, and as such could not be treated as representative of the only correct scientific world-view [25]. This Cracow-based scholar devoted his second book to the natural hypothesis of the emergence of life on Earth, referred to as the concept of abiogenesis [26]. Kłósak argued that the concept was not contrary to the Christian doctrine of the creation of the world.

Tirelessly active until the end of the 1970s, in his philosophical works (chiefly devoted to philosophy of nature and philosophy of God), Rev. Kłósak studied many issues concerned with the borderline between Science and Theology. These included the theory of Evolution in the context of Christian faith, the problem of the temporal beginning of the Universe in the face of the truth about its creation, the problem of the origin of the human soul and contemporized versions of the arguments for the existence of God.

After Kłósak's death his work was continued by his numerous students at the Pontifical Academy of Theology in Cracow, the Academy of Catholic Theology in Warsaw and the Catholic University of Lublin. The best-known ones included: Rev. Tadeusz Wojciechowski, who addressed the issue of the evolutionary concept of the origin of the human soul; Rev. Szczepan Ślaga, who continued the problematic of the origin of life on Earth from the scientific, philosophical and theological aspect; Rev. Kazimierz Kloskowski, who pursued the ideas concerned with the so-called evolutionary creationism [27]. A characteristic feature of the research undertaken by these thinkers was that they were trying to show the possibility of the co-existence, or even complementarity and mutual inspiration of the traditional theological (religious) issues and natural science concepts. The perspective developed in this research was substantially different from the (essentially conflictual) one that Marxist philosophers were trying to enforce as part of their ideological programme.

In the context of the disputes over the scientific character of theistic philosophy, attempts at developing this philosophy with the aid of new methods of logical analysis introduced to Philosophy mainly by neo-positivism proved to be important achievements. In Poland, these attempts reach back to the 1930s and were made by a small group of analytic philosophers called the Cracow Circle (a branch of the Lvov-Warsaw School), its members being Rev. Jan Salamucha, Fr. Józef M. Bocheński OP, Franciszek Sobociński, Jan Franciszek Drewnowski. The Circle operated for a short time, until the outbreak of the war in 1939 (the philosophers dispersed, and Salamucha was killed by the 29th Waffen Grenadier Division of the SS 'RONA' while ministering in Warsaw in 1944). Despite the short period of the Circle's operation, its attempts to modernize Thomism with the aid of modern formal logic [28] mapped out an inspiring path leading to scientization of Theology and Salamucha is today regarded as the forerunner of analytical Thomism, which is popular today [29]. Bocheński would argue that Catholic theology always used the best available precization methods, and so Theology should assimilate the most recent tools of precization and formalization, which back then were offered by symbolic logic. The analyses and formalizations of the basic concepts of Thomistic philosophy and of Saint Thomas Aquinas' famous Five Ways, which were performed by Salamucha and Bocheński, showed the possibilities for specifying the language of theistic philosophy and its associated Theology. After the Second World War Bocheński was active in Switzerland, and was the only representative of the Cracow Circle to continue the Circle's above-mentioned approach, gradually evolving from modernized Thomism into analytic philosophy [30]. From our viewpoint, the most important of Bocheński's achievements after the Second World War was his concept of the logic of religion presented in the book *The Logic of Religion* [31]. Starting off with a logical analysis of religious discourse, Bocheński formulated a logic of religion which "is relatively more relevant to Theology than the logic of sciences is to the sciences" [32, 33]. An accurate, logical analysis of religion was a compelling argument against the accusations of the irrationality of religious behaviour that were formulated from atheistic

positions. It is noteworthy that Bocheński was also one of the most prominent sovietologists in Western Europe and his criticism, which was also concerned with Marxism-Leninism, made a significant contribution to the defence of the theistic side. Even though he was in exile, Bocheński exerted considerable influence on Polish thinkers.

Apart from Bocheński's efforts to specify the language of religion as part of logical methods, in the 1970s, at the Catholic University of Lublin, an attempt was made at reinforcing the scientific image of Theology, mainly by way of specifying its methods. Rev. Stanisław Kamiński authored this project. He had all the makings: he was a philosopher, a logician and a philosopher of Science. In his works he referred to the philosophical tradition of the Lvov-Warsaw School and the Cracow Circle, including Bocheński's accomplishments [34].

Kamiński undertook a meta-theological research project, dealing with the problem of the scientific character of Theology itself. He analysed the character of its object, purpose, methods and language. In particular, as a logician and methodologist he was interested in the methods of ancient and contemporary Theology. As he spoke about the method of Theology, Kamiński bore in mind ways of investigating and demonstrating theological propositions. In his opinion, it is no different from methods for pursuing non-theological sciences, and especially philological, historical and philosophical ones. However, it contains an additional supernatural element and a determining factor (faith and the Church Magisterium). In Kamiński's opinion, Theology should use methods employed in other sciences, but only as tools and it cannot become reduced to them. The issue concerned with the legitimacy of various reasonings employed as part of the theological method was a separate matter for him.

A project of theology as 'revelationization' of the natural knowledge about man and his life was Kamiński's original proposal. The neologism 'revelationization' is derived from the Latin word *revelatio* (making apparent) or *revelationisatio* (exposing, revealing). It was supposed to express the process of constructing theological cognition on the basis of the scientific and philosophical knowledge about Christian life. This knowledge is subject to the interpretation referring to divine revelation [35]. Interestingly enough, Kamiński's proposal met with scepticism from methodologists, but it aroused interest among theologians. The latter ones saw in it a possibility of pursuing Theology 'from the bottom up', in a manner complementary to Theology constructed 'from the top down' (viewed as a kind of rationalization or humanization of divine revelation).

To make the picture complete it is worth mentioning alternative approaches to the above-presented main current of Philosophy as pursued in the context of religion. It was only in the 1990s that an anti-scientific attempt was made at defending the religious standpoint in the context of the disputes over evolutionism. What we mean by this is the movement of the so-called creationism strongly inspired by analogous American currents called *creation science* (one of the first books on this subject written in Poland was [36]). Originally varied, this current directed its criticism at both representatives of

biological sciences, naturalistically-minded thinkers and theistic thinkers who were trying to come up with interpretations of the theory of Evolution acceptable from the viewpoint of Christian theology. Thanks to the works by Kazimierz Jodkowski [37], the debates evolved in the methodological direction, even though eventually some circumspection towards evolutionary theism was maintained (see below). In the 21st century, the Institute of Philosophy at the University of Zielona Góra which he headed became the Polish centre of methodological research into explanations of the origin of natural reality alternative to evolutionism.

5. Development of research projects on Science-religion relationships

Science-religion research projects that transcended direct confrontation (attack and defence) were developed in Cracow in the latter half of the 20th century, because of the unique intellectual atmosphere there. It has its origins in the 19th century and is associated with Philosophy pursued in the interdisciplinary milieu of scholars [38]. This style made it through the period of sovietization of Polish science mainly because of the personal, informal relationships between its representatives. A particularly important role was played by a group of physicists gathered by Jerzy Janik around Karol Wojtyła. They met from 1953 until 1978 - when Wojtyła was elected Pope John Paul II - discussing issues from the borderline of Physics and Philosophy [39].

New research project also benefitted from the situation of the global nature. Departure from the dominance of neo-Scholasticism (neo-Thomism) in Christian philosophy was made possible thanks to the changes effected in the Roman Catholic Church as a result of the reforms implemented by the Second Vatican Council (1962-1965). More or less at the same time, in the world of Science, trust in neo-positivism declined dramatically, and arguably the most important critical premises were derived from modern scientific theories (e.g. Einstein's general theory of relativity). This opened up possibilities for searching for new interpretations that would harmonize the Christian message with the scientific image of the world. The key aspect was the application of methodological reflection to defining the specificity of scientific and theological explanations, which made it possible to avoid many problems encountered before (attention was drawn to, inter alia, the inadequacy of the neo-positivist verifiability criterion of meaning which had been used to radically criticize Metaphysics and Theology).

The initiatives of Pope John Paul II concerning the relationship between the Natural sciences and Christian theology provoked lively discussion in Polish academic circles from 1979 to 1998. (Pope John Paul II was personally very interested in the studies of the relationship between Science and religion. In the years 1980-2003 the Pope held, the annual Science-Religion-History conferences at the papal summer residence in Castel Gandolfo. The meetings were attended by an international panel of eminent scientists including M. Heller and J. Życiński.) The first such an initiative was an address to the members of

the Pontifical Academy of Sciences on the occasion of the centenary of A. Einstein's birth and the appointment of a commission to investigate the so-called Galileo affair (1979). The second was a letter to the director of the Vatican Observatory, Father George Coyne (1988). Another one was an address to members of the Pontifical Academy of Sciences on evolution (1996). Finally, the fourth was encyclical *Fides et Ratio* (1998) opening a new chapter in debates about the relation between science and religion in Poland.

John Paul II's the most comprehensive vision of the Science-religion relationships before encyclical *Fides et Ratio* has been published, was outlined in 'Letter to Father George V. Coyne'. In the letter, the Pope called for the mutual dialogue between scientists and theologians as the way to achieve the Truth [40]. The letter turned out to be the most important statement of John Paul II addressed to scientists. The letter avoided ecclesial language and as such it was met with the great interest by scientific community [41, 42]. Surprisingly, it has not been received with similar interest by theologians.

In this context a new, confrontation-less approach to the Science-religion relationship was developed in Cracow, in the circle of Michał Heller and Józef Życiński. At first, this activity was developed as part of the School of Contemporary Thought established on the initiative of Cardinal Karol Wojtyła, and as of 1982 as part of the Pontifical Academy of Theology in Cracow (already founded by John Paul II), which was the only academic institution in all of the Eastern Block states that preserved full independence of the communist authorities. As part of this institution, Heller and Życiński established Centre for Interdisciplinary Studies, which provided organizational framework for the research into the Science-religion relationship [43]. The approach developed there is based on a novel method of analysis applied to traditional and significant philosophical problems (e.g. the problem of time, space, determinism, causality, purpose) in the light of historical and contemporary physical and biological theories. This approach was called 'philosophy in science' [44] and it arose out of the interdisciplinary attitude and the rejection of the doctrine of the non-intersecting planes of philosophical and scientific cognition [45].

Among the issues first addressed in this circle were ones concerned with the development of theological concepts of the creation of the world that would take into account the image of the world in contemporary physics. Among other things, emphasis was laid on the possibility of interpreting Catholic theology in the light of modern cosmology, while on the other hand it was suggested that simplified identifications of the act of Creation with elements of cosmological models including, for instance, the so-called initial singularity (Big Bang) be avoided. An in-depth analysis of the mathematical structures of physical theories enabled better understanding of the ontologies postulated by scientific models, and made for more accurate understanding of the image of the world in contemporary Physics, which includes, inter alia, the concept of the timeless origin of the Universe in the quantum regime. This type of research indicated that it is possible to successfully include theistic philosophy in the current of reflection on contemporary science. On the other hand, the majority of the

accusations made by neo-positivism, and later on Marxism proved to be misconceived. A short text entitled *Sciences as locus theologicus - an attempt at conclusions* [46] can serve as an interesting summary of the above-mentioned research conducted by 1998. In subsequent years, the issues underwent rapid development, but this goes beyond the scope of the present paper.

One of the most original intellectual projects aimed at overcoming the existing indifference and mistrust in the relationship between Science and religion was developed by Rev. Józef Życiński in the late 1980s. This project was not only limited to demonstrating the independence of the sphere of scientific research and the sphere of faith (Theology), nor to indicating the areas of dialogue between them. Its purpose was to construct as comprehensive as possible a vision of reality based on original epistemological and methodological premises, as well as on philosophical categories and theses taking into account the truths of Christian theism as well as the current scientific image of the world.

By education, Życiński was an analytically oriented philosopher of Science. With the benefit of this, in the first place he could show that if Science, and in particular Natural science, is pursued according to the principle of the so-called methodological naturalism and is not entangled in any ideology (e.g. Marxism, positivism), then it is not doomed to conflict with Christian faith and Theology. Życiński also tried to verify the findings of the Philosophy of Science within the scheme of the History of Science. In particular, he tried to show the real mechanisms of traditional conflicts between Science and religion, and not ones implied by prejudice or ideology. The cases of Galileo and Darwin can serve here as the best illustration.

Życiński's ambitions reached further than merely pointing out the aspects of the lack of conflict between Science and religion. This Cracow-based philosopher aimed at constructing an intellectual plane on which to develop a closer relationship between them. In the years 1985-1988, Życiński published a two-volume work in which he presented a prospect of a new metaphysical concept based on philosophical categories drawn from works by A.N. Whitehead and C. Hartshorne [47]. The so-called process philosophy, which these two authors originated, heavily drew from the new image of Nature (emergence of the structures of Nature, holism, evolutionism), encompassing the relationships between God, the world and man. It was an undoubted alternative to the traditional model of Christian philosophy and theology, based on the categories of the Aristotelian-Thomistic system.

Życiński kept developing and specifying his original concept of the synthesis of the scientific image of the world along with the contemporized approach to the relationship between Nature and God in subsequent years, when he was appointed bishop of the Tarnów diocese (1990), and later on of the Lublin archdiocese (1997). As a bishop, Życiński published a book entitled *Trzy kultury (Three Cultures)* [48], presenting an outline of a project of relations between the scientific vision of the world, the humanistic vision and the religious vision. With the title and the content of his work, he deliberately referred to Charles P. Snow's famous essay *Two Cultures* on the alarming

intellectual distance between natural scientists and humanists. He often used elements of this philosophical project in works intended for the general public, as well as in his pastoral ministry [49].

Biological evolution can serve here as an illustration of an issue whose development as part of the 'philosophy in science' project proved to be fruitful for the creation of a contemporary image harmonizing the spheres of Science and religion. Of great significance for these efforts was a little book written by Heller and Życiński, entitled *Dilemmas of Evolution* [50]. Numerous editions and reprints attest to the great popularity of this work. The publication presents the issue of evolution in the context of historical analyses allowing better understanding of Charles Darwin's standpoint, thanks to which it was possible to debunk some myths and ideologically inspired over-interpretations that had appeared with reference to the theory of Evolution. Later on, Życiński used these deliberations as a basis on which to formulate a concept of theistic evolutionism [51], creatively pointing to the possibilities for combining the theistic vision with the evolutionary one (though in a form slightly different from the one put forward by above-mentioned Szczepan Ślaga and Kazimierz Kloskowski). Życiński analysed the concept of God's immanence in the world and adopted the panentheistic position (God is present in the whole world, but He is different from it) and then he reinterpreted in the evolutionary context the basic concepts of Christian theology, showing, inter alia, the evolutionary interpretation of the concept of God's kenosis. He argued that the evolutionary vision better corresponded with the evangelical understanding of the relationship between God and the world. The research undertaken in the circle of Heller and Życiński also comprised an analysis of the process of reception of the theory of Evolution, stressing the reasons for failure arising from attempts at interpreting evolutionary phenomena within the Thomistic conceptual framework, which proved inappropriate for the purpose [52].

The most important methodological proposition put forth in this milieu was the concept of the theology of science originally formulated by Heller, and then developed by Życiński and his colleagues. This concept was formulated back in the 1980s, and it became well known in the next decade thanks to the book *The New Physics and a New Theology* [53]. Heller characterized the concept as follows: "As a reflection of the sciences the theology of science would study the consequences of the fact that the Natural sciences explore the world created by God" [50, p. 97]. He also noted: "Above all else the theology of science should be an integral part of theology and be a part of its peculiar character" [50, p. 98]. The theology of science carries some advantages for theology itself, enriching its scope and significantly opening it up to contemporary culture. It also offers advantages for Science, making it possible to better understand it: "The theology of science dedicated to a critical reflection on those data of Revelation which allows us to contemplate the sciences as a specifically human activity" [53, p. 99].

The research conducted in the circle of Heller and Życiński (Centre for Interdisciplinary Studies at the Pontifical Academy of Theology in Cracow) received recognition when Heller was awarded the 2008 Templeton Prize, which is popularly known as the Theological Nobel. The Templeton Prize money was used to establish a new institution to support this type of research (with a wider scope of activity) - Copernicus Centre for Interdisciplinary Studies - operating in affiliation with the Jagiellonian University and the Pontifical University of John Paul II in Cracow [54].

6. Conclusions

The present paper shows a synthetic picture of the development of the Science-religion relationship in Poland in the period between the end of the Second World War and the year 1998, in which the encyclical *Fides et Ratio* has been published. Consideration is given to the accomplishments of Catholic thinkers, which results from an exceptional and historically founded (as of the 17th century) role of the Roman Catholic Church in Poland.

The period addressed in the present research paper bore the mark of the imposed communist system. The promotion of Marxism as the official ideology, which was supported by the government apparatus, and the atheizing of the social life set the main framework for reflection on the Science-religion relationships. In most cases, these relationships were confrontational and they can be described in terms of the attacks mounted by the Marxists, and the defence put up by the Christian thinkers. As a result of the uncompromising efforts at eliminating religion from the social life and destroying the Roman Catholic Church in Poland there was practically no room for compromise between Marxism and theistic philosophy.

The standpoints adopted by the Catholic side were continuation and development of the work done before the war (e.g. the Cracow Circle). However, the reader should bear in mind that the issues concerned with the science-religion relationship before 1939 are merely touched upon here, and that they requires separate and more thorough research. Despite heavy losses among the Polish intelligentsia (caused by, inter alia, methodical genocidal actions organized by the Germans and the Soviets), the Christian philosophy proved to be one of the most important obstacles to the introduction of a new atheistic, communist society in Poland. This philosophy was developed first on the basis of Leuven neo-Thomism and then it produced its own varieties of neo-Thomism at the Lublin school (existential Thomism) and the Warsaw school (consequent Thomism). In spite of the obvious services it rendered in the field of ideological struggle, this philosophy was incapable of engaging in more extensive dialogue with the world of Science.

The reforms of the Second Vatican Council made it possible to develop non-Thomistic varieties of Christian philosophy. The most significant attempt was made in Poland - in Cracow, where the basis was provided by the traditions of the philosophy developed there from the 19th century in the interdisciplinary

milieus of scholars - theologians, philosophers and scientists. The philosophy pursued in the circle of Michał Heller and Józef Życiński helped overcome the growing gap between the Christian thought and the world of Natural sciences and while it did not become too involved in ideological disputes, it laid the foundations for fruitful development of the Science-religion relationship after the collapse of the communist system in Poland. Today, it continues to be an abiding inspiration for future generations of Polish and foreign researchers.

References

- [1] M. Valčo and A.J. Boehme, *Eur. J. Sci. Theol.*, **13(3)** (2017) 89-97.
- [2] S. Lee, *Eur. J. Sci. Theol.* **14(4)** (2018) 1-13.
- [3] H. Paprocki, *Polonia Sacra*, **17(2/33)** (2013) 131-141.
- [4] A. Anderwald, *Studia Oecumenica*, **17** (2017) 79-94.
- [5] I.G. Barbour, *When Science Meets Religion*, Harper One, San Francisco, 2000, 2-4.
- [6] P. Madajczyk, *Studia nad Totalitaryzmami i Wiekiem XX - Totalitarian and 20th Century Studies*, **1** (2017) 202-217.
- [7] D. Schenk, *Studia nad Totalitaryzmami i Wiekiem XX - Totalitarian and 20th Century Studies*, **1** (2017) 240-253.
- [8] J. Dybiec, *Warunki rozwoju nauk humanistycznych i społecznych (Conditions for the Development of Humanities and Social Sciences)*, in *Historia Nauki Polskiej*, vol. 10: *1944-1989 Warunki Rozwoju Nauki Polskiej*, L. Zasztowt & J. Schiller-Walicka (eds.), Instytut Historii Nauki im. Ludwika i Aleksandra Birkenmajerów PAN: Oficyna Wydawnicza ASPRA-JR, Warszawa, 2015, 177-298.
- [9] V.C. Chrypinski, *The Catholic Church in Poland*, in *Catholicism and Politics in Communist Societies*, S.P. Ramet (ed.), Duke University Press, Durham, 1990, 117-141.
- [10] A. Kubiś, *Studia Nauk Teologicznych*, **3** (2008) 49-61.
- [11] H. Hoffmann, *The Development of Religious Studies in Poland: History and the present State, in Studying Religions with the Iron Curtain Closed and Opened: The Academic Study of Religion in Eastern Europe*, H. Hoffmann & T. Bubík (eds.), Brill, Leiden, 2015, 107-111.
- [12] A. Nowicki, *Wykłady o krytyce religii w Polsce (Lectures on the Critique of Religion in Poland)*, Książka i Wiedza, Warszawa, 1963.
- [13] Z. Poniatowski, *Wstęp do religioznawstwa (Introduction to religious studies)*, Wiedza Powszechna, Warszawa, 1959.
- [14] M. Nowaczyk, *Zarys dziejów religioznawstwa w Polsce (Outline of the History of Religious Studies in Poland)*, Wolne Studium Pedagogiczne Towarzystwa Szkoły Świeckiej w Warszawie, Warszawa, 1962.
- [15] T. Margul, *Religie jako święte przekazy (Religions as Sacred Messages)*, Uniwersytet Jagielloński, Kraków, 1987.
- [16] W. Tyloch, *Bogowie czterech stron świata (Gods of the four corners of the World)*, Wydawnictwo Łódzkie, Łódź, 1988, 147-154.
- [17] A. Bronk, *Nauka*, **2** (2011) 39-49.

- [18] R. Kuliniak, M. Pandura and Ł. Ratajczak, *Filozofia po ciemnej stronie mocy: krucjaty marksistów i komunistów polskich przeciwko Lwowskiej Szkole Filozoficznej Kazimierza Twardowskiego (Philosophy on the dark side of the Force: Crusades of Marxists and Polish communists against Kazimierz Twardowski's Lvov School of Philosophy)*, Vol. 1: *Lata 1945-1951*, Wydanie pierwsze, Wydawnictwo Marek Derewiecki, Kęty, 2018, 18-58, 107-127, 194-236.
- [19] J. Łupiński, *Rocznik Teologii Katolickiej*, **18** (2019) 201-215.
- [20] A. Dziurok, The Person and the Challenges. *The Journal of Theology, Education, Canon Law and Social Studies Inspired by Pope John Paul II*, **9(2)** (2019) 41-52.
- [21] J. Żaryn, *Pamięć i Sprawiedliwość*, **7(1)** (2005) 11-34.
- [22] W. Mackiewicz, *Spory chrześcijaństwo-marksizm (Christian-Marxist disputes)*, in *Polska filozofia powojenna I*, Agencja wydawnicza Witmark, Warszawa, 2001, 88-98.
- [23] A. Lemańska, A. Olszewski, A. Świeżyński and K. Trombik, *Kazimierz Klószak*, Ignatianum University Press, Kraków, 2020, 27-40.
- [24] A. Schaff, *Wstęp do teorii marksizmu: zarys materializmu dialektycznego i historycznego (Introduction to the theory of Marxism. An outline of the dialectical and historical materialism)*, Spółdzielnia Wydawnicza Książka, Warszawa, 1947.
- [25] K. Klószak, *Materializm dialektyczny: studia krytyczne (Dialectical Materialism. Critical Studies)*, Wydawnictwo Mariackie, Kraków, 1948.
- [26] K. Klószak, *Mysł katolicka wobec teorii samoródtwa (Catholic Thought in Relation to Spontaneous Generation)*, Wydawnictwo Mariackie, Kraków, 1948.
- [27] P.S. Mazur, P. Duchliński and P. Skrzydlewski (eds.), *A Companion to Polish Christian Philosophy of the 20th and 21st Centuries*, Ignatianum University Press, Kraków, 2020, 117.
- [28] J. Woleński, *Stud. E. Eur. Thought*, **55(4)** (2003) 299-313.
- [29] S. Lapointe, *Jan Salamucha's Analytical Thomism*, in *The Golden Age of Polish Philosophy*, S. Lapointe, J. Woleński, M. Marion, W. Miskiewicz & R. Pouivet (eds.), Springer, Dordrecht, 2009, 235-245.
- [30] J. Woleński, *Stud. E. Eur. Thought*, **65(1)** (2013) 5-15.
- [31] J.M. Bocheński, *The Logic of Religion*, New York University Press, New York, 1965.
- [32] R.M. Martin, *On Bocheński's Logic of Religious Discourse*, in *Whitehead's Categoreal Scheme and Other Papers*, R.M. Martin (ed.), Springer, Dordrecht, 1974, 122-142.
- [33] W.A. Christian, *Relig. Stud.*, **13(2)** (1977) 203-219.
- [34] K. Wolsza (ed.), *Stanisław Kamiński*, Wydawnictwo Naukowe Akademii Ignatianum, Kraków, 2019, 11-19.
- [35] S. Kamiński, *Theologie und Philosophie*, **48(4)** (1973) 494-503.
- [36] M. Pajewski, *Stworzenie Czy Ewolucja. Duch Czasów (Creation or Evolution. The Spirit of the Times)*, Wydawnictwo Duch Czasów, Bielsko-Biała, 1992.
- [37] K. Jodkowski, *Metodologiczne aspekty kontrowersji ewolucjonizm-kreacjonizm (Methodological aspects of the evolutionism-creationism controversy)*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin, 1998.
- [38] P. Polak, *19th Century Beginnings of the Kraków Philosophy of Nature*, in *Philosophy in Science. Methods and Applications*, B. Brożek, J. Mączka & W.P. Grygiel (eds.), Copernicus Center Press, Kraków, 2011, 325-333.

- [39] K. Trombik, *Koncepcje filozofii przyrody w Papieskiej Akademii Teologicznej w Krakowie w latach 1978-1993: studium historyczno-filozoficzne (Concepts of the philosophy of nature at the Pontifical Academy of Theology in Cracow in the years 1978-1993: a historical-methodological study)*, Wydawnictwo 'scriptum', Kraków, 2021, 71-84.
- [40] J. Życiński, *Ethos*, **11(41-42)** (1998) 133-146.
- [41] R.J. Russell, W.R. Stoeger S.J. and G.V. Coyne S.J. (eds.), *John Paul II on Science and Religion. Reflections on the New View from Rome*, Vatican Observatory Publications, Vatican City State, 1990.
- [42] Z. Wolak, *Zagadnienia Filozoficzne w Nauce (Philosophical Problems in Science)*, **57** (2014) 83-110.
- [43] K.P. Trombik, *Zagadnienia Filozoficzne w Nauce (Philosophical Problems in Science)*, **66** (2019) 271-295.
- [44] M. Heller, *Zagadnienia Filozoficzne w Nauce (Philosophical Problems in Science)*, **66** (2019) 231-249.
- [45] P. Polak, *Zagadnienia Filozoficzne w Nauce (Philosophical Problems in Science)*, **66** (2019) 251-270.
- [46] M. Heller, S. Budzik and S. Wszółek, *Nauki jako locus theologicus - próba wniosków (Science as a locus theologicus - Some Attempted Conclusions)*, in *Obrazy świata w teologii i w naukach przyrodniczych (Images of the World in Theology and Natural Sciences)*, M. Heller, S. Budzik & S. Wszółek (eds.), Wydawnictwo Diecezji Tarnowskiej Biblos, Tarnów, 1996, 253-259.
- [47] J. Życiński, *Teizm i filozofia analityczna (Theism and Analytical Philosophy)*, Społeczny Instytut Wydawniczy ZNAK, Kraków, 1985.
- [48] J. Życiński, *Trzy Kultury (Three Cultures)*, W drodze, Poznań, 1990.
- [49] M. Heller, *Logos: A Journal of Catholic Thought and Culture*, **15(1)** (2012) 115-133.
- [50] M. Heller and J. Życiński, *Dylematy Ewolucji (Dilemmas of Evolution)*, Polskie Towarzystwo Teologiczne, Kraków, 1990.
- [51] J. Życiński, *God and Evolution: Fundamental Questions of Christian Evolutionism*, Catholic University of America Press, Washington D.C., 2006.
- [52] P. Polak, *Zagadnienia Filozoficzne w Nauce (Philosophical Problems in Science)*, **43** (2008) 44-88.
- [53] M. Heller, *The New Physics and a New Theology*, Vatican Observatory Publications, Vatican City, 1996.
- [54] T. Obolevitch, *Eur. J. Sci. Theol.*, **11(4)** (2015) 1-11.