

A Companion
to Polish
Christian Philosophy
of the 20th and 21st
Centuries

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Publishing Series

THE POLISH CHRISTIAN PHILOSOPHY IN THE 20TH CENTURY

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A Companion to Polish Christian Philosophy of the 20th and 21st Centuries

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THE POLISH
CHRISTIAN PHILOSOPHY
IN THE 20TH CENTURY

A Companion

to Polish Christian Philosophy of the 20th and 21st Centuries

Edited by
Piotr S. Mazur
Piotr Duchliński
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LIST OF ABBREVIATIONS

- AIK** Akademia Ignatianum w Krakowie [Jesuit University Ignatianum in Krakow]
- ATK** Akademia Teologii Chrześcijańskiej w Warszawie [Academy of Catholic Theology in Warsaw]
- ChAT** Chrześcijańska Akademia Teologiczna w Warszawie [Christian Theological Academy in Warsaw]
- IFiS PAN** Instytut Filozofii i Socjologii Polskiej Akademii Nauk [Institute of Philosophy and Sociology of Polish Academy of Sciences]
- KUL** Katolicki Uniwersytet Lubelski [Catholic University of Lublin]
- PAN** Polska Akademia Nauk [Polish Academy of Sciences]
- PAT** Papieska Akademia Teologiczna [Pontifical Academy of Theology]
- PAU** Polska Akademia Umiejętności [Polish Academy of Arts and Sciences]
- WSNS** Wyższa Szkoła Nauk Społecznych w Warszawie [Higher School of Social Sciences in Warsaw]
- PRL** Polska Rzeczpospolita Ludowa [Polish People's Republic]
- PWSZ** Państwowa Wyższa Szkoła Zawodowa w Chełmie [The State School of Higher Education in Chełm]
- PWT** Papieski Wydział Teologiczny [Pontifical Faculty of Theology]
- UAM** Uniwersytet im. Adama Mickiewicza w Poznaniu [The Adam Mickiewicz University in Poznań]
- UG** Uniwersytet Gdański [University of Gdańsk]
- UJ** Uniwersytet Jagielloński [Jagiellonian University]
- UJK** Uniwersytet Jana Kochanowskiego w Kielcach [The Jan Kochanowski University in Kielce]
- UMCS** Uniwersytet Marii Curie-Skłodowskiej w Lublinie [The Maria Curie Skłodowska University in Lublin]
- UMK** Uniwersytet Mikołaja Kopernika w Toruniu [The Nicolaus Copernicus University in Toruń]
- SWPS** Szkoła Wyższa Psychologii Społecznej w Warszawie [Warsaw School of Social Psychology]
- UO** Uniwersytet Opolski [University of Opole]
- UP** Uniwersytet Pedagogiczny w Krakowie [Pedagogical University of Krakow]

- UPJPII** Uniwersytet Papieski Jana Pawła II w Krakowie [Pontifical University of John Paul II in Krakow]
- US** Uniwersytet Szczeciński [University of Szczecin]
- UŚ** Uniwersytet Śląski w Katowicach [University of Silesia in Katowice]
- UW** Uniwersytet Warszawski [University of Warsaw]
- UWM** Uniwersytet Warmińsko-Mazurski w Olsztynie [University of Warmia and Mazury in Olsztyn]
- UWr** Uniwersytet Wrocławski [University of Wrocław]
- WFTJ** Wydział Filozoficzny Towarzystwa Jezusowego w Krakowie [Faculty of Philosophy of the Society of Jesus in Krakow]
- WSD** Wyższe Seminarium Duchowne [The Higher Theological Seminary]
- WSEZiNS** Wyższa Szkoła Edukacji Zdrowotnej i Nauk Społecznych w Łodzi [Academy of Health Education and Social Sciences in Łódź]

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INTRODUCTION

The aim of the *Companion to Polish Christian Philosophy of the 20th and 21st Centuries* is a synthetic presentation of the academic achievements of thinkers whose manner of philosophizing may be regarded as belonging to a broadly conceived category of Christian philosophy. Numerous works on the history of philosophy have highlighted its unique features and the role it played, especially in the times of real socialism (1945–1989) when Marxism was the philosophy promoted by the authorities. At that time, Christian philosophy was a sign of pluralism and openness to different thinking trends developed in Western Europe, something which could not be explored by Polish philosophical scholars at the time due to censorship. At the same time, because of its very nature, Christian thought made it possible for all of the philosophy practiced in Poland in that period to maintain pluralism.¹ The current literature may allow us to become familiar with many aspects of Christian philosophy in Poland, but there is no single monograph that presents it as a whole, showing the contribution it has made to shaping the philosophical culture of Poland over the last 120 years.

The Christian philosophy which developed in Poland in the 20th century is an integral part of its entire intellectual culture. That is why any omission or conscious ignorance of this fact means that subsequent interpretations lose an important factor in understanding its identity. For many years, especially in the period of communism,

¹ J. Skoczyński, J. Woleński, *Historia filozofii polskiej* (Kraków: Wydawnictwo WAM, 2010).

negative stereotypes concerning Christian philosophy were promoted and the scientific achievements of Christian thinkers, as well as the importance of their contribution to Polish culture and education, were understated. The dominance of naturalist tendencies Polish philosophy and in the world in general makes it difficult to reliably evaluate the achievements of Christian philosophers even now, at the beginning of the 21st century. There are still many people who question the value and significance of Christian philosophy, pushing it into the murky corners of academia, and treating it as ideologically infected, overly religious way of thinking that hinders the development of science, culture and philosophical education.

Among its various social and cultural changes, Christian philosophy has been struggling over its own identity for a long time. It is because this thought is a historical product. It was established in a specific time, under the influence of particular cultural conditions related to the adaptation of the Christian doctrine to the image of the world shaped by ancient philosophy. The fact of the historical existence of this philosophy has not been generally questioned, but its methodological and epistemological status has raised many doubts. That is why as a result, many of the past discussions on the subject focused not on its historical dimension, but on its methodological.² Many of the philosophers who developed this type of philosophy felt the need to justify the way of philosophizing they had adopted, especially due to the fact that such a justification was—to a greater or lesser extent—required by the cultural context in which a particular concept of Christian philosophy was being shaped. The discussion on Christian philosophy which was carried out in the 1930s has not been definitely closed,³ continuing to rage even now and also

² S. Swieżawski, "O roli, jaką chrześcijaństwo wyznacza filozofii," *Znak*, no. 7–8(422–423) (1999), pp. 19–30; J.A. Kłoczowski, "Filozofia chrześcijańska? Dyskusja w kontekście encykliki 'Fides et ratio'," in *Polska filozofia wobec 'Fides et ratio'*, ed. M. Grabowski (Toruń: Wydawnictwo UMK, 1999).

³ H. Gouhier, "Gilson et la philosophie chrétienne," in H. Gouhier, *Étienne Gilson. Trois essais: Bergson – La philosophie chrétienne – L'art* (Paris: Vrin, 1993), pp. 41–47. A reconstruction of this dispute of 1830s is presented in the article: R.J. Fąfara, R. Lizut, "Spór o rozumienie 'filozofii chrześcijańskiej' między É. Gilsonem a H. Gouhierem," *Człowiek w Kulturze*, no. 19 (2007), pp. 331–355; J. Maritain, "O filozofii chrześcijańskiej," in idem, *Pisma filozoficzne*, trans. J. Fenrychowa (Kraków: Znak, 1988); É. Gilson, *Chryścianizm a filozofia*, trans. A. Więkowski (Warszawa: Instytut Wydawniczy Pax, 1988); S. Swieżawski, "O roli, jaką chrześcijaństwo wyznacza filozofii," *Znak*, no. 7–8(422–423) (1990), pp. 19–30;

in Poland.⁴ However, its validity has been confirmed by the works of authors who have tried to describe the methodological status of this philosophy, as well as the disciplines which are given the epithet of “Christian,” e.g. “Christian ethics.”⁵ Following the idea of Paul Ricoeur, we can say that Christian philosophy still inspires philosophers coming from different research traditions.⁶

Christian philosophy has never been an intellectual monolith and, at least from the historical point of view, we can speak about different ways of articulating and practicing it. It was the case when it was formed, and it is the case now. However, it seems that in all the particular ways of practicing it, we can follow the thought of Gilson, speaking about the “Christian philosophy as such.”⁷ It is a philosophy without names, a philosophy of “pure” problems and “pure” concepts, as well as their subjective and methodological consequences. Such a view of Christian philosophy makes it possible for us to discern a kind of common Christian philosophical experience which has been expressed in different research traditions. Just like in the historical development

P. Chojnacki, *Wybór pism*, eds. M. Szyszkowska, C. Tarnogórski (Warszawa: Instytut Wydawniczy Pax, 1987); S. Kamiński, *Filozofia i metoda. Studia z dziejów metod filozofowania* (Lublin, Towarzystwo Naukowe KUL, 1989); M. Gogacz, “Czym jest filozofia chrześcijańska,” *Za i Przeciw*, no. 14 (1981), pp. 6–23; K. Szalata, *Filozofia chrześcijańska. Na marginesie wielkiej debaty od encykliki ‘Aeterni Patris’ do ‘Fides et ratio’* (Warszawa: Fundacja Polska Raoula Follereau, 2004); J. Ratzinger, “Wiara, filozofia, teologia,” in idem, *Prawda w teologii*, trans. M. Mijska (Kraków: Wydawnictwo M, 2005).

⁴ Z.J. Zdybicka, E.I. Zieliński, “Chrześcijańska filozofia,” in *Powszechna encyklopedia filozofii*, vol. 2, ed. A. Maryniarczyk (Lublin: Polskie Towarzystwo Tomasza z Akwinu, 2001), pp. 167–173.

⁵ S. Gałęcki, “O możliwości istnienia filozofii chrześcijańskiej,” *Ruch Filozoficzny*, no. 3 (2016), pp. 117–132; P. Duchliński, A. Kobyliński, R. Moń, E. Podrez, *Inspiracje chrześcijańskie w etyce* (Kraków: Akademia Ignatianum w Krakowie; Wydawnictwo WAM, Kraków).

⁶ K. Stachewicz, “O filozofii chrześcijańskiej. Kilka uwag z perspektywy historycznej i futurologicznej,” *Logos i Ethos*, no. 2 (2013), pp. 219–234 (online version); J.A. Kłoczowski, “Filozofia chrześcijańska? Dyskusja w kontekście encykliki ‘Fides et ratio’,” in *Polska filozofia wobec ‘Fides et ratio’*, ed. M. Grabowski (Toruń: Wydawnictwo UMK, 1999); W. Chudy, “Filozofia chrześcijańska – rozum i wiara,” *Ethos*, no. 3–4 (2007), pp. 45–66; J. Grzeszczak, “‘Christus philosophicus’ jako aktualne przesłanie sztuki wczesnochrześcijańskiej. Uwagi na marginesie wykładu kard. Josepha Ratzingera ‘Wiara, filozofia, teologia’,” *Filozofia Chrześcijańska* 6 (2009), pp. 31–45.

⁷ É. Gilson, *Jedność doświadczenia filozoficznego*, trans. Z. Wrzeszcz (Warszawa: Instytut Wydawniczy Pax, 1968).

of Christian philosophy in 20th century Poland, on the one hand, we can see that there are a number of ways of practicing it, and, on the other hand—there is a certain unity to the Christian philosophical experience, which makes it possible to capture the unique features of this way of philosophizing.

The concept of “Christian philosophy” was coined in the course of fierce discussions between its adherents and detractors. Perhaps “Christian” philosophy is something we can speak about in the context of certain inspirations, i.e. in the context of discovering rather than justifying. And Christianity, as a religious tradition, can be the source of different problem situations which a philosopher may explain with the use of particular conceptual categories typical of a given age and image of the world functioning at that time. The idea of “Christian philosophy” is ambiguous and, as a result, unclear. Moreover, it expresses the combination of different aspects, such as the historical and the objective, and thus there are various problems related to its application. On the one hand, we mean a certain cultural phenomenon (both in the past and now); on the other hand, we question whether it is correct to use such a name for philosophy; on yet another, we are trying to establish a criterion based on which a given thinker or concept may be classified as belonging to that philosophical trend. In none of those aspects have definite decisions been made.

The concept of Christian philosophy is of a typological nature. It functions as a descriptive or valuing idea, but—in different types of discourses—it usually functions in both roles at the same time. As a typological category, it enables the capture of specific features of the phenomenon in question, taking into account its modifications occurring at different levels of its historical development. However, the *Companion* does not perform a general typological (semiotic) analysis of Christian philosophy in terms of the reconstruction of the common assumptions and their consequences for particular branches of philosophy. Also, its authors do not attempt to provide a systematic answer to the question of who is a typical Christian philosopher and who is not. Therefore, there is a problem of the criteria that would make it possible to identify (or classify) a given philosopher as the one that represents the thinking formation (trend, school) that may be called Christian philosophy. Thus, the *Companion to Polish Christian Philosophy of the 20th and 21st Centuries* is the result of the interpretation—both by the editors of the volume and the authors of particular

chapters—of what Christian philosophy is, and what it is like in particular conditions of the 20th and at the beginning of the 21st century in Poland. However, such an interpretation is never accidental, and it is based on the identification of particular philosophers and the whole environments as “Christian” or on the identification of the nature of their philosophy as “Christian” in the contemporary scientific discourse.

Referring to the category of the “research tradition” delineated by the modern philosopher of science Larry Laudan, we can say that the Christian philosophy which developed in Poland over the course of the last century constitutes precisely such a tradition. It includes a number of different ways of practicing philosophy (neo-Thomist, phenomenological, hermeneutical, dialogic or analytic manner) fulfilled by different philosophical schools or individual thinkers who have been very restrained in terms of identifying with any formalized philosophical school. Some of these concepts of Christian philosophy, e.g. Louvain or traditional Thomism, seem to belong to the past, and have no real influence on the shape of the contemporary philosophical culture and education. Other concepts, such as existential Thomism or phenomenology, still retain an influence—to a greater or lesser degree. Yet other concepts, such as analytic Christian philosophy, are accelerating and will in the future perhaps create a new paradigm for the practice of Christian philosophy. The changing mentality of contemporary has forced Christian philosophers to modify the current ways of carrying out the discourse. It has led to transformations in the Christian research tradition related to the disappearance of old ways of conceptualizing the Christian experience and the appearance of new ones. The dynamics of those changes have been captured in particular chapters of the *Companion* where not only have the authors tried to outline the history of the Christian philosophy of the 20th century, but they have also attempted to specify the subject of its current discourse. Nevertheless, the book does not indicate the primacy of one way of practicing Christian philosophy over another—neither in a substantive nor in a methodological manner. The authors, representing different environments and views, have tried to remain neutral, both in terms of describing and evaluating the disputes or differences among particular kinds of Christian philosophy.

Particular chapters of the *Companion* were prepared by authors who are either representatives of Polish Christian philosophy or have

been analyzing this field for many years. The subject of their analyses includes philosophical texts (monographs, scientific and popular scientific articles) coming from different periods of the development of Polish Christian philosophy. In the reconstruction of these original achievements, they have referred to both the source texts and the monographs in question which they have tried to assess more or less critically. They usually implement the analytic and hermeneutic method for the analysis and interpretation of philosophical texts. That is why this has meant that their articles contain numerous lecturing and reconstruction elements related to particular issues or views, taking into account the different contexts which have determined their creation and development. The presentation of trends, schools or individual authors is limited to a reconstruction report so that the reader can receive the presentation of views that is as reliable as possible. Therefore, a marginal role is played by the interpretation and evaluation of the reconstructed opinions or solutions they suggest. The manner of presenting Polish Christian philosophy adopted by the *Companion* unfortunately precluded the possibility of us showing some of the many valuable publishing or institutional initiatives that have appeared within this philosophy. Thus, we should at least briefly mention the existence of some of the journals promoting Christian philosophy in the 20th century and in the first two decades of the 21st century (e.g.: *Roczniki Filozoficzne* [*Philosophical Annuals*], *Collectanea Theologica*, *Studia Philosophiae Christianae*, *Analecta Cracoviensia*, *Przełąd Tomistyczny* [*Thomist Review*], *Zeszyty Naukowe KUL* [*Scientific Journals of the Catholic University of Lublin*], *Ethos*), as well as the edition of *Encyklopedia filozofii* [*Encyclopaedia of Philosophy*] by Ignacy Mysłicki (1874–1935), Church encyclopaedias by Fr. Michał Nowodworski (1831–1896) and Fr. Zygmunt Chełmicki (1851–1922), as well as the recent monumental works in the form of *Encyklopedia katolicka* [*Catholic Encyclopaedia*], *Leksykon filozofii klasycznej* [*Lexicon of Classical Philosophy*], *Powszechna encyklopedia filozofii* [*Universal Encyclopaedia of Philosophy*] and *Encyklopedia filozofii polskiej* [*Encyclopaedia of Polish Philosophy*]. Particular environments of Christian philosophy have produced a number of valuable publishing series including various fields of philosophy. At the beginning of the 21st century, the research on broadly understood Christian philosophy was gradually becoming institutionalized, opening up a new stage in that thought in Poland. Several important scientific-research institutions were

opened to deal with the promotion of Christian philosophy. They include: Polskie Towarzystwo Tomasza z Akwinu [Polish Association of Thomas Aquinas], Centrum Kopernika Badań Interdyscyplinarnych [Copernicus Center for Interdisciplinary Studies], Instytut ks. Józefa Tischnera [The Tischner Institute], Centrum Badań im. Edyty Stein UAM w Poznaniu [Edith Stein Research Centre at UAM in Poznań], and Centrum Etyki Chrześcijańskiej im. Tadeusza Ślipki SJ [Tadeusz Ślipko Centre for Christian Ethics] at the Jesuit University Ignatianum in Krakow.

One of the most difficult issues which the authors of the *Companion* came across was specifying whether a given philosopher should be classified to the research tradition of Christian philosophy. They used several flexible criteria while analyzing this issue. The basic criterion for being a part of Christian research tradition was the metaphysical self-declaration (identification or approval) of a given thinker. On the one hand, this criterion is related to the worldview; on the other hand—it is methodological. It requires expressing one's support for a particular religious tradition and specific way of practicing philosophy in which the main methodological criterion (the negative criterion) is the non-contradiction of philosophical theses with the data of Christian religious revelation. In case of the lack of such a clear self-declarations, a given philosopher was classified as a supporter of Christian philosophy based on the access to a given scientific environment (school) which, as a whole (e.g. on the basis of the program), declared such a view, or—in the case of individual authors—on their discussion of so-called typical problems characteristic of Christian philosophy. And although such criteria are ambiguous, they made it possible for us to outline the most important problems and indicate the main representatives of the Polish Christian philosophy of the 20th and 21st century. While studying the development of Christian thought in Poland, we can discern a certain regularity: the philosophers of the older generation (e.g. from the beginning of the 20th century, in the interwar period, and up to the 1970s) emphasized their access to Christian philosophy, and the thinkers of the younger generation—although they take up the same or similar problems in one form or another (reconstruction, reinterpretation)—usually refrain from unambiguous methodological or even worldview self-declarations.

Polish Christian philosophy, as a certain type of the culture of philosophizing, developed under the influence of certain historical

and cultural factors.⁸ That is why the reconstruction of output and achievements of its representatives in the 20th and 21st century included the historical and systematic aspect. The authors wanted, in a possibly objective and journalist manner, to present the most important successes, consciously avoiding the evaluation of particular concepts and related solutions, and not just present—in an uncritical manner—the fact that there were many particular ways of practicing Christian philosophy in Poland. As the editors, we wished to make a study of the views that were created in the past, to highlight the modern image of Christian philosophy, and to emphasize its presence and influence on the contemporary culture of philosophizing.⁹ We wanted the readers to receive quite a reliable companion of reviews, on the basis of which they can work out their own general (not one-sided) opinion on the Polish Christian philosophy of the 20th and 21st century, and on its involvement in shaping the philosophical culture in Poland and in the world. In order to meet these requirements, we suggested the general scheme of the chapter structure which included: the outline of the historical context in which given issues were shaped; the presentation of the most important trends, schools or individual thinkers who dealt with a given subject; the debates that were conducted around given issues; and the presentation of the contemporary status of a given area of philosophy, taking into account the current development of the research. At the same time, the authors of particular chapters were free to choose the way of fulfilling the above guidelines, so that each of them could take into account the specific features of a given field of philosophy.

The *Companion* includes the presentation of the twelve most important areas of philosophy: logic and methodology of sciences, metaphysics, epistemology, the philosophy of nature, the philosophy of man, ethics, axiology, aesthetics and the philosophy of art, the philosophy of God and religion; social philosophy, the philosophy of culture, and the history of philosophy. Due to the structural assumptions and volume limitations, it was necessary to reduce the number of the discussed fields of philosophy. As a result, there was not enough space

⁸ S. Janeczek, “Między filozoficzną historią filozofii a historią kultury. Z rozważań nad metodą historii filozofii w Polsce,” *Roczniki Filozoficzne KUL* 55, no. 1 (2007), pp. 89–105.

⁹ S. Swieżawski, *Zagadnienie historii filozofii* (Warszawa: Państwowe Wydawnictwo Naukowe, 1966).

for a separate presentation of Christian bioethics or philosophy of science. And the philosophy of politics and social philosophy, just like the issue of the philosophy of God (natural theology) and the philosophy of religion, due to the similarity of the subjects, have been presented in one chapter.

We realize that the *Companion* might not satisfy the maximalist aspirations of the readers who will use it to find the complete presentation of Polish Christian philosophical thought in the 20th and 21st century. Nevertheless, the book shows that, for the last 120 years, this thought has been shaped by Christian philosophers who truly cared about the authentic science and culture of philosophizing, one free of administrative pressure and political correctness. The originality of their solutions shaped a unique type of the culture of philosophizing. Their presentation is a part of the promotion of Christian philosophy carried out by different environments and, in the current legal and cultural situation, philosophy increasingly has to fight for its identity, both as a philosophy (among other scientific disciplines) and as Christian philosophy (among other philosophical trends). We hope that the *Companion*, which is addressed to both Polish and international readers, will help to develop their knowledge of Polish Christian philosophy and refute many of the unfair stereotypes associated with it.

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1.

LOGIC AND METHODOLOGY OF SCIENCES

Certainly, there is no uniquely Christian methodology of sciences or—all the more—a uniquely Christian logic. That is why this presentation is focused on the results concerning logic and methodology of sciences achieved in the centers of 20th century Christian thought, and it is limited to the places and people of greater significance—usually to the founders of a given center or school. Nevertheless, we shall also provide some information about their co-workers and students—mainly the followers and continuators whose works were important for Christian philosophy, and we shall mention those who apply logic and methodological skills learnt in a given place outside Christian philosophy.

Logic is understood in a broad manner: it includes logical semi-otics, formal logic and the methodology of sciences, traditional and mathematical logic, as well as studies of historians and philosophers of logic; and the methodology of sciences, apart from the general methodology shared with logic, also includes methodologies of particular disciplines, especially the methodology of philosophy and theology.¹

¹ The presentation starts with the outline of the historical context (limited to the Polish logic and philosophy which was inspired by Christianity). In the main part, we have described the centers of Christian thought in which logic and methodology was developed, as well as the most important people connected with those centers; in the third part we have presented the main achievements,

HISTORICAL AND IDEOLOGICAL CONTEXT

The most important context and the basic source of the achievements of logic and methodology developed in the centers of Christian thought was the scientific environment called the Lviv-Warsaw school, created by Kazimierz Twardowski (1866–1938), which, in the interwar period (1918–1939), conducted intensive logical and methodological research.² The representatives of the school not only applied logic in their philosophizing, but many of them contributed to the development of the world's formal logic, e.g. Jan Łukasiewicz (1878–1956), Stanisław Leśniewski (1886–1939), Alfred Tarski (1901–1983); moreover, they believed that logic was a necessary component of teaching and upbringing.³ Also, the postwar centers of the research on formal logic, semiotics and methodology were shaped by the scientists connected with the School. The Wrocław center was co-created by Jerzy Śłupecki (1904–1987), Jerzy Łoś (1920–1998) and Ludwik Borkowski (1914–1993). In Warsaw and Łódź Tadeusz Kotarbiński (1886–1981) was working, in Poznań—Kazimierz Ajdukiewicz (1890–1963; since 1955 at UW and PAN in Krakow), and at UJ—Zygmunt Zawirski (1882–1948). In Toruń, Tadeusz Czeżowski (1889–1981) and Stanisław

and in the last one—the remarks on their meaning, discussions and current research. The layout of these considerations—which includes the historical context and combines the chronological order with the description according to people, the main achievements and current research—may result in some repetitions, but it makes it possible for the reader to view the logic and methodology developed in the centers of Polish Christian thought in the 20th century from many different angles.

² The history of Polish logic before World War II is divided into the periods: preparatory period (1900–1917; Henryk Struve [1840–1912], Władysław Biegański [1857–1917]) and peak (1918–1939). Cf. J.J. Jadacki, “Logika,” in *Historia nauki polskiej*, vol. 4, part 3, ed. Z. Skubała-Tokarska (Wrocław-Warszawa: Zakład Narodowy im. Ossolińskich, 1987), pp. 550–551, 556–562; J. Woleński, “Polish Logic,” in idem, *Historico-Philosophical Essays*, vol. 1 (Kraków: Copernicus Center Press, 2012), pp. 213–230. The division into the periods before and after World War II was adopted in, e.g. M. Tkaczyk, U. Wybraniec-Skardowska, “Logika polska,” in *Encyklopedia filozofii polskiej*, vol. 1, ed. A. Maryniarczyk (Lublin: Polskie Towarzystwo Tomasza z Akwinu, 2011), pp. 880–890.

³ The output of the philosophers of the School, especially in logic, methodology (including the methodology of philosophy) and epistemology is presented in the monograph by J. Woleński: *Filozoficzna szkoła lwowsko-warszawska* (Warszawa: Państwowe Wydawnictwo Naukowe, 1985).

Jaśkowski (1906–1965), and later—Leon Gumański (1921–2014) were working. The departments of logic were created at the faculties of philosophy and history and at the faculties of humanities, and logic was introduced into the curricula of many studies. Not only formal logic, but also the logical theory of language and the logical theory of science were developed. In 1953 the journal *Studia Logica* was created (Institute of the Philosophy and Sociology of PAN), and in 1965—the *Reports on Mathematical Logic* (UJ).⁴

Neo-Thomism developed according to the Louvain School (Désiré Mercier), which combined the studies on the medieval philosophy with the modern philosophy and the results of natural sciences (the idea of modernization: *vetera novis augere*),⁵ was—at least until 1980s—basic for the philosophy inspired by Christianity, institutionally connected with the Catholic Church.

After 1945, the main centers of the (neo)Thomist philosophy were the Faculty of Christian Philosophy at KUL (since 1946), the Faculty of Theology at UJ (up to 1954) and the Faculty of Philosophy at ATK (since 1954). Within Polish Thomism, the most influential was existential Thomism developed at KUL since 1950s by Stefan Swieżawski (1907–2004), Jerzy Kalinowski (1916–2000), Mieczysław Albert Krąpiec OP (1921–2008), Fr. Stanisław Kamiński (1919–1986), Antoni Bazyli Stępień (1931–) and Stanisław Majdański (1935–), which, in the 1960s, resulted in significant publications and the creation of the so-called Lublin Philosophical School in which philosophy is practiced

⁴ It is true that most of the achievements in Polish logic in the 20th century are the work of the School and its students or researchers referring to its curriculum. Cf. J.J. Jadacki, “Szkola Lwowsko-Warszawska i jej wpływ na filozofię polską drugiej połowy XX wieku,” in *Historia filozofii polskiej. Dokonania – poszukiwania – projekty*, eds. A. Dziedzic, A. Kołakowski, S. Pieróg, P. Ziemiński (Warszawa: Wydawnictwo Naukowe Semper, 2007), pp. 126–137; a synthetic presentation of the development of the centres and achievements in formal logic, semiotics and methodology was included in: S. Kamiński, “Rozwój logiki i metodologii nauk w Polsce po II wojnie światowej,” *Roczniki Filozoficzne* 24, no. 1 (1976), pp. 113–122; also, it has to be admitted that, after 1950, the fruitful interaction between logic and philosophy weakened. Cf. J. Skoczyński, J. Woleński, *Historia filozofii polskiej* (Kraków: Wydawnictwo WAM, 2010), pp. 537–538.

⁵ Cf. A.B. Stępień, “O stanie filozofii tomistycznej w Polsce,” in *W nurcie zagadnień posoborowych*, vol. 2, ed. B. Bejze (Warszawa: Wydawnictwo Sióstr Loretanek-Benedyktyniek, 1968), pp. 97–126; J. Skoczyński, J. Woleński, *Historia filozofii polskiej*, pp. 513–516.

as an autonomous discipline although it uses the results of logic, methodology and historical research. In Kraków, at the Pontifical Academy of Theology, at the end of 1970s, Fr. Michał Heller (1936–) and Fr. Józef Życiński (1948–2011), the supporters of philosophizing in the context of science and interdisciplinary dialogue, initiated the common research of philosophers and scientists, which were later carried out in the Interdisciplinary Research Centre.

CENTERS AND SCIENTISTS

Roman Catholic Higher Seminaries

The canon of seminaries' lectures on philosophy also included traditional logic. Logic and methodology of sciences was lectured sometimes by the active researchers such as Fr. Józef Iwanicki (1902–1995) (who also worked in the Seminary in Włocławek) and Fr. Leopold Regner (1912–1997)—the author of the handbook of logic⁶—who lectured at the Seminary in Tarnów. The need to introduce logic into teaching philosophy and theological studies was postulated by, i.a., Fr. Jan Salamucha (1903–1944) and Kamiński. Salamucha emphasized that modern logic should be introduced into the *curriculum* of the philosophical education of future Catholic priests,⁷ and Kamiński postulated that broadly understood logic (semiotics, formal logic, element of general methodology and methodology of particular sciences) and the history of logic should be lectured in seminaries.⁸

Theological faculties of state universities

After the regaining of its independence in 1918, theological faculties in Poland functioned at the universities in Kraków, Lviv, Vilnius and Warsaw.⁹ At least one of (usually) twelve departments at each

⁶ L. Regner, *Logika* (Kraków: Polskie Towarzystwo Teologiczne, 1973).

⁷ J. Salamucha, "Nauczanie logiki w seminarjach duchownych," in *Pamiętnik siódmego zjazdu w Wilnie, 19.IV. – 21.IV.1933* (Wilno: Drukarnia Archidiecezjalna, 1934), pp. 171–182.

⁸ S. Kamiński, "Czy logika jest dyscypliną praktyczną?" *Ateneum Kapłańskie* 57, no. 2 (1958), pp. 228–233.

⁹ At UW, in 1920, the Faculty of Evangelical Theology was opened, and in 1925—the Study of Orthodox Theology.

dealt with Christian philosophy, including logic. After 1945, the Catholic faculties of theology were re-opened in Kraków and Warsaw, but in 1954 they were removed from the universities and their staff was invited to form the Academy of Catholic Theology (ATK) in Warsaw. The Faculty of Evangelical Theology was separated from the University of Warsaw in 1954, and, along with the Section of Old Catholic Theology, it was transformed into the Christian Academy of Theology. Since 1957 it also includes the Section of Orthodox Theology.

The works of Fr. Franciszek Gabryl (1866–1914) were important for logic. He presented the results of his logic research in handbooks.¹⁰ Later, significant researchers included Fr. Stanisław Kobyłecki (1864–1939) and Fr. Piotr Chojnacki (1897–1969). Kobyłecki claimed that formal logic and metaphysics have the same material object, i.e. relations, and they differ with each other about the aspect of analyzing the relations. From 1926, Chojnacki worked at the Faculty of Catholic Theology at UW, and in 1954—after the creation of ATK, he was appointed the dean of the Faculty of Christian Philosophy. Also, he was the head of the Department of Logic, Methodology of Sciences and the Theory of Cognition. Before the war, he dealt with the methodology of ontology and the relation between mathematical logic and metaphysics—especially the specification of the terminology of metaphysics and reasoning carried out in it (he believed that the problem with formalizing metaphysics results from the analogy of its terms). After the war, he explored the development of the concept of science and scientific methods, as well as the methodology of philosophy.¹¹

The Kraków Circle

The group called the Kraków Circle was the most significant for the logic research carried out in the 20th century by philosophers inspired by Christianity. The Circle was rooted in Łukasiewicz's program of scientific philosophy, i.e. philosophy that refers to the classical philosophy in terms of problems and tasks, but is developed with a new method modeled on the axiomatic-deductive method.¹² During

¹⁰ F. Gabryl, *Logika formalna* (Kraków: Uniwersytet Jagielloński, 1899), especially, idem, *Logika ogólna* (Kraków: Uniwersytet Jagielloński, 1912).

¹¹ P. Chojnacki, *Teoria poznania i metodologia ogólna nauk* (Warszawa: Wydział Teologii Katolickiej UW, 1948).

¹² J.M. Bocheński, *Wspomnienia* (Kraków: Philed, 1994), p. 124.

the meeting at the Scientific Catholic Institute in Kraków, Łukasiewicz justified the postulate of renewing the Thomist philosophy and theology, and making it more scientific. Lectures were also given by Jan Franciszek Drewnowski (1886–1978), Jan Salamucha and Józef Maria Bocheński OP (1902–1995).¹³ Konstanty Michalski CM (1879–1947), who led the meeting, emphasized that the use of modern logic—which Poland was one of the world’s leading centers—shall make Thomism remain a rational and exact philosophy.¹⁴

At the University of Warsaw (UW), Salamucha studied mathematical logic, mathematics and natural science disciplines. He listened to the lectures of, i.a., Leśniewski, Łukasiewicz and Kotarbiński.¹⁵ In 1927, at the Faculty of Theology, he obtained the degree of a doctor in Christian philosophy (*Teoria wynikania modalnego Arystotelesa [Aristotle’s Theory of Modal Implication]*), his thesis supervisor was Kobyłecki, and in 1936 he obtained the habilitation. He was the most prominent representative of the Circle. He believed that philosophical research can include the whole of reality, but—at the same time—he used the results of mathematical logic, formalization that specifies and simplifies reasoning, as well as axiomatization that orders the statements with the inference relation. He wanted to give theology and theodicy the form of deductive science. Also, his works on the history

¹³ The meeting was held on 26th September 1936, during the 3rd Polish Philosophical Congress; it is believed to be the beginning of the Circle, and among its founders was also Bolesław Sobociński (1906–1980). The materials from the meeting are included in *Myśl katolicka wobec logiki współczesnej* (Poznań: Księgarnia św. Wojciecha, 1937). The achievements of the Kraków Circle are listed by Bocheński in: *Wspomnienia*, pp. 125–126. See also the texts by Z. Wolak, *Neotomizm a Szkoła Lwowsko-Warszawska* (Kraków: Ośrodek Badań Interdyscyplinarnych, 1993); idem, “Reakcje na J. Salamuchy analizę logiczną dowodu ‘z ruchu’ św. Tomasza,” in *Logika i metafizologia*, ed. Z. Wolak (Tarnów–Kraków: Biblos, Ośrodek Badań Interdyscyplinarnych, 1995), pp. 59–76; idem, *Koncepcje analogii w Kole Krakowskim* (Tarnów: Biblos, 2005); J. Woleński, “Polish Attempts to Modernize Thomism by Logic (Bocheński and Salamucha),” in idem, *Historico-Philosophical Essays*, vol. 1, pp. 51–66; R. Murawski, “Filozofia logiki i matematyki w Kole Krakowskim,” *Filozofia Nauki* 22, no. 2 (2014), pp. 21–35.

¹⁴ K. Michalski, “Wstęp,” in *Myśl katolicka wobec logiki współczesnej*, pp. 7–8.

¹⁵ Z. Wolak, *Neotomizm a Szkoła Lwowsko-Warszawska*, pp. 88–95; idem, “Światopogląd, filozofia i logika u ks. Jana Salamuchy,” in *Logika i metafizologia*, ed. Z. Wolak, pp. 47–58; J.J. Jadacki, K. Świętorzecka, “Myśliciel o sercu walecznym. O życiu Jana Salamuchy,” in J. Salamucha, *Wiedza i wiara. Wybrane pisma filozoficzne* (Lublin: Towarzystwo Naukowe KUL, 1997), pp. 15–27.

of logic are important. They are based on extensive and diligently studied sources. Henryk Hiż (1917–2006) and Andrzej Grzegorzczak (1922–2014) declared themselves to be Salamucha's students in the discipline of logic.

Drewnowski studied philosophy, mathematical logic and mathematics at UW from Leśniewski, Łukasiewicz and Kotarbiński.¹⁶ In 1927, he obtained the degree of the doctor of philosophy based on the dissertation *Podstawy logiki Bernarda Bolzano* [*The Foundations of Bernard Bolzano's Logic* (Kotarbiński was his supervisor)]. The concept of philosophy included in his *Zarys programu filozoficznego* [*Outline of the Philosophical Program*]¹⁷ is considered to be the manifesto of the Kraków Circle, although—contrary to the other members of the Circle—he suggested basing the Thomist philosophy not only on the formal logic, but also on other areas of knowledge (semiotics, methodology, praxeology).¹⁸ He promoted symbolization and formalization, and his particular achievement is the theory of signs in which he described the general method of precise formulation of concepts and statements in natural and humanistic sciences, as well as in philosophy and theology.

Bocheński made himself familiar with the works of Polish logicians, especially Salamucha, during the philosophical studies (Fribourg in Switzerland), which he completed with the title of a doctor.¹⁹ He also owed his philosophical formation to Konstanty Michalski (1879–1947), Zygmunt Zawirski, Czesław Znamierowski (1888–1967), Florian Znaniecki (1882–1958) and Łukasiewicz. In 1938, he obtained habilitation at the Faculty of Theology of the Jagiellonian University (UJ), on the basis of the dissertation: *Z historii logiki zdań modalnych* [*On the History*

¹⁶ Cf. Z. Wolak, *Neotomizm a Szkoła Lwowsko-Warszawska*, pp. 70–81; S. Majdański, "Ani scjentyzm, ani fideizm. U progu nowoczesnej syntezy filozoficznej, czyli Jana Franciszka Drewnowskiego program precyzacji filozofii klasycznej," in J.F. Drewnowski, *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma*, eds. S. Majdański, S. Zalewski (Lublin: Towarzystwo Naukowe KUL, 1996), pp. 5–52.

¹⁷ J.F. Drewnowski, "Zarys programu filozoficznego (part 2)," *Przegląd Filozoficzny* 37, no. 2 (1934), pp. 150–181; part 3: *Przegląd Filozoficzny* 37, no. 3 (1934), pp. 262–292.

¹⁸ J.F. Drewnowski, *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma*, pp. 55–147.

¹⁹ Z. Wolak, *Neotomizm a Szkoła Lwowsko-Warszawska*, pp. 81–87; J. Bocheński, "Autoprezentacja," in idem, *Logika i filozofia. Wybór pism*, trans. T. Baszniak et al., ed. J. Parys (Warszawa: Wydawnictwo Naukowe PWN, 1993), pp. vii–xxix.

of the *Logic of Modal Sentences*].²⁰ In the period of the Kraków Circle, he defended the idea of applying mathematical logic to traditional philosophy: although it is rooted in mathematics, logic guarantees the precision of thinking also in other fields of knowledge in terms of speaking and thinking; also, it makes it possible to apply deduction in a reliable manner and, at the same time, it is symbolic, and therefore neutral in term of content. He emphasized the fundamental role of classical bivalent logic, although he appreciated the multitude of systems in logic, and the possibility to use multivalent logics in theology. In the last period of his philosophical activity, he applied the method of the logical analysis of language. Logic (formal logic, semiotics, methodology of sciences) was the model of rationality for him. He published, i.a., *Die zeitgenössischen Denkmethode*²¹ and studies in the history of logic *Formale Logik*.²²

Catholic University of Lublin (KUL)²³

Before the war, at KUL (founded in 1918) there was no research in modern logic and methodology. The only logician was Fr. Stanisław Domińczak (1880–1936; since 1925 in Vilnius), who mainly dealt with the logic of Aristotle and scholastic logic. Fr. Henryk Jakubanis (1879–1949) taught traditional logic based on the handbooks of Biegański and Gabryl.

After 1945, the situation of logic at KUL changed with the creation of the Faculty of Philosophy (in November 1946) and the Section of Theoretical Philosophy with the Department of Logic. That Department, directed (up to 1962) by Fr. Antoni Korcik (1892–1969), was the basis for the thematic seminar, monographic lectures and specializations in logic. Iwanicki conducted the lectures on the methodology of philosophy (with the elements of general methodology) and,

²⁰ J.M. Bocheński, *Z historii logiki zdań modalnych* (Lwów: Wydawnictwo oo. Dominikanów, 1938).

²¹ Idem, *Die zeitgenössischen Denkmethode* (Bern: A. Francke, 1954). Polish edition: *Współczesne metody myślenia*, trans. S. Judycki (Poznań: W drodze, 1992).

²² Idem, *Formale Logik* (Freiburg–München: Verlag Karl Alber, 1956).

²³ The information on KUL come from, i.a., S. Majdański, C. Wojtkiewicz, “Logika na Katolickim Uniwersytecie Lubelskim (Z okazji 50-lecia Uczelni),” *Roczniki Filozoficzne* 17, no. 1 (1969), pp. 123–170; S. Janeczek, *Filozofia na KUL-u. Nurty – osoby – idee* (Lublin: Redakcja Wydawnictw KUL, 1998).

in following years, separate classes in the general methodology of sciences, methodology of non-philosophical sciences, and the methodology of philosophy. In 1952, the Department of the Methodology of Sciences was created. Its founder and the first director was Iwanicki, and from 1956—Kamiński. In 1992 the Department of the Methodology of Philosophy was created, directed by Fr. Józef Herbut (1933–2018).

As for the research included in the scope of this article, the scientists at KUL mainly worked on the history of logic and methodologies of the particular sciences (especially methodologies of: classical metaphysics, ethics, the philosophy of nature, the history of philosophy), they combined the contemporary methodology of sciences and metaphilosophy with logic, and they developed the philosophy of science and the philosophy of logic. Apart from Korcik, the history of logic was explored by Kamiński, and Fr. Witold Michałowski (1921–2004) and Regner, both connected with KUL. The research on the methodology of philosophy and the applicability of logic in philosophy was carried out by Kalinowski, Iwanicki, Kamiński, Antoni Bazyli Stępień (1931–); on the methodology of ethics—Tadeusz Styczeń SDS (1931–2010); on the methodology of the history of philosophy—Stefan Swieżawski; on the methodology of natural sciences and the methodology of the philosophy of nature—Fr. Stanisław Mazierski (1915–1993), and that research was continued by their students: Fr. Zygmunt Hajduk (1935–)—the student of Kamiński and Mazierski, Andrzej Szostek MIC (1945–)—the student of Styczeń, Jacek Wojtysiak (1967–) and Arkadiusz Gut (1970–)—the students of Stępień. After the direction of the Department of Logic was taken over by Borkowski (in 1975–1984), more intensive research on the formal logic—especially non-classical logics, was taken up. His follower, Stanisław Kiczuk (1938–; directing the department in 1985–2010), dealt with temporal logics, the logics of change and causal sentences. Kiczuk's students include: Marek Lechniak (1962–), Paweł Garbacz (1972–), Bożena Czernecka-Rej (1970–), and Marcin Tkaczyk OFMConv (1976–). Zdzisław Dywan (1951–; in the area of logic, the student of Borkowski), the founder of the Laboratory of Artificial Intelligence and then—the Department of the Foundations of Informatics (in 1996), dealt with the axiomatization of deductive systems, the logic of programming and the history of logic. Piotr Kulicki (1969–) is Dywan's student.

Korcik studied philosophy at the Faculty of Theology of UW, under the supervision of Kobyłecki. After he defended his doctoral dissertation (1930, supervised by Łukasiewicz), he dealt with the history of logic. Up to 1939 he worked at the University of Vilnius; from 1945—at KUL. In his continuous lectures, he went beyond the traditional logic; he conducted the first seminar on the history of logic; he established the library of the Department of Logic at KUL. He prepared and conducted many monographic lectures concerning the selected issues from the history of ancient and medieval logic—e.g. the creation and development of logic in ancient Greece, Aristotle's syllogism, the theory of Stoics' sentences, the origins of medieval logic—as well as modern logic. His classes were attended by, i.a., Kamiński, Leon Koj (1929–2006), Tadeusz Kwiatkowski (1930–), and the doctoral students of Korcik included Michałowski and Regner.

Kalinowski studied law and philosophy at KUL, and he worked there from 1946 to 1957 (from 1952 to 1956 he was the dean of the Faculty of Philosophy). In 1947, he defended an Aristotelian-Thomist doctoral dissertation, and in his habilitation dissertation of 1951 (*Logika zdań praktycznych* [*The Logic of Practical Sentences*]) he presented the system of the logic of norms (independent of the results of George Henrik von Wright). He organized and conducted (since the end of 1953) the metaphilosophical seminar at the Faculty of Philosophy mainly dedicated to the methodology of the traditional philosophy. The program and research of the seminar included the combination of classical philosophy with the approach referring to the achievements of the Lviv-Warsaw school and to the postulates of the Kraków Circle, although the radical suggestions for logicizing traditional philosophy were rejected (the research was later continued at Kamiński's seminar of the methodology of sciences).²⁴ The participants of the seminar included Koj, Stępień, Tadeusz Kwiatkowski, Władysław Stróżewski (1933–), Mieczysław Gogacz (1926–), Witold Marciszewski (1930–), and Majdański. In France (since 1958), Kalinowski maintained contact with the scientific environment of KUL, and he continued the research on logic and the methodology of sciences. He translated some texts by Tarski and Leśniewski into French. Koj considered himself to be the student of Kalinowski (and Swieżawski).

²⁴ J. Czerkawski, "Lubelska szkoła filozoficzna na tle sytuacji w powojennej Polsce," *Roczniki Filozoficzne* 45, no. 1 (1997), pp. 171–172.

Swieżawski finished his philosophical studies and defended his doctoral dissertation at Jan Kazimierz University (UJK) in Lviv (1932; Ajdukiewicz was the supervisor). At KUL he worked from 1946, heading the Department of the History of Medieval and Modern Philosophy (1948–1978). Apart from significant (in the international scale) works on the history of philosophy, his text: *Zagadnienie historii filozofii* [*The Issue of the History of Philosophy*]²⁵ (1966) was particularly important in the discussions on the methodology of history and the history of philosophy. His seminars were attended by, i.a., Marciszewski, Stróżewski, Koj, Stępień, Jan Czerkowski (1939–2007) and Wojciech Chudy (1947–2007) (in their statements they often emphasized the high methodological level of those classes).

Mazierski completed his studies in Christian philosophy at UW with a doctorate (*Pojęcia konieczności w filozofii św. Tomasza z Akwinu* [*The Concepts of Necessity in the Philosophy of St. Thomas Aquinas*]; his supervisor was Chojnacki). At KUL he worked from 1952—he co-created the Specialization of the Philosophy of Nature (started in 1957), and from 1965 he was the director of the Department of the Philosophy of Inanimate Nature. In his works on the methodology of natural sciences²⁶ and the methodology of the philosophy of nature,²⁷ he emphasized the necessity to take into account the results of empirical sciences and the necessity of the research on their philosophical assumptions and implications (especially the effectiveness of the mathematization of natural sciences). His students include Fr. Mieczysław Lubański (1924–2015; mathematics, the philosophy of mathematics and natural sciences), Heller (cosmology, the philosophy of science, the methodology of the philosophy of nature), Hajduk (the methodology of natural and formal sciences, the methodology of the philosophy of nature), Kazimierz Jodkowski (1950–; the methodology and philosophy of science), Fr. Józef Turek (1946–2010; the methodology and history of cosmology), Adam Jonkisz (1953–; the logic and

²⁵ S. Swieżawski, *Zagadnienie historii filozofii* (Warszawa: Państwowe Wydawnictwo Naukowe, 1966).

²⁶ S. Mazierski, *Determinizm i indeterminizm w aspekcie fizykalnym i filozoficznym* (Lublin: Towarzystwo Naukowe KUL, 1961); idem, *Prawa przyrody. Studium metodologiczne* (Lublin: Redakcja Wydawnictw KUL, 1993).

²⁷ Idem, *Prolegomena do filozofii przyrody inspiracji arystotelesowsko-tomistycznej* (Lublin: Towarzystwo Naukowe KUL, 1969); idem, *Elementy kosmologii filozoficznej i przyrodniczej* (Poznań: Księgarnia św. Wojciecha, 1972).

methodology of sciences, the philosophy of science), Marek Szydłowski (1952–; cosmology, the philosophy of science).

At KUL, Kamiński obtained (1949) a doctorate based on the dissertation: *Fregego dwuwartościowy system aksjomatyczny zmiennych zdaniowych w świetle współczesnej metodologii nauk dedukcyjnych* [Frege's Bivalent Axiomatic System of Sentence Variables in the Light of the Modern Methodology of Deductive Sciences]. He was the head (1956–1986) of the Department of the Methodology of Sciences. He conducted research on logic (syllogistic, the theory of reasoning), the history of logic (medieval semiotics, the history of the theory of definition, mathematical induction, and the deductive method), methodology of particular sciences, the theory and history of science and the philosophy of science. The methodology of classical metaphysics occupies a special place in his research. At first, he was the supporter of using logic in the philosophical issues according to the Kraków Circle; later he disputed with that program (especially with Drewnowski), although he emphasized the need to specify the philosophy with semiotic-methodological tools. Also, he worked out the methodological characteristics of particular fields of philosophy (the philosophy of God, man, religion, history, as well as ethics and theology), and the typology of different conceptions and methods of philosophizing. The collection of his 335 scientific works includes the monographs: *Pojęcie nauki i klasyfikacja nauk* [The Concept of Science and the Classification of Sciences]²⁸ and *Z teorii i metodologii metafizyki* [On the Theory and Methodology of Metaphysics].²⁹ The group of Kamiński's students includes Marciszewski, Koj, Tadeusz Kwiatkowski, Majdański, Andrzej Bronk SVD (1938–), Herbut; and in the next generations: Urszula Żegleń (1949–), Jerzy Kopania (1945–), Kazimierz Trzęsicki (1947–), Tadeusz Szubka (1958–), Rafał Wierchosławski (1960–), Monika Walczak (1973–), Paweł Kawalec (1971–), Agnieszka Lekka-Kowalik (1959–), and Fr. Robert Kublikowski (1969–). Marciszewski carried out research in many different fields of science: the history of logic and

²⁸ S. Kamiński, *Pojęcie nauki i klasyfikacja nauk* (Lublin: Towarzystwo Naukowe KUL, 1961).

²⁹ S. Kamiński, M.A. Krąpiec, *Z teorii i metodologii metafizyki* (Lublin, Towarzystwo Naukowe KUL, 1962). The collections of Kamiński's articles on methodology (mainly methodology of philosophy) and semiotics were published in five volumes of his *Pisma wybrane* (1989–1998).

methodology of sciences, the logic of convictions and rhetoric, and the philosophy of mind and informatics. Herbut dealt with the methodology of philosophy and the logical analysis of religious language. He was the editor of *Leksykon filozofii klasycznej* [*The Lexicon of Classical Philosophy*].³⁰ His student and follower in Opole is Fr. Kazimierz M. Wolsza (1960–). Bronk explores the philosophy of science and the methodology of sciences, especially humanistic sciences, social sciences (pedagogy) and religiologic sciences; Majdański—semiotics and the methodology of philosophy, Żegleń—logical semiotics and the philosophy of logic and language, Szubka—analytic philosophy and its history, as well as the methodology of philosophy.

Academy of Catholic Theology (ATK)³¹

At the Faculty of Christian Philosophy of ATK, since 1954, the Department of Ontology and Logic existed, and later (since 1957)—the Department of Logic, General Methodology of Sciences and the Theory of Cognition (Chojnacki was the first head). In 1966 the specialization in the formal logic was opened, as well as the specialization in the general and particular gnoseology, as well as general and particular epistemology with the general methodology of sciences. In 1982 separate departments were created: the Department of Logic, Methodology of Sciences, Methodology of System-Information Sciences, as well as the specialization in the logic and methodology of sciences. In ATK, logic was explored by, among others, Iwanicki and his student Edward Nieznański (1938–), Fr. Marcei Molski (1914–1990) and Tomasz Chodkowski (1939–), and then—Fr. Roman Tomanek (1956–) and Kordula Świętorzecka (1968–); the philosophy of mathematics, cosmology and informatics was analyzed by Lubański, and the general methodology of sciences and the methodology of philosophy—by Iwanicki, Chojnacki, Andrzej Siemianowski (1932–2008; mainly connected with Adam Mickiewicz University in Poznań; at ATK between 1970–1974; he criticized the neo-Thomism of the Lublin School of

³⁰ *Leksykon filozofii klasycznej*, ed. J. Herbut (Lublin, Towarzystwo Naukowe KUL, 1997).

³¹ The information on ATK (since 1999—Cardinal Stefan Wyszyński University in Warsaw) is mainly taken from K. Świętorzecka, R. Tomanek, “Logika i metodologia nauk,” in *Wydział Filozofii Chrześcijańskiej na ATK 1954–1999*, eds. J. Bielecki, J. Krokos (Warszawa: Wydawnictwo UKSW, 2001), pp. 169–188.

Philosophy), Fr. Mieczysław Bombik (1938–). Within the last two decades of the 20th century, the classes and research on logic or methodology were carried out by, i.a., Henryk Stonert (1923–1992) and Mieczysław Omyła (1941–).

Iwanicki studied philosophy, theology and mathematics in Strasbourg where he obtained a doctorate (1933). He gave lectures on logic at the Faculty of Theology of UW; on the methodology of sciences at the Faculty of Philosophy of KUL; on logic and the methodology of sciences at the Faculty of Christian Philosophy at ATK. He was interested in the rationalistic philosophy of the 17th century (e.g. Leibniz's and Morin's mathematical proofs for the existence of God). He worked on the method of creating scientific terminology, especially in psychology, and on applying the logical-mathematical methods in philosophy; in logic he carried out comparative research on the systems of natural deduction and axiomatic systems,³² emphasizing the advantages of natural deduction, and on Aristotle's syllogism.

Nieznański was (from 1982) the head of the Department of Logic of ATK. He dealt with the formalization of the philosophical argumentation, the methodology of sciences and logical semiotics (he applied it to the concepts of the classical philosophy); he created and analyzed formal ontologies. He dedicated many works to the formalization of the arguments for God's existence developed in theodicy.³³

Bombik, the student of Chojnacki, Iwanicki and Nieznański (at ATK from 1970, the head of the Department of the Methodology of Sciences from 1992), dealt with the theory of definition, logical errors, and the application of logic to theology. One of Nieznański's students is Świątorzecka (at ATK since 1990).

³² J. Iwanicki, *Dedukcja naturalna i logistyczna* (Warszawa: Polskie Towarzystwo Teologiczne, 1949).

³³ See, i.a. E. Nieznański, "Formalizacyjne próby ustalenia logiko-formalnych podstaw stwierdzania pierwszych elementów rozważanych w tomistycznej teodycei," in *W kierunku formalizacji tomistycznej teodycei*, ed. E. Nieznański (Warszawa: Akademia Teologii Katolickiej, 1980), pp. 7–194; E. Nieznański, "Logical Analysis of Thomism: The Polish Programme That Originated in 1930's," in *Initiatives in Logic*, ed. J. Srzednicki (Dordrecht: Springer 1987), pp. 128–155; idem, "Formalized Proofs of the Existence of God," *Collectanea Theologica* 64 (1994), pp. 109–122; idem, "World Models in Formalized Systems of Theodicy," *Studia Philosophiae Christianae* 47, no. 1 (2011), pp. 89–96.

Pontifical Academy of Theology (PAT)

After the removal of the Faculty of Theology from UJ, a didactic-scientific center was created within the structures of the Church, which, in 1974, obtained the status of the Pontifical Faculty of Theology (since 2009 its name has been the Pontifical University of John Paul II). It comprised several philosophical departments, including the Department of Formal Logic, General Methodology of Sciences and Theory of Cognition, which was directed by Fr. Kazimierz Kłósak (1911–1982). The Faculty of Philosophy, created in 1976, *de facto* started to function after the creation of the Pontifical Academy of Theology (1982). From 1980, the Department of Logic and Methodology was directed by Życiński (he defended his doctoral dissertation on theology under the supervision of Kłósak, 1976; on philosophy—under the supervision of Lubański, 1979). Later the department was divided into the Department of Logic and the Department of the Philosophy of Science. Logical and methodological issues were also taken up in the Centre for Interdisciplinary Research associated with the Faculty of Philosophy of PAT. Heller and Życiński's students, educated in 1990s, who dealt with logic and methodology, included Fr. Jerzy Dadaczyński (1959–; the philosophy of formal sciences, the history of logic); Fr. Adam Olszewski (the philosophy of logic); Fr. Zbigniew Wolak (1957–; the methodology and history of Polish logic); Janusz Mączka SDB (1960–; the methodology and history of the philosophy of nature), Krzysztof Śleziński (1962–; the philosophy of natural science, the history of metaphilosophy), Wiesław Wójcik (1959–; the methodology and history of science), Paweł Polak (1976–; the philosophy/history of science).

The Faculty of Philosophy of the Society of Jesus (from 2011—Jesuit University Ignatianum in Krakow)

Before the II World War, in Jesuit centers—mainly in Kraków, logic and methodology were explored by, among others: Jan Nuckowski SJ (1867–1920), Franciszek Kwiatkowski SJ (1888–1949) and Stanisław Bednarski SJ (1896–1942). Nuckowski published the handbook entitled *Początki logiki ogólnej dla szkół* [*The Basics of the General Logic for Schools*],³⁴ Franciszek Kwiatkowski lectured philosophy since

³⁴ J. Nuckowski, *Początki logiki ogólnej dla szkół* (Kraków: J. Czarnecki, 1903).

1932, and in the compendium *Filozofia wieczysta w zarysie* [*The Outline of Perennial Philosophy*]³⁵ he presented (in vol. 3) the synthesis of the traditional logic, as well as the characteristic features of the scientific method. Methodology was also analyzed by Bednarski.

After the war, between 1948–1996, logic and the general methodology at the Faculty (and in other seminaries in Kraków) were taught by Czesław Michalunio SJ (1919–2013).³⁶ Since 1997, logic and the methodology of sciences was taught by Józef Bremer SJ (1953–).³⁷ When the Jesuit Faculty of Philosophy became the University School of Philosophy and Education “Ignatianum,” i.a. the Department of the Methodology of Sciences was created. Since 1999, it was directed by Ludwik Grzebień SJ (1939–); in 2006–2009 the head of the Department of Logic was Jerzy Perzanowski (1943–2009)³⁸ who was previously connected with Jagiellonian University and Nicolaus Copernicus University in Toruń.

³⁵ F. Kwiatkowski, *Filozofia wieczysta w zarysie*, vol. 3: *Filozofia Boga, filozofia obyczaju* (Kraków: Wydawnictwo Apostolstwa Modlitwy, 1947).

³⁶ C. Michalunio, *Logika. Zarys wykładów* (Kraków: Wydział Filozoficzny Księży Jezuitów, 1976). Michalunio studied philosophy at UJ where he wrote the Master’s Thesis: *Sylogistyka Arystotelesa w ujęciu niektórych autorów polskich XX-go wieku* (1953). At that time (ca. 1965), Jan Długosz SJ (1901–1981) was another author of a book on mathematical logic. The manuscript of the work was not published until 2008. See J. Długosz, *Rachunek sensu jednej i dwu zmiennych* (Kraków: Wyższa Szkoła Filozoficzno-Pedagogiczna Ignatianum; Wydawnictwo WAM, 2008).

³⁷ J. Bremer, *Wprowadzenie do logiki* (Kraków: Wydawnictwo WAM; Wyższa Szkoła Filozoficzno-Pedagogiczna Ignatianum, 2006).

³⁸ Perzanowski used the tools of logic in theological and metaphysical issues, i.a. he analyzed them with logical means and he formalized ontological proofs included in the argumentation of Descartes and Leibniz. See J. Perzanowski, “Ontological Arguments II: Cartesian and Leibnizian,” in *Handbook of Metaphysics and Ontology*, vol. 2, eds. H. Burkhardt, B. Smith (Munich: Philosophia Verlag, 1991), pp. 625–633; J. Perzanowski, “Teofilozofia Leibniza,” in G.W. Leibniz, *Pisma z teologii mistycznej* (Kraków: Znak, 1994), pp. 221–352; as to the argumentation of Anselm and Ch. Hartshorne, see J. Perzanowski, “O wskazanych przez Ch. Hartshorne’a modalnych krokach w dowodzie ontologicznym św. Anzelm’a,” in *Filozofia/logika: filozofia logiczna 1994*, eds. J. Perzanowski et al. (Toruń: Wydawnictwo UMK, 1995), pp. 77–96.

THE MOST IMPORTANT ACHIEVEMENTS

The history of logic

Most of the research activities referred to Aristotelian and medieval logic.³⁹ According to Łukasiewicz's approach, they were characterized by looking at the past logic from the perspective of modern logic. Such an approach was visible, i.a., in the works of Salamucha, in the articles written by Korcik, and in Bocheński's monograph *Formale Logik*,⁴⁰ which included the results of long-term research on the history of logic from ancient times (Greece, India) up to the 20th century. Books on the history of logic were also published by Kamiński, Regner (syllogistic, Apuleius, axiomatization in the works by Bolzano), Michałowski (Galenos, Boethius, Abelard, Leśniewski's logic), Czesław Wojtkiewicz MIC (the logic of John of St. Thomas). Those studies were based on the analysis of source editions, and some of them on manuscripts. Also, some texts related to the logic of the 20th century were published: in Krakow Wolak published the results of the research on the heritage of the Kraków Circle⁴¹; in Lublin the scholarly achievements of Drewnowski was elaborated,⁴² and, due to the cooperation of the researchers from ATK and UW, the works of Salamucha were published.⁴³

Logicization of theodicy

The possibility to formalize the system of metaphysics had already been discussed before World War II by Salamucha and Drewnowski, and, after the war, especially by Bocheński and Nieznański.⁴⁴

³⁹ For a collection of works written before the end of 1950s, see: J. Iwanicki, "Problematyka filozoficzna w ciągu ostatniego 50-lecia w Polsce," *Ateneum Kapłańskie* 58, no. 1–3 (1959), pp. 267–274.

⁴⁰ J.M. Bocheński, *Formale Logik*, op. cit.

⁴¹ The research on the heritage of the Kraków Circle was also carried out by Woleński, Jadacki and Murawski.

⁴² J.F. Drewnowski, *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma*, eds. S. Majdański, S. Zalewski, op. cit.

⁴³ J. Salamucha, *Wiedza i wiara. Wybrane pisma filozoficzne*, eds. J.J. Jadacki, K. Świętorzecka (Lublin: Towarzystwo Naukowe KUL, 1997).

⁴⁴ The approaches to the formalization of *quinquae viae* are described by E. Nieznański, "Drogi i bezdroża formalizacji teodycei od Salamuchy do Gödla,"

The subject of the logical research was the part of Thomist theodicy related to the justification of the thesis on the existence of the First Being. Salamucha presented the attempt to logical reconstructions the proof *ex motu* from *Summa contra gentiles* (I, 13).⁴⁵ He used the classical sentential calculus and the basic concepts of the set theory, referring to *Principia Mathematica* by Alfred North Whitehead and Bertrand Russell, as well as their symbolism. The article marked the beginning of the works and discussions on applying logic in philosophy.⁴⁶ After the war, the first reference to those discussions was probably the unpublished MA thesis of Koj, *Poglądy ks. Salamuchy na uściślenie filozofii* [*Fr. Salamucha's Outlook on Clarifying Philosophy*] (1954), which includes methodological remarks based on Salamucha's article. In 1956, Johannes Bendiek OFM published a study on the logical structure of the arguments for the existence of God. The research of Salamucha, Bendiek and Bocheński was taken up by Francesca Rivetti Barbó, and the logical analysis of the first argument was presented by Bowman L. Clarke. Referring to Salamucha, Korneliusz Policki SDS (1949–) suggested a different formalization of the argument from movement,⁴⁷ and the contributions to the formalization of the First Way of St. Thomas were published by, among others, Georg Klaus, Marciszewski, Tadeusz Kwiatkowski, Laurent Larouche, and Krystyna Błachowicz. Nieznański achieved particularly important results in the formalization of the arguments for the existence of God (the study of 1980⁴⁸ and many articles) and classical ontology (with the elements of the philosophy of God). Also, he formalized the argument *ex causae efficiens* (1982, 1984⁴⁹;

in *Logika i metafizyka*, ed. Z. Wolak (Tarnów–Kraków: Biblos, Ośrodek Badań Interdyscyplinarnych, 1995), pp. 100–113.

⁴⁵ J. Salamucha, “Dowód ‘ex motu’ na istnienie Boga. Analiza logiczna argumentacji św. Tomasza z Akwinu,” *Collectanea Theologica* 15, no. 1 (1934), pp. 53–92.

⁴⁶ Z. Wolak, “Reakcje na J. Salamuchy analizę logiczną dowodu ‘z ruchu’ św. Tomasza,” in *Logika i metafizyka*, ed. Z. Wolak, p. 59.

⁴⁷ K. Policki, “W sprawie formalizacji dowodu ‘ex motu’ na istnienie Boga,” *Roczniki Filozoficzne* 23, no. 1 (1975), pp. 19–30.

⁴⁸ E. Nieznański, “Formalizacyjne próby ustalenia logiko-formalnych podstaw stwierdzenia pierwszych elementów rozważanych w tomistycznej teodycei,” in *W kierunku formalizacji tomistycznej teodycei*, ed. E. Nieznański, pp. 7–194.

⁴⁹ Idem, “W poszukiwanie Pierwszej Przyczyny z pomocą logiki formalnej,” *Analecta Cracoviensia* 14 (1982), pp. 51–60; idem, “Formalisierung des Gottesbeweises *ex ratione causae efficientis*,” *Salzburger Jahrbuch für Philosophie* 27–29 (1984), pp. 79–84.

the first formalization, of 1969, is the work of Wilhelm Karl Essler) and *ex contingentia*, in the version coming from Gottfried W. Leibniz, supported by the principle of the sufficient reason.

The program of the Kraków Circle was referred to by Bocheński at the end of 1980s, which resulted in the formalization of all the five ways of St. Thomas.⁵⁰ The analyses *quinque viae* are included in Bocheński's program of the so-called studies on God, in which he included some issues concerning the nature of God. Based on the text of *Summa theologiae* by St. Thomas (*STh* I, q. 4–11), he logically described twenty-two theses related to God's attributes, giving forty-three formal proofs for them (those results were unique in the philosophy of God at that time).⁵¹

As for the other issues in theodicy: in 1938 Bocheński presented the logical and formal analysis and formalization of the proof for the immortality of the soul from *Summa theologiae* (I, 75, 6)⁵²; Nieznański (referring to the research of Curt Christian of 1957) analyzed, in 1976, the concepts of God, His omnipotence and omniscience⁵³; in 1984 Czesław Oleksy presented the logical analysis of the problem of predestination and religious fatalism (developing the results of Paul Weingartner of 1974)⁵⁴; in 1983 Nieznański (1983) used the 16-element Boolean algebra as a model of the scholastic theory *de modis essendi*⁵⁵; the concept of authority was analyzed by Bocheński⁵⁶ and Nieznański⁵⁷ who applied the logic of beliefs.⁵⁸

⁵⁰ J.M. Bocheński, "Die fünf Wege," *Freiburger Zeitschrift für Philosophie und Theologie* 36, no. 3 (1989), pp. 235–265; idem, *Logika i filozofia. Wybór pism*, pp. 469–503.

⁵¹ Idem, *Gottes Dasein und Wesen. Logische Studien zur Summa Theologiae I, qq. 2–11* (München: Philosophia Verlag, 2003), pp. 98–116.

⁵² Idem, "Analisi logica di un testo di S. Tommaso d'Aquino (I, 75, 6)," in idem, *Nuove lezioni di logica simbolica* (Roma: Angelicum, 1938), pp. 147–155.

⁵³ E. Nieznański, "Curta Christiana rachunek pojęć wszechmocy, wszechwiedzy i Boga," *Studia Theologica Varsaviensia* 14, no. 2 (1976), pp. 301–305.

⁵⁴ C. Oleksy, "Próba zastosowania środków logiki współczesnej do zagadnień fatalizmu religijnego i predestynacji," *Studia Teologiczne*, no. 2 (1984), pp. 257–282.

⁵⁵ E. Nieznański, "16-elementowa algebra Boole'a jako model klasycznej teorii *de modis essendi*," *Studia Philosophiae Christianae* 19, no. 1 (1983), pp. 125–132.

⁵⁶ J.M. Bocheński, "Analysis of Authority," in idem, *The Logic of Religion* (New York: NYU Press, 1965), pp. 162–173; J.M. Bocheński, *Was ist Autorität? Einführung in die Logik der Autorität* (Freiburg: Herder, 1974).

⁵⁷ E. Nieznański, "Logika przekonań a wiara oświeconych," *Studia Philosophiae Christianae* 21, no. 1 (1985), pp. 157–162.

⁵⁸ Cf. K. Wolsza, "Teodycea sformalizowana," in *Filozofia Boga. Część II. Odkrywanie Boga*, eds. S. Janeczek, A. Starościc (Lublin: Wydawnictwo KUL, 2017),

The concept of analogy

The scholastic concept of analogy was analyzed by Drewnowski,⁵⁹ Salamucha⁶⁰ and Bocheński.⁶¹ Drewnowski, using his theory of sign, analyzed the analogy of cognition, the analogy of being, and the analogy as the method of reasoning, as well as the transcendental and theological analogy. Salamucha only mentioned the idea of interpretation—based on the concept of typical polysemy—of the concepts of the analogy of proportionality and attribution (but not the analogy of being, which is the basic concept in theology and theodicy). Bocheński, while introducing the concept of the so-called semantic complex—the many-termed relation among language, a given name, its content and designatum—carried out a semantic analysis of the concepts of polysemy and analogy, and especially—the analogy of attribution; he also revealed flaws of numerous traditional formulas and solutions in the field of analogy. The scholastic idea of analogy was later analyzed by Herbut, and the concepts of analogy worked out in the Kraków Circle—by Wolak. Analogy in the context of science and cognitive processes was explored by the scholars connected with KUL: Adam Biela (1947–) and Fr. Zdzisław Chlewiński (1929–), Andrzej Falkowski (1953–) and Piotr Francuz (1960–).

The methodology of philosophy and theology

The first comprehensive study of the methodology of classical philosophy is the work of Krąpiec and Kamiński.⁶² The applicability of logic in theology and in the analysis of religious sentences and the ways of their justification was discussed by Bocheński in the *Logic of Religion* (1965).⁶³ Later, the research on the methodology of metaphysics was

pp. 195–218; M. Bombik, “Sprawa stosowania dzisiejszej logiki we współczesnej teologii,” *Śląskie Studia Historyczno-Teologiczne* 23–24 (1990–1991), pp. 170–172. Source materials from the “formalized theodicy” and translations of foreign books (up to 1970s) were collected by Nieznański (*W kierunku formalizacji tomistycznej teodycei*, ed. E. Nieznański).

⁵⁹ J.F. Drewnowski, *Zarys programu filozoficznego*, pp. 3–38, 150–181, 262–292.

⁶⁰ J. Salamucha, “O możliwościach ścisłego formalizowania dziedziny pojęć analogicznych,” in *Mysł katolicka wobec logiki współczesnej*, pp. 122–153.

⁶¹ J.M. Bocheński, “Wstęp do teorii analogii,” *Roczniki Filozoficzne* 1 (1948), pp. 64–82. Cf. Z. Wolak, *Koncepcje analogii w Kole Krakowskim*, op. cit.

⁶² S. Kamiński, M.A. Krąpiec, *Z teorii i metodologii metafizyki*, op. cit.

⁶³ J.M. Bocheński, *The Logic of Religion*, op. cit.

carried out by Edmund Morawiec CSsR (1930–2019; the role of intellectual intuition, the structure of metaphysics and its language, the relation of metaphysics and natural sciences). Herbut presented the explanatory role of metaphysical hypotheses and the ways of checking them,⁶⁴ as well as the possibility to apply the transcendental method in metaphysics.⁶⁵ The methodology of the theory of cognition was explored by Stępień,⁶⁶ and Bronk analyzed, among others, the methodology of philosophical hermeneutics, pedagogy and religious sciences. The methodology of ethics was researched by Kamiński, Tadeusz Ślipko SJ (1918–2015), Styczeń, and Szostek. Styczeń dedicated a number of works to metaethical issues.⁶⁷ He analyzed the basics of ethics, its methodological status (scientific status) and the relation to other disciplines (also non-philosophical ones).

A lot of methodological research activities were related to the philosophy of nature. The analyses of Mazierski and Kłósak⁶⁸ were taken up by their students. Heller and Życiński justified the need to practice philosophy (not only the philosophy of nature) in the context of science. Heller showed how to apply the modern mathematical tools to reconstruct the old theories of nature⁶⁹; Życiński, while analyzing the connections between philosophy, theology and natural sciences, justified the possibility of falsifying the philosophical theses and the so-called theistic naturalism⁷⁰; Hajduk characterized the methodological status of the philosophy of nature⁷¹; Turek explored

⁶⁴ J. Herbut, *Hipoteza w filozofii bytu* (Lublin: Redakcja Wydawnictw KUL, 1978).

⁶⁵ Idem, *Metoda transcendentalna w metafizyce* (Opole: Wydawnictwo Św. Krzyża, 1987).

⁶⁶ A.B. Stępień, *O metodzie teorii poznania* (Lublin: Towarzystwo Naukowe KUL, 1966); *Studia metafizyczne*, vol. 1: *Dyscypliny i metody filozoficzne*, eds. A.B. Stępień, T. Szubka (Lublin: Towarzystwo Naukowe KUL, 1993).

⁶⁷ Złuszczka: T. Styczeń, *Zarys etyki. Część I: Metaetyka* (Lublin: Katolicki Uniwersytet Lubelski, 1974).

⁶⁸ K. Kłósak, *Z teorii i metodologii filozofii przyrody* (Poznań: Księgarnia św. Wojciecha, 1980).

⁶⁹ For example M. Heller, *Fizyka ruchu i czasoprzestrzeni* (Warszawa: Wydawnictwo Naukowe PWN, 1993).

⁷⁰ J. Życiński, *Wszechświat emergentny. Bóg w ewolucji przyrody* (Lublin: Wydawnictwo KUL, 2009).

⁷¹ Z. Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa. Metakosmologia* (Lublin: Towarzystwo Naukowe KUL, 2007).

the methodological aspects of cosmology⁷² and the relations between scientific facts and philosophy⁷³; and Jodkowski—the methodological aspects of the relation of science, philosophy and theology.⁷⁴ His research has been continued by his student, Piotr Bylica (1976–).

SIGNIFICANCE AND DISCUSSIONS

Among the achievements of the logicians and methodologists connected with Polish Christian philosophy in the 20th century, the work of the philosophers of the Kraków Circle is particularly valuable. It referred to the fundamental problems in Christian philosophy and theology. Their logical analysis, and then methodological reflection on them, resulted in: the formalizations of the proofs for the existence of God, the logical concepts of analogy, the proposals of specifying the theological language, and the methodological program aiming at making philosophy and theology more scientific. Such results and postulates (their program) were new, not only in the context of contemporary European Thomism and the applications of logic, but they also turned out to be inspiring and basic for future generations of researchers—not only in Poland. On a global scale, the Circle was a unique research team which carried out an original plan of logicization of philosophy, especially theodicy. The achievements of its members and continuators make the Polish logicians of the 20th century among the best international scholars dealing with this issue, and the tradition of research on the application of logic to philosophy and theology has been continued to this day in Poland.⁷⁵

⁷² J. Turek, *Wszechświat dynamiczny. Rewolucja naukowa w kosmologii* (Lublin: Redakcja Wydawnictw KUL, 1995).

⁷³ Idem, *Filozoficzne interpretacje faktów naukowych* (Lublin: Wydawnictwo KUL, 2009).

⁷⁴ K. Jodkowski, *Metodologiczne aspekty kontrowersji ewolucjonizm – kreacjonizm* (Lublin: Uniwersytet Marii Curie-Skłodowskiej, 1998).

⁷⁵ For example: J. Woleński, “Pięć dróg Akwinaty,” *Principia* 5 (1992), pp. 67–83; R. Kleszcz, “Logika, wszechmoc, Bóg,” *Filo-Sofja* 19, no. 4 (2012), pp. 37–52; *Logic in Theology*, eds. B. Brożek, A. Olszewski, M. Hohol (Kraków: Copernicus Center Press, 2013); D. Łukasiewicz, “Fatalizm logiczny i teologiczny a przedwiedza Boża. Krytyka argumentu antyredukcyjnego Lindy Zagzebski,” *Analiza i Egzystencja*, no. 24 (2014), pp. 5–19; idem, “Wszechmoc Boga a teologia przypadku,” *Filo-Sofja* 30, no. 3 (2015), pp. 169–179.

Among the issues analyzed by the logicians and methodologists, the dominant ones include meta-scientific problems which mainly refer to the application of logic to philosophy and theology, as well as methodological issues concerning these two disciplines developed—if not only, then at least mainly—in the neo-Thomist approach. In this respect, the achievements of Kamiński are particularly important, as well as the works and achievements of many scholars in the field of the history of logic and the methodology of philosophical disciplines. The results obtained in logic itself by Kalinowski, Bocheński and Borkowski, and in the methodology of sciences—by Kamiński, are more widely known, but in terms of the subject matter they are not connected with Christian thought.

The most important discussion carried out in the environment of Christian thinkers was related to the program of the Kraków Circle, i.e. the application of mathematical logic in traditional philosophy, especially metaphysics.⁷⁶ In this discussion, initiated by Jan Łukasiewicz's program of the logicization of philosophy,⁷⁷ Jakubanis and Chojnacki acknowledged the importance of (traditionally understood) logic for philosophy, but the dispute intensified after the criticism (inspired by the defense of Thomism) of the views of the Lviv-Warsaw School (mainly Jan Łukasiewicz), published by Fr. Augustyn Jakubisiak (1884–1945).⁷⁸ While replying to the criticism, Łukasiewicz corrected the faulty thesis of Jakubisiak and explained his own point. The issues and problems noticeable in this dispute were later developed. It turned out that the main reason for the reluctance of the defenders of neo-scholasticism to the new logic was the conviction that such logic assumes the philosophical approach that contradicts Christian thought. They claimed that logic is anti-metaphysical, or that it distorts metaphysics through mathematization, conventionalism and nominalism, as well as pragmatism, positivism and atheism. However, Łukasiewicz, Bocheński and Salamucha emphasized that the modern logic took over the traditional logic; that one cannot

⁷⁶ The description of the discussion: J. Woleński, *Szkoła Lwowsko-Warszawska w polemikach* (Warszawa: Wydawnictwo Naukowe Scholar, 1997), pp. 134–164. Z. Wolak, *Neotomizm a Szkoła Lwowsko-Warszawska*, pp. 24–49; J. Iwanicki, "Problematyka filozoficzna w ciągu ostatniego 50-lecia w Polsce," pp. 268–270.

⁷⁷ J. Łukasiewicz, "O metodę w filozofii," *Przegląd Filozoficzny* 31, no. 1–2 (1928), pp. 3–5.

⁷⁸ A. Jakubisiak, *Od zakresu do treści* (Warszawa: Druk. Artystyczna, 1936).

connect the application of logic only with neo-positivism (in which the new logic was being developed); and that—contrary to the anti-metaphysical declarations of neo-positivists—it is possible to specify metaphysics in a logical manner.⁷⁹

The pre-war dispute was continued afterwards, especially in the environment of KUL.⁸⁰ Kamiński emphasized the limitations of applying the formal logic in philosophy, and he saw their main source in the nature of metaphysical cognition which does not yield—without distortions—to the attempts of formalization.⁸¹ However, he believed that philosophy can use semiotics in the analysis of the language of metaphysics, formal logic in the characteristics of the relations among its theses, and the methodology of sciences in elaborating the methods of metaphysics. In 1964, Kamiński and Zofia Józefa Zdybicka USJK (1928–) published the article: *O sposobie poznania istnienia Boga* [On the Way of Cognizing the Existence of God]⁸²; a year later, the criticism of the opinions expressed in this article was outlined by Drewnowski.⁸³ Referring to that criticism, Kamiński and Zdybicka emphasized that they had never claimed that reasoning in metaphysics may be at odds with the laws of logic, and they expressed the belief that not all the methods proper for the justification of the theses of metaphysics can be elaborated formally.⁸⁴ In the 1980s, this dispute was continued by Nieznański and Gogacz.⁸⁵

⁷⁹ The opinions of those authors, as well as Pastuszka and Chojnacki, are collected in: *Mysł katolicka wobec logiki współczesnej*, pp. 61–83. The replies of Łukasiewicz, Bocheński, Salamucha, *ibidem*, pp. 12–26, 87–121.

⁸⁰ The disputes and their background are described in: S. Kiczuk, “Spór o stosowność logiki do filozofii klasycznej w Szkole Lubelskiej,” *Roczniki Filozoficzne* 44, no. 1 (1996), pp. 5–19.

⁸¹ S. Kamiński, M.A. Krąpiec, *Z teorii i metodologii metafizyki*, pp. 360–361.

⁸² S. Kamiński, Z. Zdybicka, “O sposobie poznania istnienia Boga,” *Znak*, no. 6(120) (1964), pp. 635–661.

⁸³ J. Drewnowski, *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma*, eds. S. Majdański, S. Zalewski, pp. 224–233.

⁸⁴ S. Kamiński, Z. Zdybicka, “W odpowiedzi na uwagi Jana Fr. Drewnowskiego,” *Znak*, no. 2–3(128–129) (1965), pp. 355–365.

⁸⁵ See their replies: *W kierunku Boga*, ed. B. Bejze (Warszawa: Akademia Teologii Katolickiej, 1982), pp. 402–422.

LOGIC AND THE METHODOLOGY OF SCIENCES AT THE BEGINNING OF THE 21ST CENTURY

Modern researchers refer to the logical and methodological works of the Christian thinkers of the 20th century. KUL has a strong center of logic in which the following scholars work: Lechniak (many-valued logics, the logics of beliefs), Kulicki (the head of the Department of the Fundamentals of Informatics; he deals with computer logic, axiomatic systems of term logic), Garbacz (the applications of logic in philosophy and formal ontology in informatics), Czernecka-Rej (the philosophy of logic, non-classical logics), Tkaczyk (the head of the Department of Logic since 2010; he deals with non-classical logics and the applications of logic in philosophy), and Robert Trypuz who analyses denotic logic and formal ontology of actions. In the general methodology of sciences, as well as in the methodology of the philosophy, the research is carried out by: Wierzchosławski—the methodology of social sciences, science studies, Walczak—the methodology of multi-disciplinary research, the methodology of cultural studies, Kawalec—the methodology of sciences and the methodology of economy; the philosophy of science and the theory of scientific knowledge, Szubka—the methodology of analytic philosophy, Gut—the methodology of cognitive sciences, Zbigniew Wróblewski (1967–)—the methodology of natural sciences and cognitive sciences, Lekka-Kowalik—the methodology and axiology of science, Kublikowski—definitionism and anti-definitionism, and Paweł Gondek (1966–)—the methodology of the metaphysics of existential Thomism, Wojciech Daszkiewicz (1977–)—the methodology of the autonomous philosophy of culture.

The research mentioned in this text is also carried out in other scientific centers, such as UPJPII: Wolak—Polish logic, Olszewski—the philosophy of logic, the applications of logic in theology, Dadaczyński—the history of logic, the philosophy of mathematics, Robert Piechowicz (1977–)—logical semiotics, Polak—the philosophy of science, the methodology of the philosophy of nature; at UKSW in the Section of Logic and Methodology of Sciences: Świętorzecka—modal logics and the theory of definition, formalizations of the proofs for the existence of God, the history of logic, Tomanek—formalizations of the arguments of St. Anselm, Fr. Marek Porwolik (1971–)—analysis of the formalizations of the classical philosophical arguments,

Anna Latawiec (1951–)—the philosophy of nature and natural sciences, Anna Lemańska (1953–)—the methodology of the philosophy of nature and natural sciences; at the Jesuit University Ignatianum in Krakow: Bremer—logic, the methodology of cognitive science and neuroscience, Jonkisz—logic, the methodology of sciences, the philosophy of science, Piotr Stanisław Mazur (1968–)—the methodology of classical philosophy, Jacek Poznański SJ (1974–)—the philosophy of science, science studies, Piotr Duchliński (1978–)—the methodology of philosophy and the humanities.

SELECTED BIBLIOGRAPHY

- Bocheński, J.M. "Analisi logica di un testo di S. Tommaso d'Aquino (I, 75, 6)," in idem, *Nuove lezioni di logica simbolica*, pp. 147–155. Roma: Angelicum, 1938.
- . "Analysis of Authority," in idem, *The Logic of Religion*, pp. 162–173. New York: NYU Press, 1965.
- . "Autoprezentacja," in idem, *Logika i filozofia. Wybór pism*, trans. T. Baszniak et al., ed. J. Parys, pp. vii–xxix. Warszawa: Wydawnictwo
- . "Die fünf Wege," *Freiburger Zeitschrift für Philosophie und Theologie* 36, no. 3 (1989), pp. 235–265.
- . *Die zeitgenössischen Denkmethode*. Bern: A. Francke, 1954.
- . *Formale Logik*. Freiburg–München: Verlag Karl Alber, 1956.
- . *Gottes Dasein und Wesen. Logische Studien zur Summa Theologiae I, qq. 2–11*. München: Philosophia Verlag, 2003.
- . *Logika i filozofia. Wybór pism*, trans. T. Baszniak et al., ed. J. Parys. Warszawa: Wydawnictwo Naukowe PWN, 1993.
- . *Was ist Autorität? Einführung in die Logik der Autorität*. Freiburg: Herder, 1974.
- . *Wspomnienia*. Kraków: Philed, 1994.
- . *Współczesne metody myślenia*, trans. S. Judycki. Poznań: W drodze, 1992.
- . "Wstęp do teorii analogii," *Roczniki Filozoficzne* 1 (1948), pp. 64–82.
- . *Z historii logiki zdań modalnych*. Lwów: Wydawnictwo oo. Dominikanów, 1938.
- Bombik, M. "Sprawa stosowania dzisiejszej logiki we współczesnej teologii," *Śląskie Studia Historyczno-Teologiczne* 23–24 (1990–1991), pp. 165–172.
- Bremer, J. *Wprowadzenie do logiki*. Kraków: Wydawnictwo WAM, Wyższa Szkoła Filozoficzno-Pedagogiczna Ignatianum, 2006.

- Chojnacki, P. *Teoria poznania i metodologia ogólna nauk*. Warszawa: Wydział Teologii Katolickiej UW, 1948.
- Czerkawski, J. "Lubelska szkoła filozoficzna na tle sytuacji w powojennej Polsce," *Roczniki Filozoficzne* 45, no. 1 (1997), pp. 166–190.
- Długosz, J. *Rachunek sensu jednej i dwu zmiennych*. Kraków: Wyższa Szkoła Filozoficzno-Pedagogiczna Ignatianum, Wydawnictwo WAM, 2008.
- Drewnowski, J.F. *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma*, eds. S. Majdański, S. Zalewski. Lublin: Towarzystwo Naukowe KUL, 1996.
- . "Zarys programu filozoficznego (part 1)," *Przegląd Filozoficzny* 37, no. 1 (1934), pp. 3–38; part 2: *Przegląd Filozoficzny* 34, no. 2 (1934), pp. 150–181; part 3: *Przegląd Filozoficzny* 34, no. 3 (1934), pp. 262–292.
- Gabryl, F. *Logika formalna*. Kraków: Uniwersytet Jagielloński, 1899.
- . *Logika ogólna*. Kraków: Uniwersytet Jagielloński, 1912.
- Hajduk, Z. *Filozofia przyrody. Filozofia przyrodoznawstwa. Metakosmologia*. Lublin: Towarzystwo Naukowe KUL, 2007.
- Heller, M. *Fizyka ruchu i czasoprzestrzeni*. Warszawa: Wydawnictwo Naukowe PWN, 1993.
- Herbut, J. *Hipoteza w filozofii bytu*. Lublin: Redakcja Wydawnictw KUL, 1978.
- . *Metoda transcendentálna w metafizyce*. Opole: Wydawnictwo Św. Krzyża, 1987.
- Historia filozofii polskiej. Dokonania – poszukiwania – projekty*, eds. A. Dziezic, A. Kołakowski, S. Pieróg, P. Ziemiński. Warszawa: Wydawnictwo Naukowe Semper, 2007.
- Iwanicki, J. *Dedukcja naturalna i logistyczna*. Warszawa: Polskie Towarzystwo Teologiczne, 1949.
- . "Problematyka filozoficzna w ciągu ostatniego 50-lecia w Polsce," *Ateneum Kapłańskie* 58, no. 1–3 (1959), pp. 255–293.
- Jadacki, J.J. "Logika," in *Historia nauki polskiej*, vol. 4, part 3, ed. Z. Skubała-Tokarska, pp. 548–578. Wrocław: Zakład Narodowy im. Ossolińskich, 1987.
- Jadacki, J.J., Świątorzecka, K. "Myśliciel o sercu walecznym. O życiu Jana Salamuchy," in J. Salamucha, *Wiedza i wiara. Wybrane pisma filozoficzne*, pp. 15–27. Lublin: Towarzystwo Naukowe KUL, 1997.
- . "Szkoła Lwowsko-Warszawska i jej wpływ na filozofię polską drugiej połowy XX wieku," in *Historia filozofii polskiej. Dokonania – poszukiwania – projekty*, eds. A. Dziezic, A. Kołakowski, S. Pieróg, P. Ziemiński, pp. 126–148. Warszawa: Wydawnictwo Naukowe Semper, 2007.
- Jakubisiak, A. *Od zakresu do treści*. Warszawa: Druk. Artystyczna, 1936.
- Janeczek, S. *Filozofia na KUL-u. Nurty – osoby – idee*. Lublin: Redakcja Wydawnictw KUL, 1998.

- Jodkowski, K. *Metodologiczne aspekty kontrowersji ewolucjonizm – kreacjonizm*. Lublin: Uniwersytet Marii Curie-Skłodowskiej, 1998.
- Kamiński, S. “Czy logika jest dyscypliną praktyczną?” *Ateneum Kapłańskie* 57, no. 2 (1958), pp. 228–233.
- . *Pojęcie nauki i klasyfikacja nauk*. Lublin: Towarzystwo Naukowe KUL, 1961.
- . “Rozwój logiki i metodologii nauk w Polsce po II wojnie światowej,” *Roczniki Filozoficzne* 24, no. 1 (1976), pp. 113–122.
- Kamiński, S., Krąpiec, M.A. *Z teorii i metodologii metafizyki*. Lublin: Towarzystwo Naukowe KUL, 1962.
- Kamiński, S., Zdybicka, Z. “O sposobie poznania istnienia Boga,” *Znak*, no. 6(120) (1964), pp. 635–661.
- . “W odpowiedzi na uwagi Jana Fr. Drewnowskiego,” *Znak*, no. 2–3(128–129) (1965), pp. 355–365.
- Kiczuk, S. “Spór o stosowalność logiki do filozofii klasycznej w Szkole Lubelskiej,” *Roczniki Filozoficzne* 44, no. 1 (1996), pp. 5–19.
- Kleszcz, R. “Logika, wszechmoc, Bóg,” *Filo-Sofija* 19, no. 4 (2012), pp. 37–52.
- Kłósak, K. *Z teorii i metodologii filozofii przyrody*. Poznań: Księgarnia św. Wojciecha, 1980.
- Kwiatkowski, F. *Filozofia wieczysta w zarysie*, vol. 3: *Filozofia Boga, filozofia obyczaju*. Kraków: Wydawnictwo Apostolstwa Modlitwy, 1947.
- Leksykon filozofii klasycznej*, ed. J. Herbut. Lublin: Towarzystwo Naukowe KUL, 1997.
- Logic in Theology*, eds. B. Brożek, A. Olszewski, M. Hohol. Kraków: Copernicus Center Press, 2013.
- Łukasiewicz, D. “Fatalizm logiczny i teologiczny a przedwiedza Boża. Krytyka argumentu antyredukcyjnego Lindy Zagzebski,” *Analiza i Egzystencja*, no. 26 (2014), pp. 5–19.
- . “Wszechmoc Boga a teologia przypadku,” *Filo-Sofija* 30, no. 3 (2015), pp. 169–179;
- Łukasiewicz, J. “O metodę w filozofii,” *Przegląd Filozoficzny* 31, no. 1–2 (1928), pp. 3–5.
- Majdański, S. “Ani scjentyzm, ani fideizm. U progu nowoczesnej syntezy filozoficznej, czyli Jana Franciszka Drewnowskiego program precyzacji filozofii klasycznej,” in J.F. Drewnowski, *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma*, eds. S. Majdański, S. Zalewski, pp. 5–52. Lublin: Towarzystwo Naukowe KUL, 1996.
- Majdański, S., Wojtkiewicz, C. “Logika na Katolickim Uniwersytecie Lubelskim (Z okazji 50-lecia Uczelni),” *Roczniki Filozoficzne* 17, no. 1 (1969), pp. 123–170.
- Mazierski S. *Determinizm i indeterminizm w aspekcie fizycznym i filozoficznym*, Towarzystwo Naukowe KUL, Lublin 1961.
- . *Elementy kosmologii filozoficznej i przyrodniczej*. Poznań: Księgarnia św. Wojciecha, 1972.

- . *Prawa przyrody. Studium metodologiczne*. Lublin: Redakcja Wydawnictw KUL, 1993.
- . *Prolegomena do filozofii przyrody inspiracji arystotelesowsko-tomistycznej*. Lublin: Towarzystwo Naukowe KUL, 1969.
- Michalski, K. "Wstęp," in *Mysł katolicka wobec logiki współczesnej*, pp. 7–11. Poznań: Księgarnia św. Wojciecha, 1937.
- Michalunio, C. *Logika. Zarys wykładów*. Kraków: Wydział Filozoficzny Księży Jezuitów, 1976.
- Murawski, R. "Filozofia logiki i matematyki w Kole Krakowskim," *Filozofia Nauki* 22, no. 2 (2014), pp. 21–35.
- Mysł katolicka wobec logiki współczesnej*. Poznań: Księgarnia św. Wojciecha, 1937.
- Nieznański, E. "16-elementowa algebra Boole'a jako model klasycznej teorii *de modis essendi*," *Studia Philosophiae Christianae* 19, no. 1 (1983), pp. 125–132.
- . "Curta Christiana rachunek pojęć wszechmocy, wszechwiedzy i Boga," *Studia Theologica Varsaviensia* 14, no. 2 (1976), pp. 301–305.
- . "Drogi i bezdroża formalizacji teodycei od Salamuchy do Gödla," in *Logika i metafizyka*, ed. Z. Wolak, pp. 99–117. Tarnów–Kraków: Biblos; Ośrodek Badań Interdyscyplinarnych, 1995.
- . "Formalisierung des Gottesbeweises *ex ratione causae efficientis*," *Salzburger Jahrbuch für Philosophie* 27–29 (1984), pp. 79–84.
- . "Formalizacyjne próby ustalenia logiko-formalnych podstaw stwierdzenia pierwszych elementów rozważanych w tomistycznej teodycei," in *W kierunku formalizacji tomistycznej teodycei*, ed. and trans. E. Nieznański, pp. 7–194. Warszawa: Akademia Teologii Katolickiej, 1980.
- . "Formalized Proofs of the Existence of God," *Collectanea Theologica* 64 (1994), pp. 109–122.
- . "Logical Analysis of Thomism: The Polish Programme That Originated in 1930's," in *Initiatives in Logic*, ed. J. Szrednicki, pp. 128–155. Dordrecht: Springer, 1987.
- . "Logika przekonań a wiara oświeconych," *Studia Philosophiae Christianae* 21, no. 1 (1985), pp. 157–162.
- . "W poszukiwanie Pierwszej Przyczyny z pomocą logiki formalnej," *Analecta Cracoviensia* 14 (1982), pp. 51–60.
- . "World Models in Formalized Systems of Theodicy," *Studia Philosophiae Christianae* 47, no. 1 (2011), pp. 89–96.
- Nuckowski, J. *Początki logiki ogólnej dla szkół*. Kraków: J. Czarnecki, 1903.
- Oleksy, C. "Próba zastosowania środków logiki współczesnej do zagadnień fatalizmu religijnego i predestynacji," *Studia Teologiczne*, no. 2 (1984), pp. 257–282.
- Perzanowski, J. "O wskazanych przez Ch. Hartshorne'a modalnych krokach w dowodzie ontologicznym św. Anzelma," in *Filozofia/logika: filozofia*

- logiczna* 1994, eds. J. Perzanowski et al., pp. 77–96. Toruń: Wydawnictwo UMK, 1995.
- . “Ontological Arguments II: Cartesian and Leibnizian,” in *Handbook of Metaphysics and Ontology*, vol. 2, eds. H. Burkhardt, B. Smith, pp. 625–633. Munich: Philosophia Verlag, 1991.
- . “Teofilozofia Leibniza,” in G.W. Leibniz, *Pisma z teologii mistycznej*, trans. M. Frankiewicz, pp. 221–352. Kraków: Znak 1994.
- Policki, K. “W sprawie formalizacji dowodu ‘ex motu’ na istnienie Boga,” *Roczniki Filozoficzne* 23, no. 1 (1975), pp. 19–30.
- Regner, L. *Logika*. Kraków: Polskie Towarzystwo Teologiczne, 1973.
- Salamucha, J. “Dowód ‘ex motu’ na istnienie Boga. Analiza logiczna argumentacji św. Tomasza z Akwinu,” *Collectanea Theologica* 15, no. 1 (1934), pp. 53–92.
- . “Nauczanie logiki w seminarjach duchownych,” in *Pamiętnik siódmego zjazdu w Wilnie, 19.IV. – 21.IV.1933*, pp. 171–182. Wilno: Drukarnia Archidiecezjalna, 1934.
- . “O możliwościach ścisłego formalizowania dziedziny pojęć analogicznych,” in *Mysł katolicka wobec logiki współczesnej*, pp. 122–153. Poznań: Księgarnia św. Wojciecha, 1937.
- . *Wiedza i wiara. Wybrane pisma filozoficzne*, eds. J.J. Jadacki, K. Świętorzecka. Lublin: Towarzystwo Naukowe KUL, 1997.
- Skoczyński, J., Woleński, J. *Historia filozofii polskiej*. Kraków: Wydawnictwo WAM, 2010.
- Stępień, A.B. *O metodzie teorii poznania*. Lublin: Towarzystwo Naukowe KUL, 1966.
- . “O stanie filozofii tomistycznej w Polsce,” in *W nurcie zagadnień poborowych*, vol. 2, ed. B. Bejze, pp. 97–126. Warszawa: Wydawnictwo Sióstr Loretanek-Benedyktynek, 1968.
- Studia metafizyczne*, vol. 1: *Dyscypliny i metody filozoficzne*, eds. A.B. Stępień, T. Szubka. Lublin: Towarzystwo Naukowe KUL, 1993.
- Styczeń, T. *Zarys etyki. Część I: Metaetyka*. Lublin: Katolicki Uniwersytet Lubelski, 1974.
- Swieżawski, S. *Zagadnienie historii filozofii*. Warszawa: Państwowe Wydawnictwo Naukowe, 1966.
- Świętorzecka, K., Tomanek, R. “Logika i metodologia nauk,” in *Wydział Filozofii Chrześcijańskiej na ATK 1954–1999*, eds. J. Bielecki, J. Krokos, pp. 169–188. Warszawa: Wydawnictwo UKSW, 2001.
- Tkaczyk, M., Wybraniec-Skardowska, U. “Logika polska,” in *Encyklopedia filozofii polskiej*, vol. 1, ed. A. Maryniarczyk, pp. 880–890. Lublin: Polskie Towarzystwo Tomasza z Akwinu, 2011.
- Turek, J. *Filozoficzne interpretacje faktów naukowych*. Lublin: Wydawnictwo KUL, 2009.
- . *Wszechświat dynamiczny. Rewolucja naukowa w kosmologii*. Lublin: Redakcja Wydawnictw KUL, 1995.
- W kierunku Boga*, ed. B. Bejze. Warszawa: Akademia Teologii Katolickiej, 1982.

- W kierunku formalizacji tomistycznej teodycei*, ed. and trans. E. Nieznański. Warszawa: Akademia Teologii Katolickiej, 1980.
- Wolak, Z. *Koncepcje analogii w Kole Krakowskim*. Tarnów: Biblos, 2005.
- . *Neotomizm a Szkoła Lwowsko-Warszawska*. Kraków: Ośrodek Badań Interdyscyplinarnych, 1993.
- . “Reakcje na J. Salamuchy analizę logiczną dowodu ‘z ruchu’ św. Tomasza,” in *Logika i metafizologia*, ed. Z. Wolak, pp. 59–76. Tarnów–Kraków: Biblos; Ośrodek Badań Interdyscyplinarnych, 1995.
- . “Światopogląd, filozofia i logika u ks. Jana Salamuchy,” in *Logika i metafizologia*, ed. Z. Wolak, pp. 47–58. Tarnów–Kraków: Biblos; Ośrodek Badań Interdyscyplinarnych, 1995.
- Woleński, J. *Filozoficzna szkoła lwowsko-warszawska*. Warszawa: Państwowe Wydawnictwo Naukowe, 1985.
- . “Pięć dróg Akwinaty,” *Principia* 5 (1992), pp. 67–83.
- . “Polish Attempts to Modernize Thomism by Logic (Bocheński and Salamucha),” in idem, *Historico-Philosophical Essays*, vol. 1, pp. 51–66. Kraków: Copernicus Center Press, 2012.
- . “Polish Logic,” in idem, *Historico-Philosophical Essays*, vol. 1, pp. 211–261. Kraków: Copernicus Center Press, 2012.
- . *Szkoła lwowsko-warszawska w polemikach*. Warszawa: Wydawnictwo Naukowe Scholar, 1997.
- Wolsza, K. “Teodycea sformalizowana,” in *Filozofia Boga. Część II. Odkrywanie Boga*, eds. S. Janeczek, A. Starościc, pp. 195–218. Lublin: Wydawnictwo KUL, 2017.
- Życiński, J. *Wszechświat emergentny. Bóg w ewolucji przyrody*. Lublin: Wydawnictwo KUL, 2009.