

Lublin School of Philosophy

A Comparative Perspective



WYDAWNICTWO KUL

THE JOHN PAUL II CATHOLIC UNIVERSITY OF LUBLIN

THE FACULTY OF PHILOSOPHY

CLASSICAL PHILOSOPHY
AT THE KUL



Lublin School of Philosophy

A Comparative Perspective



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Wydawnictwo KUL

Lublin 2020

The publication was reviewed by Piotr Duchliński,
Akademia Ignatianum w Krakowie

Electronic typesetting
Jarosław Bielecki

Cover design
Agnieszka Gawryszuk

Cover photo: The illuminated initial N, the Augsburg Bible, 1475-1476.
Source: The University Library of the John Paul II Catholic University of Lublin

This book is part of the research program
“Monuments of the Polish Philosophical, Theological, and Social Thought of the 20th and the 21st centuries,”
conducted from 2016 to 2020 by the Minister of Science and Higher Education of the Republic of Poland
and funded with its support. Contract number: 0021/Fil/2016/20.

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ISBN 978-83-8061-901-2



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Preface

In the 1950s a group of philosophers at the Catholic University of Lublin formed a research community which – due to personal and teaching connections and a common program of practicing philosophy – can be called a school of philosophy. This school eventually became known as the Lublin School of Philosophy or (to stress certain its features) the Lublin School of Classical Philosophy or else the Lublin School of Realistic Philosophy. The founders of the school were: the historian of philosophy Stefan Swieżawski, the metaphysician Mieczysław A. Krąpiec OP, the logicians and methodologists of science Jerzy Kalinowski and Rev. Stanisław Kamiński, and the ethicist Rev. Karol Wojtyła (the later pope John Paul II). These philosophers shared a belief in the primary role of the history of philosophy and broadly understood logic in the teaching and practice of philosophy. They considered metaphysics (theory of being) to be the central philosophical discipline within which they proposed an original (yet concurrent with the proposals of Étienne Gilson and Jacques Maritain) interpretation of Saint Thomas Aquinas's thought (so-called existential Thomism). They regarded it as their duty to elaborate the most important issues in classical philosophy in dialogue with contemporary philosophy and with the awareness of the cognitive functions and limitations of science. Although not all colleagues and disciples of the aforementioned philosophers shared every element of that program, they managed to create a rather coherent research community, the legacy of which, as well as didactic and scholarly influence on Polish philosophy of the second half of the twentieth century, is significant. It is worth noting that the Lublin School

of Philosophy achieved those goals despite serious limitations which (until 1989) were imposed by the actions of the communist authorities, the external domination of Marxist ideology and numerous difficulties in contacts with Western philosophy. In such conditions the Lublin School – through its publications and teaching activities – prepared for several generations of Polish Catholic intelligentsia an interesting proposal of a rational grounding of the foundations of the Christian worldview. It was to a large extent thanks to the Lublin School that the Polish intelligentsia – by becoming aware of the connections and differences between science, philosophy and religion – was not subjected solely to the influence of various types of Marxism and Scientism.

In this volume we attempt to compare the accomplishments of the Lublin School of Philosophy with selected currents and schools of philosophy in the twentieth and twenty-first centuries. The introductory chapter was prepared by two of Kamiński's direct disciples: Rev. Andrzej Bronk and Stanisław Majdański. The remaining chapters, written by authors coming from later generations of the School, have been arranged in accordance with the philosophical disciplines practiced within it. Since as it was already mentioned metaphysics was treated as the central discipline in the Lublin School of Philosophy, in the first part of the book we juxtapose certain metaphysical topics of the school – especially Krąpiec's metaphysics – with discussions conducted within Analytical philosophy and Thomistic philosophy. We also discuss an outline of the School's metaphysics as proposed by Antoni B. Stępień (a disciple of Swieżawski, Krąpiec and Kamiński) together with his argumentation against various sorts of naturalistic and non-theistic metaphysics.

Stępień contributed to the Lublin School a textbook systematization of its views and an original elaboration of several important philosophical disciplines: epistemology, philosophical psychology (which currently tends to be called "philosophy of mind") and aesthetics. We dedicate the second part of this volume to the first two disciplines. The comparative context of this section is the phenomenology of Roman Ingarden (who substantively and directly influenced Stępień), and in the case of philosophy of mind (in particular the issue of *alter ego*) – a broader phenomenological perspective connected with inquiries into contemporary cognitive science.

Philosophers at the Lublin School of Philosophy predominantly advocated the autonomy of philosophy. Despite that, a fair amount of their studies have been dedicated to the methodological reflection on the foundations of the sciences (and human knowledge in general) and the philosophical

reflection inspired by the natural sciences (or else conducted in their context). We devoted the third part of our book to the first of these reflections. It refers to Kamiński's meta-scientific and semiotic thought in the context of the most recent inquiries into interdisciplinarity, integration of sciences and definitions.

In the last part of this volume we focus on the philosophy of nature (and of natural sciences) at the Lublin School of Philosophy. Philosophers of nature were distinguished within the Lublin School of Philosophy by a certain autonomy, maintaining some distance with regard to the mainstream of the School. Most of them did not consider themselves to be existential Thomists but Louvain ones (e.g. Rev. Kazimierz Kłósak and Rev. Stanisław Mazierski), or non-Thomistic philosophers "in the context of science" (to quote Rev. Michał Heller – Mazierski's disciple – who due to his world-class achievements, gathered around himself in Krakow a milieu of philosophers of nature, theologians of science and philosophizing natural scientists). Rev. Włodzimierz Sedlak deserves particular attention here; he considered himself to be a natural scientist rather than a philosopher and he was an author of nonstandard scientific conception (bioelectronics) and a specific sort of restorer of the metaphysics of light. We dedicate the last article of this section to his work. The remaining chapters in this section concern Mazierski's conception of causality (against the background of the conceptions of causality which dominated in his times in physics and philosophy) and disputes in the Lublin School of Philosophy (and beyond it) on the concept and methodological status of philosophy of nature.

This volume does not cover the accomplishments of Lublin School of Philosophy with regard to the history of philosophy, formal logic (and metalogic), ethics, aesthetics and philosophy of religion. These issues are included in other publications within the series encompassed by the project "The Monuments of Polish Philosophical, Theological and Social Thought of the 20th and 21st Centuries: The Lublin School of Philosophy."

Jacek Wojtysiak

The Methodological and Epistemological Inspirations and Aspirations of the Lublin School of Classical Philosophy

1 The milieu known as the Lublin School of Classical Philosophy (in short: the School, LSCP) has been methodologically characterized numerous times, mainly as a part of self-reflection, less frequently from the outside. When we take on this task once again, we intend to concentrate on the question whether the community of philosophers at the Faculty of Philosophy at the Catholic University of Lublin may be defined as a philosophical school, and if so, then in what sense? Under what sort of philosophical influence was it at its beginnings? What cognitive intuitions accompanied the representatives of the School when they made methodological choices in connection with the epistemology that they assumed (as Stanisław Kamiński stressed, although he first of all considered himself a methodologist)? We do not deal directly with the history of the Faculty, because it was done several times before,¹ nor are

¹ A broad characterization of LSCP and bibliography concerning the School can be found in Stanisław Janeczek, "Lubelska Szkoła Filozofii Klasycznej," *Idea* 48 (2006): 143-159 and idem, *Filozofia na KUL-u. Nurty. Osoby. Idee*, (1998), where such terms as "Lublin philosophy," "Lublin community" and "philosophical community at the Catholic University of Lublin" are used to describe "the accomplishments of the authors active at the Catholic University of Lublin" (p. 10); see Mieczysław A. Krąpiec, Andrzej Maryniarczyk, "Lubelska Szkoła Filozoficzna," in *Powszechna encyklopedia filozofii*, vol. 6 (Lublin: PTTA, 2005), 532-550; Mieczysław A. Krąpiec, Andrzej Maryniarczyk, "The Lublin Philosophical School: Founders, Motives, Characteristics," *Studia Gilsoniana* 4 (2015): 405-422;

we describing the philosophical doctrine of the School in detail. In order to determine its methodological profile in the second half of the twentieth century, we mainly refer to the views of Mieczysław A. Krąpiec, Kamiński and Antoni B. Stępień, occasionally also other representatives of the LSCP. An important source of conceptual self-identification of the Faculty of Philosophy at the Catholic University of Lublin turned out to be a discussion from 1978, edited by Stanisław Majdański and published in the form of an article "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego: Z dyskusji o dorobku Wydziału Filozofii Chrześcijańskiej z okazji 60-lecia uczelni"² [In the circle of philosophy at the Catholic University of Lublin: A discussion about the achievements of the Faculty of Christian Philosophy on the occasion of the 60th anniversary of the university].

The community of philosophers connected with the Faculty which is currently called the Faculty of Philosophy at the Catholic University of Lublin, used to be variously described: Lublin School,³ Lublin School of Philosophy, Christian Philosophy,⁴ Lublin School of Christian Philosophy, Polish School of Realist (Classical) Philosophy, Existential Thomism, philosophy of being...⁵ All this suggests a terminological self-description, indeed incomplete, when, for instance, it is described (from the outside) as: "Lublin Thomism," "Lublin Neo-Thomism" or "Christian philosophy" (the School itself rather avoided this name for a variety of reasons). We initially clearly stress that a "school" is something different than a broadly understood philosophical community.

The Faculty of Christian Philosophy at the Catholic University of Lublin, established after World War II as the third Church Faculty next to the existing Faculty of Theology and the Faculty of Canon Law and the Moral Sciences, and its later names as well as its development, constitute

² "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego: Z dyskusji o dorobku Wydziału Filozofii Chrześcijańskiej z okazji 60-lecia uczelni," ed. Stanisław Majdański, *Summarium TN KUL* 26-27 (1997-1998); text published initially in *Życie i Myśl* 28, no. 11/293 (1978): 21-72.

³ Jerzy Kalinowski used the determinant "Lublin" and so did Kazimierz Kłósak (slightly ironically).

⁴ In the 1950s the Marxists wanted to make sure that "philosophy taught at the Catholic University of Lublin was called 'Christian philosophy.'" In polemics it was obviously described as: 'denominational' or 'religious' (Marian Kurdziałek, "Res parva, initium non parvum," *Roczniki Filozoficzne* 45, no. 1 (1997): 153).

⁵ The term "existential Thomism" to describe the mode of philosophizing at the Catholic University of Lublin was eagerly used by Jan Franciszek Drewnowski (1896-1978).

a multi-laterally conditioned phenomenon that deserves a separate study.⁶ The Faculty was founded on the basis of a resolution adopted by the Polish Episcopate in 1946 at the Jasna Góra Shrine in Częstochowa, as a result of efforts of Stefan Wyszyński, the bishop of Lublin and Grand Chancellor of the Catholic University of Lublin at the time. Already the statute of the Catholic University of Lublin accepted in 1933 by church and state authorities mentioned the autonomous Faculty of Christian Philosophy.⁷ It was supposed to perform various tasks, mainly in service to theology and social needs at the time; one of them was a rational grounding of a Christian worldview.⁸ In the interwar period there was a group that later developed into a philosophical section at the Faculty of the Humanities. Philosophical issues were naturally taken on at the Faculties of Theology, Canonical Law, and Law and Social-Economical Sciences. The initially extensive, and currently shrinking Faculty, in the post-World War II years for a long time played an important role in shaping the philosophical and methodological mode of thinking of numerous agendas of the Catholic University of Lublin⁹.

2. "The School" is a conceptual and cultural construct. Depending on the choice of indicators¹⁰ a broader or narrower notion of a philosophical school emerges.¹¹ Conventional, substantially unequivocal and range extensible, it allows to distinguish in historical views substantial and organiza-

⁶ "The main organizer of the Faculty on behalf of the Episcopate was Rev. Józef Pastuszka and, indeed, he had the greatest input here" (Stanisław Kamiński in: "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego," 159).

⁷ Ibidem, 159.

⁸ Ibidem, 158.

⁹ "The full name of the school was initiated by S. Kamiński, and was later accepted as a result of a growing methodological self-awareness of Lublin philosophers for the sake of emphasizing a creative (independent) approach within the Aristotelian-Thomistic tradition (M. A. Krąpiec). Contrary to connections with neo-Thomism, stressed earlier, especially in an existential version, the fundamental role of a proper conception of being began to be exposed, hence this term was quite often identified with 'philosophy of being' (Lublin School of Philosophy in a narrow sense)," Andrzej Maryniarczyk SDB, Mieczysław A. Krąpiec OP, "Historia Lubelskiej Szkoły Filozoficznej," accessed November 22, 2018, <http://www.ptta.pl/lsf/>.

¹⁰ See the most important indicators of being a philosophical school in: Antoni B. Stępień, *Wstęp do filozofii* (Lublin: TN KUL, 1995), 243-244 and 22.

¹¹ "Sometimes a school is understood more broadly as a team collectively teaching and acting (in some agreement or at least in partial compliance of its program or methods) in a given time and place (in this sense one may speak of the Louvain or Lublin School)" (ibidem, 244).

tional developmental currents and speak about the history of philosophical schools. In the European cultural realm, starting from antiquity, up until contemporary times, one mentions (in chronological order) major, doctrinally diversified philosophical schools: Pythagorean, Socratic, the Platonic Academy, Aristotelian Lyceum, Stoic, Epicurean, Neo-Platonic, Scotistic, Thomistic, Cartesian, Kantian and Neo-Kantian, positivistic and neo-positivistic (the Vienna Circle), Marxist, phenomenologist, analytic, Lvov-Warsaw, Frankfurt. Sometimes one of these currents would revive and receive the prefix “neo.” On multiple occasions throughout history European philosophy was practiced in schools (teams, circles¹²) in the form of didactic and research endeavors spread overtime (*schola*¹³). After academies and universities had been created, they assumed an institutional form (*scientific community*) as a place for information exchange, facilitating the cognitive progress and the propagation of a particular doctrine. A beginning to a school was usually provided by a personality and doctrine of a Master, the cognitive ideal, research program, conception and mode of philosophizing proposed by him/her as well as his/her own conceptual apparatus, *prima facie* distinguishing schools between each other. They referred to their own tradition, the expression of which one may find in their canonical articles, textbooks, lexicons and encyclopedias.¹⁴

3. The philosophical community of the Faculty of Philosophy at the Catholic University of Lublin was never a school in the institutional or doctrinal sense and if one chooses to call it a school, then in a broader sense, in the sense of a doctrinal circle (*Lublinerkreis*) or didactic (school in the literal sense), because of the emphasis on rigorous studying and high teaching standards, caring for a comprehensive (general) philosophical education of its adepts, and also (which is distinct) preparing the School's own

¹² For instance, twentieth century neo-positivistic “circles”: Wiener-Kreis, Berliner-Kreis, Prager-Kreis.

¹³ The Latin term *schola* is derived from the Greek σχολή, going back to the early fifth century B.C.E., when it initially meant “leisure.” The growing significance of institutional teaching in the period after the Roman Empire gradually led to introduction of the term *schola* into all European languages (D. Klemenz, s.v. “Schule,” in *Historisches Wörterbuch der Philosophie* 8, ed. Joachim Ritter, Karlfried Gründer (Basel – Stuttgart: Schwabe & Co. AG Verlag, 1992): 1472-1478).

¹⁴ The LSCP published its own, nine-volume philosophical encyclopedia, *Powszechna encyklopedia filozofii* (Lublin: PTTA, 2000-2009), accessed November 25, 2018, <http://www.ptta.pl/pef/>.

future scholars.¹⁵ That which distinguished the community at the Faculty of Philosophy at the Catholic University of Lublin in Poland¹⁶ for a long time was a fundamental and comprehensive philosophical education. Before the Bologna Process, with a two-stage educational system, was enforced (three years for a bachelor's degree and two years for a master's degree), the Faculty had conducted a rigorously organized, from a didactic-scientific point of view, five-year study of philosophy, comprised of two cycles: the first one constituted a basic and general two-year study which covered cursory, monographic lectures of all essential philosophical subjects (in the case of history of philosophy – extending for two years). As a rule these lectures were accompanied by compulsory graded classes of the same number of hours. The second cycle had the character of a specialistic study: from then on a student had to select a specialization encompassing numerous monograph lectures as well as, in the third year, select one or two introductory seminars; in the fourth year, in turn, two seminars, including one on the preparation of an MA thesis, and in the fifth year – one MA seminar. Additionally each student was supposed to pass on subsequent years an exam in classical philosophical texts. This elaborate and efficient system of education, which was improved over the years, was totally demolished by subsequent reforms of Polish universities imposed by the Ministry of Higher Education.

When considering the concept of a philosophical school and its application to what is called the LSCP, it is worth explaining one issue, if one considers its origins and especially the maturing of the program and partially its implementation, even if at the cost of a certain simplification. Historically and structurally, the year of 1956 was in a way a break-through,

¹⁵ “That is why our student receives a broad orientation in contemporary currents in philosophy. When assemblies of the philosophical student circles took place, not infrequently it was said about our students that at first it was never obvious who represents what, Marxism, existentialism or phenomenology” (Kamiński in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 162).

¹⁶ “Philosophy is undoubtedly a difficult discipline. The study of philosophy at our Faculty takes five years and by design it requires a great effort from the student. One cannot simply come here and start to philosophize (as some would fancy). First, one has to learn a lot. For that purpose one needs a school!!! introducing him or her to serious philosophizing that is not severed from tradition and human thought focused on genuinely philosophical issues, philosophizing directed by an adequate methodology devised for that purpose. It seems that at least the beginnings of such a philosophical school exist here, at the Catholic University of Lublin” (Krapiec in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 157).

because it was after that time, one may say, that the large, extended Faculty of Philosophy at the Catholic University of Lublin developed. In place of the hitherto two sections: theoretical philosophy and practical philosophy, four specializations were established at the Faculty: philosophy of nature which evolved out of the theoretical section, philosophy of psychology (it also evolved from that section), as well as a practical section called the social philosophy specialization. What is more, not long after ethics was transferred to the theoretical specialization which was enriched as a result, but overall, as can be inferred from the above, it was narrowed down and “philosophized” with the preservation of the term “theoretical philosophy.”

Although the scholars at the LSCP referred to various philosophical traditions and sometimes worked using different methods and editing their works differently, it was the possibility of frequent personal contacts and atmosphere of creative discussions which resulted in a relatively homogenous style of practicing philosophy and ultimately generated a new and strong philosophical community on the philosophical map of Poland. In the sense of the aforementioned distinction between the school as an institution and the school as a taught doctrine, the LSCP was a community which stood out as a broadly understood philosophical school, also in the form of a philosophical doctrine passed on in a relatively consistent manner.¹⁷ Through implementing a program of logical clarification of Thomism in reference to the accomplishments of the Lvov-Warsaw School and Krakow Circle, the conceptual, philosophical and didactic foundations of the School were initially laid by Jerzy Kalinowski¹⁸ (the first dean of the Faculty of Philosophy) and Józef Iwanicki (the first Chair at the Department of Methodology at the Catholic University of Lublin), and later most of all by Krąpiec, Kamiński and Stefan Swieżawski, who were joined by Karol Wojtyła.¹⁹ While

¹⁷ Using a broad notion of the Lublin School “does not exclude the possibility of distinguishing within it a school in a more precise sense, e.g. S. Swieżawski’s school of history of philosophy” (Antoni B. Stępień, “Kilka uwag uzupełniających w dyskusji,” *Roczniki Filozoficzne* 45, no. 4 (1997): 493).

¹⁸ Jerzy Kalinowski (1916–2000), the dean of the Faculty of Philosophy at the Catholic University of Lublin in the years 1952–1957, the author of *Logika zdań praktycznych* [Logic of practical statements] (post-doctoral dissertation in 1951), containing one of the first two modern systems of logic of norms in the world (except for G.W. von Wright’s article “Deontic Logic,” 1951).

¹⁹ “I would also like to stress the role of Rev. Karol Wojtyła He started teaching a bit later, in 1946 he was not there yet. ... He had such a personality that at this slightly conflicted Faculty (since the “left leg” did not always tread in pair with the “right,” that is theoretical philosophy with practical, not to mention other conflicts of

characterizing the main domains of philosophy, self-described as classical and realistic (existential Thomism), they reached for Aristotle and Thomas Aquinas as sources. The School made use of philosophical ideas by Étienne Gilson, a philosophizing historian of philosophy, which had been published in France, and contributed to the publication of the Polish translation of his works by the PAX Publishers. *Metafizyka: Zarys podstawowych zagadnień* [Metaphysics: An outline of fundamental issues] by Krąpiec, published in 1966, on the one hand referred to the works of Aristotle and Aquinas, whereas on the other hand it presented a new version of classical philosophy in a multidimensional discussion with the past and present philosophical currents. How far Neo-Thomism in Krąpiec's existential interpretation remains concurrent with Gilson's solutions²⁰ or how original Lublin Thomism actually is, remains a separate issue; anyway the School did not have in mind a "simple transplant," merely an adaptation, but also a new phenomenon, limited not only to the Polish philosophical sphere.²¹

Three developmental cycles in the history of the School can be noticed: the period of shaping the school (1946–1958); the period of its maturity (1959–1969); and the period of continuation and disintegration (after 1970).²² In the first period,²³ there were two versions of understanding Saint Thomas Aquinas's philosophy: traditional, represented by Stanisław Adamczyk, being, with regard to contents and method, an actual continuation of the Aristotelian-Thomistic scholastic and existential current, initially in the version of Gilsonian Thomism,²⁴ later in the original versions, developed mainly by Krąpiec. The second period, when the works most representative for the School were published, was a time of consolidating its (metaphysical) doctrine, especially since the time of the cooperation as well as the philo-

all sorts), his very presence liquidated and alleviated it all" (Kurdziałek, "Res parva, initium non parvum," 155).

²⁰ Krąpiec never denied the significance of Gilson's views as a source of inspiration.

²¹ Initially "some professors at the Faculty approached the new movement with reserve, and even with hostility, considering existential Thomism as well as stressing the need for a modernized study of logic and methodology of science to be dangerous novelties" (Stępień, "Kilka uwag," 194).

²² Jan Czerkawski, "Lubelska szkoła filozoficzna na tle sytuacji filozofii w powojennej Polsce," *Roczniki Filozoficzne* 45, no. 1 (1997): 167.

²³ "I simply wish to stress... that from the start there were various orientations at the Faculty, diverse ways of approaching scholastic philosophy and Thomism. This certainly helped and gave impetus to the intellectual life of the Faculty" (Kurdziałek, "Res parva, initium non parvum," 152).

²⁴ Czerkawski, "Lubelska szkoła filozoficzna," 171.

sophical and critical friendship between Kamiński and Krąpiec initiated in the 1960s.²⁵

The philosophical views of the School matured slowly, influenced by numerous external and internal factors. A limiting factor was the political situation at the time, in the form of real socialism and “state” Marxism which dominated the philosophical scene.²⁶ The School realized it was clearly philosophically separate since the times when “communist authorities in Poland intensified the teaching of Marxist philosophy at all stages of education – universities and high schools – with the intent of introducing a Christian worldview in place of the materialistic ideology.”²⁷ The philosophical milieu of the School, however, emerged predominantly as a result of an authentic cognitive need as a vivid reflection, existential by nature, in the context of Thomism the revival of which started before World War II in numerous variations as well as vivid discussions on the issue how to understand Thomism and Aquinas’s thoughts, considered the most mature version of realistic philosophy. This occurred in the context of vivid discussions with positivism, scientism and views of the epigones of the Lvov-Warsaw School with its elements of neo-positivism²⁸ (we omit the details), but also in response to the tragic events of the recently ended World War II.

Despite all these observations, the question of whether that what the philosophical community at the Catholic University of Lublin created deserves indeed to be called a philosophical school, remains legitimate, the more so that in the third period the School fell apart into closed groups, barely cooperating with each other, which could be considered as “schools”

²⁵ The results of their cooperation are contained in the collaboratively written volume: Stanisław Kamiński, Mieczysław A. Krąpiec, *Z teorii i metodologii metafizyki* (Lublin: TN KUL, 1962); see reviews of this book by Stanisław Majdański and Antoni Stępień, “Z teorii i metodologii metafizyki by Stanisław Kamiński, Mieczysław A. Krąpiec,” *Roczniki Filozoficzne* 14, no. 1 (1966): 154-158.

²⁶ In the 1950s Marxist philosophers qualified Lublin Thomism as “religianctwo,” [religious pseudo-science based on exaggerated devotion] “papal theology” or “history of salvation.” Konstantin Dolgov’s peculiar opinion from the not so distant past can illustrate this. He summarized Neo-Thomism in the following way: “the fundamental goal of this philosophy, as the official philosophical doctrine of the Catholic Church, is to subjugate science to religion and scientific knowledge to religious knowledge.” (*Dialektyka i scholastyka* (1985), p. 227)

²⁷ Maryniarczyk, Krąpiec, “Historia,”.

²⁸ According to Czerkawski, Swieżawski and Krąpiec too one-sidedly and radically linked the Lvov-Warsaw School with neo-positivism (Czerkawski, “Lubelska szkoła filozoficzna,” 171).

“in a precise, and at the same time narrow meaning of the word,”²⁹ with their own masters, their own specializations and disciples – metaphysical-anthropological, historical-philosophical, methodological-epistemological and ethical.³⁰ Jan Czerkawski noticed the emotionally negative character of the term “philosophical school”: “The School’s philosophy is most of all the philosophy which is an effect of compiling textbooks, but also a ‘closed’ philosophy, which concentrates on one’s own system and treats all other modes of thinking as unfamiliar or downright hostile.”³¹ As he stresses, the handy term “Lublin School of Philosophy,” which has been used for a long time in many publications, was accepted due to the lack of a better description of the style and relatively uniform program of practicing philosophy by the philosophers cooperating with each other at the Catholic University of Lublin; however, contrary to the Lvov-Warsaw School, it functioned without only one master, the views of whom would be an integrative binder, because, as Czerkawski believes, the development of the School initially took place with a more or less uniform influence of all the professors at the Faculty.

Differentiating a philosophical community and philosophical current from a philosophical school, Stępień understands the latter both broadly and narrowly. In the first case “a school is a group of people teaching and practicing philosophy who are acting in some agreement, with at least a partially common program and methodology, in a given time and space”; in the other one, “a school is a group of people inspired by a master (infrequently masters) or collaboratively fulfilling its research program, or else continuing, developing and propagating its views; the binder of such a school is either a program, conceptual apparatus, method, scope of included tradition, or else the content of the views; however, most often the disciples introduce not only extensions, but also modifications as a result of their discussions.”³² Ultimately, speaking about the Lublin School of Philosophy, Stępień wants to understand it more broadly as a program agreement, constituted *in the making* within the cooperation of Kalinowski, Swieżawski, Krąpiec and Kamiński, which covers such essential elements as the pressure put on the fundamental role of metaphysics (theory of being)

²⁹ Ibidem, 185.

³⁰ Stępień perceives abandoning cooperation within the School as ruining the opportunities thanks to which it accomplished its philosophically significant results (Stępień, *Kilka uwag*, 194).

³¹ Czerkawski, “Lubelska szkoła filozoficzna,” 166.

³² Stępień, “Kilka uwag,” 193.

in philosophy, philosophizing on the basis of comprehensive knowledge of history of philosophy (historicism), stressing the significance of meta-philosophical considerations and “logical-methodological culture at a contemporary level as an indispensable condition for an adequate presentation of practiced philosophy,” and conducting philosophical discussions in contact with contemporary philosophy.

It seems that also Krąpiec had doubts when using the term “school,” although he was considered to be the main founder on its substantive side: “The specificity of our philosophy, of our – let us say – school, such that we are trying to develop at the Catholic University of Lublin, boils down to metaphysics. Metaphysics deals with the real, concrete and analogically comprehended being.”³³ While describing the origins of the philosophical community at the Catholic University of Lublin, he describes it as the “so-called” Lublin School, adding that this name “was introduced by Professor Jerzy Kalinowski who wrote and writes about our works abroad.”³⁴ Kamiński, in turn, definitely did not consider the existence of the LSCP as a positive feature of the Faculty of Philosophy at the Catholic University of Lublin:

[At our university] so much attention is dedicated to all the contemporary currents of thought that – not only in Poland, but also abroad – this is considered odd, because usually in other countries one specific current dominates at particular universities, only one specific school. This is not the case at our Faculty.³⁵

Let us mention then that apart from existential Thomism also philosophy of inanimate nature was developed at the Catholic University of Lublin (by Stanisław Mazierski)³⁶ as well as philosophical cosmology, practiced by Kazimierz Kłósak (“theory and methodology of philosophy of nature”³⁷).

³³ Krąpiec in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 166.

³⁴ We refer again to the statements from the papers delivered on the topic of Lublin philosophical community during a meeting organized on June 28, 1978 by the Division of Logic and Epistemology and the Department of Methodology of Science at the Catholic University of Lublin (“W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 154).

³⁵ Ibidem, 162.

³⁶ Stanisław Mazierski, “Z dziejów filozofii przyrody na Katolickim Uniwersytecie Lubelskim,” *Roczniki Filozoficzne* 16, no. 3 (1968): 6-14.

³⁷ Kazimierz Kłósak, *Z teorii i metodologii filozofii przyrody* (Poznań: Księgarnia św. Wojciecha, 1980), 5.

Both scholars worked in the paradigm of Louvain Thomism,³⁸ criticized and rejected by Krapiec for reducing philosophy to a peculiar synthesis of the sciences and thus devoid of its own object and method of philosophizing.

4. The representatives of the LSCP treat philosophy as a type of cognition substantively and epistemologically separate from the particular sciences, religion and theology,³⁹ while remaining open to (Christian) Revelation in a two-fold sense: heuristically, as a source of inspiration, and critically, as a negative criterion of doctrinal correctness. They consider the most important (formal) hallmark of classical philosophizing to be its methodological autonomy, professed in reference to the Greek concept of philosophy. The independence of philosophy (more precisely metaphysics) from the particular sciences and simultaneously aposteriorism in the form of specifically understood empiricism at the point of departure,⁴⁰ provide philosophy with its own object of research, its own output data, method and conceptual apparatus. The difficulty, among others, consists in showing that the particular sciences indeed do not cognitively exhaust all of reality, and the object of philosophy – the being in the existential aspect – may be investigated in a rational manner.

The School associates its mode of philosophizing with a style⁴¹ which is rather generally described as classical.⁴² The notion of classicality, extended to all philosophical disciplines, and yet mainly to metaphysics, and philosophical anthropology and ethics, treated as sub-metaphysical disciplines,

³⁸ Since 1959 Kłósak conducted, intermittently, commissioned classes at the Catholic University of Lublin, in the years 1964-1971 he was the Chair of the Department of Philosophy of Nature, and later the Chair of the Section of Philosophy of Nature (<http://sapientia.kul.pl/kazimierz-klosak-biogram> [accessed December 03, 2018]).

³⁹ "Philosophy serves theology, but it does not have an apologetic character, but an autonomous one" (Kamiński in: "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego," 162).

⁴⁰ Kamiński makes use of both notions – autonomy and aposteriority – to typologically arrange the existing concepts of philosophy (Stanisław Kamiński, *Nauka i metoda: Pojęcie nauki i klasyfikacja nauk*, ed. Andrzej Bronk (Lublin: TN KUL, 1992), 310-311).

⁴¹ Potential indicators of classicality are among others: doctrine (questions asked and answers provided), method and style of philosophizing (the manner of posing question through, e.g., reaching for sources considered to be "classical"), the manner of passing on the doctrine and teaching it.

⁴² For more on various meanings of the term 'classicality' see Andrzej Bronk, Stanisław Majdański, "Klasyczność filozofii klasycznej," *Roczniki Filozoficzne* 49-50, no. 1 (1991-1992): 367-391.

is understood by the School more as a postulated maximallistic program of philosophy rather than a binding doctrine, complete in all its details.⁴³ The first scholar who, as it seems, related the term “classical philosophy” to the mode of the School’s philosophizing, was Kamiński.⁴⁴ He described it as “a type of philosophy, which simultaneously substantively refers to tradition, but methodologically attempts to present its concept in a more modern way.”⁴⁵ Krąpiec understands “classical philosophy” in three ways: historical, “as the philosophy of the Greek and Roman antiquity”; object-focused “as a philosophy determined both by the object and method of explanation”; and also as fundamental questions-problems-aporias addressing the world, forcing out proportionally justified, intersubjectively sensible and verifiable answers through referencing reality.⁴⁶

Philosophizing at the School rests on several pillars, mainly on (classical) philosophy signified by Aristotle’s and Thomas Aquinas’s achievements, when it is in favor of realistic metaphysics and rationalism as well as an in-depth historical and methodological reflection.⁴⁷ The School discerns two currents in the history of philosophy: realistic (objectivist) and idealistic (subjectivist), treating the latter (and in a way the history of modern philosophy) as a deformation of the primal “healthy” philosophical thought through departing from the *aurea aetas* which the realistic philosophy of Aristotle and Thomas Aquinas is considered to be. The School perceives its realism and rationalism as a counterbalance to solipsism and skepticism. Nevertheless, as the School’s publications demonstrate, it was never substantively, methodologically, personally or historically a monolith, but

⁴³ “We have a uniquely liberal situation, tolerant with respect to the selection of currents in philosophy. There is no classical philosophy which would be binding for everybody. Classical philosophy functions here in diverse styles, i.e. in various combinations: with phenomenology, analytical philosophy and even existentialism. Some even claimed that also with neo-positivism, and thus with analytical philosophy of scientific and constructivist type. This is a deep and not only critical connection with contemporary philosophy, but again not in the sense of being an existentialist, phenomenologist or a neo-positivist, for instance” (Kamiński in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 162).

⁴⁴ Stanisław Kamiński, “O metodzie filozofii klasycznej,” *Roczniki Filozoficzne* 34, no. 1 (1986): 5.

⁴⁵ Ibidem, 5.

⁴⁶ Mieczysław A. Krąpiec, “Czym jest filozofia klasyczna?” *Roczniki Filozoficzne* 45, no. 1 (1997): 156.

⁴⁷ Apart from the Catholic University of Lublin, a center of classical philosophy of being was the Department of Christian Philosophy at the Warsaw Theological Academy (Bohdan Bejze, Bronisław Dembowski, Mieczysław Gogacz, Edward Morawiec).

it formulated a broadly understood unity, with differences within a single paradigm (*unitas in diversitate*). By pursuing to modernize Thomism by way of its analytical (logical) clarification, the School remained open to new philosophical and methodological currents as well as the particular sciences, without looking in them for a systemic foundation for its own philosophical concepts, but treating them as a heuristic-erudite source of inspiration and illustration of one's own theses.

The School enumerates metaphysics-centrism, historicism and methodologism among the basic, methodologically distinguished attributes of its philosophy. As far as the theory of being (metaphysics) is concerned, the School is doctrinally inclined to building a philosophical system within a by design epistemic and "perennial" form of cognition, which nonetheless does not exclude the existence of hypotheses within metaphysics (Józef Herbut). Philosophizing is maximally attributed the possibility to reach the necessary, most general and ultimate (irrefutable) truths. Establishing the ultimate reasons for being (reality) allows philosophy to define foundational tasks: laying foundations for various domains of culture, among others through revealing assumptions of various types of knowledge, including science: "science presupposes philosophy, whereas the opposite does not occur."⁴⁸ The School by default rejects the idea of philosophy being added onto science: since it is supposed to reveal assumptions lying at the foundations of the particular sciences, it cannot on its own make use of their results for the sake of explaining and justifying its own theses.

During its philosophical development, the School elaborated its own, systemically conditioned conceptual apparatus (terminology), the systemic grounding of which causes interpretational difficulties outside the School.⁴⁹ A conviction dominates within it that the accepted mode of philosophizing fulfills the fundamental conditions for being rational cognition.⁵⁰ Summing up the School's position on the topic of justifying (proving) philosophical theses, Krąpiec notices that although in the realm of metaphysics deduc-

⁴⁸ Stanisław Kamiński, "Nauka i filozofia a mądrość," *Roczniki Filozoficzne* 31, no. 2 (1983): 23.

⁴⁹ For instance: "thinking with necessary states of being," "explaining states of being," "the notion of the being as a being," "existential aspect of being," "constructing a concept of being" or a short definition of the task of philosophy as "decontradictifying (the existence) of the world."

⁵⁰ "Therefore metaphysics – with a properly understood concept of science – may be treated as scientific cognition, yet analogically comprehended" (Mieczysław A. Krąpiec, *Metafizyka. Zarys teorii bytu* (Lublin, TN KUL, 1978), 68).

tion does not appear, just as it is comprehended by formal logic, or Aristotelian syllogistic deduction, nonetheless it is the metaphysist who cognizes, thinking by using “necessary states of being,” understood as a sort of deduction.⁵¹ When connecting the theoretical and practical dimension of philosophizing,⁵² representatives of the School advocate for a prudential character of philosophical knowledge⁵³ and they highlight the significance of philosophy and moral culture for the shaping of one’s worldview. On the one hand, they support a disinterested pursuit of truth, on the other hand (as we stated) they fundamentalistically assume⁵⁴ that the task of philosophy is to lay metaphysical, epistemological and ethical foundations for science⁵⁵ and partially for religion and worldviews. And thus:

Philosophy should serve as a guide, because it indicates and in the ontic order it ultimately justifies why one should prefer particular value-formative behaviors, it uniformly resolves problems going beyond specific domains of culture (religion, morality, science and art), and finally, it provides means for understanding its transformations and criteria of evaluating its accomplishments. Thus philosophy constitutes as it were the self-awareness of culture.⁵⁶

The School particularly forcefully emphasizes the methodological and substantive primacy of metaphysics (theory of being) in the literal sense of first philosophy, understood as the analysis of “a being of an existentially comprehended being,” stressing the real difference between the essence of

⁵¹ Ibidem, 67.

⁵² “Practical philosophy cannot exist, if it is not preceded by theoretical philosophy. ... In principle the former is an irrefutable condition of the latter, assuming of course that philosophy is supposed to be not only an array of directives, but a rationally justified in-depth knowledge” (Kamiński in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 164).

⁵³ Segments of Kamiński’s *Nauka i metoda* [Science and method] which are dedicated to the relations between science and society as well as the place of science in life and culture have a partially worldview character (S. Kamiński, *Nauka i metoda*, chapter 3, par. 4).

⁵⁴ Andrzej Bronk, “Antyfundamentalizm filozofii hermeneutyczno-pragmatycznej i fundamentalizm filozofii klasycznej,” *Roczniki Filozoficzne* 36, no. 1 (1988): 159-183.

⁵⁵ “If philosophy is possible and actually exists, this has a further very important task: it may demonstrate the foundations of particular sciences, evaluate their results, it may contribute to a general synthesis of science ... it may to a large extent become the basis for shaping the worldview of an educated person” (Krapiec, *Metafizyka*, 57 ff.).

⁵⁶ Stanisław Kamiński, s.v. “Filozofia” in *Encyklopedia katolicka*, vol. 5 (1989), col. 254.

being and the act of its existence. The remaining philosophical disciplines are treated as relative to metaphysics and as its derivatives, because they are based on metaphysical assumptions. Due to the aforementioned founding ambitions, the School stresses, as it was already mentioned, the essential autonomy of philosophy in relation to other realms of culture (religion, science, ideology) and that is why, at the most for the sake of comparison, it takes into consideration the results of the particular sciences.⁵⁷ Krąpiec in particular was convinced that metaphysics (theory of being) has its own type of cognition, substantially different from that of the particular sciences, seeing the basic feature of metaphysical cognition in cognitive intellectualism, in “perpetual intuition of reality” and in the cognitive analysis in which there are “fewer discursive justifications of a mathematical sort” and it does not have a similar verifiability with the aid of empirical facts as the real sciences.⁵⁸ He considered the interpretation of ontic states in the light of the accurately formulated “notion” of being as a being (being as an existing entity)⁵⁹ and historicism (heuristic induction) to be two distinct qualities of the metaphysical discourse. Philosophically explaining a given fact is pointing to its “decontradictifying factors,” the negation of which would be equivalent with the negation of the explained fact. Hence he considers philosophical knowledge as the crowning achievement of human cognition, however not in the form of synthesis of human knowledge, but its foundation – by providing the most general, ultimate and necessary knowledge.

An expression of historicism of philosophical community at the Catholic University of Lublin is the conviction that responsible philosophizing

⁵⁷ “Meanwhile the particular sciences are valued precisely because, in a way, one can philosophize in a fully reflective and effective manner based on erudition. This happened before, prior to the obligation introduced at state universities to study the particular sciences in order to be able to enroll in a philosophy course. I admit, the peculiarity consists in the fact that we essentially have classical philosophy, that on the one hand we profess a program of autonomous philosophy, not built upon the sciences, but on the other hand, the particular sciences occupy an important place in the university curriculum, certainly not less important than at any other philosophical faculty” (Kamiński in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 160).

⁵⁸ “Philosophical studies are greatly ‘detached’ from sensual data. Their conclusions ultimately are quite vague, and because of that they are difficult to grasp by our intellect” (Krąpiec, *Metafizyka*, 54).

⁵⁹ The construction of the concept of being occurs “essentially by virtue of the power of intellectual intuition, that is by virtue of that which one may call directed by the general vision of the world, but also a systemic vision of reality” (Ibidem, 54-68).

requires a good knowledge of history of philosophy and ways of solving philosophical problems as presented by the classics of philosophy, wherein not only Aristotle or Aquinas are taken into account, but also Descartes, Kant or other classic philosophers. History of philosophy is necessary for philosophy, because it is a type of philosophy itself, where posing a philosophical problem always occurs in the context of history (Marian Kurdziałek, Stanisław Wielgus). "History has this attribute that those who do not know it, must repeat it all over again, so is it not better to know the history of philosophy in advance in order not to repeat it?"⁶⁰

A manifestation of the School's methodologism is the general postulate of philosophizing with logical culture and systemic development of methodology of classical philosophy. This leads to the significant amount of attention which the LSCP dedicated to the method (methods) and the language of philosophizing (Herbut, Stanisław Judycki, Kamiński, Krąpiec, Majdański, Stępień et al.). Krąpiec was convinced that what matters in philosophy is "the same method of philosophical thinking and reasoning," which, however, is fundamentally different than the method of the empirical sciences. It consists in the pursuit of "explanations for philosophically significant facts through finding such factors, the negation of which is either contradictory in itself, or it is the negation of the fact to be explained."⁶¹ Other representatives of the School while noticing on the one hand historical and substantive differences between philosophical currents and schools, on the other hand also assumed that there are "good bases for speaking about methods specific for various currents."⁶² They do not deviate in their basic components "from methods of other disciplines," as they are "combinations of various types of cognitive actions, such as various types of experience, intellectual intuition and ways of reasoning used also while shaping non-philosophical sciences."⁶³ Calling for the use of "acquisitions of contemporary methodology" and "the methodology of more advanced sciences, i.e. the physical sciences" in philosophical analyses, the School applies them mainly in the semiotic-methodological characterization of (classical) metaphysics: in the description and analysis of a manner of construing fundamental philosophical notions, reaching philosophical theorems and validating them,

⁶⁰ Kamiński in: "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego," 163.

⁶¹ Ibidem, 166.

⁶² Józef Herbut, *Elementy metodologii filozofii: Skrypt do wykładu* (Lublin:Wydawnictwo KUL, 2004), 18.

⁶³ Ibidem, 26.

distinguishing types of reasoning, stressing the role of definitions in the structure of the philosophical system and the place of hypotheses in philosophical knowledge.

The style of the School's philosophizing was often criticised for being "dogmatic, fundamentalist, haughty, anachronistic, [for the fact] that it does not take contemporary science into consideration, it does not engage in discussions with contemporary intellectual currents, with the contemporary mentality, it uses an inadequate conceptual apparatus which, among other things, objectifies the human mode of being."⁶⁴ The School's philosophizing is accused (Herbut⁶⁵) of its systemic and methodological declarations being vague, that it uses "soft ordinary language," insufficiently improved with the aid contemporary logic, declarative adhering to the category of common sense, as if the spontaneity of cognition automatically ensured the veracity of the theses based on it, and not engaging in disputes on the question of the theoretical conditioning of experiential/empirical cognition. The School rejects the accusation of apologeticity, claiming that it does not defend a "traditional, petrified, dogmatized philosophy," but "it assumes a stance of searching for and testing certain problems which had not been resolved, in particular at the methodological level. Probably this approach is dominant."⁶⁶ Although the School is linked with the philosophy's "sapiential-worldview" expectations,⁶⁷ as a good tool for the rational founding of the basis for the Christian view of the world, nonetheless, it opposes its ideologization because "it strips it of the quality of fundamental and rational cognition"⁶⁸ in the formulation of a worldview.⁶⁹ It otherwise does not condemn all ideology, but ideologizing in philosophy as such:

⁶⁴ Antoni B. Stępień, "Perspektywy filozofii we współczesnej kulturze (Zagajenie dyskusji)," *Roczniki Filozoficzne* 45, no. 1 (1997): 211-212.

⁶⁵ Józef Herbut, "Sprawa tak zwanej filozofii pierwszej w szkole lubelskiej," *Roczniki Filozoficzne* 45, no. 1 (1997): 195-199.

⁶⁶ Kamiński in: "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego," 163.

⁶⁷ "For philosophy provides rationally justified foundations for building a worldview" (Kamiński, "Nauka i filozofia a mądrość," 9).

⁶⁸ Ibidem, 10.

⁶⁹ Stanisław Kamiński, "Pogląd na świat a wiara religijna," *W Drodze* no. 6 (1987). "As Father M. A. Krąpiec states, philosophy is often changed into some sort of logic or into irrational and unrealistic thinking, in this sense into an 'ideology.'" Stanisław Majdański, "Ani scjentyzm, ani fideizm: u progu nowoczesnej syntezy filozoficznej, czyli Jana Franciszka Drewnowskiego program precyzacji filozofii klasycznej" in Jan Franciszek Drewnowski, *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma* (Lublin: T KUL, 1996), 21.

A research program in philosophy has value in of itself and explains itself. Essentially people may be engaged in it and it is them who may attribute the results of philosophical thinking and analyses to worldview, ideology or politics. In this natural way philosophy becomes useful in these domains of people's lives.⁷⁰

5. By applying logic to philosophical problems, fostering similar cognitive ideals with respect to the use of language and the justification of theses (in light of the certistic motto that "the strength of convictions should be supported by the strength of their reasons"), the School referred (over-time ever more critically) to four methodological traditions: scholastics, Krakow Circle, Lvov-Warsaw School and neo-positivistic methodology. Before World War II a similar program was enacted on the Catholic side by the aforementioned Krakow Circle:⁷¹ Jan Salamucha, Jan F. Drewnowski, Józef M. Bocheński, but also Bolesław Sobociński, partly under the patronage of Jan Łukasiewicz and Konstanty Michalski.⁷² Krąpiec claimed that the emergence of the "so-called philosophical school" in the philosophical community at the Faculty of Philosophy at the Catholic University of Lublin occurred in response to "positivism (neo-positivism) which dominated in European philosophy in the second half of the twentieth century, propagating a program of minimalistic non-autonomous philosophy, as well as in response to the currents of philosophy of consciousness and philosophy of language."⁷³ The School emerged and developed in a period when epigones of neo-positivistic methodology and the neo-positivistic paradigm of science as well as "scientific philosophy" reigned supreme in philosophy. It shared with neo-positivism the requirements of rationality addressed to philosophy: the requirement of clarifying thoughts and philosophical texts as well as the postulate of clear formulation of theses and justifying them in a convincing manner. The School also owed it its interests in methodology and philosophy of science. By aspiring to clarify philosophical sets

⁷⁰ Krąpiec in: "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego," 155.

⁷¹ Marian Heitzman, *Myśl katolicka wobec logiki współczesnej* (Poznań: Księgarnia św. Wojciecha, 1937) (Studia Gnesnensia XV).

⁷² Stanisław Majdański, "Konteksty metody. Stanisława Kamińskiego trójpodjęcie: geneza – struktura – funkcja (szkice semiofenomenologiczne)," in *Metodologia: tradycja i perspektywy*, ed. Monika Walczak (Lublin: Wydawnictwo KUL2010), 113 ff.

⁷³ Maryniarczyk, Krąpiec, "Historia,;" the conceptual opus of the School, MiA. Krąpiec's *Metafizyka: Zarys teorii bytu* (1978), was edited without the use of formal logical tools.

of problems, the members of the School took on, especially in the initial phase, meta-theoretical subjects and problems delineated by the inquiries of neo-positivists, and attempts were made to make methodological tools of philosophizing more precise⁷⁴ in order to better explain philosophical notions and to better understand nature, structure and function of philosophical cognition.⁷⁵ Neo-positivism encouraged the representatives of the School to take on traditional problems such as the question in what sense philosophy can be considered a science and what is the separateness of its object and method of research. Although the School noticed in the neo-positivistic paradigm a mode of rational philosophizing and used in its own perspectives certain logical tools honored by positivism, it distanced itself from its substantive views, such as naturalism, materialistic monism, narrowing down cognition to scientific cognition within cognitive scientism as well as a program of eradicating metaphysical problems perceived as illusive questions. The substantial difference of both approaches was visible in the fact that where neo-positivist philosophy (Rudolf Carnap) mobilized formal sources to eradicate philosophical problems, the School made use of them to clarify and defend metaphysical philosophy. First of all, let us notice once again, that the School rejected the scientific treatment of scientific cognition as the measure of every other cognition, including philosophical. By emphasizing the autonomy of philosophy, it accepted that it is not science that lays the substantive and methodological foundations for philosophy, but to the contrary – philosophical assumptions form the basis for the particular sciences.⁷⁶

As time went by, the School in its self-description (and for the sake of the “legend” being created for its own use) referred with greater reserve to the logical program of the Krakow Circle. The critical position won due to Krąpiec’s personality – his influence in the Krąpiec-Kamiński tandem turned out to be decisive. Another thing is that Krąpiec owed Kamiński the clarification of his philosophical views which were sometimes formulated

⁷⁴ E.g. Tadeusz Styczeń, *Problem możliwości etyki jako empirycznie uprawomocnionej i ogólnie ważnej teorii moralności: Studium metaetyczne* (1972).

⁷⁵ “A distinct harmonization of substantively maximalistic classical philosophy with an analytical-critical approach to philosophical problems occurred in our circle. At any rate we referred to the pioneering tradition of such ‘Christian’ philosophers as Rev. Jan Salamucha, Innocenty Maria Bocheński OP and Jan Franciszek Drewnowski” (Kamiński in: “W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego,” 164).

⁷⁶ Particular sciences (cf. Ger. *Einzelwissenschaften*) in opposition to philosophy as a general form of cognition.

contextually and in a sketchy manner. Krąpiec linked the highly contextual manner of formulating his thoughts with the specificity of metaphysical cognition, deviating from the exactness characteristic for the particular sciences. With the passage of time, Kamiński also abandoned his prior stance which definitely favored logic, although he still insisted on a program of clarifying the philosophical discourse, influencing Krąpiec this way.

6. In the case of the application of formal methods in philosophizing, the position of the representatives of the School remained diverse at various stages of its development. Initially, though briefly – similarly to the Krakow Circle – a program dedicated to modernizing and clarifying Thomism predominated, and, eventually, a “logistical defense of metaphysics” as a reliable mode of rational cognition took hold (*strengte Wissenschaft*). Polemics were conducted (Krąpiec) with positivistic ontological reductionism and materialistic monism; those took place initially within the Meta-philosophical Seminar which was supervised in the 1950s by Kalinowski,⁷⁷ before he left for France. Inspired by challenges of neo-positivism and the development of logic, the LSCP sometimes promoted attempts – unsuccessful, as it turned out – to formalize metaphysics, with the intention of presenting it in an axiomatic-deductive form. They demonstrated the lack of adequacy between the language of metaphysics and logic as well as the inefficiency of simple acquisition of the methods of analysis and deductive thinking from the realm of the sciences to the realm of metaphysical problems. This is not permitted, among others, by a distinct point of departure of the theory of being (this term was preferred to “metaphysics”) in the form of the intuitive oversight (or insight) of reality, the analogical and transcendentalizing language adequate for this theory, lack of typically deductive proofs and making theses, as well as the impossibility of treating primal metaphysical assertions as axioms.⁷⁸

After futile hopes connected with non-classical (“philosophical”) logics, the limitations of the program of “logicisation of philosophy” by the application of formal methods in metaphysics became more and more apparent for thinkers at the School. As a result – after becoming interested in in-

⁷⁷ Antoni B. Stępień, “Konwersatorium metafizycznych,” *Zeszyty Naukowe Katolickiego Uniwersytetu Lubelskiego* 1, no. 2 (1958): 132-136.

⁷⁸ Stanisław Kiczuk, “Spór o stosowność logiki formalnej do filozofii w szkole lubelskiej,” *Roczniki Filozoficzne* 44, no. 1 (1996): 5-19.

tensional logics – gradually the formal approach started to be abandoned.⁷⁹ Parallel to the processes occurring in analytical philosophy itself, passing on from constructivism to descriptionism,⁸⁰ the School also began to lean towards a descriptive characterization of philosophy and attributing – in the articulation and philosophical cognition – the main role to the more specified form of natural language, treating logical disciplines, mainly in reference to Kazimierz Ajdukiewicz,⁸¹ primarily in a practical, or even outright pragmatic manner. Continuously stressing the significance of practicing philosophy with logical culture,⁸² and within it the greater usefulness of semiotics and methodology of philosophy rather than formal logic, attempts were made to: pragmatically analyze philosophical subject matter within a broadly understood logic of language (Majdański); analyze hypotheses in philosophy (Herbut); combine the tradition of classical metaphysics with Roman Ingarden's phenomenology and ontology (Stępień, Urszula Żegleń) as well as with Kantian-phenomenological metaphysics (Judycycki); investigate the possibility of extending the language of the classical propositional calculus by constructing systems of nonclassical logics (Stanisław Kiczuk). The youngest generation of logicians (Paweł Garbacz, Marcin Tkaczyk), whom it is anyway hard to assign to the narrowly understood LSCP, investigate, on the philosophical peripheries of the School, the factors which condition the formulation of multi-value logics and their foundations as well as the relation between classical logic and intuitionist logics (Bożena Czernecka).⁸³

On the one hand, the School became increasingly more aware of the limitations of formal methods, whereas on the other hand it became more aware of the value of intuition in philosophical cognition of a more es-

⁷⁹ Cf. Stanisław Kamiński, "Co daje stosowanie logiki formalnej do metafizyki klasycznej?," *Roczniki Filozoficzne* 12, no. 1 (1964): 107-112; Stanisław Kamiński, "Aksjomatyzowalność klasycznej metafizyki ogólnej," *Studia Philosophiae Christianae* 1, no. 2 (1965): 103-116.

⁸⁰ Janina Kotarbińska, "Spór o granice stosowalności metod logicznych," in *Semiotyka polska 1894-1969*, ed. Jerzy Pełc (Warszawa: PWN 1971); we owe the remark on the parallelism of both processes to Robert Kublikowski.

⁸¹ Majdański, "Konteksty metody," 120.

⁸² The framework of logical culture is designated by the ideal (paradigm) of cognition, defined as a rational conception of knowledge and science, comprised of, among others, general logical-methodological knowledge and practical skills (Andrzej Bronk, "Nauki humanistyczne i kultura logiczno-metodologiczna," *Edukacja Humanistyczna WSH* 2004 no. 1-2 (2005): 18-26).

⁸³ See the publishing series: *Studia Metafilozoficzne* (since 1993) and *Studies in Logic and Theory of Knowledge* (since 1985).

sence-focused (intentional) rather than a scope-focused (extensional) sort.⁸⁴ "Applying logic to philosophical problems," as it was stated in the Lvov-Warsaw School, encounters barriers (paradox analysis) connected with the specificity of philosophical cognition: its existential profoundness, examining the being from the aspect of its existence, referring to intellectual intuition⁸⁵ or using transcendental and analogical notions. Let us note a dispute of Jan F. Drewnowski with some methodological theses of the School. Among others, he criticized "some articles published in *The Annals [of Philosophy]* of the Catholic University of Lublin for presenting the erroneous view that 'the entirety of symbolic logic is range-wise extensional and is not applicable in metaphysics.'"⁸⁶ Although unsuccessful, attempts at axiomatizing metaphysics contributed nevertheless (albeit negatively) to a better understanding of the specificity of metaphysical cognition, which was expressed, among others, by Krąpiec and Kamiński in the aforementioned, program and their classical monograph.⁸⁷

7. From the very beginning of his work at the Catholic University of Lublin Kamiński played a crucial role in the construction of the methodological foundation of the School and the logical-methodological formation of its representatives, and over the course of time also the academic staff and students of the entire university.⁸⁸ Being impressed by the precision

⁸⁴ Cf. J. F. Drewnowski's distinction of at least three different meanings of extensionality: equivalential of the classical logical calculus, identificational of the identity axiom and denotational of the set theory (Jan Franciszek Drewnowski, "Stosowanie logiki symbolicznej w filozofii," in *Filozofia i precyzja. Zarys programu filozoficznego i inne pisma* (Lublin: TN KUL, 1996), 201-203).

⁸⁵ "Both underestimating the role of experience in legitimizing theses and overestimating the function of *a priori* factors (either abstract-speculative or conventional-linguistic), as well as an opposite situation, distort the effective nature of science" (Kamiński, *Nauka i metoda*, 209).

⁸⁶ Drewnowski, *Stosowanie logiki symbolicznej w filozofii*, 203.

⁸⁷ See Stanisław Majdański, Antoni B. Stępień, [rev.] "S. Kamiński i M. A. Krąpiec: Z teorii i metodologii metafizyki, 1962," *Roczniki Filozoficzne* 14, no. 1 (1965): 154-158.

⁸⁸ A distinct position among Kamiński's publications must be assigned to his monograph *Nauka i metoda: Pojęcie nauki i klasyfikacja nauk* [Science and Method: The Concept of Science and Classification of Sciences] (1992), which in terms of its intention and character does not have an equivalent in Polish or world literature with respect to methodology and philosophy of science; cf. Andrzej Bronk, Monika Walczak, "Stanisława Kamińskiego opcje metodologiczne," *Filozofia i Nauka. Studia filozoficzne i interdyscyplinarne* 6 (2018): 199-230.

of formal philosophical tools, he anticipated that applying them in classical philosophy would allow us to better understand eternal philosophical problems and facilitate resolving them.⁸⁹ He personally did not deal academically with formal logic; however, he had some ideas with regard to applying it in philosophy as well as in semiotics to the language of metaphysics, although ultimately, as we already mentioned, he opposed the idea of its formalization. He undertook numerous attempts at the methodological characterization of different philosophical disciplines developed by representatives of the School. He assumed that what decides about the methodological status is the specific formal object (research aspect), goals being set (tasks) and questions (problems) being raised, methods and language (conceptual apparatus).

In his comprehensive, averaging mode of cognitive approach, Kamiński remained a Cartesian, concentrating on the analysis, differentiation and ordering in accordance with Descartes's fifth principle of "the method that teaches one to follow the correct order and to enumerate all the factors of the object under examination."⁹⁰ As a moderate empiricist, he criticized the positivistic notion of an experiment as being too narrow. He favored the use of many types of experience in philosophy, together with the key role of the aforementioned intellectual intuition identifying and explaining the "first principles" of cognition. As an anti-scientist he opposed the rapacity of science and treating it as an ultimate measure of cognition, especially in its reduction of wisdom to scientific erudition. As an anti-inductionist he agreed with Popper that a researcher "cannot only ask and wait until observations will provide him with a response. He must have preliminary hypotheses which he shall later verify, he needs to have a certain idea which he shall confirm in its details."⁹¹

In agreement with the classical approach, Kamiński stressed the analogical unity of human cognitive structures. He combined a rationalist approach with epistemological intellectualism: comprehending the intellect as an intuitive, self-reciprocal (self-controlling) cognitive power and disposi-

⁸⁹ "For instance analytical philosophy has only been fashionable for ten years abroad; even theologians use it. In our Faculty, doctoral dissertations on analytical philosophy were prepared still before 1960" (Kamiński: "W kręgu filozofii Katolickiego Uniwersytetu Lubelskiego," 162).

⁹⁰ René Descartes, *A Discourse on the Method of Correctly Conducting One's Reason and Seeking Truth in the Sciences*, trans. Ian Maclean (Oxford: Oxford University Press, 2006), 19.

⁹¹ Andrzej Bronk, "Myśli ks. Prof. Stanisława Kamińskiego (fragmenty rozmów – luty 1986)," no. 2 (1985-1986): 11-12.

tion, intermediating in the dialogue between empirical and theoretical elements of science. He consistently adhered to the classical definition of truth, comprehending it as a "relational property of a judgment, and indirectly of a statement, the meaning of which is constituted by a particular judgment."⁹² Intellectualism served him to overcome difficulties connected with the principle of induction by rejecting simultaneously narrow inductionism which does not lead to general knowledge, as well as Popperian probabilism and fallibilism, attributing temporariness to every type of cognition. He believed that if empiricism was not aided by intellectualism, science would remain an assemblage of mutually disconnected pieces of data ("facts"), and that rationalism, by minimalizing the cognitive role of the senses and experience, leads to idealism. Nonetheless, his trust in intellectual intuition was not absolute. In order for the intellectual intuition to become a credible source of cognition, it must fulfil specific conditions, among others, "to be properly rationally prepared, concern the adequate subject and be under indirect control through the rules of the language."⁹³

Recognizing the rationality (logicality) of the empirical sciences as a distinct sort of human rationality allowed Kamiński to comprehend science as *πιστήμη* (*epistémē*) (medieval *scientia*) and to equate the rationality of scientific cognition with logicality and methodicity. The methodicity of science consists in respecting methodological rules of practicing it, and the method of science remains "an essential test of scientificity which simultaneously has enormous didactic qualities and multilateral utility."⁹⁴ Multi-laterally comprehended logicity is ensured in scientific cognition by "its adequate sources and legitimization as well as formulation. Most generally speaking, it must be acquired with the aid of the clearly presented methods which are compatible with methodological rules to such an extent as it is possible in a given domain of cognition, justified in an intersubjectively controllable manner, and, what is more, independent of emotional-volitional states and expressed in the informational language."⁹⁵ In this reference to the epistemological-sociologizing concept of intersubjectivity, one may notice the influence of neo-positivist methodology, in which it remains an essential methodological category.

⁹² Kamiński, *Nauka i metoda*, 222.

⁹³ *Ibidem*, 213.

⁹⁴ *Ibidem*, 200.

⁹⁵ Kamiński, "O metodzie filozofii klasycznej," 18.

Noticing a supra-historical rationality manifesting itself in the history of science, Kamiński treated science as a serious, although not the only achievement of the human intellect. Sometimes, he outright identified the broad notion of rationality, recognized by him, with scientificity *sensu lato*, although going beyond the natural sciences *per se*. The empirical basis compelled him, in the spirit of Thomas S. Kuhn's descriptionism, to take into account the understanding that science (and scientists) has about itself and what found its expression in four main concepts in the history of science: classical, early modern, positivistic and Popperian, signified by the names of Aristotle, Galileo, Comte and Popper,⁹⁶ and in detailed descriptions of the history of the particular types of sciences. As a historian of (the concept of) science, he accepted its dynamic image, outlined by the contemporary, post-Kuhnian philosophy of science which adheres to conventionalism and instrumentalism. While noticing that principles, rules and conditions for the functioning of science changed throughout its history, he observed at the same time that the image of the genuinely practiced science deviated from the ideal of scientific cognition as designed by philosophers of science, which inclined him to taking on an intermediary position between radical empiricism and radical rationalism (apriorism).

An important reason for Kamiński's interest in science was the aforementioned fundamentalist comprehension of philosophy as a discipline "laying foundations," among others, for scientific cognition. Hence he considered the inquiry into the (non-overt) philosophical and methodological assumptions on which "science is based" and the critique of the attempts of ideologically abusing it to be an important task for philosophy of science. Without concealing its own assumptions, philosophy of science is supposed to ascertain the presence of philosophy both in the practice of science itself as well as in its theory, because "research free of assumptions is a methodological myth."⁹⁷ That is why a general theory of science should precede and conclude scientific research, because "behind each great scientific theory there is some philosophy, yet most often the creator of that theory does not realize that."⁹⁸ In the pursuit of philosophical assumptions at the foundations of scientific cognition, one can notice the sources of the normativism of Kamiński's methodology, which is signified by such expressions as "something ought to be" or "is supposed to be" in science or philosophy.

⁹⁶ Ibidem, 47-181.

⁹⁷ Kamiński, *Nauka i metoda*, 201.

⁹⁸ Ibidem, 7.

Although he noticed the close relation between scientificity of a particular field of knowledge and its methodicity, he neither absolutized the notion of science, nor of the scientific method:

There is no one exemplary way of practicing science. Various objects and tasks of cognition require various research methods and types of cognitive procedures. A research approach that is fruitful in the exact sciences may turn out to be ineffective or even harmful (because it waters down knowledge, obscures the truth and shrouds trivial assertions in the guise of scientificity), e.g., in the humanities.⁹⁹

8. Let us add at the end several concluding thoughts in the form of highlights and reminders. Let us stress once more in our analysis and construction of what we call LSCP that it was formed by a group of philosophers who were friends and professed similar ideas. They were the proper masters of the School, its founding fathers. They also thought about Poland, its survival and development after the terrible war and in the face of being enslaved again by the forces from the East. They wanted to protect on the possibly highest university level the foundations of Christian culture. They wanted to preserve and develop the tradition by which the Polish nation thrived throughout the ages and guarantee through adequate didactic, educational and scholarly activities “the continuity of generations.” The university, where they worked, cared for these ideals within the theological (including canon law), philosophical and humanistic domains.

The program of the School and its implementation were maximalistic. No wonder that in the implementation of that ambitious and difficult task there were some shortcomings, especially in the practical and organizational sphere, although theoretically a number of things were successful. The faculty was well designed (similar to Louvain): since the beginning there were intra-faculty sections (corresponding to later institutes), divisions, departments, workshops, which had to be functionally filled in. Unfortunately, in the beginnings, and also later on, there was a lack of institutionally undertaken, extended research, although in a way this was compensated by a high standard of instruction. There was also a lack of a specialist journal which would represent the scholarly community of the Faculty, an issue which was raised on numerous occasions by employees of the Divi-

⁹⁹ Stanisław Kamiński, “Koncepcja nauki u Arystotelesa,” in *Metoda i język: Studia z semiotyki i metodologii nauk* (Lublin: TN KUL, 1994), 248.

sion of Logic and Epistemology as well as the Department of Methodology of Science (Majdański).

Let us sum up the characteristic features of the scholarly community of Lublin School of Classical Philosophy:

- 1° It never established a school in an institutional sense or even a doctrinal one, and yet it was a school due to the emphasis on teaching and thorough essential general-philosophical education.
- 2° In their style of philosophizing representatives of the LSCP mainly referred to the tradition of classical philosophy, delineated by Aristotle and Thomas Aquinas, declaring at the same time their openness to topical problems as well and the most important areas and currents of early modern philosophy up until contemporary times.
- 3° The LSCP was not a substantive or methodological monolith; its representatives referred in their inquiries to various philosophical traditions and used a variety of methods; however, it constituted a dynamic, analogical and methodological unity through the professed metaphysics-centrism, historicism and methodologism.
- 4° Representatives of LSCP considered philosophy a substantively as well as epistemologically and methodologically autonomous mode of cognition, attributing to it foundational tasks with respect to laying metaphysical, epistemological and ethical foundations for culture, theology, science and worldview.
- 5° In epistemology and methodology representatives of LSCP positively, and yet critically, referred to four philosophical traditions: scholasticism, the Krakow School, the analytical Lvov-Warsaw School and neo-positivist methodology.
- 6° By noticing more and more clearly over the course of time the specificity of philosophical cognition and the inefficiency of formal methods in philosophy, they increasingly stressed the importance of intellectual intuition as a credible source of cognition.
- 7° "Personalism" and "aletheism" in the LSCP merged into one. The scholars who shaped its milieu were friends both of each other and of truth. Ethics was linked with logic, finding a realistic grounding in the being itself and expressing itself in the ethical determinant as well as in the ethical achievements of the School.

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I

METAPHYSICS

The Theory of Act and Potentiality in the Lublin School of Philosophy and in Analytic Metaphysics

In the Lublin School of Philosophy the theory of act and potentiality is considered to be the “the ultimate foundation for philosophy inspired by Aristotle.”¹ Within analytical philosophy, the intensively developing neo-Aristotelian metaphysics of powers (further: analytical metaphysics of powers) is often considered a fundamental discipline for many domains of philosophy.² Therefore, one may ask about the relationship between these two currents of inquiries on potentialities and acts.

The basis for comparisons here shall not be the exchange of arguments between these schools, but rather the places where they overlap with regard to (1) basic intuitions regarding potentiality and the act and (2) basic problems which concern them. Notwithstanding the differences between the two formations, I believe that the bond between them is authentic in both of these areas (it is hard to overestimate it in philosophy). It is worth stressing that scholasticism between the 13th and 18th centuries differs significantly in this respect from the Lublin School of Philosophy: old scholas-

¹ Mieczysław A. Krąpiec, *Metafizyka: Zarys teorii bytu*, 5th edition (Lublin: TN KUL, 1988), 246.

² See, e.g., Anna Marmodoro, ed., *The Metaphysics of Powers: Their Grounding and Their Manifestations* (New York: Routledge, 2010); Ruth Groff and John Greco, eds., *Powers and Capacities in Philosophy: The New Aristotelianism* (New York: Routledge, 2013); Jonathan D. Jacobs, ed., *Causal Powers* (Oxford: Oxford UP, 2017); Kristina Engelhard and Michael Quante, eds., *Handbook of Potentiality* (Dordrecht: Springer, 2018).

ticism is connected with analytical metaphysics of powers by a bond of not only basic intuitions and problems, but also by surprisingly many detailed assertions and detailed argumentative strategies; therefore, there are different bases for comparisons there.³

I think that there are two deep intuitions which the Lublin School of Philosophy and analytical metaphysics of powers genuinely share – although they are not shared *universally*. I present them in paragraphs 1.1 and 1.2, showing also who and in what spirit rejects them. These intuitions are assumed at the Lublin School of Philosophy by virtue of the continuity of the tradition reaching back to Aristotle; analytical metaphysicians assume it rather as a radical turn (one can say: *quasi ab ipsa veritate coacti*) against tendencies dominant in analytical philosophy. There is also a general formulation of the main problem of the theory of act and potentiality which, I believe, is common for both currents; I present it in 1.3. Therefore I shall attempt to outline in part 1 what genuinely links both currents on the issue of act and potentiality.

Obviously, there are numerous and fundamental differences between the two. I think that in the field of initial and elementary intuitions one may point to two basic sources of these differences: on the one hand, the connection between the theory of act and potentiality and the theory of ontic compounds that is fundamental for the Lublin School of Philosophy (2.1) and (2.2); on the other hand, the strain of naturalism which is strong in analytical metaphysics and completely foreign to the Lublin School of Philosophy (2.3).

1. TWO BASIC INTUITIONS AND ONE FUNDAMENTAL PROBLEM

There is an important reason for starting this comparison from the topic of potentiality rather than the act; the topic of actuality in analytical metaphysics belongs in many aspects to the discussion on the semantics and metaphysics of possible worlds, this context being fundamentally pe-

³ I present a number of such detailed comparisons in my book: Michał Głowala, *Możliwości i ich akty: Studium z tomizmu analitycznego* (Wrocław: Oficyna Wydawnicza Atut, 2016).

ripheral with regard to the problems discussed here. However, the reasons for which it is peripheral are revealed indeed in the analysis of potentiality (I present them in 1.2). This is why I start this overview from potentiality, not the act.

The Aristotelian definition of potentiality (*dynamis*) ascertains that it is the principle of invoking change in another entity (as another) or experiencing changes from something else (as another)⁴. The ordinary image of the world abounds in potentialities in such sense, both active and passive: some things are flammable and corrosive, even if they are not burning or are not reacting with anything; humans have potential and capabilities which often remain unfulfilled. The two aforementioned intuitions, which I present below, express the *serious* treatment of this initial image.

1.1. REALNESS OF POTENTIALITY

The first of these intuitions claims that potentialities are real and internal aspects of subjects to which they are attributed. It is easiest to grasp it by *contrast*: an example of the alleged potentiality which rather does *not* look like a real and internal aspect of its subject. Taking position M we gain the possibility of noticing the object P that we did not have in another place. Is *this potentiality* some internal aspect of the one who attained it? Somebody could claim, first, that speaking about the potentiality of seeing P, one essentially professes a *solely* purely hypothetical judgment: that if I looked in that direction, I would see P; there is no categorical judgment here at all, in which I would ascribe any currently owned property (this is the basic idea of the conditional analysis of dispositions). Second, one can also believe that the potentiality of noticing P is rather about a certain spatial configuration; the latter (1), in turn, is external with regard to P and the viewer, and moreover (2) it is not something essentially potential: the language of geometry in which one can describe it directly, does not contain the concept of potentiality at all. Indeed,, by generalizing such suggestions one could claim that the case with all potentialities is as with the potentiality of noticing P acquired in place M. This is a project of *elimination* of

⁴ Aristotle, *Metaphysics* (*Aristotle in 23 Volumes*, vol. 17-18), trans. Hugh Tredennick (Cambridge, MA: Harvard University Press; London: William Heinemann Ltd. 1933, 1989), 1019a15-23.

real potentialities, very strong in twentieth century Anglo-Saxon philosophy, mainly due to Hume's influence.

The intuition which is common for the Lublin School of Philosophy and analytical metaphysics of powers is actually contradictory to that project: in the world there are substantially different potentialities than the aforementioned potentiality of seeing P; they are internal and real abilities of their subjects, and the potential character is ascribed to them out of necessity. Krąpiec describes the potentialities as "real, anchored in the being itself."⁵ In the analytical metaphysics of powers *dispositional essentialism* (Brian Ellis, Alexander Bird) claims that certain real properties have *of their very essence* a potential character.⁶ One also argues for the sake of the thesis that there are genuine potentialities which are *internal* properties of objects to which they are attributed.⁷

The grounding of that intuition in the Lublin School of Philosophy is about indicating that its rejection leads to Eleatism and it contradicts the basic experience of dynamicity in the world. We also encounter this type of justifications in the analytical metaphysics of powers. It is also said that strategies of empirical natural sciences seem to be heading towards the discovery and description of properties which essentially are dispositional.⁸

1.2. THE PRIMACY OF POTENTIALITY WITH REGARD TO POSSIBILITY

The second intuition claims that *potentialities* are ontically and cognitively primary with regard to *possibilities*. For instance, flammability is not simply a possibility of burning, nor in any sense is it a derivative from the possibility of burning; just the opposite occurs, it is the possibility of burning, insofar as one can assign a certain realness to it, it is a derivative with regard to the real potentiality, i.e. flammability. Krąpiec refers in this context to a scholastic distinction of *potentia obiectiva* (possibility) and *potentia*

⁵ Mieczysław A. Krąpiec, s.v. "Akt i możność" in *Powszechna encyklopedia filozofii*, vol. 1 (Lublin: PTTA, 2000), 148.

⁶ Alexander Bird, "The Dispositionalist Conception of Laws," *Foundations of Science* 10 (2005): 353-370.

⁷ George Molnar, *Powers: A Study in Metaphysics* (Oxford: Oxford UP, 2003), 102-110.

⁸ Nancy Cartwright, *Causal Powers* (London: The LSE Centre for Philosophy of Natural and Social Science, 2007), 4.

subiectiva (potentiality in a proper sense), claiming that only the latter is the proper subject of metaphysics (Krąpiec equates the first one, in a controversial manner, with non-contradiction; Stępień, in turn, assigns “pure ideal possibilities” to objective potentialities).⁹ *Potentia subiectiva* “really exists in nature in some concrete object.”¹⁰ Vetter, claims in a similar way, that potentialities as opposed to possibilities are localized.¹¹

Similarly to the first intuition, it is best to grasp the second one by contrast: admittedly, it is contradictory to an intuition, incredibly strong in many philosophical currents, that this is *possibility* that is most fundamental for the being, and most accessible for philosophy. This intuition, rejected both by the Lublin School of Philosophy and analytical metaphysics of powers, has various manifestations, e.g., in the thought of Duns Scotus, Ludwig Wittgenstein or Roman Ingarden, as well as in the semantics and metaphysics of “possible worlds.” From this perspective flammability should be understood (insofar as it can be understood at all) in the categories of the possibility of being burned.

Both the Lublin School of Philosophy and analytical metaphysics of powers radically reject this intuition on the primacy of possibility: the possibility of burning something is at best *secondary* with regard to the actually occurring (in our world) flammability and active potentiality corresponding to it. The foundation is skepticism with regard to “possible worlds” and the intuition that this is the current world that is responsible for the veracity or falsity of modal theses; the semantics and metaphysics of possible worlds, in turn, suggest that the current world is “modally empty,” and the possibility of burning something in the current world is about whether in some other “world” there is a certain equivalent of it that burns.¹²

The intuition of the primacy of potentiality before possibility encounters difficulties in reference to these sorts of possibilities which are most important for its opponents: logical possibility in Wittgenstein’s *Tractatus*

⁹ Mieczysław A. Krąpiec, *Struktura bytu*, 2nd edition (Lublin: RW KUL, 1995), 49-50 and 104; Antoni B. Stępień, *Wstęp do filozofii*, 4th edition (Lublin: TN KUL, 2004), 197: “(Subjective) potentiality is not possibility (objective potentiality: pure ideal possibility or possibility in the sense of logical non-contradiction or sensibility).”

¹⁰ Krąpiec, *Struktura bytu*, 104.

¹¹ Barbara Vetter, *Potentiality: From Dispositions to Modality* (Oxford: Oxford UP, 2015), 2.

¹² Barbara Vetter, “Can’ without Possible Worlds: Semantics for anti-Humeans,” *Philosophers Imprint* 13, no. 16 (2013): 1-2; Charles B. Martin, John Heil, “The Ontological Turn,” *Midwest Studies in Philosophy* 23 (1999): 37-39, 49-50.

or else Ingarden's pure possibilities. Can one claim that they are also derivative with regard to some active or passive potentialities in the current world? Is the logical space constituted by some causal power?

Krąpiec's statements suggest two different solutions in this case. The first one consists in acknowledging that possibility is not something metaphysical at all, but rather logical or epistemic, and that is why it is not founded in potentiality: "logical possibility is not the sign of some real potentiality concealed in a concrete being."¹³ This is a very radical position, equally relentless with regard to possibility as Quine's position, and one can wonder, whether it allows to retain the metaphysical character of necessity (which is strictly connected with possibility). Krąpiec, however, also alludes to Thomas's position that God's intellect is the basis for noncontradiction and possibility.¹⁴ This is an allusion to Aquinas's subtle doctrine, according to which logical possibilities are constituted by God's power, albeit in such a way that they are dependent on God's intellect and not on God's will. This position differs from the voluntarism of Occam or Descartes, for whom the logical space is dependent on the *will* of God; at the same time it differs from a certain type of Platonism, by virtue of which the logical space is primary and independent from God.¹⁵

4.3. THE PROBLEM: POTENTIALITY VERSUS ACTUALITY

The two aforementioned intuitions – *realness* of potentiality and its *primacy* with regard to possibility – allow to formulate a general problem, which as I believe, both the Lublin School of Philosophy and analytical metaphysics of powers recognize as the main object of the study of potentiality and the act. Since we recognize two real sides in various things – the actual and the potential – this substantial question concerns how these sides relate to each other. As Krąpiec states, "one must analyze these ontic elements in their mutual connection and conditioning. This way both the act and potentiality do not occur in an isolated form (with the exception of a pure act – God)."¹⁶ Krąpiec also distinguishes four aspects in which this

¹³ Krąpiec, *Struktura bytu*, 49-50.

¹⁴ *Ibidem*, 50.

¹⁵ A good introduction is provided by Petr Dvořák, "The Ontological Foundation of Possibility: An Aristotelian Approach," *Organon F* 14 (2007): 72-83.

¹⁶ Krąpiec, *Struktura bytu*, 125.

connection should be examined: the problem of perfection and primacy, the issue of mutual conditioning, the issue of their separateness and the question of their role in action.

In analytical metaphysics of powers, one can distinguish three main areas in which the connection of potentiality and actuality is investigated: (i) grounding the possibility in other (“categorical”) properties of subjects; (ii) directedness of potentiality towards its manifestations: in what way the identity of potentiality depends on the identity of its act, in what way potentialities *strive* to their acts or whether the constant inclination of potentiality to its (not always occurring) act has certain traces of intentionality; (iii) referring potentiality to its stimulus.

The connection of the act with potentiality is, generally speaking, the main issue in the theory of act and potentiality in both of the considered currents.

2. BASIC SOURCES OF DIFFERENCES

2.1. THE ACT AND POTENTIALITY AS COMPONENTS OF THE ONTIC COMPOUND: MEREOLOGICAL INTUITION

By virtue of the intuition which is strong in the Lublin School of Philosophy, the act and potentiality are elements of a certain *composition*, one entity; by virtue of the first characterization of act and potentiality presented in the entry on the topic prepared by Krąpiec for the *Powszechna encyklopedia filozofii* [Universal Encyclopedia of Philosophy], act and potentiality are “mutually (in various orders) assigned factors-components of one being”; and further: “act and potentiality are two states of the same being, and being essentially mutually assigned to each other, they formulate only one (essentially) real being.”¹⁷ Krąpiec also claims that the connection between act and potentiality (which as it was said in 1.3, is the main subject of considerations of the metaphysics of act and potentiality) consists, indeed, in act and potentiality being elements of one being: potentiality and act are in essence assigned to each other, insofar as they are “elements of some

¹⁷ Krąpiec, *Act i możność*, 145.

sort of being or the ontic aspect."¹⁸ In this context, Krąpiec also claims that potentiality and act must belong to the same category: "for, if act and potentiality are elements of the same being ..., the diversity of categories they belong to is not possible."¹⁹ One may say that in the light of that intuition, the entire theory of act and possibility becomes a part of *mereology* in a general sense: the theory of a distinct sort of *parts* (in the most general sense of the word "part"); that is why I shall also permit myself to call this intuition "mereological intuition."

The grounding for the mereological intuition is the following: in the introduction to the theory of act and potentiality, concepts of a Heraclitean type which were supposed to consider exclusively the potential side of reality are juxtaposed, with concepts of an Eleatic sort which were supposed to consider exclusively actuality; Aristotle's achievement would be a "specific synthesis of both of these currents" consisting in recognizing that "reality is neither exclusively potential, nor exclusively static, but it is in various aspects simultaneously dynamic and static"; hence one infers that "reality is 'composed' of potential and actualizing 'factors.'"²⁰

However, it is worth noting that Aquinas outright rejects the principle which claims that the act and potentiality always belong to the same category: "it is not necessary for the act and potentialities to belong to the same kind, especially when it concerns active potentialities."²¹ John of St. Thomas emphasizes similarly that the act and potentiality belong to the same type only when they constitute a certain singular being (*quando ordinantur actus et potentia ad componendum unum per se*) – and this does not always have to be this way.²²

I think that mereological intuition is generally foreign to analytical metaphysics of powers, although obviously even there one can find its proponents. Nevertheless, numerous cases of act and potentiality are considered there, in which the potentiality and its act *do not* compose one particular being. This is a representative list of examples:

¹⁸ Krąpiec, *Struktura bytu*, 149-150.

¹⁹ *Ibidem*, 148.

²⁰ Krąpiec, *Akt i możliwość*, 145-148. Stefan Swieżawski, *Byt. Zagadnienia metafizyki tomistycznej* (Kraków: Znak, 1999), 217-226.

²¹ Saint Thomas Aquinas, *Scriptum super libros Sententiarum* (Paris: P. Lethielleux, 1929), vol. 1, I, d. 7, q. 1, art. 2, ad 2: "non tamen oportet quod in eodem genere ponantur potentiae et actus, praecipue de potentiis activis".

²² John of St. Thomas, *Cursus philosophicus thomisticus* (Paris, 1883), vol. 2, *Phil. nat.* p. II, q. 12, art. 2, 226.

(1) In *Physics* III,3 Aristotle claims that motion is not only an act of passive potentiality of the moving object, but also the act of active potentiality of the mover; this fragment of *Physics* is an object of numerous discussions in scholasticism, but also in analytical metaphysics.²³ This demonstrates directly that certain potentialities have their acts completely *beyond* the objects in which they are placed. (2) A number of analytical philosophers believe that the theory of act and potentiality provides a good explanation of the nature of causal relations: the causes are subjects of active potentialities, and the effects – acts of these potentialities; this directly suggests that in many cases acts of active potentialities are located in general beyond the subjects of these potentialities.²⁴ (3) Some analytical philosophers believe that a certain formal similarity occurs between intentionality and the directedness of potentiality towards its non-occurring acts; it is difficult to accommodate this with the general principle that potentiality with its act must be a part of a greater whole.²⁵ (4) Some analytical philosophers consider *moral powers* as a special sort of potentiality; an example of this may be the ability (of only some subjects) to release a given person from an oath that he/she had taken; an act of such a potentiality is a dispensation.²⁶

This does not mean that analytical metaphysics of powers does not make use of the concept of *the composition*; however, this use tends to be completely different than that which is distinct for the Lublin School of Philosophy (more on this difference in 2.2). For instance, Charles B. Martin claims that the act of a potentiality is simply a composition of this potentiality with other potentialities; George Molnar is of an opinion that acts of cooperating potentialities become assembled like component force vectors; Barbara Vetter believes that some potentialities are composed of others just like resultant vectors consist of component vectors; Anna Marmodoro claims that potentialities are building blocks of reality.²⁷

²³ Anna Marmodoro, "Aristotelian Powers at Work: Reciprocity without Symmetry in Causation," in *Causal Powers* ed. Jonathan D. Jacobs (Oxford: Oxford UP, 2017), 57-76.

²⁴ Stephen Mumford, Rani Lill Anjum, *Getting Causes from Powers* (Oxford: Oxford UP, 2011).

²⁵ Molnar, *Powers*, 60-81.

²⁶ Thomas Pink, "Power and Moral Responsibility," *Philosophical Explorations* 12 (2009): 129-130.

²⁷ Charles B. Martin, *The Mind in Nature* (Oxford: Oxford UP, 2008), 51; Molnar, *Powers*, 194-198; Barbara Vetter, 'Can' without Possible Worlds, 10-11 and 16; website of the project *Power Structuralism in Ancient Ontologies*: <http://www.power-structuralism.ox.ac.uk>.

Therefore, I think that the mereological intuition is rather foreign for the analytical metaphysics of powers, whereas in the Lublin School of Philosophy it plays a fundamental role. The great influence of the mereological intuitions at the Lublin School of Philosophy is signified by its confrontation with the discernment of active and passive potentialities. Krąpiec stressed: “whenever one claims that some being contains in itself the act and potentiality as its constitutive elements, then one must pay attention to passive, not active potentiality.”²⁸ Somebody could claim that this would result in a great limitation of mereological intuition: for the latter does not concern, as it turns out, active potentiality. However, Krąpiec is headed in the opposite direction – he claims that active potentiality “in its internal essence is reduced to passive potentiality”²⁹; in such a sense he claims then that active potentiality should be eliminated or reduced to passive one. Moreover, Krąpiec asks whether “potentiality in a strict sense is essentially active or passive potentiality,” and he replies that it is the passive one.³⁰ The form of this question as such is striking: it assumes that only one of the types of potentiality is “potentiality in a strict sense”; if one acknowledges, in the spirit of pluralism and analogy of being, *diversity of types of potentialities*, the question would be equally incomprehensible as the question which being is a being in a strict sense. In this context Krąpiec also claims that “Aristotle probably was not aware of the issue of the preponderation of passive potentiality in relation to active potentiality” and “he did not always have a clear discernment between active potentiality – with its power – and passive”; he concludes that “one cannot emphasize active and passive potentiality too much.”³¹

Justifying the reducibility of active potentiality to passive looks as follows: if active potentiality is actualized in action, it cannot be juxtaposed with the act; if, in turn, it is not actualized in action, it remains in potentiality with regard to acting; and being in potentiality with regard to it, it is passive in relation to it.³² The fundamental premise of this argument seems to be that if something is in potentiality to act, then it is in passive potenti-

²⁸ Krąpiec, *Struktura bytu*, 106; the same thesis is on p. 105.

²⁹ Ibidem, 106.

³⁰ Ibidem, 53.

³¹ Ibidem, 106.

³² Ibidem, 105-106. Antoni B. Stępień in his short summary of “basic theses of the theory of act and potentiality” mentions as the second one the thesis: “Active potentiality is either a form of the act, or a form of passive potentiality” (Stępień, *Wstęp do filozofii*, 197).

ality; however, this is simply another way of declaring that all potentiality is essentially passive.

It would not be unfair to summarize this strategy in the following way: with regard to active potentiality which could undermine the mereological intuition, Krapiec uses the principle of elimination, or reduction to passive potentiality, although the details of this elimination or reduction are not entirely clear. There is no doubt that the notion of active potentiality raises an important problem.³³ Stating, however, that because of this problem one should negate the separateness of active potentiality, seems to me difficult to accommodate with the spirit ontic pluralism (with regard to potentiality). And yet, in analytical metaphysics of powers we encounter with regard to the types of potentiality or disposition radical dispositional pluralism.³⁴

2.2. ACT AND POTENTIALITY AS A FORM OF AN ONTIC COMPOUND: FORMAL MEREOLOGICAL INTUITION

The mereological intuition could be understood in such a way that the compound of the act and potentiality constitutes one of the sorts of ontic compounds – apart from the compound of form and matter or existence and essence. However, essentially mereological intuition has a different sense: the point is that matter and form, essence and existence or other components of being relate to each other like potentiality to the act. Therefore potentiality and the act are not any distinct sorts of components of the ontic compound, but rather a general form of such an ontic compound.³⁵

³³ See Marek Piwowarczyk, *Podmiot i własności: Analiza podstawowej struktury przedmiotu* (Lublin: Wydawnictwo KUL, 2015), 249-254.

³⁴ Jennifer McKittrick, *Dispositional Pluralism* (Oxford: Oxford UP, 2018). A defense of the division into active and passive potentials (with regard to Martin's and Heil's claims) is also presented by Marmodoro in *Aristotelian Powers at Work: Reciprocity without Symmetry in Causation*.

³⁵ Mieczysław A. Krapiec, "Neotomizm," *Znak* 10 (1958): 631: "We express ourselves in short: the ontic compound is found in the categories of act and potentiality." Stanisław Kamiński, "Osobliwość metodologiczna teorii bytu" in *Jak filozofować? Studia z metodologii filozofii klasycznej* (Lublin: TN KUL, 1989), 82: "The fundamental form of a necessary ontic relation ... is the compound of potentiality and the act, because all other forms of an ontic compound ... may be comprehended as a relation of potentiality and the act." A. B. Stępień formulates this intuition in a way which seems close to undermining the intuition of the realness of the potentiality; he states: "There is no act, nor potency. The being consists of and differentiates in itself solely matter

This idea may be described a *formal* mereological intuition. From this perspective the theory of act and potentiality in Krąpiec's view is an "epitomizing and generalizing theory of all ontic compounds."³⁶

The grounding of formal mereological intuition is as follows: it is not two acts or two potentialities as such that constitute one whole; rather potentiality with the act connected with it, seem to be connected with each other directly, and in such a way that they form one whole.³⁷ This argument indicates what is most controversial from the perspective of the Lublin School of Philosophy in the aforementioned compounds postulated in analytical metaphysics of powers (Martin, Molnar, Marmodoro, Vetter) – these are all compounds of potentialities with potentialities or acts with acts.

In order to assess this line of argumentation, it is worth relating to the distinction between constituent ontologies and relational ontologies.³⁸ The first put emphasis on an internal structure of beings, the latter – on the relations between simple objects; Aristotelian ontologies are assigned to the first type, Platonic ontologies – to the other. Metaphysics of the Lublin School of Philosophy, considering the analysis of ontic compounds to be the core of metaphysics, belongs to the first type. Two things are clear here anyway: first, the Platonic model of relational ontology is for many reasons *completely* foreign to Aristotelianism; second, if we assume constituent ontology, then in essence the connection of potentiality and the act sheds light on the connection of such subontic components; referring to the connection between the act and potentiality, we receive a much better metaphysics of compounds than in the approaches popular in the analytical metaphysics of powers (2.1) within which essentially sole potentialities or else sole acts are assembled; specifically, one much more accurately grasps both the separateness of components and their connection within a strong unity.

However, it is worth drawing attention also to two other things. First, even if the composition of the act and potentiality truly casts light on the combination of subontic components, this still does not mean that this mere-

and form, essence and existence. They are real 'elements,' 'moments' or 'sides' of a concrete being. Act and potentiality, in turn, are a comfortable conceptual schema which grasps the relationship of these elements to each other and the character of the 'compounds' which these elements constitute" (Stępień, *Wstęp do filozofii*, 197).

³⁶ Krąpiec, *Akt i możliwość*, 145.

³⁷ Krąpiec, *Struktura bytu*, 150-151.

³⁸ In this single context I use the terms "metaphysics" and "ontology" interchangeably, not excluding by any means that in numerous other contexts it is justified to precisely differentiate them.

ological application *exhausts* the nature of this connection; and this is what is claimed in the formal mereological intuition. Meanwhile also John of St. Thomas claims (in the citation above) that in *some cases* the act and potentiality merge into a certain strong unity, and in other cases – they do not. Second, it is not clear at all that by rejecting the Platonic model of relational ontology we must assume in its entire extent constituent ontology and that of ontic compounds; in particular we could assume that the material being has its matter and form, without, however, considering that it is in any sense *composed* of its matter and form; that existence differs from the essence and form, but in no sense is it a *component* of the existing being. One might indeed claim that the Aristotelian approach is neither relational nor constituent metaphysics (it operates without a theory of ontic compounds), as well as numerous reservations with regard to the concept of compounds themselves, are presented, for instance, by Edward J. Lowe.³⁹ Generally speaking, the theory of ontic compounds or metaphysics of constitution, on the one hand, has its general ethos, and on the other hand certain technical details and complexities. The first one certainly includes a simple contrast between the simple being of God and created beings as well as the deep intuition of the falsity of relational ontology in a Platonic style. This ethos belongs to the very core of classical philosophy. Nonetheless, I believe that various technical details of the theory of ontic compounds may truly raise questions; undoubtedly accurate intuitions belonging to the general ethos mentioned above do not enforce the acceptance of metaphysics of constitution or ontic compounds in its entirety.⁴⁰ And although there is no doubt that the theory of ontic compounds of the Lublin School of Philosophy is more credible than Martin's, Molnar's or Vetter's theories of compounds (2.1), nevertheless, certain important reservations with regard to the concept of ontic compounds as such remain.

As far as the formal mereological intuition is concerned, it has two important aspects, which allow us to distinguish the Lublin School of Philosophy from analytical metaphysics of powers. First, the formal mereological intuition even more stringently links the issue of act and potentiality with

³⁹ Edward J. Lowe, "A Neo-Aristotelian Substance Ontology: Neither Relational Nor Constituent" in *Contemporary Aristotelian Metaphysics*, ed. Tuomas Tahko (Cambridge: Cambridge UP, 2014), 229-248.

⁴⁰ Obviously the most controversial thesis is that the substance with its accidents constitutes some whole or compound; the inter-categorical connection between the substance and accident is exclusively a being *per accidens* and is signified by unity *per accidens*; therefore, essentially it is not a whole of any sort.

mereology: the act and potentiality are not simply a certain type of components of an ontic compound; the connection of the act and potentiality as such is a form of a certain mereological connection. Due to the narrowing down of the concept of potentiality indicated in 2.1 (eliminating active potentiality or reducing it to the passive one) one could even claim that within the formal mereological intuition the relation of the potentiality to the act is directly characterized in mereological categories, and mereological connections turn out to be cognitively more primal than connections which are specific for the theory of potentiality and the act.⁴¹

Second, formal mereological intuition assigns a fundamental and universal – “culminating and generalizing” character – to the theory of the act and potentiality; however, the point is that the general character is indeed acquired thanks to the fact that the connection between the act and potentiality is understood as a certain sort of mereological connection.

As far as the first aspect is concerned, in analytical metaphysics of powers the hypothesis of the deep affinity of the potentiality-act compound with certain other compounds is often analyzed (e.g., with the connection of efficient causation with the intentional reference to the object, with the urge or non-causatively comprehended relation between the will and free action). However, it is striking that mereological connections do not usually play a dominant role there.

As far as the second aspect is concerned, many analytical theories of potentiality suggest that metaphysics of powers is indeed a fundamental and universal theory. This is mainly because it provides good explanations for numerous essential, albeit greatly diverse, issues, for instance, causality, laws of nature, grounding probabilistic facts, modality, intentionality, free will, urges and inclinations to act, and acting on a rule. In other words, precisely in terms of act and potentiality we can juxtapose with each other essentially diverse things, coming from very different domains; the act-potentiality connection offers here a somewhat unifying perspective. However, what enables such a unifying perspective is just a relationship *specific for the theory of act and potentiality*, not any sort of mereological con-

⁴¹ This hypothesis could be supported by a number of minor observations. A. B. Stępień's assertion seems to be quite symptomatic (Stępień, *Wstęp do filozofii*, 196): “When describing hylomorphic compound, the technical term ‘potentiality’ (Lat. *potentia*) was originally used.” Krąpiec states in a similar vein that “this real disposition to act [characteristic of the passive potentiality – M.G.] is understandable indeed in the context of the ontic compound.” (Stępień, *Struktura bytu*, 55).

nection. And that is why metaphysics of powers, *and not mereology*, is that fundamental and unifying metaphysical discipline. In the Lublin School of Philosophy, in turn, the theory of act and potentiality acquires the universal and fundamental status to such an extent in which it is understood in mereological categories.

Summing up, one can state that the formal mereological intuition assumed in the Lublin School of Philosophy distinguishes the Lublin School from the analytical metaphysics of powers in two ways – on the one hand, fundamental connection of the act and potentiality is understood in the Lublin School of Philosophy in mereological terms, whereas this is not the case in the analytical metaphysics of powers; on the other hand, numerous compounds, abundantly postulated also in analytical metaphysics of powers, usually are not understood as compounds of act and potentiality.

2.3. NATURALISM IN ANALYTICAL PHILOSOPHY

The striking feature of most, although certainly not all, theories in analytical metaphysics is *naturalism*. The concept of naturalism has multiple meanings, but the sense which is relevant here was, as I believe, accurately described by Peter van Inwagen.⁴² According to this description naturalism is a view which claims that on the fundamental level (in the microscale) there are solely objects endowed with exclusively numerically quantifiable, non-mental and non-teleological properties, and *all* other concrete objects in some way supervene on them or are constituted by them in a certain way. Thus understood naturalism is close to what Christian Kanzian describes as “bottom-up world-view”; this worldview claims that the world is comprised of numerous layers and the ontologically most primal is the lowest layer, investigated by the physics of the microcosm, while the remaining ones are secondary in some way with regard to it – by way of supervenience, emergence or constitution of a distinct type (Kanzian claims that this worldview is very influential in contemporary ontology, and at the same time there are all kinds of reasons to reject it).⁴³

⁴² Peter van Inwagen, “What Is Naturalism? What Is Analytical Philosophy?” in *Analytic Philosophy Without Naturalism*, eds. Antonella Corradini, Sergio Galvan, E. Jonathan Lowe (London: Routledge, 2006), 74-88.

⁴³ Christian Kanzian, “‘Bottom-Up’ Versus ‘Top-Down,’” in *Ontology of Theistic Beliefs*, ed. Mirosław Szatkowski (Berlin – Boston: de Gruyter, 2018), 63-76.

Naturalism (similarly to the metaphysics of ontic compounds or constitution), on the one hand, has its general ethos, on the other hand – certain technical details and complexities. The general ethos includes: scientism, materialism, rejecting the autonomy of philosophy and specific intuitions concerning that what this metaphysical primacy is about; the complexities and technical details – unending problems concerning the nature of supervenience, emergence or constitution, and thus the manner in which secondary layers become built upon more primal ones. It is worth noticing that there is a radical contrast between the metaphysics of ontic compounds and naturalism already on the level of the general ethos or initial intuitions.

The vast majority of discussions within analytical metaphysics of powers refer in some way to naturalism. It is particularly striking that there are metaphysicians dealing with potentiality who radically reject the idea of separate layers of reality, but they do not reject the primacy of the fundamental level (John Heil); there are also metaphysicians who in the issue of action assume free will in a strong sense, and at the same time they do not reject the idea of emergence (Timothy O'Connor). In the metaphysics of the Lublin School of Philosophy thus understood naturalism is completely absent; it is particularly in open opposition to all that which constitutes the general ethos of naturalism.

3. CONCLUDING REMARKS

Juxtaposing the theories of act and potentiality from the Lublin School of Philosophy and analytical metaphysics of powers at the level of most elementary intuitions, I attempted to indicate first what genuinely connects them, and at the same time distinguishes from numerous prominent philosophical currents: two intuitions concerning the realness of potentialities as well as their primacy with regard to possibility and the general formulation of the main task of the theory of act and potentiality linked with these intuitions. These intuitions are present in the Lublin School of Philosophy by virtue of continuing the tradition going back to Aristotle; analytical metaphysicians, in turn, share them, *quasi ab ipsa veritate coacti*, in opposition to many currents dominant in Anglo-Saxon philosophy. Both this succession of old and the sudden turn influenced by truth itself have an adequate gravity attributed to them.

There are also two radical differences at the level of elementary intuitions. The first one is signified by an intuition which is strong in the Lublin School of Philosophy that the relation between potentiality and the act outright constitutes a general form of mereological connection. However, this intuition is absent in Aquinas's thought and it is controversial; in particular it seems to contradict a certain type of pluralism with regard to potentiality, insofar as it suggests the elimination or reduction of active potentiality. This intuition generates a two-fold differentiation: on the one hand in the theory of act and potentiality itself, on the other hand – in theories of various compounds which are also very popular in analytical metaphysics. The second difference is signified by naturalism which occupies a strong position in metaphysics. A discrepancy between the metaphysics of ontic compounds and naturalism is exceptionally striking already at the level of their general ethos.

While discussing the most general and elementary intuitions, one can wonder whether something, nonetheless, does not link the metaphysics of ontic compounds and naturalism; it would certainly be the Greek concept of the *element* (*stoicheion*) in a most general sense. Stanisław Kamiński said even that classical philosophy was aimed at “discovering the ontic microstructure of reality (internal compounds of anything that exists).”⁴⁴ From this perspective, naturalism would manifest itself as disfigured implementation of the urge typical for the theory of ontic compounds.

Nonetheless, all of that are initial intuitions, necessarily vague. To go further, one would have to start hairsplitting.

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⁴⁴ Stanisław Kamiński, “Metodologiczna problematyka poznania duszy ludzkiej” in *Jak filozofować? Studia z metodologii filozofii klasycznej*, (Lublin: TN KUL, 1989), 267.

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The Form and Parts of the Substance: Mieczysław A. Krąpiec's Hylomorphism in the Context of Analytical Currents within Hylomorphism

The title of this article *should* cause justified reservations among existential Thomists, and all Aristotelians in general, who believe that the proper correlate of the substantial form is prime matter which, in itself, is a pure, undetermined potentiality. This was the view of Mieczysław A. Krąpiec¹ as well as some of the existential Thomists who engaged in dialogue with analytical philosophy (Edward Feser²) and some strictly analytical Thomists (David Oderberg³). In their view the integral parts of the substance (from all the levels of composition: systems of organs, organs, body tissues, cells, molecules of organic compounds, atoms of elements, elementary particles, etc.) are something already determined which assumes a substantial form. As such, parts of substances do not enter a compound with their own substantial forms, but are the effect of the composition of form and prime matter. Krąpiec would be against describing as hylomorphism a conception of the form-parts relation, although this conception is derived from hylomorphism in a particular way. The great majority of analytical philosophers, in turn, who call them-

¹ See Mieczysław A. Krąpiec, *Metafizyka. Zarys teorii bytu* (Lublin: RW KUL, 2000), 289-342.

² See Edward Feser, *Scholastic Metaphysics. A Contemporary Introduction* (Neunkirchen –Seelscheid: Editiones Scholasticae, 2014), 177-189.

³ See David Oderberg, *Real Essentialism* (New York: Routledge, 2007), 62-76.

selves hylomorphists or neo-hylomorphists, either criticize the notion of prime matter or do not take it into consideration at all. In analytical philosophy hylomorphism is understood indeed as a theory of parts and wholes alternative to standard mereology.⁴ There are two essential strains of such hylomorphism. In the first of them, it is claimed that the substantial form differs essentially from the way of composition or the organization of its parts. As a result of that, a crucial difference occurs between the substantial unity (a human being, a dog, an oak tree, etc.) and an accidental unity (e.g. a desk, a sand dune, a cloud, society). The form is also understood as something which unifies the powers and actions of the parts, essentially limiting their autonomy. The whole then is ontically superior to the parts, although in certain aspects it must depend on them. In the other strain of analytical hylomorphism the form is either an arrangement of relations between parts, or a so-called structure, the status of which is in a way problematic to settle. It is hard to say in such a case whether substantial and accidental unities differ greatly between each other, or is there only a difference of degree which occurs between them. It is not fully clear whether the whole is ontically superior in relation to the parts or vice versa. Robert Koons calls these two strains of hylomorphism *staunch* hylomorphism and *faint-hearted* hylomorphism respectively.⁵ Obviously Krąpiec and all the existential Thomists are staunch hylomorphists; however, all of the distinct features of this sort of hylomorphism in their case are extended to the extreme (as we shall still see). Despite the difference in the understanding of hylomorphism indicated above, the problem of the relation between the integral parts of the substance and the substantial form may be a very good platform to compare (and in the future, perhaps, a platform for discussion) the solutions elaborated in the Lublin School of Philosophy with those present in contemporary analytical philosophy.

⁴ See Teresa Britton, "The Limits of Hylemorphism," *Metaphysica* 13, no. 2 (2012): 145-153.

⁵ See Robert Koons, "Staunch vs. Faint-Hearted Hylomorphism: Toward an Aristotelian Account of Composition," *Res Philosophica* 91, no. 2 (2014):151-177.

1. THE SOURCE OF THE PROBLEM: TWO PAIRS OF CONCEPTS OF MATTER AND FORM AND THE CHALLENGE OF MATERIALISM

In twentieth century philosophy the broadest conceptual analyses of matter and form are not found in the works of Thomists or analytic philosophers, but in the writings of the Polish phenomenologist Roman Ingarden.⁶ Among the nine pairs of these notions which he distinguished, two are essential in the context of this chapter: form and matter in an Aristotelian sense and form and matter in a relational-technical sense.

The form from an Aristotelian perspective is a “determiner,” and therefore it is a certain aspect of an entity which provides it with a certain qualitative (in a broad sense) characterization. Such a form determines an entity and that determination may either be essential or accidental, hence there are two essential types of Aristotelian forms: substantial and accidental. The first ones are, e.g., humanity, horseness, felinity. The second ones are greenness, humidity, circularity, wisdom, musicality, intellect, will, sense of smell, etc. The difference between them is not modal: there may be necessary accidental forms and these, in particular, are the intellect and the will. None of the accidental forms, however, makes the being that what it is (a cat, a dog, a rabbit etc.). This may be done only by a substantial form. Accidental forms, in turn, make the being how it is (strong, faithful, brave etc.). Each form endows the being with some real determination, and simultaneously each one has an influence on that what sort of causal powers the being has and how it reacts to its surroundings. Moreover, the substantial form is primary in this case: it is the condition for having any other descriptions; it is the substantial form which defines what sort of accidents must a substance have in any circumstances, and not only in special circumstances, and ultimately it is the substantial form which is the ultimate ground of action and reaction of a substance in relation to its surroundings.

Finally, the substantial form grounds the essential unity of the substance, whereas accidental forms – only accidental unity. The issue is not only about the strictness of the relations between parts of the substance; the essential unity is characterized also by objects which do not have parts (I mean inte-

⁶ Cf. Roman Ingarden, *Controversy over the Existence of the World*, trans. Arthur Szylewicz, vol. 2. (New York: Peter Lang, 2016), 19-52.

gral parts). The point is that thanks to the form the substance is one being, which means that it is a being with one identity understood in an absolute manner: i.e., an identity independent from anything else. With regard to its existence, substance depends on many things, including its accidents. Yet the substance is independent with regard to its individual essence (the principle of individual identity), i.e. nothing makes the substance what it is. In contrast, the identity of an accident depends on the reference to the substance to which this accident is attributed (e.g. this here wisdom is essentially Socrates's wisdom). An accidental form is not capable of providing a being with such an essential unity just because an accident is dependent with regard to identity. Hence, for instance, wise Socrates is not a substance distinct from Socrates as such.

The correlate for thus understood form is matter. Matter is that what accepts a determination, that what is determined. The matter of accidental forms is a substantial subject, whereas the matter of the substantial form – prime matter. Every matter always exists as an informed entity: there are no separately existing pure substantial subjects (devoid of accidents), nor a separately existing pure prime matter. Nonetheless, matter may be considered itself in an isolating abstraction which is a purely intellectual operation. Namely, just as a substantial subject considered in itself does not have accidental forms, insofar prime matter in itself does not have any substantial form. However, knowing the role of the latter, one must reach a conclusion that prime matter has no determinations as such; it is pure matter, a pure substate of these determinations, pure potentiality, i.e. a pure passive capability of accepting a form in itself. It must be so, because if it had at least one determination, it would also have to have a substantial form conditioning all determinations. Of course, matter understood in this way does not have any physical sense, it is neither characterized by inertia nor impenetrability, nor mass, because it itself is not characterized by anything.

The form in a relational-technical sense is an array of relations obtaining between some objects which are parts of a certain whole. These parts, in turn, are matter. Such a form may be organic, crystalline, mechanical, compact, loose, etc. It is important that concepts of such matter and form can be applied only to objects which are constituted of parts and, obviously, there are no applications for it with regard to simple objects (if possible).

There is no doubt that form and matter understood in this way seem to be closer to contemporary science, in particular the physics of elementary particles, which at least at its onset was directed by the idea of atomism. This idea in the version adapted by scientism, nowadays called naturalism,

requires identifying ontic fundamentality with the being as the smallest part. That is why elementary particles are considered to be fundamental beings. Naturalism is a dominant feature of contemporary analytical philosophy. There are certainly analytical philosophers who reject naturalism, but even they usually claim that philosophy should take science into account in such a way that science is supposed to be the ultimate authority on philosophical issues.

However, if quantum mechanics speaks of particles, yet it does not speak much, if at all, about objects constituted of particles, then what should we do with the latter? It is necessary to engage in the philosophical effort of another field of inquiry, this time a formal one, called mereology, which mainly uses the notion of a mereological sum which exists only then when its parts exist. Let us pay attention to the following: even the relations between the parts are not necessary here, the existence of parts is sufficient in this case. Entities, which we know from quotidian experience, are simply clusters of particles and it does not matter how these particles are organized. There is no difference between my organism and a set of the same particles arranged in a straight line – in both cases we are dealing with the same mereological sum. Criteria of identity for such a sum are purely extensional.

A philosopher who disagrees with such a reduction shall postulate the existence of the principle of the organization of parts. What properties must such a principle have if it is supposed to make a compound object something over and above the mereological sum of its parts? The reply to this question depends on how we understand the irreducibility of the compound object, and that, in turn, depends on other philosophical issues. If the entire problem is placed in the context of hylomorphism and if a hylomorphic composition is supposed to guarantee irreducibility, then the principle of organization shall be called the form, and we shall call its parts matter. However, the problem with that is that very few authors notice that hylomorphism is entangled in the most general philosophical doctrine, i.e., substantialism, which in an essential way is noncompliant with mereological scientism. Substantialism places fundamentality in substances, even if they are complex. In hylomorphism irreducibility to mereological sums is supposed to be assured by the substantiality of complex objects. Does every form guarantee the substantiality of the composite object, that is, its independence with regard to identity? The scientific mentality causes some analytical philosophies to assume up front that elementary particles are not dependent with regard to identity, and also to the existence, on the whole

which is comprised of it. Is that, nonetheless, agreeable with hylomorphism: i.e., may substances be constituted of such identity-independent particles?

2. RELATIONAL HYLOMORPHISM: KIT FINE AND MARK JOHNSTON

The variations of analytical hylomorphism most compliant with the spirit of scientism are those which totally abandon the substantial form in an Aristotelian sense (although not infrequently such hylomorphisms are described as Aristotelian). Typical examples of such a concept are doctrines proposed by Kit Fine and Mark Johnston.⁷ The form is sometimes understood by them as a net of relations between parts of the object, whereas these parts are matter.

I will not delve into the details of this concept.⁸ The differences between Fine and Johnston are beside the point in this case. What is crucial is the very idea of the form as a relation between the parts. Does such a form assure substantial unity? From the perspective of Ingarden's distinctions one must reply to such a question in the negative. Form and matter in a relational-technical sense, assuming that matter is a set of substances, are a distinct case of Aristotelian accidental form and of secondary matter. The relation is one of the accidents and as such it is dependent with regard to identity on the substance. Therefore, if parts are substances, then the whole comprised and connected by relations does not feature substantial, but accidental unity. A composite object according to Fine and Johnston is simply a plurality of objects linked by relations; this is the relational state of *numerous* substances. Relations make parts to be *how they are* (in relation to other parts), but they do not make them turn into *something* new.

⁷ Kit Fine, "Things and Their Parts," *Midwest Studies in Philosophy* 23, no. 1 (1999): 61-74; Mark Johnston, "Hylomorphism," *The Journal of Philosophy* 103, no. 12 (2006): 652-698.

⁸ Typical accusations posed by analytical philosophers against relational and structural hylomorphisms may be found in Jeremy Skrzypek, "Three Concerns for Structural Hylomorphism," *Analytic Philosophy* 58, no. 4 (2017): 360-408. I shall not discuss these accusations here. I shall only focus on what is most important from the point of view of classical hylomorphism which delineates the comparative platform of this article.

Both concepts could not be improved by a modification which is about replacing relations with processes of interaction between parts. If parts are independent with regard to identity, i.e., if they are substances themselves, then their interactions will also be accidents, and the composite whole will solely be a multi-part processual state of being. Parts may have new properties in the context of this interaction and may acquire new causal powers, but they shall owe this to contacts with other parts, and not to some alleged whole, understood as a new object. This is one of the reasons why Aristotle and Aquinas claimed that the substance cannot be comprised of other substances.

Indeed, the compound object, in the way as it is understood by Fine and Johnston, is not pure plurality, i.e., it is not a mereological sum. However, this does not change much. On the grounds of substantialism mereological sums are certain abstracts; i.e., they are a plurality of entities intellectually grasped with the omission of relations between them. Mereological sums, as such, do not exist independently – only entities connected by relations exist. Even if these relations are necessary, if they are implied by the essence⁹ of objects considered to be parts, then the whole attained this way shall not be a substance. For the principle of unity for such a whole are essences of the parts or that which the essences of the parts entail. Substantial unity, in turn, is such a unity, which owes its full unity to its own essence and not the essences of the parts. This must be an additional essence which is “above” the parts. In order to assure substantial unity, even the strictest relations between the parts themselves are not sufficient (horizontal relations) – we need relations of parts to the essence of the composite object (vertical relations) which must be different from the plurality of parts and relations between themselves. Parts of the substantial whole must connect not of themselves, but thanks to referencing to the one and the same composite substance. Is such a reference possible, if parts are substances? A positive answer to this question is provided by representatives of structural hylomorphism.

⁹ This is about such relations which are not components of the essence of being, but they are inferred from them. Such relations are a variation of the accidents of specific substances.

3. STRUCTURAL HYLOMORPHISM: KATHRIN KOSLICKI AND WILLIAM JAWORSKI

Since one cannot renounce the substantial form in an Aristotelian sense, nor close the reflection on hylomorphism solely within a schema designated by notions of form and matter in the rational-technical sense, then one must somehow include the substantial form, preserving nonetheless the autonomy of the parts, at least on a certain level of composition (if one does not renounce the fundamentality of particles). The form in such a case must be comprehended not as a categorial relation, but as something that assigns the configuration of the parts or something that performs all the functions of a substantial form, but has a relational character, not infringing, however, parts from a certain level. Such attempts have been made by Kathrin Koslicki¹⁰ and William Jaworski¹¹ who instead of form prefer to talk about structure.

The most important issue is of course the understanding of “structure” itself. According to Koslicki, a structure is a system of “empty spaces,” but such which on its own assigns possible ways of filling in these spaces.¹² This formulation at first may raise associations with a net of relations, indeterminate with regard to their terms, and therefore with a view akin to that of Fine and Johnston. Nevertheless, Koslicki emphatically rejects the claim that the structure is a net of relations. This structure only assigns that what the relations between the parts are supposed to obtain, how many of these parts there are supposed to be and of what sort in order for a specific type of object to be formed. A structure is a distinct “recipe” for a complex object¹³ which may suggest in turn that it is some sort of platonic idea the implementation of which is a specific array of objects in the real world. However, we would be mistaken yet again interpreting structure this way. According to Koslicki, it is connected with matter as an additional part of an object. The remaining parts of the object in a way fill in the structure. However, what is most important is that Koslicki strongly stresses that the

¹⁰ See Kathrin Koslicki, *The Structure of Objects* (Oxford: Oxford University Press, 2008).

¹¹ See William Jaworski, *Structure and the Metaphysics of Mind: How Hylomorphism Solves the Mind-Body Problem* (Oxford: Oxford University Press, 2016).

¹² See Koslicki, *The Structure of Objects*, 169.

¹³ See *ibidem*, 172.

structure itself is an object and not a relation or property.¹⁴ Therefore, the structure rather resembles an object of a higher level which is based on a certain plurality of objects connected by relations, though differing from it. One could also interpret Koslicki's concept in such a manner that the structure is only an essence of such an object, i.e., the essence of the composite object is different than its parts assembled in an adequate way. Therefore, on the grounds of Koslicki's view the aforementioned vertical relations are possible, although their entire utility is vanquished by the thesis that the structure is also part of the object. These parts are unified not only thanks to relations between themselves, but most of all thanks to relations to the structure. They form one object, because they fill in one structure or else they implement one structure which defines how its parts are supposed to be configured, what type it is supposed to be and how to mutually influence each other in order for such an implementation to occur. The same parts may implement varying structures, insofar as they fulfill requirements assigned by them. The structure of the composite object, independent also of other parts with regard to identity, may, therefore, lose and gain parts, which seemed impossible in Fine's doctrine. Admittedly, the structure is existentially dependent on its parts, but it is a generic dependence, and not a rigid one: it can inform numerically varying parts, if their number, configuration and type agree.

The fundamental problem of that view is such that structure does not guarantee the substantial unity of the composite object, but increases the initial multiplicity even more. And this occurs regardless of that whether it is a part of an object or not. If the parts are independent from the structure, then it shall on its own simply be an additional object with which they remain in accidental relations, forming an accidental unity.

Jaworski's position in this regard differs from Koslicki's view since according to him the structure is not a part of a composite object.¹⁵ Neither is it an object, but rather a relation additionally endowed with causal powers and making the object *what it is* (this concerns individual identity).¹⁶ Jaworski on various occasions calls structure an organization, arrangement, configuration or an order.¹⁷ However, he does not mean relations between

¹⁴ See *ibidem*, 252.

¹⁵ See Jaworski, *Structure and the Metaphysics of Mind*, 94.

¹⁶ See *ibidem*, 94.

¹⁷ See *ibidem*, 1, 8.

parts, but between parts and the whole¹⁸; that is, he attributes the role of unification of parts to vertical relations. He also stresses the dynamic aspects of the structure: it is a pattern of interactions with the environment, ensuring the composite object's duration in time despite changes.¹⁹ Parts from certain levels of composition are independent of the structure; however, in the case of organisms parts at higher levels depend on the structure with regard to their existence and actions.

This is a much more nuanced view than the earlier ones. In particular, hopes are raised by the declaration that structure is not an additional object, and that it is considered to be a vertical relation. However, the question is whether these theses are possible to be upheld. The first reservation is as follows: what is the subject of the aforementioned causal power? If a structure is not an additional object, then these powers must perhaps belong to the parts themselves, because nothing else remains at our disposal: the concept that the relation is *the subject* of a power is impossible to uphold. The structure will then simply be an accident of the part: i.e., a relation between them. In no case can one then decide about the substantial unity of a composite object. A second question arises: what is that whole which constitutes the term of the relation to the parts? If the whole is only those parts and the horizontal relations between them, then we are dealing with *petitio principii*. The alleged relation between the part and the whole is then in essence the relation between a part and the remaining parts. That is why Jaworski should rather claim that the whole is something more than all the parts put together. In this case the whole is an additional object, and we return again to a view similar to that of Koslicki.

It is right to think that the essence of a composite substance must be something different than an adequately assembled plurality of its parts. However, as one can see, these parts cannot be independent from this essence. It could seem that only a one-sided dependence of the essence from its parts is enough. Nonetheless, everything depends on how we understand dependence. Analytical philosophers do not use Ingarden's distinction "dependence- inseparability."²⁰ Inseparability obtains if and only if some being cannot exist without another and must compose one whole with it, but in an absolute sense: that is, a unity which is not intermediated by a catego-

¹⁸ See *ibidem*, 96.

¹⁹ See *ibidem*, 14-15.

²⁰ See Roman Ingarden, *Controversy over the Existence of the World*, vol. 1 (New York: Peter Lang, 2013), 147-152.

rial relation. Dependence, in turn, obtains if and only if some being must coexist with another, but they do not constitute such a direct unity. The substance, as a subject modified by accidents, is separable although it may be dependent. Therefore, we can see that in order to evade the aforementioned dualism, the essence of the composite substance must be inseparable from the parts. It is not enough for it to be dependent only on them, because we are dealing then with a configuration of dependent substances, and not with one substance. However, if the essence of the substance is inseparable from the parts, then the parts also must be inseparable from the essence. The unmediated whole is possible only when both of its elements require supplementation. In another case, one of the elements would be a completely separate ontic unit.

Parts of substances, therefore, cannot be substances themselves. An even stronger dependence obtains between them and the essence of the substance. Namely, a plurality of substances shall always remain a plurality of substances since only accidental forms can be attached to them. Every other form would destroy the identity of the substances in question. In contrast, a composite substance must be informed by a substantial form. If the latter is supposed to be a principle of unity, then the unification of the parts by it must rely on its adequate function, i.e., defining the identity. Parts of substances are unified only because the essence of the composite substance defines their identity. Hence they depend on that composite substance with regard to their identities. It is insufficient for the substantial unity that parts are bound by relations - even implied by essences of parts. Parts are united into one substance if and only if the reference to the substance in question is an ingredient of their essences. We deal with a substantial unity only when an identity of parts is subordinated to the identity of the composite substance. Obviously, then these parts cannot be substances.

4. DISPOSITIONAL HYLOMORPHISM: MICHAEL REA AND ROBERT KOONS

Representatives of this type of hylomorphism focus their attention on the thesis that the form endows the substance with irreducible causal dispositions (powers). The consolidation of the parts by the form is most of all

about the conditioning of the disposition of the parts by the fundamental power of the composite substance.

Michael Rea²¹ begins his reconditioning of hylomorphism with a discussion on the “universal-individual” distinction which is eventually recognized as inaccurate. In his view, forms, or else natures are neither universals, nor individuals. Rea’s hylomorphism may be summarized in three points:²² (1) the nature of the substance is its fundamental disposition; (2) the nature of a composite object unifies other dispositions, particularly dispositions of parts, and (3) natures may enter into a compound with some substrates (*indivituators*) and can perform the function of a form.

Speaking of principles of individuation is incomprehensible after Rea rejects the distinction between that what is general and that what is individual. Therefore, he uses the term *indivituator* in the meaning of a substrate which accepts a form. Either way, thesis (2) is crucial in this case. Rea understands the unification of dispositions in the following manner:²³ power *P* unifies other powers of the object if and only if *P* is connected with these powers in such a way that its manifestation depends on the cooperative manifestation of unified powers and the latter do not provide the object, which has *P*, with any powers that would simultaneously be extrinsic with regard to the object and independent from *P*. The form unifies powers of parts and that is why the form manifests itself in the parts of substances. Rea claims that the form of the whole, i.e. a certain disposition, depends on the dispositions of its own parts. He ultimately comprehends parts most often as point-like entities (non-extended).²⁴

Anna Marmodoro, criticizing Rea, rightly notices that it is not known what *P* actually is and whether it is a disposition at all, or perhaps a relation between dispositions of parts.²⁵ The aforementioned description of the power *P* does not prejudge whether it is a result of cooperation of the dispositions of parts or an essentially new disposition. The problem is deeper. According to substantialism the form is a source of dispositions; therefore the problem of the essential, and not accidental, unification of dispositions actually becomes reduced to the problem whether parts may have their

²¹ See Michael C. Rea, “Hylomorphism Reconditioned,” *Philosophical Perspectives* 25, no. 1 (2011): 341-358.

²² See *ibidem*, 345.

²³ See *ibidem*, 348-349.

²⁴ See *ibidem*, 352.

²⁵ See Anna Marmodoro, “Aristotle’s Hylomorphism without Reconditioning,” *Philosophical Inquiry* 37, no. 1-2 (2013): 5-22.

own independent forms. There are two possibilities: either parts are substances and then new powers which the alleged wholes have are new powers of the parts themselves, which emerge as a result of the interactions with other parts, or parts are not substances, and then the form unifies powers of parts in such a way that it is their sole source. In fact, focusing on the unification of dispositions is only an expression of the problem of unity in another way.

Robert Koons calls his conception the *parts as sustaining instruments* (PASI).²⁶ He calls himself a staunch hylomorphist. He rejects both relational and structural hylomorphism. He postulates that the composite substance and its parts should be mutually dependent, but in various aspects. The substance should have its own causal powers and unify the powers of parts so that they serve its essential purpose. Koons at the same time rejects the idea that these might be identity-dependent on the substance. He believes that then the substance would have to be considered as simple. The so-called substrate principle is strongly emphasized. According to it, every change must be a change of something, i.e., there must exist a substrate which changes and exists both before the change and after it. This concerns also substantial changes. Simultaneously Koons rejects prime matter understood as an inseparable, subontic and purely potential component of being.²⁷ Therefore, a substrate must consist of parts of a substance which, nonetheless, should have, in his view, a weaker status than the one in relational, structural and Rea's hylomorphism, i.e., they must rely on the substance in a stronger way. However, this cannot be dependence with regard to identity, because then the parts could not perform the function of being a substrate of substantial change. A substance, in turn, must in its duration depend on the coordination of parts and it can act only through its parts. Koons, therefore, is looking for such a theory which weakens both the parts and the substance so that they are dependent mutually on each other.

PASI is based on two essential theses: sustenance condition and instrumentation condition:²⁸

Sustenance: For any composite substance x with proper parts the yy 's and any moment t at which the substance exists, the existence of x at t

²⁶ See Koons, *Staunch vs. Faint-Hearted Hylomorphism*, 171-173.

²⁷ See Robert Koons, "Forms as Simple and Individual Grounds of Things' Natures," *Metaphysics* 1 (2018): 8.

²⁸ See Koons, *Staunch vs. Faint-Hearted Hylomorphism*, 172.

is wholly grounded in the actual persistence of some process P in some interval of time beginning at some instant t_0 and ending at t , where process P is such that its participants from t_0 until and including t are exactly the yy 's (or exactly x itself and the yy 's).

Instrumentation: For any composite substance x , any causal power P of x at any moment t , there is a proper part y of x at t , a power P^* of y at t , such that P^* is at least partly grounded in P , and the exercise of P^* at t would contribute to the natural end of x .

In other words: causal powers of the parts depend on the causal powers of composite substances, and the existence of composite substances depends on the interaction which occurs between the parts. According to Koons there is no vicious circle in this case (and one may have such an impression: action, indeed, is the actualization of a power), because the first dependence is synchronic, and the other is diachronic. This means that at a given moment t the powers of the part depend on the power of the composite substance, but the subsequent duration of the composite substance depends on the activity of the parts in subsequent moments. I do not want to engage in a dispute, whether Koons in fact evaded a vicious circle here. Anyway his idea is reminiscent of some sort of ontological perpetuum mobile: a substance initially enables its parts to act and later these parts, acting on each other, maintain the substance in its existence and they allow it to exist in a subsequent moment in which they shall again be conditioned in their power and so forth.

Koons could be asked a more serious question, analogical to the one we posed to Michael Rea: what exactly is the conditioning of the powers of parts about, i.e., are the powers of the parts really conditioned by the power of the composite substance? Koons believes that parts from the lowest level of composition (elementary particles) are existentially independent of the substance, although the substance itself existentially relies on them. Therefore, they must have some sort of causal powers independent of the causal powers of the substances. If such a part has powers conditioned by a composite substance, then such a power is only an acquired accident of a part and it is its own power, i.e. this part is a proper subject of this power. Koons claims that his position does not lead to dualism (the independence of the substance from its parts), because the composite substance acts *only* through its parts. But how do its action and powers differ from autonomous action and power of the parts from the lowest level? One may obviously point to such powers and actions of parts which they do not have

and do not perform when they are parts of a composite substance. Does the conditioning of powers differ then from the conditioning of the power of the parts solely due to their connection with other parts? I think that if the substance acts *exclusively* via its parts, then there is no difference here. In turn, if these parts are independent, then generally there is no sense to postulate the existence of the composite substance: the existence of these causal powers of objects recognized as parts can be explained by their connection with other parts.

If *the substance itself* is indeed supposed to act *via* its parts in such a way that this action is not the exclusive action of parts, and if the causal powers of parts are to be conditioned by the causal powers of substances and not only by connections between parts, then parts must be inseparable with regard to the substance (if we want to avoid dualism). If the substance acts via a part, and it is not so that the part acts of itself, then the parts must be identity-dependent on the substance. Otherwise the parts act on their own, and the substance does not act at all.

5. TRANSFORMATIONAL HYLOMORPHISM: THEODORE SCALTSAS, ANNA MARMODORO AND DAVID ODERBERG

The doctrine outlined in paragraph 3 was accepted by Theodore Scaltsas.²⁹ Form, for him, is a certain simple quality (obviously, not in the sense of the accident), due to which the substance is what it is. Form cannot be an integral part of the substance, but it is a universal embodied in the substance (an immanent universal). Substantial unity requires for everything which may be distinguished in the substance to be identity-dependent on the form. Scaltsas distinguishes aggregates, related wholes and substances. An aggregate is a simple accumulation of substances, such that the relations between substances do not have any significance for the existence of such an accumulation. For instance, dunes or clouds are aggregates. Related wholes are pluralities of substances connected by special relations which have their significance for the existence of the whole. Among them are, e.g.,

²⁹ See Theodore Scaltsas, *Substances and Universals in Aristotle's Metaphysics* (Ithaca: Cornell University Press, 1994), 59-87 and 150-154.

machines, nations or houses. And, finally, substances are such wholes, the parts of which are identity-dependent on the essence of the whole. Examples of substances are organisms. Scaltsas stresses that calling substances wholes has a different meaning than calling aggregates and related wholes wholes. Substances do not have parts in a literal sense. Scaltsas even stresses a number of times that substances do not contain parts. It is this thesis, indeed, just as the issue of the status of the parts that are the greatest problems of this sort of hylomorphism. If a substance does not contain parts, then is it composite at all? We shall still return to these issues.

Scaltsas's concept was taken up by Anna Marmodoro.³⁰ According to her, substantial unity may be achieved only when parts shall lose their separateness and shall undergo reidentification. The plurality of parts is potentially one substance, and the substantial form actualizes that potentiality, transforming parts into a new substance. This transformation must be a destruction of the actual plurality. Marmodoro directly grants the form the status of an action or else a process which generates one of the first serious problems of her concept. Action, as a process, is something which is extended over time, has temporal parts, and in the concept outlined by Scaltsas, form should be simple. If the form has some parts, then a problem of its unity emerges. One can get out of it by considering the form as momentary action. Then it is identified with the substantial change *per se* which – according to Aristotle – plays out in one moment. The problem is that the form must constantly be present in the substance; it cannot be a momentary event.

The second problem which may be found in Marmodoro's concept, which we already saw in Scaltsas's work. Marmodoro claims that the substance is neither the sum of its parts, nor the sum of parts and forms. However, the substance is predominantly its parts which are already after the process of reidentification. And into what do parts change? Precisely into that substance. This generates a suspicion that according to Marmodoro the substance does not have any parts at all; i.e. nothing can be found in it beyond itself. Substance has potential parts, but Marmodoro understands the potentiality in such a way that parts do not exist yet, and they may occur as a result of destroying the substance.

David Oderberg, as I initially mentioned, believes that the adequate correlate of the substantial form is prime matter. One cannot claim that the

³⁰ See Marmodoro, *Aristotle's Hylomorphism*, 15-21.

substance consists of its parts and substantial form, because these parts already presuppose a form. Nonetheless one may ask how the form contributes to the being of parts. According to Oderberg the role of form stems from one of the most important properties of the form, namely, its unicity. Every substance has only one form, and that is why it has only one identity. On account of that no parts that can be found in the substance can have their own substantial forms. Parts are *what they are* thanks to the form of composite substance. A similar case is with action and arrangement of parts: they are assigned by the form of the substance. But since that is the case, then parts cannot be substances. Oderberg maintains this thesis as concerning all levels of composition. In his view living substances do not literally consist of the same elementary particles which previously freely existed. The absorption of particles consists in destroying and transforming them into parts of a substance. In fact, my body contains no electrons and protons, there are only my parts which behave like protons and electrons (attract or repel other parts), but their actions stem from my form, i.e., my humanity. A similar case is with the loss of parts - parts separated from the substance simply perish and change into other substances or into parts of other substances.³¹

Oderberg's argument is somewhat unclear and in my opinion it is based on the ambiguity of the expression "having one form." Oderberg initially understands it in such a way that one substance cannot simultaneously have the form of, for instance, a human being and of a horse. "To have one form" in this case means "to be informed by one form." The unity of form so conceived is completely obvious, but it is hard to understand why it implies the thesis that the parts do not have their own forms. After all, parts having their own forms would not generate a paradoxical statement that, for instance, Jan Kowalski is simultaneously a human being and an electron. In order to reach such an assertion, one must unnoticeably use another understanding of "having one form." In this other sense, something has one form, if in its entire ontic range only one form can be found. Therefore Oderberg's argument should be made more precise. I think that it is properly stated in the thought of the main protagonist of this chapter, who must be given due consideration at last.

³¹ See Oderberg, *Real Essentialism*, 67-71.

6. MIECZYŚLAW A. KRĄPIEC'S HYLOMORPHISM

In Krąpiec's view, the substantial subject is comprised of prime matter and substantial form. This is not a mereological composition. Form and matter are mutually inseparable, wherein matter is generically inseparable from a form: it may coexist with many forms, although not simultaneously. That is why matter enables substantial changes. They consist in matter accepting a new form. Krąpiec's main argument in favor of the composition of matter and form is an argument from substantial changes. In the created world the principle *ex nihilo nihil fit* - something cannot emerge from nothing - is in place. Continuity between the perishing and the emerging substance must be preserved. This continuity is understood in the categories of preserving an identical subontic element. Such an element may be only a qualityless prime matter.³²

The form-matter structure belongs to another ontic order than a composition of integral parts. Form is not one of such parts. Nevertheless, a being consisting of matter and form may have integral parts. A problem of reconciliation of the plurality of these parts with substantial unity emerges then. This is the form that ensures substantial unity; therefore we are facing the issue of the relation between the form and the integral parts. Krąpiec's solution is the most concurrent with those of Theodor Scaltsas and David Oderberg. According to Krąpiec integral parts do not have their own substantial forms, because they exist "within" the form of an entire substance or else - as he states - they exist with the life of the entire substance.³³ Krąpiec, similarly to Oderberg, refers to the argument from the unicity of substantial form.

The thesis on the unicity of form becomes obvious when we only take into consideration definition of form as a factor constituting an identity of the contents of being.³⁴ Form for Krąpiec is neither an action nor a structure. It is a certain content of being, unifying the remaining contents through them becoming essentially subordinated to it. Substantial forms are individual, not universal. Krąpiec rejects Avicbron's doctrine of *forma universalis*.³⁵

³² See Krąpiec, *Metafizyka*, 299-320.

³³ See *ibidem*, 325.

³⁴ See *ibidem*, 320.

³⁵ See *ibidem*, 26-327.

A substance may not be constituted by numerous forms, because if that were the case it would simultaneously be two different beings or one being with a dual identity, which is equally absurd. Krąpiec also provides an argument referring to the notion of the act:³⁶

1. Unity of a thing is constituted by the same factor as the being of a thing.
2. The being is constituted by the act.
3. Therefore, the act constitutes unity.
4. In a given ontic order there may only be one act.
5. In the order of substance the act is the form.
6. The substance is solely to be constituted by one substantial form.

Based on Krąpiec's words one may construct an argument against the substantiality of integral parts of the substance, which was mentioned before:³⁷

1. If the integral parts of substances were substances, then they would have their own substantial forms.
2. If parts had their own substantial form, then one could add to them solely accidental forms.
3. Every connection of parts would thus be an accidental form.
4. An accidental form cannot provide the being with substantial unity.
5. A being consisting of such parts would not be a substance.
6. Integral parts of substances cannot be substances.

Krąpiec also draws attention to the fact that if one assumes a plurality of forms in one substance then the problem of substantial changes would disappear completely. Instead of that there would only be accidental connections of substances.³⁸

However, since parts of substances do not have their own substantial forms, they must be constituted by the form of the whole. This form performs all the functions of the forms, the parts would have, if they were independent beings. The form of the composite substance provides the parts with all the perfections which the parts of the same sort have when existing separately. Krąpiec stated, in reference to the philosophical tradition that the forms of integral parts exist in a virtual manner.³⁹

³⁶ See *ibidem*, 330.

³⁷ See *ibidem*, 330.

³⁸ See *ibidem*, 320-321.

³⁹ See *ibidem*, 333.

Krąpiec strongly emphasizes that such a view does not contradict science. Science cannot make assertions on the nature of reality. From a scientific theory, insofar as we in fact remain in the boundaries of a given science, one cannot infer anything on the topic of the identity and unity of beings investigated by that science. No mathematical formalism or no experiments in the particle accelerators shall indicate whether an electron within my body functions thanks to its own substantial form or whether after leaving my body it is destroyed, or still exists, maintaining its identity.

Is a composite substance, as it is understood by Krąpiec and other transformational hylomorphists – really composed, that is, do integral parts really exist, as something different than a substance in question? I think that Krąpiec would reply that a substance is indeed composed. One must remember that negating the existence of the part of the substance usually stems from the silent assumption on the substantial status of every sort of part. Therefore, if it is said that they are not substances, then it immediately leads to the negation of their existence. Krąpiec, in turn, would rather refer to the category of quantity.⁴⁰ The substance has integral parts because in itself it is modified by quantity. It is the quantity which causes that the material substance is not a point-like entity, but it extends in space. It is thanks to quantity that the substance has parts lying outside each other, and that belongs to the definition of extension. Quantity is a certain kind of intermediary between the material substance and its accidents. Accidents, such as sensual qualities, dispositions, etc., are spatially distributed indeed thanks to quantity. However, quantity is also an accident of the substance. Krąpiec would probably link the problems with acknowledging the existence of parts of substance with the tendency to hypostasize quantity. This tendency is particularly present in Cartesian philosophy and contemporary science. If after such hypostasizing we formulate arguments which indicate that parts are not substances, or else more neutrally: objects, entities, then we risk being accused of reductionism.

Meanwhile the understanding of parts of a substance on the grounds of classical hylomorphism compels us to acknowledge accidents of the substance as spatially distributed thanks to quantity. The substance is not comprised of parts, as it is modified by the quantity which “spreads” it. The composite substance in a way manifests itself through its parts and only in this sense it is independent from them. It cannot exist without some

⁴⁰ See *ibidem*, 292-298.

parts just like it cannot exist without some accidents. Nonetheless, it is not grounded in parts just like the related whole composed of substances is grounded in such substances or like Ingarden's higher level objects are founded on primarily individual objects. Scaltsas's and Marmodoro's aforementioned theses that the substance is not *composed* of parts should be understood just in this way

It should be also clearly stated that substances do not exchange parts between each other in a literal sense. The integral part separated from the substance perishes, similarly as the part incorporated into the substance. One should understand the exchange of parts as an influence of one substance on the other, leading to the disappearance of and the emergence of adequate groups of accidents in the latter. This sounds counterintuitive, with regard to the level of macroscopic parts, but probably this is not entirely baseless with regard to the quantum level. Since the repulsion of one electron by another consists in the emission and absorption of a photon, then why cannot the opposite occur, i.e., why cannot the exchange of particles between substances be considered an interaction between them? Interestingly, Krąpiec accepts the possibility that there is only one inanimate material substance, existing aside from numerous living substances which remain with it (and between each other) in interaction.

According to such a vision of the world, elementary particles are not something fundamental. They exist exclusively as parts of substances (animate or inanimate or one inanimate) and they are essentially groups of accidents of these substances.

Krąpiec would agree with the thesis that the substance acts exclusively through its parts.⁴¹ However, dispositions of parts, just like other properties, are dispositions of the substance itself and the form is their ultimate ground. Thus, while acting through the parts, the substance itself acts in a certain place which it occupies.

As one can see, although above all it concerns prime matter and the substantial form, Krąpiec's hylomorphism may successfully be compared with analytical hylomorphisms which concern mainly the relation between the form and parts of the substance. As I have attempted to demonstrate, his approach has certain advantages compared to the latter; that is, it is a consistent substantialism, it is better justified and it does not introduce controversial modifications in the understanding of form. It enables explaining

⁴¹ With the exception of the person who performs his/her rational operations (acts of the intellect and will) without the use of any organs.

the status of integral parts better and repealing the accusations that parts are only something superficial.

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The Problem of Accidental Existence in Mieczysław A. Krąpiec's Metaphysics in the Context of the Thomistic Discussion on *Esse Accidentale*

In the second half of the twentieth century a discussion was carried on among, predominantly, American and Canadian Thomists whether accidents (and thus such beings as: the smoothness of a leaf, the wetness of a flower, the redness of a tomato, Peter's wisdom, the shape of an oak tree) may have their own acts of existence.¹ In this chapter I shall analyze the main positions in this discussion, presenting them on the examples of the most representative doctrines. After that I shall analyze Mieczysław A. Krąpiec's views on this issue. This is not a trivial problem, although it may seem so. As it shall become apparent, it concerns the very foundations of existential metaphysics.

1. THE ESSENCE OF THE DISPUTE ON *ESSE ACCIDENTALE*

According to existential Thomists to exist means to have *esse*, i.e. existence. *Esse* is understood in this case as the main act of being which is

¹ The culmination and in a way the summing up of this discussion is the book by Barry F. Brown, *Accidental Being: A Study in the Metaphysics of St. Thomas Aquinas* (Lanham-New York-London: University Press of America, 1985).

conceptually different from all content, be it substantial or accidental, and of course it is *ex definitione* different from all the potential elements (e.g., prime matter). It not only has the function of actualization of entities (i.e. bringing it into existence), but it is also their main perfection. Existence actualizes ontic content in such a way that thanks to this they can be acts (*esse* is the actuality of forms) and perfect the entity in various aspects. The main problem debated in Thomistic metaphysics is whether *esse* actually differs from the essence of being, which is ultimately reduced to the question on the real distinction between *esse* and an essence. Thomists reply to that question positively when it comes to contingent beings, and negatively, when it comes to God.

Obviously, the problem discussed in the article is different and initially one may formulate it in the following way: should we accept both the existence of the substance (*esse substantiale*) as well as the existence of the accident (*esse accidentale*)? This question is still ambiguous and that is why further clarifications are required. Before I discuss them, I want to exclude two questions just in case. First, the analyzed issue is not equivalent to the problem if *esse* is an accident. No Thomist claims that. Second, this is not about the question connected with the thesis that *esse* of the contingent being is accidental in one sense and essential in another.² It is accidental insofar, as it is beyond the essence of the contingent being and is not implied by it; in turn, it is essential in this sense that it is constitutive for a given being as a being, and therefore the being cannot lose its *esse* and still be a being.

Understanding the question posed above obviously depends on the sense of the terms *esse substantiale* and *esse accidentale*:

(1) The question: "should we assume both *esse substantiale* and *esse accidentale*?" one can understand in the following way: do both substances and accidents exist? *Esse* is comprehended here simply as a fact of existence, a fact that something exists. The question posed this way is not specifically exclusive for Thomists: (almost) everybody can be asked about it, regardless of the accepted concept of being. All Thomists respond to this question positively, contrary, e.g., to reists (for whom there are only things), and from the other side the advocates of so-called bundle theory (for whom

² Joseph Owens dedicated most attention to this issue. See Joseph Owens, "The Essential and Accidental Character of Being in the Doctrine of St. Thomas Aquinas," *Mediaeval Studies* 20, no. 1 (1958): 1-40; Joseph Owens, *An Elementary Christian Metaphysics* (Milwaukee: Bruce Publishing Company, 1963), 68-79.

only properties and their bundles exist). Therefore, it is not here that the object of the title dispute lies.

(2) *Esse substantiale* and *esse accidentale* may be comprehended in a non-existential sense, as respectively: being something and being some way. Both types of being are then assigned to one thing,³ e.g. John's *esse substantiale* is his being a human, and John's *esse accidentale* is being wise, being musical, being a husband etc. *Esse* then refers to the word "be" used in respectively: *per essentiam* and *per accidens* predication.

(3) *Esse substantiale* and *esse accidentale* may mean modes of substantial and accidental existence. *Esse substantiale* is understood usually as separability (which anyways causes numerous problems with the criterion of substantiality), and *esse accidentale* as inseparability. These are ways to condition the fact of existence which come down to that that the substance with regard to the fact of its existence does not need anything with which it should coexist within a certain whole, and accidents need such a supplement in order to exist.

(4) *Esse substantiale* and *esse accidentale* may also function as names of types of acts of being (discovered just as above). The initial question is then interpreted in the following way: are the accidents actualized by the substance's, or else their own, separate acts of existence? It is precisely that question which constituted the object of the dispute among Thomists.

The interpretation of the views we find in this dispute, causes some troubles and for this reason that different meanings of *esse substantiale* and *esse accidentale* are not infrequently mistaken with each other. We encounter similar difficulties when trying to read Thomas Aquinas who certainly used all of these meanings, not always distinguishing them precisely. Moreover, one can also encounter in his thought both fragments which seem to testify against the thesis about the separate *esse accidentale* in meaning (4), just as ones testifying for its cause:

³ See, e.g., Thomas Aquinas, "On the Principles of Nature," c. 1, trans. R.A. Kocourek, in R.A. Kocourek, *An Introduction to the Philosophy of Nature* (St. Paul, MN: North Central Publishing, 1948) – in e-text: <https://isidore.co/aquinas/english/DePrincNatura.htm>.

Illud autem proprie dicitur esse, quod ipsum habet esse, quasi in suo esse subsistens, unde solae substantiae proprie et vere dicuntur entia. Accidens vero non habet esse, sed eo aliquid est, et hac ratione ens dicitur; sicut albedo dicitur ens, quia ea aliquid est album. Et propter hoc dicitur in VII *Metaphys.*, quod accidens dicitur magis entis quam ens.⁴

Now that properly exists which itself has existence; as it were, subsisting in its own existence. Wherefore only substances are properly and truly called beings; whereas an accident has not existence, but something is (modified) by it, and so far is it called a being; for instance, whiteness is called a being, because by it something is white. Hence it is said *Metaph. vii, Did. vi, 1* that an accident should be described as „of something rather than as something.”⁵

In nobis enim relationes habent esse dependens, quia earum esse est aliud ab esse substantiae: unde habent proprium modum essendi secundum propriam rationem, sicut et in aliis accidentibus contingit. Quia enim omnia accidentia sunt formae quaedam substantiae superadditae, et a principiis substantiae causatae; oportet quod eorum esse sit superadditum supra esse substantiae, et ab ipso dependens.⁶

[F]or in us the relations have a dependent being because their being is other than the being of the substance. Hence, they have a proper mode of being in their proper essence, just as happens in the case of the other accidents. Hence, they have a proper mode of being in their proper essence, just as happens in the case of the other accidents.⁷

I selected these quotes, because at first glance in them Aquinas considers esse in the meaning of the act of existence. Let us notice that in the first fragment he claims that the accidental form does not have its own existence, but it exists by the existence of something it is a form of. Therefore, substance and accidents have a common esse. Aquinas seems to argue

⁴ *Summa theologiae* I, 90, a. 2 c. The text according to the editions: Sancti Thomae Aquinatis, *Opera omnia*, iussu impensaue Leonis XIII P.M. edita, v. 5 (Roma: Ex Typographiia Polyglotta S.C. de Propaganda Fide, 1889), 386.

⁵ St. Thomas Aquinas, “*Summa Theologica*” Part I. trans. Fathers of the English Dominican Province. Second and revised edition (London: Burns Oates and Washbourne, 1920-1922), in e-text: <https://www.newadvent.org/summa/1.htm>;

⁶ *Summa contra gentiles* IV, 14, no. 12. The text according to the edition: Sancti Thomae Aquinatis, *Opera omnia*, iussu impensaue Leonis XIII P.M. edita, v. 15 (Roma: Riccardi Garroni, 1930), 57.

⁷ Thomas Aquinas, *On the Truth of the Catholic Faith*, trans. C. O’Neil, v. 4 (Garden City, NY: Image Books, 1957), 83.

that this is because the being of accident becomes reduced to granting to substances a certain type of being, i.e. that *esse accidentale* is only what was written under (2). However, maybe this citation is exclusively about the meanings mentioned under (2), also when substantial existence is discussed?

In the second passage Aquinas has an opposing view: the accidental form is something added to the substance, so it must have another *esse* than it, although *esse* is derivative and dependent on the *esse* of the substance. This would mean that only the substantial form shares its *esse* with the substance.

Establishing Aquinas's position is highly problematic, but this is not the Thomists' objective; it is to find out how things really are.

2. POSITIONS AFFIRMING THE DIFFERENCE BETWEEN *ESSE SUBSTANTIALE* AND *ESSE ACCIDENTALE*: JOSEPH OWENS AND JACQUES MARITAIN

According to Joseph Owens accidents are dependent on the substance with regard to their nature. This is how he interprets the scholastic slogan *accidentia non sunt entia sed entis*.⁸ Accidents are acts of the substance, which perfect it in a specific manner, and yet in such a way which does not change its essence. Owens, nonetheless, believes that except for dependence in the essential order also dependence in the existential order occurs, i.e., accidents have their own acts of existence which depend on the act of existence of the substance. According to Owens the following facts indicate a real difference, "quite obvious" in his opinion, between *esse substantiale* and *esse accidentale* in meaning (4):⁹

- existence of the accident is "being in," contrary to substantial existence;
- some accidents can perish, and the substance will continue to exist;
- the existence of the substance is independent, whereas the existence of accidents is dependent; if accidents shared existence with the substance, then its existence would not be genuinely dependent;
- if the existence of accidents were not different from the essences of accidents, then the accidents would not necessarily be finite beings nor

⁸ See Owens, *An Elementary Christian Metaphysics*, 155-159.

⁹ *Ibidem*, 159-161.

beings through participation; Owens has following issue in mind: substantial existence may occur in a subsisting version (God) and that is why we can ask whether contingent substances are their own existence, whereas accidental existence can never occur as subsisting and that is why it must be different from the essence of the accident.

I get the impression that in his arguments Owens nonetheless mixes various meanings of *esse*. This confusion is partly a result of his terminological decisions, namely using the word *being* to signify both the act of existence and the mode of existence, and even simply entities. For instance, the first argument clearly is about “being in” as the name of the connection between the accident and the substance. The second argument is about existence in the factual sense, and the third – about the way (of conditioning) of existence. Let us notice that the fourth argument may potentially prove the thesis that the essence of the accident is not its act of existence, and not the thesis that the act of existence of the accident is different than the act of existence of the substance.

Acts of existence of accidents are subordinated, according to Owens, to adequate Aristotelian categories: qualities, quantities etc., and the existence of the substance – to the category of the substance. In every category the act of existence is proportional to the essence of the being.¹⁰ The substance is obviously actualized by its substantial existence with regard to which it is its potentiality. However, Owens claims that substance is in potentiality also with regard to accidental existences. The accidental essences constitute, as Owens calls it, the secondary nature of the substance, and the accidental existences constitute the secondary existence of the substance which additionally actualizes it.¹¹ It is not known how to precisely understand the latter assertion. On the one hand, Owens speaks on *esse accidentale* in meaning (4), on the other hand, however, he constantly weaves into these considerations theses on *esse accidentale* in meaning (2), not distinguishing it clearly from meaning (4). This confusion is additionally deepened at the moment when he claims that “the accidental being is an existential joining of the accidental essence with the substance.”¹²

Maritain, in turn, considers the problem of *esse accidentale* in the context of the issue of subsistence as the feature characteristic for the substance, especially for the person. The French thinker, like all Thomists,

¹⁰ Ibidem, 162.

¹¹ Ibidem, 162-163.

¹² Ibidem, 163.

believes that existence is – in relation to the essence – an act. However, he understands that in a rather original manner. The actuality of existence is for Maritain more similar to the actuality of action rather than the actuality of the form, and the potentiality of the essence more to active potentiality (specific of the powers, dispositions) rather than to the passive potentiality of matter.¹³ Existence is what an essence “performs,” just like action is what a power (disposition) “performs.” Obviously, this is only an analogy for him: Maritain in no way considers existence as a process. However, analogy to action is very essential. For Maritain it is important that existence is, as he states, *exercised*, and therefore fulfilled, performed, realized by the entity. Existence of contingent things is also a *received* existence. Subsistence, for instance, of the human being, consists in the fact that although existence is received by him/her externally, nevertheless it is exercised by him/her personally. Accidents, in turn, also have received existence, but it is not exercised by them *per se*, but via the substances to which an accident belongs. Analogy to action is indeed more visible in the case of *esse accidentale*. Action, which is the actualization of some power (e.g., the intellect), is invoked by external factors (is “received”), but it is the entity which has that power that acts (it is the human who thinks), and not the power itself. The existence of accidents is not reckoned to their own account, but to the account of the substance which has accidents. Maritain writes about it more intricately, because he chooses powers and their actions as examples of accidents, which after all are also accidents that differ from these powers. We then have an accumulation of acts of existence of various accidents. Moreover, for Maritain existential acts may be performed either in a fundamental manner (proper) or an instrumental one (secondarily).

Let us notice that this is a thesis equivalent to that by Owens. Not only is the essence of the accident, in a certain sense, the content of the substance itself (accidental essences are modifications of the substance), but also the existence of the accident is ultimately the secondary existence of the substance. Maritain claims that only such an understanding of *esse accidentale* protects us against thinking about accidents as some sort of “junior” substances.

¹³ See Jacques Maritain, *The Degrees of Knowledge*, trans. G. B. Phelan (Notre Dame: University of Notre Dame Press, 2002), 460, 463.

3. POSITIONS NEGATING THE DIFFERENCES BETWEEN ESSE SUBSTANTIALE AND ESSE ACCIDENTALE: ETIENNE GILSON, GEORG P. KLUBERTANZ, LEO SWEENEY

Gilson believed that the introduction of separate acts of accidental existence deprives the substance of its unity. He also claimed that the thesis that an accident is dependent on the substance, or the thesis that *accidentis esse est inesse*, or else the thesis that the accident is not a being, but only something belonging to the being and that accidents have “only relative and borrowed”¹⁴ existence are indeed reduced to the statement that the accident participates in the existence of substance:

To speak of things as „substances” is not to conceive them as groups of accidents bound by some kind of copula to a subject. Quite to the contrary, it is to say that they set themselves up as units of existence, all of whose constitutive elements are, by virtue of one and the same act of existing, which is that of the substance. Accidents have no existence of their own to be added to that of the substance in order to complete it. They have no other existence than that of the substance. For them to exist is simply “to-exist-in-the-substance” or, as it has been put, “their being is to-be-in”. The full sense of the expression “to be by itself” is here revealed in all its profundity. ... Substance exists by itself in this sense that whatever in it is, belongs to it by virtue of a single act of existing¹⁵

The opponents of the thesis on the separate accidental existence accept the distinction between *esse accidentale* and *esse substantiale* as they are meant in (1)-(3). They claim that both substances and accidents exist, that thanks to accidents substances are attributed being some way, different than being what they are, and they recognize the dissimilarity with regard to the accidental and substantial ways of existence. Nevertheless, according to them, the fact of the accidental existence occurs thanks to the fact that they are actualized by the *esse* of the substance, and the difference with regard to the mode of existence is based on the *esse* being attributed to the substance directly, and to accidents in a manner intermediated by the

¹⁴ Etienne Gilson, *The Christian Philosophy of St. Thomas Aquinas* (London: Victor Gollancz Ltd, 1957), 39.

¹⁵ *Ibidem*, 44.

relation of inherence. Accidents provide substances with a new act (being some way, *esse tale*), but it is not an additional act of existence.¹⁶

Referring to the unity of being is important here, the more so that substantialism is indeed a position on the issue of the possibility of reconciliation of plurality with unity. We can ask: why is a being in which we distinguish multiple aspects one being and not a plurality of beings? This concerns plurality both in the synchronic and diachronic order (unity in time). This is linked with the question of identity: how can there exist within an entity with one identity various entities that are different from it? In Aristotelian substantialism this problem is solved by the subordination of the identity of accidents to one absolute identity of substance. The substance is singular, because it has one absolute essence, and everything else, which may be found in substance, has the essence which contains the reference to the substance's essence. In this sense the substance is "covered" by one essence and it is not a pure plurality of elements. Since in existential Thomism the act of existence is the factor which is superior over the essence, substantial unity requires for the act of existence to be singular and for everything which can be distinguished in the substance, to be actualized by this *esse* in varying proportion designated by internal relations occurring in the structure of the substance. George P. Klubertanz perfectly put it:

Since substance and its accidents together make up the whole real thing-and the whole real thing is that which properly is-they themselves are real with a many-to-one analogy. The "many" are the constitutive principles of substance and accident, and the "one" is the whole made up of them. ... Substance is (more or less) permanent nature of the thing and is that in the thing by which an existent has *esse* in itself; the act of existing pertains, within the being, most closely to substance. ... the *esse* of the whole being is also the *esse* of all the principles of that being (many-to-one analogy); yet it is also true that this *esse* is not the *esse* of all the principles equally but in proportion to the way in which the principles constitute that being. Now, substance is the essential nature of that which is Hence, substance is directly ordered to the act of existing Accident, on the other hand, is related to that which is, not of itself, but through substance. ... Since accident naturally depends

¹⁶ See Clifford G. Kossel, "Principles of St. Thomas's Distinction between the *Esse* and Ratio of Relation," *The Modern Schoolman* 24 (1947): 19-36, 93-107, and James S. Albertson, "The *Esse* of Accidents according to St. Thomas," *The Modern Schoolman* 30 (1953): 265-278.

on substance for its being, we can say that accidents *are*, not directly but by inherence.¹⁷

Let us notice that proponents of distinguishing separate acts of accidental existences anyway subordinated these existences to the existence of the substance – the issue of unity was also important for them. The opposite position is more economical and explains in a much simpler manner both the unity of being and the dissimilarity of the ways of existence (way of conditioning the fact of existence) of the substance and of accident. It turns out that *esse substantiale* and *esse accidentale* are no variations of *esse*, but variations of subordinating the being to *esse* which in itself cannot be accidental, nor substantial. Just as Sweeney writes:

The stringent unity to be found in a man (or, for that matter, in any *unum per se*) indicates there to be only one act of existing within him. One and the same act actualizes the substance and accidents which constitute the individual essence. No accident, then, has its own act of existing; each is existentialized by the single act existentializing the whole. In short, there is no *esse accidentale*. In itself, the act of existing is neither accidental nor substantial.¹⁸

Such a position seems to be also more in accordance with the very understanding of *esse* by the Thomists. This is why the *esse* is radically differentiated by them from any sort of essence, and therefore it is contentless. As a principle of unity, it must be simple itself, otherwise its complexity would yet again require explanation. Hence there cannot be many variations of something which in itself is simple and contentless. Naturally, according to Thomists, the *esse* of the contingent being is always an *esse* which actualizes some content and it is impossible for it to occur separately. However, if it is something really nonequivalent with the essence, then it may be considered in itself, in separation from the essence, and also its connection with the essence does not change anything in its internal (negatively comprehended) characterization. Thus all differentiation of the *esse* may occur exclusively with regard to that, of what is its existence, but then the difference is either reduced to the essence or to the relation to the *esse* which is its result. However, the fact that the act of existence is,

¹⁷ George P. Klubertanz, *Introduction to the Philosophy of Being* (New York: Appleton Century Crofts, 1963), 97.

¹⁸ Leo Sweeney William J. Carroll and John J. Furlong, *Authentic Metaphysics in an Age of Unreality* (Eugene: Wipf and Stock, 2007), 94-95, footnote 44.

for instance, the act of existence of a person, does not mean, that in itself it has a personal character.

4. MIECZYŚLAW A. KRĄPIEC'S POSITION

Krąpiec rightly notes that the difference between the substance and accidents is not primal and we need arguments to justify it. He rejects the idea that in order to recognize it, analyzing the concepts of being in itself and being in the other is sufficient. These notions are mutually related to each other and inferring about one on the basis of the other leads, in Krąpiec's view, to a vicious circle. He proposes to justify the existence of the accident and the substance by way of explaining the fact of change. We notice that not every change leads to the destruction of the entity, hence there must be certain constant and changeable elements in the entity. That which decides about the constancy of an entity, about the conservation of its identity during a change, is called the substance. In turn, that what undergoes change is called an accident.¹⁹ This way Krąpiec, in the context of the considerations on the substance – contrary to most Thomists – limits the scope of the name “accident” only to contingent accidents, implicitly excluding proper accidents in which he believes in a way (namely the powers of the soul) and for the sake of which he argues in another place.²⁰ Being aware of such a basis for discerning the substance and the accident proscribes us to consider as incorrect the immediate equation of the accidents with “borne” elements, and the substances with the “bearing” entity advocated by Krąpiec.²¹ If the substance is everything which is necessary in the being, then how can one know that it is only one element, and in addition, which performs a function of a subject?

Equating the notion of the accident with the notion of that what is unnecessary in the entity causes also additional complications. Namely Krąpiec quite often presents as examples of accidents not necessarily parts of substances, such as a finger, hair or leaves. What accidental category should such beings belong to? Obviously, there is a problem with the status of

¹⁹ See Mieczysław A. Krąpiec, *Metafizyka* (Lublin: RW KUL, 2000), 104-105, 269-271.

²⁰ See Mieczysław A. Krąpiec, *Psychologia racjonalna* (Lublin: RW KUL, 1996), 39-41.

²¹ See Krąpiec, *Metafizyka*, 270.

integral substances and on the grounds of such a strong substantialism as the Aristotelian they should be ultimately considered as spatially distributed (thanks to the quantity) bundles of accidents; nevertheless they (these parts) are not accidents in the understanding presented in Aristotle's *Categories* and in relation to the issues on which the above mentioned dispute is being conducted. Krąpiec's thesis stating that the accident is potentiality with regard to substance may surprise Thomists (or more broadly: Aristotelians).²² This certainly contradicts the entire Aristotelian tradition as well as other passages from Krąpiec's works. Later on I shall try to point to such a sense of this thesis in which it can be defended.

Accidents are the emanation (Krąpiec's favorite phrase) of the substantial subject. They are lost and gained by the subject, but they cannot exist in separation from it, similarly as the subject cannot exist without its accidents. The substance must have some accidents, although not necessarily those which it has at a given moment. Accidents, in turn, are absolutely subordinated to one subject. Naturally, this refers to what contemporary analytical philosophers call generic dependence and rigid dependence. The question of the dependence of the accident was nonetheless formulated by Krąpiec in an incredibly vague manner. Definitely its understanding is not facilitated by such statements as: "The accident which gets 'detached' from the substance becomes ontically self-sufficient, as long as it still exists."²³ This is a truly shocking statement, if we take into consideration accidents in a traditional sense. Krąpiec, however, means that, e.g., a finger, which while remaining within the realm of the substance, is an accident (according to Krąpiec), after being cut off, becomes a new substance or a set of new substances.²⁴ Even thus understood, this thesis is not acceptable, because it is not so that one and the same thing is initially an integral part of the substance and has the status of an accident, and after detachment it still remains

²² See Mieczysław A. Krąpiec, s.v. "Akt i możność" in *Powszechna encyklopedia filozofii*, ed. Andrzej Maryniarczyk et al., v. 1 (Lublin: PTTA, 2000), 145. This does not seem to be simply an editorial error, because in the *Słownik-indeks problemów* [Glossary-index of problems], in v. 10 of *Powszechna Encyklopedia Filozofii* [Universal Encyclopedia of Philosophy] (ed. Andrzej Maryniarczyk et al. (Lublin: PTTA, 2009), 720), this was replicated by the editors (already after Krąpiec's death) in exactly the same way. This thesis was repeated on numerous occasions by Lublin Thomists from a younger generation in discussions with the author of this chapter, which allows one to treat it as the standard knowledge in the Lublin School.

²³ Krąpiec, *Metafizyka*, 273.

²⁴ *Ibidem*, 351.

the same thing, just already enjoying the status of the substance. After detachment the integral part of the substance simply perishes. Undoubtedly, the condition "as long as it still exists" makes the entire analyzed sentence true on the principle that it is fulfilled in an empty manner. Krąpiec also not infrequently states that the accident may be separated from the substance, but he has in mind only the possibility of destroying the accidents.

Krąpiec has an accurate intuition that accidents are forms which grant certain "shape" to the substance, a certain mode of being; in this sense the exchange of accidents really changes the substance without destroying its essence. This is a thesis probably accepted by all Aristotelians. However, Krąpiec's understanding of this thesis raises doubts:

If accidental changes perpetually take place, then they influence the mode of existence of substance-being. Inside the substantial being itself, the necessary relations become modified, constituting a concrete beingness. Admittedly the being is identical, when it contains the same (inseparable) elements of the substance, but through the deep changes of accidents "differently," i.e., more or less perfect, in the aspect of the substantially timely element, they assemble into relations of exclusively substantial parts.²⁵

If I understand correctly, this is about the non-self-sufficient parts of the substantial subject; i.e., form and prime matter. In what way can the relations between them change? They are indeed necessary, and, therefore, they cannot be exchanged to other ones without losing the identity of the subject. Krąpiec, as one can see, claims that in order to preserve this identity, it is enough to preserve the identity of the elements connected by relations, and these relations may vary. However, then these relations would be categorial (accidental), and the essence of things would simply be the plurality (pair) of separable elements. These consequences are overtly discordant with the transcendentality and necessity of such relations underlined by Krąpiec, and even with the tendency to identify their arguments with them.²⁶ Therefore, one has to admit that in the substantial change, the substantial subject changes indeed, but not in the sense that it is exchanged to another one or that some of its components or relations between components become replaced by others. The change of the subject is indeed an accidental change which does not scathe the potential internal structure

²⁵ Ibidem, 272.

²⁶ See ibidem, 282-284, 287, 408-409.

of the subject at all, and only makes it in a new way *how* it is, with the full preservation of *what* it is.

Krapiec wants to emphasize that accidental changes may cause various “intensities” of the essence. In the case of the human being, it is his/her improvement of the virtues, both intellectual and moral, which makes him/her more human. This obviously makes sense and is one of Krapiec’s most beautiful ideas. However, contrary to what Krapiec claims, this cannot be based on the internal change of the essence itself. If we consider the fundamental function of the essence: making the being what it is, then any change within the essence itself is out of the question. In a literal sense, one cannot be a human to lesser or greater degree. Undoubtedly, in the case of a virtuous human his/her humanity is manifested with greater ease and frequency than in the case of a human burdened with vices. The essence is manifested in action, and virtues, as improvements of the will or intellect, facilitate this manifestation. However, both the virtuous human being and the unrighteous one are human beings in the same sense.

As far as our main issue is concerned, Krapiec’s position should be assigned to the first group. He believes that accidents have their own acts of existence, although these are acts of existence which depend on the act of the substance’s existence. What are his arguments?

According to Krapiec, one cannot simplify reality itself – the being. The being, in turn, is something analogical, whereas:

The reduction of the accident occurs in the context of a certain assumption, namely, accepting some sort of “univocal” perspective of the being, usually comprehended as sort of substantial essence, and then one denies the reality of the accidents. One has to be aware of this analogical, univocal character of the concept of being. The being, indeed, may be realized in multiple ways and wherever we notice some existing essence which is irreducible to the other, we are obligated to assume a real, and not only mental modification of the being. These real modifications of the being are accidents.²⁷

In this argument one can immediately see confusing *esse accidentale* in meaning (4) with *esse accidentale* in meaning (1), which additionally finds its confirmation in Krapiec’s suggestion that denying the *esse* of accidents leads to reism.²⁸ As we can see, no Thomist who opposed the thesis about

²⁷ Ibidem, 349.

²⁸ Ibidem, 349.

distinct esse of accidents negated the reality of accidents. None of them believed that accidents exist in the same way as substances – to the contrary, for them the beingness of the substance was realized differently than the beingness of the accident. However, it is not fully known what Krąpiec had in mind, adhering in that fragment to analogy. He probably means the concept of analogy of transcendental proportionality, entangled in the very understanding of being as any sort of existing essence. Then every essence recognized as being should be attributed an act of existence. Such an argument is supported by many implicit assumptions, the most important being the one that the fact of the existence of something must be analyzed as having own esse. In the case of various beings this esse is assigned to the essence in a different proportion. All existential Thomists agree that the fact of existence should be analyzed in the categories of having esse, but not all of them would be willing to say that every time this esse must be distinct for every distinct essence and must be linked directly with that essence. From the point of view of such thinkers as Gilson, Klubertanz or Sweeney these are indeed Krąpiec, Maritain and Owens who substantialize accidents, because they assign them their own acts of existence which are directly attributed to them. It is worth noticing that opponents of the thesis on the distinct esse *accidentale* are aware of the difference (at least conceptual) between the fact of existence and esse. Gilson was the most aware of this difference. Being aware of this difference does not allow one to immediately move from the thesis “A exists,” to the thesis “A has esse,” and subsequently to the thesis “A has its own esse” (which does not mean that such a transition is *a limine* excluded). In Krąpiec’s writings this difference becomes blurred,²⁹ hence he understood the fact of existence of accident as the accident’s having a distinct act of existence.

Krąpiec based his second argument on the thesis of assigning a separate act of existence to every separate essence. This is an argument of greater cogency than the prior one:

Neither can one agree with an assertion that the contents of the substantial and accidental essence exist only with one existence, because existence and essence are transcendently assigned to each other and they create only one being. There, in turn, where in some aspect there is one being, there is also a composition of one essence and one exis-

²⁹ The blurring of that difference probably is not a result of the lack of its knowledge. Since Krąpiec’s disciples are aware of that difference, he also must have been aware of it.

tence. Real accidents would exist as *entia per accidens* or seemingly unreal, non-existing accidental essences then, if they were supposed to be located “under” one real substantial existence. Anyhow an important argument supporting the claim that accidental beings have their own existence is the fact of the possibility of separating some accidents from the substance. After being detached these accidents cease to naturally exist since their existence is non-self-sufficient, subjectivized in the other (*ens in aliud*); however, they can be separated.³⁰

Krąpiec refers in this fragment to transcendental unity, and that, according to him, “follows the being” – *unum sequitur esse*. Therefore, where really different beings exist (and this is signified by the possibility of destroying the accident without destroying the substance), there must be really distinct acts of existence. Yet what does the expression “really different beings” mean in this context? If it were only the question of a real distinction (non-identity), then Krąpiec would need to claim (which he opposes) that prime matter, substantial form, essence and existence have their own acts of existence which anyhow would generate infinite regress. Krąpiec, nonetheless, has the categorial difference in mind: something which belongs to various categories of being must have various acts of existence. For this reason the existence of the substance cannot actualize accidents; otherwise they would turn out to be something apparent, and therefore something which does not have categorial specificity. Accidents would not truly belong to another ontic category than a substance, just like form and matter do not belong to separate ontic categories – and that is why form and matter are not beings (which Krąpiec stresses on multiple occasions):

Therefore, if there is only one, really existing being, then in the same category in which the being is located, there are these really existing factors constituting the being. Therefore if the being is a substance, then factors constituting the real substance do not fit into some category beyond the substance, but admittedly they belong to the category of the substance. And if the substance is a concrete substance, e.g., this particular human being, then we shall not say that only the content of the substance is human, and the existence is, for instance, “divine,” but we claim that both the essence and existence are human. ... If, in turn, the content, i.e., the essence, is an accident, then in this case existence is determined to it, because, again, that which exists is

³⁰ Krąpiec, *Metafizyka*, 349-350.

the being – accident, in which we can only distinguish the aspects of the essence and existence.³¹

This argument (contained jointly in the last two quotes) is based on specific understanding of the category and the even more distinct understanding of the *esse*. One cannot uphold either of them.

First, Krąpiec understands here categories as the supreme genera of being, although completely similar in their structure to such genera as *animals, plants* etc., i.e., to genera delineated by a particular essence (animality, plantness etc.). Obviously it is so that two beings belonging to thus understood various genera, must have diverse types of *esse*. Meanwhile, categories are not distinguished at all on account of some sort of essence, albeit the most general. They are distinguished precisely due to their mode of existence (in the factual sense) and the function which they play with regard to beings of other categories. The substance is separable (let us assume this simplification) and functions as a subject, whereas qualities are inseparable and function as determinations, similarly to quantity, although it is a determination of another sort. The relation depends on its arguments and plays the function of referring one being to another etc. Additionally, it is important that the functions performed by accidents belong to their essence and are always directed towards the substances. Hence beings which belong to accidental categories are not simply essences for themselves, but they are contents of the substance itself, its modifications. Attributing them a distinct *esse* is indeed the first step towards making them independent. The categorial specificity of quality, quantity etc. is not about having some sort of specific contents or specific *esse*, but about the adequate function and way of existence. These, in turn, are perfectly preserved, and even more understandable, also when these accidents do not have their own *esse*. On account of this, opponents of separate *esse accidentale* rather stressed the thesis that accidents, similarly to forms, are not beings, but something belonging to the being. Accidental categories are not drawers for separate (albeit dependent) beings, but ways of modifying the substance and that is why, although they differ from the substance categorically, they are nonetheless actualized by its existence.

Second, the problem with variations of *esse* returns here. Krąpiec clearly claims that not only do the essences of beings belonging to various cate-

³¹ Ibidem, 348.

gories differ among each other, but so do their acts of existence. The issue is not exclusively about the numeric difference. This difference is much stronger. Krąpiec even claims that somebody is, for instance, a person not thanks to one's essence, but thanks to personal existence³² which differs from nonpersonal existence. And yet how can these acts of existence differ in themselves, i.e., in such a way that the difference is not reducible to the essences which they actualize, if the acts of existence in themselves are contentless and simple? The stringent coupling of existence with essence will not help here at all, because still, despite this coupling or inseparability, a real distinction (nonidentity) between existence and essence is supposed to occur. Are we not dealing here also with a peculiar form of overdetermination? If the human being has both human essence and a distinctly human existence, then is he or she not doubly determined to being a human being? One of these factors would be sufficient, e.g., human existence. In this case the fully justified elimination of the second factor leads nonetheless to a vision of the world constituted exclusively of acts of existence which have their own specificity. Such a vision of the world is foreign for Thomists, including Krąpiec. We can obviously claim that existence is, e.g., personal or impersonal, because it is linked with the essence of the person or non-person. However, this does not change anything in existence itself which is anyway non-identical with the essence, although it is inseparable with regard to the essence.³³

Further on in his work Krąpiec smoothly passes on from the issue of transcendental unity, such, as he understood it above, to the problem of unity made up by the substantial subject and the accidents. He claims that the only guarantee of such unity is the act of existence of the substance:

Therefore, if there is one existence in the being and if it is an act, as it was indicated, then all the other constituent elements of the being, and thus the essence, designated by the first substantial act, called the form, together with secondary acts, which are the accidents existing

³² Ibidem, 278.

³³ Michał Głowala drew my attention to the issue that existence is in fact simple, but it is not contentless. Existences would then diverge from one another, just like simple qualities. Also types of existence would be possible. I do not wish to discuss this question here. I only wish to notice that Krąpiec nonetheless considered acts of existence to be essence-less and he claimed that they cannot differentiate themselves differently than through that what is actualized. See Krąpiec, *Metafizyka*, 358. This anyway is the presumption of the proof indicating that the lack of real difference between essence and existence in contingent beings would lead to monism.

from the being and in the being – all this in relation to real existence is ontic potentiality. All of the ontic potentialities (which are some sort of essential acts) are ultimately actualized as one substantial existence.³⁴

At first glance the reader of Krąpiec's *Metafizyka* [Metaphysics] has the right to be disoriented and surprised that its author in the span of several paragraphs radically and rather imperceptibly changes his position. However, Krąpiec immediately adds:

Nonetheless this does not exclude that in one being there can be multiple existences – accidents; however, these existences, just as the accidental essences, are derivative in relation to the entire being, consisting of essence and existence. These accidents (their essence and existence) are something real only when they reside in the real substance and under the existence of the actual substance.³⁵

The last sentence suggests that Krąpiec professes the thesis advocated both by Maritain and Owens: the substance is the subject not only of the essence, but also of the acts of the accident's existence. This is confirmed by another fragment:

[T]he new accidental form assumed by the subject ... is linked with substantial existence, but this connection occurs ... due to the potentiality of the subject ..., insofar as some substantial existence is the existence of the same subject as the substantial existence of the new form, acquired by the existing subject. Therefore, if we have many existences in the being – substantial existence and accidental existence – then this fact is possible only thanks to the fact that one substantial subject is composite and because of that it constitutes in a varying sense the potentiality of this here accidental existences.³⁶

Substance, therefore, is in three senses the potentiality with regard to, respectively: its substantial existence, accidental forms and accidental existences. Nonetheless, let us notice that accidental act of existence become real, according to Krąpiec, due to substantial existence. Perhaps, in this sense accidents are potentialities in relation to the substance. As forms, they

³⁴ Ibidem, 351.

³⁵ Ibidem.

³⁶ Ibidem, 358.

are acts of substance, but also, as ultimately made real by the substance's *esse*, they are potentialities.

In case of Krąpiec's thought we can notice a peculiar existentialization of *esse accidentale* in meaning (2), which is an operation opposite to the essentialization of *esse accidentale* (2) present in Gilson's works. Gilson believes that *esse accidentale* is something attributed to the substance, but he claims that it is the same accidental form, actualized by the existence of the substance. For him the substance's *way how it is* does not have an existential sense. Krąpiec, Maritain and Owens, in turn, claim that *esse accidentale* is an act of existence, and therefore, the substance's *way how it is* has also an existential dimension.

As we could see, Krąpiec's concept of accidental existence, similarly to the Maritain's and Owens's twin concepts, raises numerous justified doubts. It seems that a much simpler solution would be recognizing that the substance's *esse* itself actualizes accidents through a relationship of inherence. One could say then that the fact of the existence of the substance and the fact of the existence of the accident occur, but all of them consist in having the one and the same *esse*, albeit in a direct or indirect manner. Advocates of distinct accidental existences seem to somehow duplicate factors due to which accidents exist, which yet again leads to overdetermination: an accident is real both thanks to the substance's *esse*, and thanks to one's own *esse*. On the other hand, such a reduction as is performed by Gilson and others opens the path to the reduction of the *esse substantiale* itself. For what then prevents saying that substances are actualized by the existence of God as such, insofar as they participate in Him by means of the relation of *being created* and that is what their dependence consists in? It is then that the relations between beings become their *esse* in a proper sense, that is, it is they that make them existing entities. The substance is brought into existence by its relation to the Absolute being, and the accident – through its substance. Then both participation and the analogy of transcendental proportionality would have to be understood differently. This would mean a complete abandonment of existential metaphysics. Perhaps (I stress the suppositional character of this thesis), Krąpiec anticipated the consequences of such a reduction and that is why he postulated separate acts of accidental existences.

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Antoni B. Stępień's Metaphysics: A Comparative Approach

1. AN OUTLINE OF METAPHYSICS

Antoni B. Stępień precedes his metaphysical considerations with some metaphilosophical assertions. He distinguishes five conceptions of philosophy: classical (which he favors), positivistic, neo-positivistic, linguistic and irrationalistic. The classical conception – contrary to the irrationalistic one – treats philosophy as rational knowledge¹; however, contrary to the remaining conceptions, it is treated as an object-focused (transgressing beyond methodological or linguistic findings) and autonomous knowledge (epistemologically and methodologically independent from the particular sciences). There are numerous disciplines of classically comprehended philosophy, yet Stępień recognizes as its fundamental branches only metaphysics, i.e. theory of being, and epistemology (gnoseology), i.e. theory of knowledge. The first one investigates that what exists in order to establish its structure and necessary conditions for its existence; the other, in turn, examines that what is given in order to establish the foundations of its credibility on informing about something. Metaphysics and epistemology (gnoseology) grasp in a complementary manner two various aspects of the object of philosophical

¹ Cf. Antoni B. Stępień, *Wstęp do filozofii*, 5th edition, extended (Lublin: TN KUL, 2007), 25.

inquiries; its remaining disciplines are its particularizations or have some auxiliary functions. The especially important particularizations (parts) of metaphysics concern the ontic aspect of the absolute being (the Absolute or God), nature, the human being (and human creations, e.g. works of art) and various sorts of values. However, considerations on their topic require assertions within general metaphysics.²

Stępień's understanding of general metaphysics is comprised of the following components or stages:

- analysis of the notion of being as being;
- establishing the principles of the rationality of beings;
- recognizing the structures of beings due to various types of their complexity and variability;
- analysis of contingency of beings and reasoning leading to ascertaining (on the basis of recognizing the contingency and rationality of beings) the existence (and main attributes) of the absolute being (the Absolute-God).

At the first stage of Stępień's presentation of metaphysics – in line with existential Thomism – he draws attention to the distributivity, transcendentality, existentiality and analogicity of the notion of being (as being) analyzed by metaphysics. This means that the metaphysics which he develops is about recognizing the necessary conditions of the existence of every (any) being, regardless of its character, and yet with the inclusion of an enormous diversity of beings. At each subsequent stage Stępień explains fundamental metaphysical theses, the so-called first principles (of being and thinking): identity, non-contradiction, determination (excluded middle), double negation, sufficient reason, efficient causality, proportionality of action, final causality. He dedicates more space to sufficient reason, particularly important, for instance, in the argumentation for the existence of God. We will devote a separate fragment of this article to this issue. Now we shall draw attention to his metaphilosophical description of the first principles. According to Stępień the first principles:

- 1) "by establishing necessary conditions for being a being, specify the notion of the being,
- 2) they relate to every being,
- 3) they are unprovable [although they constitute the assumptions of all proofs or they are justified indirectly – J.W.],

² We omit here – apart from philosophy of God (which we shall discuss below) – Stępień's discussion of so-called particular metaphysics.

- 4) play an important role in metaphysical reasonings [...]”³,
- 5) describe the transcendental properties of being: “every being is a being, [...] non-contradictory unity, [...] something determined, [...] ‘different’ than the other being, [...] is intellectually cognizable, may be understood”⁴ etc.,
- 6) they constitute (with a particular inclusion of the principle of sufficient reason) the order of rationality (intelligibility, sensibility, congruence to reason) of reality,
- 7) some of them have their equivalents in formal logic.

At the third stage of Stępień's introduction to metaphysics – passing on from transcendental considerations to (more) categorical ones – he draws attention to the complexity of being. This issue is connected with various kinds of structure: part–whole and (what is particularly metaphysically profound) the structures: substance (subject) – accident (property) and substantial form – first matter. Stępień, referring to Aristotle, introduced the two latter compounds in order to explain (respectively) non-essential (accidental) and essential (substantial) changes. Moreover, the justification of the first compound is strengthened with a phenomenological description of this compound, given in external and internal experience as well as the critique of competing theories of the object. Stępień introduces the theory of the act and potentiality later on, rather as a generalization and systemic supplement of the theory of ontic compounds and changes.

Moreover, in this part of Stępień's introduction, he explains and justifies, in the spirit of existential Thomism, the assertion about the (real) compound of every (contingent) being from essence and existence. One can find the following arguments to support this thesis in Stępień's works:

- this thesis is a consequence of the analysis (clarification) of the notion of the being as a being (so-called separation) – its conclusion is the “intellectual perception” that the necessary conditions for being a being are simultaneously and separately: a certain content (essence) and its existence⁵;
- this thesis is a result of the analysis of the notion (definition) of any (contingent) thing: on its basis one cannot resolve whether a given thing exists; therefore we grasp the essence and existence in different intellectual operations⁶;

³ A.B. Stępień, *Wprowadzenie do metafizyki*, p. 80.

⁴ *Ibid.*, p. 81.

⁵ Stępień, *Wstęp do filozofii*, 74.

⁶ *Ibidem*, 190-192.

- we may treat this thesis as a metaphysical explanation of the situation that any given (every) existing contingent being does not of necessity exist: the fact of its existence “is as-if of a guest who feels at home, but can always leave”⁷;
- this thesis is connected with the fact of differentiating objects with respect to (at least two) modes of existence; in experience we are provided also not only with properties of objects, but also their ontic (existential) positions: we recognize fish scales of fish consumed during a meal (or one hundred actual gold coins in one’s pocket) and fish scales of an imaginary mermaid (or one hundred gold coins which were simply thought of) as existing in different ways – the former in reality, and the latter purely intentionally⁸;
- this thesis may be justified indirectly: if there were no genuine difference between essence and existence, “such phenomena as the fear of death or annihilation, rush to fulfilment would not make sense ... Any change would be a change with regard to essence ... and not existence. The concept of the being or the nonbeing would not have any meaning at all. This is clearly incompatible with our mode of being among objects.”⁹

In the first three cases Stępień clarifies pre-existing arguments (perhaps he reduces the first – developed in a more sophisticated way in the Lublin School of Philosophy – to the second one). The fourth argument refers to Ingarden’s phenomenological ontology and it distinguishes Stępień from most Thomists (at least from most existential Thomists). The fifth argument, in turn, seems to be Stępień’s original proposal. His analyses of criteria of existence deserve separate attention. He considers the following criteria: being an object of experience, effect-generation, internal noncontradiction, specificity, representability, constructability, utility, cognoscibility.¹⁰ Let us add that the limitation of each of these criteria points indirectly to the irreducibility of existence to any sort of essence. After all, the nature of existence

⁷ Ibidem, 499.

⁸ Por. Stępień, *Wstęp do filozofii*, 498; Antoni B. Stępień, “Zagadnienie kryterium istnienia” in *Studia i szkice filozoficzne*, vol. 4, ed. Arkadiusz Gut (Lublin: RW KUL, 1999), 322-338.

⁹ Stępień, *Zagadnienie kryterium istnienia*, 332.

¹⁰ Ibidem, 325-329. This issue is connected with the problems of the notion of existence and existential judgment which Stępień positively develops, and with the notion of non-existing objects which he criticizes.

is not reducible to any of its (content) criteria, just like the nature of truth is not reducible to any of its criteria.

Let us note that Stępień is aware of the metaphysical significance of the monism–pluralism dispute. His auxiliary input into philosophy consists in the distinction of five versions of this dispute: the numerical, qualitative, structural, existential and cosmological.¹¹ In the first four cases he favors pluralism, and in the latter monism. We shall return to his critique of some forms of monism later on.

2. THE PRINCIPLE OF SUFFICIENT REASON

As we already mentioned, rationality of being – in Stępień's view – consists in being subject to first principles. Among them a central place is held by the principle of sufficient reason which – also due to the etymological connection between “reason” and “rationality” – expresses this rationality (and the basis for the rationality of cognition) in a particularly clear manner. The aforementioned principle assumes in Stępień's textbook the following formulations:

For every being there exists (within it or beyond it) that thanks to which that being is what it is. ...

Every being has (internally or externally) a sufficient reason for that what it is. ...

Every being has a (internally or externally) sufficient reason for its existence.¹²

The first two formulations concern the essence of being, while the third – its existence. Moreover the first formulation contains the definiens of the expression “sufficient reason.”

Usually, either this principle was derived from prior principles, or it was justified by referring to an intellectual intuition of being. Stępień, in turn (in a somewhat Aristotelian style) stresses a negative (indirect) justification, pointing to the consequences of rejecting the principle: inaccuracy of posing

¹¹ Stępień, *Wstęp do filozofii*, 84.

¹² *Ibidem*, 180–181.

questions such as “why?”, ontic anarchism (“one may expect anything”),¹³ the impossibility of discerning truth from falsity (“nothing should surprise us”).¹⁴ It is difficult to entirely reject the aforementioned principle, therefore, nowadays it is rather only partially negated, by claiming that there are unique states of affairs which are not subject to this principle and thus do not have a reason for it. Stępień’s response here is dialectical:

Is there a reason for something that does not have a reason for its existence? If there is a reason for not having a reason, then the [above] position [i.e. negation of the principle of sufficient reason] is false, if there is no reason for not having a reason, then one cannot discern the lack of reason from the lack of recognition of reason.¹⁵

Let us notice that this kind of defense (of universal validity) of sufficient reason seems to be Stępień’s original idea. At the same time, he assumes the possibility of the validity of a nonstandard (liberal, weaker or more general) version of the principle of sufficient reason which permits a distinct reason at a higher level, i.e. the reason for the lack of reason. Except for Stępień only Robert Nozick drew attention to such a possibility.¹⁶

As one can see, this defense (of the universal validity) of the principle of sufficient reason requires supplementing with a critique of positions which limit this principle. Stępień was aware of these positions when he stated:

However, some people are so attached to a naturalistic *a priori* that ... they reject the principle of sufficient reason and assume that the existence of the world is simply a “brute fact,” where one does not ask for its reason of existence, or they introduce – as an *ad hoc* solution – the category of existential weak originality.¹⁷

Thus Stępień suggests that there are two versions of moderate negation of the principle of sufficient reason:

A. Limitation of the validity of the principle of (sufficient) reason: some – “boundary” – beings or facts (such as the existence of the world as a whole) do not have a reason (they constitute a “brute fact”).

¹³ Ibidem, 181.

¹⁴ Ibidem.

¹⁵ Ibidem, 181-182.

¹⁶ Robert Nozick, *Philosophical Explanations* (Cambridge, Mass.: Harvard University Press, 1981), 140-142, 671-674.

¹⁷ Stępień, *Wstęp do filozofii*, 205-206.

B. Modification of the principle of (sufficient) reason: all beings or facts have a reason; however, their ultimate reason is not a sufficient reason (it is a being which is signified by "weak originality").

As far as version A¹⁸ is considered, Stępień criticizes it in the following manner:

Would not a [collectively conceived] set – even unlimited – of contingent and unnecessary beings still be a set of contingent and unnecessary beings? Can there be one or a plurality of derivative [contingent, unnecessary] beings without the existence of primal beings [original, necessary, absolute being]? After all, it would be an apparent contradiction: something would exist thanks to something else and simultaneously that thanks to which it exists would not exist. ... Can a being provide that which it does not have of its essence? Such a being may at most transmit, not provide. Hence ... we can ascertain that the contingent being is not the reason for something's existence; it is only a transmitter of existence to another being.¹⁹

Stępień probably means that the modal-existential position of contingent beings – and their largest sum, i.e. the world – is such that they exist if and only if something exists thanks to which they exist (and since they do not exist by themselves, they exist thanks to something different than themselves). Therefore claiming that they exist and at the same time that something due to which it exists does not exist, is inasmuch as stating that it provides something which does not have. Let us notice that arguing this way, Stępień does not prove the full validity of the principle of sufficient reason as such, insofar as explains it anew. He seems to state that permitting any sort of exceptions from this principle – permitting that something emerges from nothingness without any "aid" – is permitting the situation of the existence of something which should not exist or the existence of something which one should not expect.

Let us add that if the relation of not being a sufficient reason is a transitive relation (just like the relation of being a sufficient reason), then the

¹⁸ Its different variations are represented by, among others, M. Jubien, A. Grünbaum and J. Post. The confrontation of their views with Stępień's can be found in: Jacek Wojtysiak, "Racjonalizm metafizyczny i jego wrogowie: O niektórych poglądach Antoniego B. Stępnia na tle aktualnych trendów metafizycznych," *Studia z Filozofii Polskiej* 10 (2015): 163-176.

¹⁹ Stępień, *Wstęp do filozofii*, 201.

lack of reason for boundary facts entails the lack of reason for the remaining facts. Therefore the moderate negation of the principle of reason leads to its complete negation – with all of its consequences.

3. A CRITIQUE OF THE CONCEPT OF “WEAK ORIGINALITY”

Let us move on to approach B which proposes some insufficient reason (a weak variant of the primal, original or absolute being) as an ultimate reason for the remaining reasons and beings. When writing about “weak originality”, Stępień is probably alluding to Jan Woleński’s article in which the latter – referring to Ingarden’s concepts – distinguishes strongly original objects from weakly original ones.²⁰ According to Woleński’s definition “object x is [strongly] original, if from necessity it is so that it was not produced by any other object”; object x , in turn, is weakly original, if it is simply so (without the modal qualification of necessity) that it was not produced by any other object.²¹ Woleński adds: “Historically speaking, Democritus’s atoms could be a model of weakly original objects, and maybe also elementary particles of matter in the understanding of contemporary physics could indeed be interpreted this way.”²²

As one can see, Woleński takes into account two moments characterizing the original object:

- being-not-produced-by-another-object (non-derivativeness)

and

- a modal necessity of this state.

²⁰ Jan Woleński, “Momenty bytowe i modalności,” *Studia Filozoficzne*, nos. 2-3/201-202 (1990): 111-121.

²¹ Ibidem, 114, 117 – cf. formula (6), (19) and (21) in Woleński’s article.

²² Ibidem, 119. We consider the assumption expressed in the second part of the quote to be too rushed, because transformative phenomena – creation and annihilation – of (at least some) elementary particles known to contemporary physics, greatly weakens their status in relation to Democritus’s atoms.

The strongly original object is supposed to contain both moments, and the weakly original object – only the first among them. And yet, if we take into account Ingarden's formulations – to which both Stępień and Woleński refer – then the strongly original object (and to use Ingarden's terminology, simply an original object or entity) should also be attributed (apart from the two above) by the following moments:

- existential necessity: the strongly original entity “is incapable of not existing”;
- durability: the strongly original entity “cannot be annihilated” (which is a result of the prior point);
- aseity (being *a se*): the strongly original entity is such that “its own proper essence forces it to exist.”²³

I believe that the five aforementioned moments may be reduced to three:

- eternity (treated as a nonmodally conceived durability),
- modal necessity in its existential and essential aspect,
- aseity.

A strongly original entity or object contains all of them, and the weakly original object – only the first one. In other words: the weakly original object (being) is simply an object which was, is and will be; a strongly original object (being) is then an object which meets this condition (the first moment), and moreover meets it not by chance, but necessarily (the second moment), and this necessity is set in itself (the third moment).

Assuming the aforementioned terminological findings, Stępień's thesis may be interpreted as follows: being weakly original – being eternal – is not enough to be the ultimate reason for the existence of all (the remaining) beings. As such this reason – due to the lack of the moment of aseity – requires having a reason. If it did not require it, “the being [would] grant itself something which it did not have.”²⁴ In such a situation case B should be treated as the most subtle version of case A. However, in both cases the question “why?” is too hastily suspended at a certain stage of research and one assumes the existence of something which may not exist and which

²³ Citations and terminology from: Roman Ingarden, *Controversy over the Existence of the World*, vol. 1, trans. Arthur Szylewicz (New York: Peter Lang, 2013), 118 ff.

²⁴ Stępień, *Wstęp do filozofii*, 202. Cf. Antoni B. Stępień, “Metafizyka a istnienie Boga,” in *Studia i szkice filozoficzne*, vol. 1, ed. Arkadiusz Gut, 292-294.

does not contain any factor “inclining” one to exist. This way we return again to the explication of the principle of sufficient reason and the consequences of its – more or less subtle – rejection. As Stępień puts it, “if we decide to negate that principle, then we must consequently negate it in general,”²⁵ and thus we must negate the rationality of cognition which it assumes.

Let us take a look at several typical concretizations of the “weak originality” which Stępień (more or less clearly) mentions and criticizes. Let us consider the following positions:

- (1) materialism: the ultimate reason for the existence of all beings is the eternal matter;
- (2) ontological (metaphysical) atomism: the ultimate reason for the existence of all beings is the aggregate of eternal and simple parts of physical objects;
- (3) pantheistic cosmism: the ultimate reason for the existence of all beings is the eternal entirety of the material world;
- (4) pantheistic idealism: the ultimate reason for the existence of all beings is the eternal – analogical to human – cognizing consciousness;
- (5) infinitism: the ultimate reason for the existence of all beings is an unlimited (eternal) chain of contingent reasons for the existence of particular beings.

In reference to point (1), among other things, Stępień writes on the topic of matter:

In order for the first matter to be an ultimate substratum ... of variability, it cannot in of itself be determined to only one ... substantial form. Thus it cannot be generally qualified. However, then the first matter is simply the potentiality assuming various determinations Calling the absolute being the matter is as much as applying the term “matter” to some sort of (unknown to us with respect to its content) object, about which we do not know anything either within the framework of ordinary or ... scientific knowledge.²⁶

The sense of this quote may be understood in the following way: if the term “matter” can be granted an exact meaning and its referent can be determined, then it shall at most be pure potentiality which is not a separate

²⁵ Stępień, “Metafizyka a istnienie Boga,” 294.

²⁶ Stępień, *Wstęp do filozofii*, 195, 205.

being, has no efficient capabilities and does not independently play any explanatory role.²⁷

In reference to point (2), Stępień's critique of metaphysical atomism is as follows:

Even if there were elementary particles which are not subject to decomposition and transformations (which anyway contemporary physics cannot confirm), then they would be subject to certain changes due to their spatial-temporal character.²⁸

In other words: even if our knowledge permitted the reduction of all beings to metaphysical atoms, their changeability and mutual conditioning would be the basis for recognizing the need of their further explanation. It is not possible – accepting the principle of sufficient reason in relation to essences of being – to comprehend that what is changeable and conditioned, without the ultimate (and nonconditional) reason for this state.²⁹

In reference to point (3), Stępień states the following on the metaphysical status of the (material) world:

The real world, as ... a system of contingent beings, ... is ... a relational entity, existentially derivative, higher level object, which cannot exist stronger than the objects that comprise it.³⁰

Therefore, the main argument against cosmism is again, metaphysical by nature: the world is not an independent being, but only a collective aggregate compiled of – somehow connected with each other – (physical)

²⁷ Cf. Antoni B. Stępień, "Uwagi o marksowskim materializmie," in *Studia i szkice filozoficzne*, vol. 2, ed. Arkadiusz Gut, 248-252, where Stępień criticizes Marxist materialism, pointing to, among others, to the fact that Marxism assigns to matter contradictory attributes of contingency and necessity and in fact negates (given to us) substantiality of the human being.

²⁸ Stępień, *Wstęp do filozofii*, 205. By the way, one can doubt whether the existence of many absolutely simple objects is possible. Both Democritus's atoms and elementary particles (the simplicity of which is relative) are certainly not simple in the sense of lack of the compound subject-property or similar metaphysical compounds.

²⁹ Stępień ultimately comprehends changeability in the categories of act and potentiality (as an actualization of potentiality), which repeals the (taken from classical physics) counterexample of (uniformly rectilinear) motion that does not need a cause (therefore it is not a change in a metaphysical sense). It does not need it relatively, because (not taking into consideration the theory of the act and potentiality) such a motion – if it were not eternal – needed a cause in order to pass from a static state or from another form of motion. Cf. *ibidem*, 203.

³⁰ *Ibidem*, 205.

contingent beings. If the world is not an independent being, then it is not a necessary being (a dependent aggregate of contingent beings cannot constitute a necessary being), nor, even more so, an efficient cause of anything. Even if we comprehended the world as “one material substance – that what is material is always something changeable and complex in multilateral or multi-layer manner.”³¹

In reference to point (4), Stępień’s critique of idealism is as follows:

There is a similar case with human consciousness which in the light of the fairly well-known facts turns out to be something very limited and complex in its actions, something that is subject to the pressure of the incoming stimuli and data.³²

Again Stępień in a disqualifying manner points to the complexity and various determinants of a subsequent candidate for the ultimate reason for the existence of contingent beings. He does not question the possibility that the ultimate reason for being has a personal character. However, he warns against its anthropomorphization, the comprehension of it “in the sense of the human psyche.”³³

In reference to point (5), as far as infinitism is concerned, Stępień stated:

Will not a set – even infinite – of contingent and unnecessary beings still be a set of contingent and unnecessary beings? ... The very adding or multiplying *ad infinitum* these sorts of beings ... will not add or change anything.³⁴

In other words: modal-ontological properties do not change their status by adding up their carriers. In such a case, even the infinite array of contingent beings will not generate a necessary and aseistic being.

The critique of positions (4)–(5) reveals yet another important component of Stępień’s metaphysical analyses. Namely, it was assumed here that the being postulated in these approaches – matter, metaphysical atoms, physical world (cosmos), a consciousness analogical to a human one, an infinite chain of causes – are primal only in a weak sense. However, one could ask why not to treat these beings as primal in a strong sense, i.e. not only as eternal, but also as necessary and aseistic? Responding to this question,

³¹ Ibidem.

³² Ibidem.

³³ Ibidem, 204.

³⁴ Ibidem, 204.

Stępień proposes a certain set of necessary conditions for aseity. If a candidate for an ultimate reason lacks at least one of them, this means that it cannot be identical with it. First of all, this set includes:³⁵

- nonchangeability (because a change of the being requires an external reason, paraphrasing Stępień, in order to receive property which it does not have);
- noncomplexity (because that change of the being entails at least the complexity from the subject and two different properties);
- independence (because one cannot exist in of itself, existing in something else);
- activeness (because a passive being cannot cause anything, nor *ipso facto* play an explanatory function);
- unconditioning (selfsufficiency) and unlimitedness (because conditional and limited beings require, directly or indirectly, an external reason for their qualification).

As we saw, the first prerequisite of sufficient reason (unchangeability) excludes all of the aforementioned conceptions (and most of all atomism). A similar case is with uncomplexity (wherein – as we noticed in the footnote to the point criticizing atomism – a changeable noncomplex being is not possible).³⁶ Independence excludes approaches (1), (3) and (5), i.e. materialism, cosmism and infinitism; activeness, in turn, the first two of them (and additionally conceptions that treat the ultimate reason analogically to Platonic ideas). The last prerequisite (nonconditioning and unlimitedness), in turn, similarly as the first one, excludes all of the recalled positions.

When considering Stępień's defense (maximalistically comprehended and universally valid) of the principle of sufficient reason as well as his critique of the concept of weak originality (or weak sufficient reason), we reached the ultimate and sufficient reason for all beings. This way we reached the characterization and identification (in discussion with the competitive proposals) of the Absolute. Stępień summarizes this characterization in the technical language of metaphysics, stating that an absolute being is "Existence Itself, Pure Act, Utter Simplicity."³⁷ This means that in the Abso-

³⁵ Cf. Stępień, *Wprowadzenie do metafizyki*, 23-126, and Stępień, *Wstęp do filozofii*, 203-204.

³⁶ Atomism is also excluded by singleness which is a consequence of the second and fifth prerequisite. Let us add that the first two prerequisites also exclude (according to Stępień) emanationism. See Stępień, *Wprowadzenie do metafizyki*, 125-126.

³⁷ Stępień, *Wstęp do filozofii*, 206.

lute all metaphysical compounds are reduced to one factor which can be more generally called, in reference to Aristotle, an act (in opposition to all potentiality), and more precisely, in reference to Saint Thomas Aquinas, existence (as an act of all acts).

4. PHILOSOPHY OF GOD

The considerations discussed above demonstrated a link between the principle of sufficient reason and the existence of the Absolute. The question repeated by Stępień “absurdity or mystery?” means that either we consistently recognize the principle of reason – that must lead us to the recognition of the existence of the Absolute which is a mystery for us – or (one way or another) we negate this principle (avoiding the consequences above) which will lead us to the recognition of the absurdity of being. The latter possibility – insofar as we treat seriously the metaphysical analyses of the first principles and our knowledge in general – must be rejected. As a result, the problem of the Absolute, religiously identified with God, turns out to be an essential part of metaphysics. In order to designate it, Stępień permits (due to didactic and worldview reasons) the terms: “natural (philosophical, rational) theology”, “theodicy,” “philosophy of God,” but he does not see a reason for its methodological extraction. What sort of metaphysical status does such a philosophy of God have?

One of the possible responses is: philosophy of God is one of the so-called particular metaphysics. We believe that recognizing philosophy of God as a particular metaphysics may cause serious resistance since some objections can be made against this position.

First, particular metaphysics (e.g., metaphysics of the human being) – despite their connections with general metaphysics – have separate and directly given objects of inquiry (certain types of being) and they use extra-metaphysical sources of knowledge about them. However, this is not the case with the metaphysics of God as God does not constitute an indirect object of cognition provided by a specific empirical knowledge. As Stępień states:

[O]ur human (natural, not referring to religious revelation) knowledge about God is essentially knowledge about the conditions and reasons for the existence of the unnecessary being, and God is provided as an

object of metaphysical considerations about the existence and essence of the ultimate reason of being.³⁸

The hitherto analyses conducted in this text constitute a confirmation or illustration of this citation.

Second, from the point of view of the theory of transcendentals (universal properties of being), the existence of God may be considered crucial, because without assuming His existence one could not fully explain such relational transcendentals as the truth and the good, and what follows, also the beauty, which is a transcendental specific "synthesis" of the two former ones. Thomists explain the transcendentals in relation to intellect and will of the Absolute-God.³⁹

Third, although it is true that philosophy of God does not have at its disposal different methods from the methods of metaphysics as such, one should stress the fact that the object of its interest, the Absolute, has a unique character. It is clearly distinguished due to its characteristic features among those objects which are dealt with by the remaining particular metaphysics. For this reason it would be difficult to agree with the view that philosophy of God has a status comparable to philosophical anthropology (metaphysics of the human being) or aesthetics (metaphysics of beauty), and we would have to accept that by assuming that philosophy of God is only one of the particular metaphysics.

Therefore, if due to the issues mentioned above, philosophy of God is not one of the particular metaphysics, then what status may be attributed to it? Stępień states:

[O]n the grounds of philosophy the problem of God, i.e. the problem of the primal, absolute and personal being, constitutes an integral fragment of the general theory of being.⁴⁰

³⁸ Stępień, *Wstęp do filozofii*, 85.

³⁹ Stępień discerns several aspects and formulations of relational transcendentals (the truth, the good, the beauty), thanks to which he can – in some of them – abstract from the existence of Absolute-God. These transcendentals in a strict sense may be defined without reference to God, nonetheless transcendentals in an ontological sense require a reference to the Absolute for their description. However, there is no doubt that a full explanation of the transcendentals requires including the ontological aspect in the aforementioned sense. See Stępień, *Wprowadzenie do metafizyki*, 194-196, and Antoni B. Stępień, *Propedeutyka estetyki* (Lublin: TN KUL, 1986), 39-40.

⁴⁰ Stępień, *Wstęp do filozofii*, 85.

In other words, philosophy of God is not a separate philosophical discipline, dependent on general metaphysics, but it is simply its essential part. Such an approach allows us to repeal all the aforementioned reservations and it is compliant with the holistic outline of Stępień's metaphysics presented above.

However, let us draw attention to the possibility of an alternative solution. It is based on two theses. The first would claim that among particular metaphysics there is a certain hierarchy, designated by the significance of the results (and object) of each of them. A proponent of this approach might indicate, for instance, that assertions made within philosophical anthropology seem to be more important than the conclusions from the realm of aesthetics. The second thesis would be contained in the view that philosophy of God is a distinguished particular metaphysics, i.e. it has the highest position in this hierarchy.

The proposed approach enables distinguishing the minimal philosophy of God – as a part of general metaphysics – from a more general philosophy of God which would function analogically to other particular metaphysics, although due to the uniqueness and importance of its object (and the metaphysical and worldview significance of its statements) would enjoy the highest position among them.

Let us notice that Stępień avoids a broadly comprehended philosophy of God, and in his approach to the topic of God a certain minimalism is striking. One may interpret his position in such a way that it is better to have a more modest, yet philosophically justified theory of the Absolute, rather than engage in risky speculations on this issue:

While conducting philosophical considerations on God, one must remember how we get to attributing him certain qualifications. The point is not to succumb to unjustified cognitive optimism which in this case is a kind of self-deception. The absolute being, indeed, is Existence Itself Applying to it our mental categories, coined in the contact with contingent and complex beings which not infrequently bear marks of their sensual origins, we come across something which we can confidently call a mystery. The manner of God's cognition and actions seems particularly unfathomable.⁴¹

⁴¹ Stępień, *Wprowadzenie do metafizyki*, 130.

It seems that when searching for sources of this belief, one should first of all take into account the metaphilosophical context of Stępień's considerations. It is conditioned by the scholastic tradition within which philosophical reflection on the topic of God was not only something natural but indeed desirable. However, this does not mean that thinking in the spirit akin to negative theology was foreign to it (of course only to a certain degree), which at any rate Stępień suggests himself, when he recalls Thomas Aquinas's view that we do not have a full knowledge of the content of the idea of God,⁴² indicating this way the uncrossable boundary of natural theology.

Stępień's philosophy is also inspired by phenomenology, i.e. the philosophical orientation which although it may be described as by definition distrusting with regard to scientism and naturalism, nevertheless its foremost interest was rather not philosophy of God. Anyhow Stępień himself stresses the fact that phenomenological analysis of religious experiences, developed specifically by phenomenologists, does not enable ascertaining that God, and therefore the object of these experiences, exists objectively and not only intentionally.⁴³ An analogical situation takes place in the context of the phenomenologically comprehended ontology, which examining the contents of the idea of the absolute being cannot as such adjudicate its existence.⁴⁴

Let us draw attention to one more consequence of treating philosophy of God as a part of a system of a specific – Thomistic – metaphysics. The consequence comes down to the fact that Stępień's theistic argumentation is limited to the reasoning corresponding to the so-called cosmological or contingent argument, as-if automatically omitting other types of reasoning, especially the so-called ontological argument. Therefore, the fact that he actually omits this last argument in his considerations, not considering more precisely its benefits and shortcomings, is therefore not surprising. However, it seems that this is an issue which is worth explaining more precisely.

In the glossary appendix in his *Wprowadzenie do metafizyki* [Introduction to metaphysics] Stępień only claims that the argument above ("ontological argument") is

⁴² Ibidem, 131.

⁴³ See Antoni B. Stępień, "Zagadnienie Boga w fenomenologii. (Kilka uwag wstępnych)" in *Studia i szkice filozoficzne*, v. 2, ed. Arkadiusz Gut, 296.

⁴⁴ Ibidem, 297.

the argument for the existence of God derived from defining God as something than which nothing greater can be conceived; an object described this way must exist not only in the intellect but also in reality, for otherwise it would not be something than which nothing greater can be conceived (the really existing God is indeed something more than God simply conceived). Since the considered concept of God exists, therefore God as such must exist. The traditional version of the argument is presented in this way, the inventor of which is "the father of scholastics," Anselm of Canterbury Generally it is believed that in this argument one groundlessly transitions from the concept (definition) of God to the judgment concerning His factual existence, mixing the mental and ontic order⁴⁵

This fragment obviously does not allow for a univocal claim that Stępień sides with the aforementioned critique of the argument, or that he only brings up its most prevalent version, without taking a clear position on the topic. Nonetheless, it seems that one can assume that due to the lack of varying testimonies Stępień would be inclined to accept it.

However, it is difficult to agree with the thesis on the mixing of the mental and ontic orders. When presenting his argument Anselm strictly differentiates them. It is worth saying that, indeed, only thanks to that he can we indicate that something than which nothing greater can be thought exists also in the ontic order. Anselm by no means claims (which he is sometimes accused of) that the ontological argument may serve as a reasoning ascertaining the existence of any object. He clearly stresses this issue in response to Gaunilon's objection.

Probably the basis for Stępień's negative stance on the ontological argument lies in his views on the topic of the relation of metaphysics (as a theory of the factual being) to Ingarden's ontology (as the theory of the possible being) or the relation between the fact and pure potentiality. Stępień claims, although no longer in the context of Anselm's argument, that the possibility of the existence of something is not absolute, but relativized to something else, already existing. Therefore, there is no possibility as such, but something is a possibility only due to something that genuinely exists:

If nothing existed, then pure possibility would not exist either. Any sort of description of pure possibility is reduced to two: either we shall treat pure possibility formally, as a non-contradiction, or we treat it substantially as a certain repertoire of differentiations designated by the na-

⁴⁵ Stępień, *Wprowadzenie do metafizyki*, 233-234.

ture of qualities (contents) coming into play. For instance, the nature of redness does not permit for it to differ from something or differentiate itself with regard to the aspect of sound. ... However, in order for such a possibility to occur, there must be elements, factors which are non-contradictory, which are such and not another. And how do these elements exist? If nothing exists, then pure possibility does not exist either.⁴⁶

Without engaging into the dispute on whether factuality conditions the possibility, or *vice versa*, let us notice that by assuming Stępień's perspective, the first option, a proponent of ontological or modal argumentation may say that a condition for any sort of possibilities, including the possibility of the existence of God, is His actual existence. One may also add that it can be *a priori* ascertained that the condition for the existence of anything, in which this difference occurs between existence and essence, is a being in which that difference does not occur. In this way the ontological (modal) argument approaches the metaphysical (contingential or cosmological) argument.

Let us also draw attention to the fact that the first of these arguments has certain benefits which the other one does not have. First, it is an argument which in a certain sense evades the problem of realism and idealism. It seems that one may formulate it independently from the context of the controversy over the existence of the world. Anselm's argument omits the issue whether the material cosmos exists at all. And if so, then the problem of its ontological status does not have any significance. In this sense Anselm's argument is simpler, not entangled in (rightly or not) contentious premises or assumptions. Second, this argument is not embroiled in a complex dispute related to the issue concerning the principle of sufficient reason which a proponent of cosmological argumentation must accept. This also signifies its simplicity. Third, in the case of this argument the deduction of Divine attributes is the least controversial. From God's perfection it is easy to derive His remaining attributes, including the attribute of being a person. (It is enough to assume that being a person is perfection.) However, it is not so simple if we start from the necessity or aseity of Absolute. According to Stępień, the Absolute is a person, because it has a will (and the intellect assumed by it). The basis of this, in turn, is recognizing the existence of

⁴⁶ Antoni B. Stępień, *Dwa wykłady. Zagadnienie punktu wyjścia w filozofii. Teorie relacji: filozoficzne i logiczne. Przyczynek do zagadnienia stosunku między teorią bytu (przedmiotu) a logiką* (Lublin: TN KUL, 2005), 132.

the (created) world and the full independence (and self-sufficiency) of the Absolute. Stępień stated:

And if it is so that the absolute being did not have to summon the real world into existence and He created it nonetheless, then apparently the absolute being may act spontaneously and freely. One may speak of His will.⁴⁷

We do not undermine the validity of Stępień's argument,⁴⁸ we only draw attention to the fact that it has more assumptions than the argument in Anselm's style. And all of these assumptions may be subject to discussion.

All these remarks as such, of course, do not lead to the conclusion that the cosmological theistic argumentation Stępień sides with is non-conclusive. However, they encourage Thomists to reconsider the soundness of *ratio Anselmi* as a simpler argument. Perhaps, this argument deserves a more meticulous and favorable consideration.

Although, as we have tried to demonstrate, one may either discuss some of Stępień's arguments or try to supplement them, this does not change the fact that one may only cognitively gain by getting into contact with his way of thinking, characterized by exactness, precision, a perfect sense of the weight of particular issues, the rare skill of formulating comprehensible philosophical discourse, as well as his ability of posing clear object-oriented theses. At least for these reasons, it is difficult to agree with the almost Socratic phrase modestly recurring in Stępień's works that "these are findings of a rather preliminary character." Nonetheless, it is worth agreeing with the thesis concluding Stępień's discussion of metaphysics: "the contingent being ... is something absurd," but only if considered "in isolation from the absolute being," and "the only reason for that what exists not thanks to itself is that who exists thanks to itself, that is the Absolute."⁴⁹

⁴⁷ Stępień, *Wprowadzenie do metafizyki*, 128.

⁴⁸ Most probably this argument can be attributed to Stępień, although one can find inspirations for it in *Summa contra gentiles*.

⁴⁹ *Ibidem*, 133.

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II

EPISTEMOLOGY AND PHILOSOPHY OF MIND

Antoni B. Stępień's Epistemology in the Context of Roman Ingarden's Phenomenology

One of the main accomplishments of the Lublin School of Philosophy is the elaboration of the conception and outline of an autonomous epistemology. This achievement has been the result of Antoni B. Stępień's scholarly activity based primarily on Roman Ingarden's phenomenology with references to, among other things, the accomplishments of Thomists and analytical philosophers. By the way, it is worth noting that Stępień's works reflect the primal unity or kinship of scholastics and phenomenology. The former he studied under the supervision of Mieczysław A. Krąpiec OP, Rev. Stanisław Kamiński and Stefan Swieżawski; the latter he learnt directly from Ingarden. The masters of Swieżawski and Ingarden intersect (through Kazimierz Ajdukiewicz and Kazimierz Twardowski, on the one hand, and Edmund Husserl on the other) in the person of Franz Brentano, the ex-scholastic who inspired phenomenology through his descriptive psychology. Twardowski pursued another, more analytic direction, initiating the Lvov-Warsaw School. The latter is also a significant point of reference in Stępień's philosophy. However, in this chapter I shall focus on presenting his epistemology (together with its meta-theory) in the context of Ingarden's epistemological views.

1. ROMAN INGARDEN'S EPISTEMOLOGICAL PROJECT

Epistemological topics were a subject of Ingarden's interest since the beginning of his philosophical career. Even before World War II, Ingarden, apart from devising several specific epistemological problems (e.g. the external sensual perception and the perception of the mental state of the other),¹ outlined the foundations of his own epistemology, specifically in his articles "Über die Gefahr einer *Petitionis Principii* in der Erkenntnistheorie" [On the Threat of *Petitionis Principii* in Epistemology] and "Stanowisko teorii poznania w systemie nauk filozoficznych" [The position of epistemology in the system of philosophical sciences].² Later, on many occasions, Ingarden returned to his epistemological and meta-epistemological ideas and their systematization was supposed to be contained in his book *U podstaw teorii poznania*³ [On the foundations of epistemology] which, unfortunately, was not finished, although it was sent to be printed several months before his death.

I believe that I shall not oversimplify, if I bring down Ingarden's epistemological project to the following theses⁴:

¹ Cf. among others the collected works in Roman Ingarden, *U podstaw teorii poznania*, vol. 1 (Warszawa: PWN, 1971) and Roman Ingarden, *Studia z teorii poznania*, ed. Adam Węgrzecki (Warszawa: PWN, 1995), and especially Roman Ingarden, "O poznawaniu cudzych stanów psychicznych," in *U podstaw teorii poznania*, 407-427, and Roman Ingarden "Zagadnienie obiektywności spostrzeżenia zewnętrznego (wykłady lwowskie)," in *Studia z teorii poznania*, 51-164. I omit texts and issues from the boundary of epistemology and other disciplines, especially aesthetics. I also omit his doctoral dissertation dedicated to H. Bergson's epistemology as well as the early, unpublished drafts.

² See Ingarden, *U podstaw teorii poznania*, 357-380 and 381-406. The first fragment (originally published in German) was dedicated to Husserl on his sixtieth birthday, and the second one was originally delivered as a lecture at the defense of his post-doctoral dissertation in Lvov in 1924.

³ This volume, apart from the aforementioned articles, contains 26 paragraphs of a dissertation (under the same title) *U podstaw teorii poznania* (ibid., pp. 9-355). In turn (the posthumously published) volume *Studia z teorii poznania* contains two subsequent (from par. 29 on) paragraphs of this dissertation, this time entitled *Wstęp do teorii poznania (II)* (ibid., pp. 9-50), the transcript of the aforementioned Lvov lectures on external perception as well as several miscellaneous texts dedicated to this theme.

⁴ I mostly use the terminology devised by Ingarden. Ingarden i Stępień preferred the term *theory of cognition* over the terms *theory of knowledge* or *epistemology*.

1. Essentialism – the object of epistemology is “the content of the main general idea of cognition”⁵ (as well as ideas which are related to it or are more detailed), that is, simply the essence of cognition (and knowledge) and its main kinds.
2. Criterialism – the purpose of epistemology is to establish criteria (or bases for criteria) for the evaluation of the cognitive value of the results of various sorts of cognition (and knowledge).
3. Autonomism (anti-dogmatism) – in order to fulfill its purpose, epistemology has to be methodologically independent from any type of science (or more broadly put: from any sort of cognition conducted beyond it).
4. Intuitionist foundationalism – a means of practicing epistemology which guarantees achieving its objective in a non-dogmatic manner and without entangling in *petitionis principii*, is an intuition of experiencing (Ger. *Durchleben*), that is attentive experiencing of the (cognitive) act during its occurrence (“the intuitive experiencing of the act,” “the largest possible clarification of a conscious act, understood as an act, during its realization”).⁶
5. Apodictic universalism – the result of epistemology should be assertions about cognition which enjoy the qualities of indubitability and generalness (universal validity).
6. Phenomenologism – the instrument for the practice of epistemology is phenomenology of the cognizing consciousness which is guided by the following principles:
 - a) descriptive immanentism – one should describe conscious cognitive activities with the aid of various types of self-consciousness (and especially the so-called immanent observation);
 - b) eidetism – one should capture the essences (ideas) of the described activities within fundamental ontological structures;
 - c) transcendentalism – one should treat cognizing (self-)consciousness not as a component of a particular (psychophysical) human being, which through various causal relations belongs to the real world, but as a “pure cognizing subject” that, in the least, is abstracted from it,

I will use here the last one because of its popularity in contemporary philosophical literature.

⁵ Roman Ingarden, “Stanowisko teorii poznania w systemie nauk filozoficznych” in *U podstaw teorii poznania* (Warszawa: PWN, 1971), 82.

⁶ Roman Ingarden, “O niebezpieczeństwie *petitionis principii* w teorii poznania,” in *U podstaw teorii poznania*, trans. Danuta Gierulanka (Warszawa: PWN, 1971), 376.

i.e. as “the sole satisfier of cognitive acts” and simultaneously a self-aware “witness of one’s own cognitive acts.”⁷

2. ANTONI B. STĘPIEŃ’S IMPLEMENTATION OF INGARDEN’S PROJECT

Antoni B. Stępień – who dealt with epistemological themes from the beginning of his academic career in the 1950s⁸ – got interested in Ingarden’s philosophy already during its early years; he called him “one of the leading philosophers of our times.”⁹ Stępień, when engaging in a dispute with Ingarden, drew particular attention to his epistemological project, dedicating to it a separate article.¹⁰ One can say that that this project constituted the main point of reference when Stępień was formulating his own conception of epistemology. He suggested this conception in his post-doctoral dissertation *O metodzie teorii poznania: Rozważania wstępne* [On the method of epistemology: Preliminary considerations]¹¹, subsequently clarifying and developing its details in his handbooks and articles. In his handbooks he was able to outline epistemological topics in an original manner, and in his articles he presented in detail several substantive epistemological problems (especially of direct cognition, reminiscence, or cognitive error).¹²

⁷ Ingarden, *Wstęp do teorii poznania (II)*, 39, 40 and 42.

⁸ This is proved by his MA paper dedicated to L. Nelson’s thesis on the impossibility of epistemology as well as his doctoral dissertation on E. Gilson’s position on the method in epistemology. Cf. Antoni B. Stępień, “Stanowisko Gilsóna w sprawie metody teorii poznania,” in *Studia i szkice filozoficzne*, ed. Arkadiusz Gut, vol. 1 (Lublin: RW KUL, 1999), 63-82.

⁹ Antoni B. Stępień, “O filozofii Romana Ingardena (w siedemdziesięciolecie urodzin),” in *Studia i szkice filozoficzne*, ed. Arkadiusz Gut, vol. II (Lublin: RW KUL, 2004), 307.

¹⁰ See Antoni B. Stępień, “Ingardenowska koncepcja teorii poznania: Próba oceny,” in *Studia i szkice filozoficzne*, vol. II, ed. Arkadiusz Gut (Lublin: RW KUL, 2004), 311-329.

¹¹ Antoni B. Stępień, *O metodzie teorii poznania: Rozważania wstępne* (Lublin: TN KUL, 1966).

¹² Cf. among others: Antoni B. Stępień, *Teoria poznania: Zarys kursu uniwersyteckiego* (Lublin: KUL, 1974); Antoni B. Stępień, *Studia i szkice filozoficzne*, vol. I-III (Lublin: RW KUL/Wydawnictwo KUL, 1999-2015); Antoni B. Stępień, *Dwa wykłady. Punkt wyjścia w filozofii: Teorie relacji; filozoficzne i logiczne* (Lublin: TN KUL, 2005).

It seems that already at the point of departure of his considerations, Stępień accepted all of Ingarden's project's principles.¹³ However, he was at the same time distancing himself from Ingarden's conception of ideas (radical conceptual realism or Platonism) as well as from the concept of pure consciousness taken by Ingarden from Husserl.¹⁴ In other words, Stępień greatly modified the first and last point of Ingarden's project, as presented above. He highlighted and developed the second, third and fourth points: autonomism was supposed to be the characteristic feature of his epistemology, guaranteed by self-consciousness based on the intuition of experiencing (constituting a specific component or condition for a criterion of truth).¹⁵ Additionally, Stępień introduced new elements to that project, in a way outdistancing Ingarden in emphasizing the role of language and intersubjectivity in cognition as well as in the epistemological reflection on it.¹⁶

I shall now discuss some elements of Stępień's conception, dividing them, according to the aforementioned remarks, into three groups:

- elements which are polemical in relation to Ingarden's epistemology;
- elements developing Ingarden's dominant line of thought;
- elements going beyond Ingarden's epistemological project.

Before we move on to the aforementioned details, it is worth drawing attention to two references in the texts of both authors which confirm the direction of these considerations.

First, both in his article on Ingarden's epistemology and in his post-doctoral-dissertation,¹⁷ Stępień mentions Ingarden's article that presents his short outline of epistemological inquiries.¹⁸ Ingarden announces in it a critique of the hitherto existing conceptions of epistemology and the formu-

¹³ Cf. Antoni B. Stępień, *O metodzie teorii poznania. Rozważania wstępne* (Lublin: TN KUL, 1966), e.g. 47.

¹⁴ One must emphasize that it was modified and clearly weakened by Ingarden during his career. Ingarden had never accepted his master's transcendental idealism. Nevertheless, he considered the construction of the concept of pure consciousness or pure subject to be an indispensable condition for practicing epistemology.

¹⁵ I omit point no. 5, which is common for various schools of classically or more maximalistically understood philosophy.

¹⁶ Ingarden repeatedly covered the topic of language, logic as well as intersubjectivity, but only in (the posthumously published) *Wstęp do teorii poznania (II)*, 25-37 he stressed their significance for cognition.

¹⁷ Stępień, "Ingardenowska koncepcja teorii poznania," 17, 18 and 232; Stępień, *O metodzie teorii poznania*, 22 and 55-56.

¹⁸ Roman Ingarden, "Metodologiczny wstęp do teorii poznania," *Sprawozdania Wrocławskiego Towarzystwa Naukowego* vol. 3 (1948), 242-244. Cf. Ingarden, *U podstaw teorii poznania*, 25.

lation of an autonomous epistemology. In the aforementioned dissertation, Stępień, although he actually does not use such a term, in fact he presents his conception of autonomous epistemology. Later, for instance in his handbook *Wstęp do filozofii* [Introduction to Philosophy], he consistently uses the expression: “the proper conception of an autonomous epistemology.”¹⁹

Second, in the first footnote to paragraph 29 of his posthumously published *Wstęp do teorii poznania* [Introduction to epistemology] (II), Ingarden wrote, complaining about the lack of reception of his epistemological texts: “Only in recent years did they draw the attention of several scholars (D. Gierulanka, A.B. Stępień).”²⁰ This citation proves that Ingarden read Stępień’s works and noticed their connection to his own conception (Ingarden actually reviewed Stępień’s post-doctoral dissertation and discussed epistemological topics with him on various occasions). The significance of this quote increases if we take into consideration the fact that in Ingarden’s texts it is difficult to find references to the publications of his disciples, and that Danuta Gierulanka knew the accomplishments of her master better than anybody else.²¹

3. STĘPIEŃ’S POLEMIC WITH INGARDEN

As I have already mentioned, two elements of Ingarden’s phenomenology generated Stępień’s reservations: the conception of ideas (and the conception of ontology as a study of their contents and pure potentialities defined by them which is connected with it) as well as the concept of pure consciousness (or pure subject). In Stępień’s case the discussion with these conceptions took on a two-fold character. On the one hand, he proposed detailed arguments from within the (meta-)theory of being undermining the legitimacy or possibility of an effective way of practicing Ingarden’s

¹⁹ Antoni B. Stępień, *Wstęp do filozofii* (Lublin: TN KUL, 2007), 69. Stępień modifies therein Ingarden’s division of criticized concepts of epistemology (the psycho-physiological, descriptive-phenomenological, a priori-phenomenological, logical), adding to it semiotic and metaphysical concepts and removing the phenomenological ones, as subjected to the autonomous concept (or auxiliary in reference to it).

²⁰ Ingarden, *Wstęp do teorii poznania* (II), 9.

²¹ Cf. Roman Ingarden, “O uzasadnianiu” in *U podstaw teorii poznania*, trans. Maria Turowicz, vol. 1 (Warszawa: PWN, 1971), 444.

ontology (the problem of the existence of the ideal sphere, the problem of transitioning from ontology to metaphysics) and the transcendental theory of consciousness (the problem of the relation of consciousness with the world). On the other hand, he emphasized that the practice of autonomous and nondogmatic epistemology does not require the assumption of such radical and controversial concepts.

Let us focus on the second aspect of this discussion. Based on Stępień's critical comments about Ingarden's conception of consciousness one can formulate the following dilemma: either Ingarden did not fully depart from Husserl's conception, which he himself criticized, or "the fundamental substantive difference between the position that Ingarden was supposed to assume on the topic of understanding of the cognizing subject ... and ... all those – indeed realistically inclined – epistemologists who in their considerations ultimately refer to direct data of the consciousness, was not visible."²² In such a case, the special treatment of the cognizing consciousness – abstracted from the real consciousness as its "pure" form – does not constitute the indispensable condition for the practice of epistemology. In order to practice it, "an individual, really existing, human consciousness, linked to the body in a distinct way" is sufficient,²³ but referring in the assessment of its cognition to self-consciousness. "The unique position of epistemology is not derived from the unique position of the cognizing subject or its consciousness among beings, but from the treatment of the object and purpose of this field of inquiry."²⁴

One can similarly describe the eidetic strain in Ingarden's theory. Firstly, essence-oriented cognition does not require acceptance of the existence of ideas (as well as related entities), but only the possibility of extracting "the general, essential structure of that, what is particular."²⁵ Secondly, the purpose of epistemology has most of all a criteriological character, not eidetic: it is interested in the essences of cognitive acts only for the sake of uncovering "the criterion of the ultimate assessment of the veracity of cognitive results."²⁶ Achieving this goal only requires "the adequately used

²² Stępień, "Ingardenowska koncepcja teorii poznania," 327.

²³ Ibidem, 327.

²⁴ Ibidem, 329.

²⁵ Antoni B. Stępień, "Uwagi o Ingardenowej koncepcji ontologii" in *Studia i szkice filozoficzne*, vol. II, ed. Arkadiusz Gut (Lublin: RW KUL, 2001), 334.

²⁶ Stępień, "Ingardenowska koncepcja teorii poznania," 329.

self-consciousness and the adequate organization of research ... without resorting to artificial constructions,"²⁷ such as pure consciousness or ideas.

Stępień, while rejecting or else weakening the eidetic and transcendental strain in Ingarden's project, proposes an epistemology that is intermediary between the transcendentalist (strictly phenomenological) conception and the psycho-physiological conception criticized by both thinkers. He is linked to the first one by the postulate of autonomy and grounding research on self-consciousness; and with the other one – by the realistic (or else "naturalistic") treatment of the cognizing subject.²⁸ Stępień purges the second conception from the dogmatic acceptance of assertions (or assumptions) bereft of guarantees from the side of self-consciousness, whereas he tempers the first one with respect to creating or postulating the aforementioned "artificial constructions." Therefore, he suggests a third path: epistemology is an evaluative reflection on one's own cognition carried out by a human subject as an element of the real world (revealed to him/her in cognition).

4. THE COMMON CORE OF EPISTEMOLOGY: SELF-CONSCIOUSNESS

Ingarden and Stępień accepted the belief – planted in European philosophy by Descartes – that self-consciousness, by providing indubitable cognition, should have a privileged position in epistemology. Ingarden deepened this direction in thinking, clearly differentiating between act and non-act self-consciousness (cf. point 1.4, earlier in this chapter). The act self-consciousness is constituted by various activities directed at that what happens in the consciousness, and the non-act self-consciousness – by experiencing (*Durchleben*) or being conscious of any sort of phenomena of life of consciousness. This experiencing has at least a four-fold philosophical importance. It is demonstrated by Ingarden's remarks, emphasized and supplemented by Stępień.

First, experiencing expresses the essence of consciousness: the latter is "the permeation of itself, in which both that what permeates and that what

²⁷ Ibidem, 329.

²⁸ Ibidem, 329.

is permeated ... constitutes one."²⁹ Stępień called this conception which he accepted, an experiential conception of consciousness or – using Gilbert Ryle's term – a phosphorescent one.³⁰ In order to explain it he used a metaphor of light, referring to Ingarden's metaphor of "self-glowing iron."³¹

Second, experiencing constitutes a necessary condition for acts of self-awareness: without experiencing they would not be possible. They are, as-if, an empowerment and specialization of the moment of experiencing contained in every conscious act or else accompanying every act of consciousness.³²

Third, experiencing (and especially its clear, distinct or attentive kind: intuition of experiencing) blocks a potentially endless sequence of reflective cognitive acts: in order to cognize the current (cognitive) activity "an entirely new act" is not necessary,³³ because "through its very occurrence it reveals itself (in experiencing) as an occurring act."³⁴

Fourth, "intuitive experiencing is an absolutely indubitable sort of cognition ... which in an absolute manner endorses the existence of that what is cognized."³⁵ Since one cannot not experience that what is experienced (because every experience occurs if and only if it is experienced), the results of the intuition of experiencing remain beyond the reach of doubt.³⁶

Stępień, in the process of developing this conception of experiencing, in particular its clear form, i.e. the intuition of experiencing, notices in its phenomenological description that it supplies the following information:

- on the occurrence of a particular form, episode or case (esp. act) of conscious life;

²⁹ Ingarden, "O niebezpieczeństwie petitionis principii," 369.

³⁰ Antoni B. Stępień, "W poszukiwaniu istoty człowieka" in *Studia i szkice filozoficzne*, vol. II, ed. Arkadiusz Gut (Lublin: RW KUL, 2001), 35.

³¹ Ingarden, "O niebezpieczeństwie petitionis principii," 369.

³² Stępień on numerous occasions stressed the fact that Ingarden's differentiation was anticipated by the scholastic differentiation between *reflexio in actu signato* and *reflexio in actu exercito* or *conscientia concomitans*. See Stępień, "Rodzaje bezpośredniego poznania," in *Studia i szkice filozoficzne*, vol. I, ed. Arkadiusz Gut (Lublin: RW KUL, 1999), 137-138, and Antoni B. Stępień, "Wartości poznawcze w ujęciu współczesnej filozofii tomistycznej," in *Studia i szkice filozoficzne* vol. I, ed. Arkadiusz Gut (Lublin: RW KUL, 1999), 230.

³³ Ingarden, "O niebezpieczeństwie petitionis principii," 365.

³⁴ Stępień, *W poszukiwaniu istoty człowieka*, 35.

³⁵ Ingarden, "O niebezpieczeństwie petitionis principii," 377.

³⁶ Cf. Stępień, *O metodzie teorii poznania*, par. 19, 120-123.

- on the character of that form; in the case of a cognitive form, it is its cognitive character which distinguishes it from noncognitive ones;
- on the manner in which “the cognized object is comprehended by the cognizing subject [in a given cognitive act],”³⁷ the manner “in which the object reveals itself to the subject in the act of cognition, in which it determines the cognitive result.”³⁸

According to Stępień, the clearer and the more trained intuition of experiencing, the more efficiently (possibly with the participation of its act “extension”) does it guarantee the reliability of the aforementioned information. This intuition is overall infallible (though not a in its every application).³⁹ It is (I would say) an excellent tool which may be incompetently used by a human being.

It seems clear that thus understood intuition of experiencing should be a basic tool for practicing an autonomous, non-dogmatic, indubitable, self-justifying epistemology.⁴⁰ However, it is not clear, whether the intuition of experiencing may constitute an essential component or condition for the criterion of truth. Stępień, by combining the intuition of experiencing with the criterion of truth, resolved in his own way the criterial problem posed (but not solved!) by Ingarden.⁴¹ This was possible, because Stępień is one of those epistemologists who risked the undermining of commonly recognized dogmas referring to the criterion of truth:

(D1) “Every criterion is something external in relation to that of which it is a criterion of.”⁴²

(D2) Every criterion of truth is “some sort of automaton which mechanically discerns truth from falsity.”⁴³

If we reject these dogmas, it will turn out that the only criterion of truth may solely be *evidentia obiectiva* (emphasized mainly by some Neo-Thomists), understood as self-consciousness of determining the cognitive act by

³⁷ Stępień, *Wstęp do filozofii*, 144.

³⁸ Stępień, “Wartości poznawcze,” 230.

³⁹ Cf. *ibidem*, 230.

⁴⁰ “Epistemology ... is independent, both methodologically and epistemologically, from any other domain of knowledge. Other domains, in turn, are epistemologically dependent on it, but not methodologically” (Stępień, *O metodzie teorii poznania*, 98). Stępień makes this assertion in the context of his own typology of the notions of dependency of one domain of knowledge on another. This typology is richer than Ingarden’s typology from his text “Stanowisko teorii poznania,” 387.

⁴¹ Cf. Stępień, *Zagadnienie obiektywności*, 160-161.

⁴² Stępień, *O metodzie teorii poznania*, 95.

⁴³ Stępień, *Wstęp do filozofii*, 144.

the object which is revealed in experiencing. Let us stress that such a criterion of truth is:

- internal (and not external) in relation to cognition,
- overall infallible (though not a in its every application),
- dynamic or flexible (and not static or mechanical), requiring attentiveness and constant effort of self-consciousness, incessantly recognizing and correcting its cognitive effects from the aspect of its veracity.

Taking all that into consideration – as Stępień not infrequently explained to his students – epistemology should be treated less as a propositional sort of knowledge, and more as an art of reflecting on our cognitive experiences or acts, as an evaluative reflection on them, as a training and improvement of self-consciousness, as a deepening of the cognitive self-understanding.⁴⁴ There is nothing more one could require from epistemology which anyway has a special position among the arts and sciences. Stępień wrote:

If e.g. zoology determines some sort of general assertion relating to all animals, then one cannot relate it to zoology which is not an animal, but a science about animals. However, if epistemology establishes some general assertion or issues an assessment that refers to every sort of cognition, then this assertion or the assessment refer also to epistemology which is indeed a sort of cognition. Hence a general epistemology ... is its own epistemology and at the same time an epistemology of every higher level of cognition ... elevating the degree of the language does not influence cognition in the aspect of the conditions of veracity and hence epistemology, by generally establishing a particular assertion, ... establishes it also for itself.⁴⁵

⁴⁴ “[D]ue to the profile of autonomous epistemology, the most important thing is not so much establishing a list of theses and building a system, as having at one’s disposal a constant ability to astutely become aware of some cognitive processes and reaching in efficient self-consciousness to the foundations of our knowledge ... with the ability to recognize the situation of the cognizing subject” (Antoni B. Stępień, “Jak uprawiać i jak nauczać teorii poznania jako nauki filozoficznej?” in *Epistemologia*, eds. Stanisław Janeczek and Anna Starościc (Lublin: Wydawnictwo KUL, 2015), 541).

⁴⁵ Stępień, *O metodzie teorii poznania*, 77.

5. OTHER ELEMENTS OF STĘPIEŃ'S (META)THEORY

If epistemology – and more broadly: the entire organization of human cognition – were based exclusively on the intuition of experiencing, then its results would be very modest, limited to “what is available at a given instant.”⁴⁶ That is why Stępień, among others, outlined a certain set of indispensable features of a rational cognitive endeavor (an array of “optimal conditions, at a human scale, for reliable and credible cognition”⁴⁷), in which our cognitive acts (made aware of in the intuition of experiencing) may effectively function. He called this set, formulated in eighteen points, the rational conception of science.⁴⁸

Three components of this set deserve particular consideration:

- primary (and unquestionable) differentiations: into cognitive and noncognitive experiences or acts, reliably and illusively informing ones etc.⁴⁹;
- the postulate of intersubjective justification of cognition (or its results) as a safeguard against illusions;
- the postulate of expressing and discussing results of cognition in a language “which is ruled by some sort of logic, i.e. by the rules of coherence, inference and non-contradiction.”⁵⁰

Having included all these factors, together with the intuition of experiencing, Stępień ascertains:

[A]ll epistemological activities may be reduced to one or another form of description of that what is given [in consciousness] as well as a description of the sense and consequence of certain linguistic expressions. One can say that epistemological analysis is nothing else than a distinct combination of a phenomenological description and logical analysis.⁵¹

Let us have a look, how Stępień, using these factors, responds to the challenge of common skepticism or related positions.

First, in the intuition of experiencing, a primary differentiation or distinction between a cognitive and a noncognitive act is given to us. “Ques-

⁴⁶ Ibidem, 67.

⁴⁷ Ibidem, 26.

⁴⁸ See Ibidem, par. 5, 26-33.

⁴⁹ This component in a way replaces Ingarden's ontological-eidetic element.

⁵⁰ Ibidem, 29. The last two postulates refer directly to Kazimierz Ajdukiewicz's concept of rationality.

⁵¹ Ibidem, 124.

tioning the data of the intuition of experiencing as well as the fundamental primary differentiations comes down to permitting the possibility that experiencing is not experiencing and that a cognitive experience does not differ at all from a noncognitive one."⁵²

Secondly, if in relation to our cognition we have "any suspicions or doubts, they may be motivated only by information acquired thanks to the cognizing consciousness."⁵³ In other words, reasonable doubt in one sort of cognition assumes the reliability of another sort of cognition. Consequently, errors may occur in our cognition; nonetheless, they are not universal and irremovable.

Thirdly, elementary logical analysis indicates that the thesis of universal skepticism (or related positions) is either nonsensical, or it undermines itself or the conditions for its acceptance. Stępień demonstrates that by using specific examples.⁵⁴ In order to show it he makes use of elements of the informal theory of questions (co)constructed by himself (and partially referring to Ingarden and – more so – to Ajdukiewicz).⁵⁵

The first of the aforementioned ways of refutation of skepticism has a clearly phenomenological character, and the third one refers to logical analysis. The second one, in turn, combines both factors. The fact is that the second and the first way predominate in Stępień's works, although in his post-doctoral dissertation more attention is given to the third one. One must note, by the way, that Stępień in his works drew significant attention to the precision of expressing oneself, preferring a frugal style, characteristic for logicians and analysts rather than phenomenologists. He also drew attention to cognitive functions of the language which he brought down to "conserving, clarifying, storing and communicating cognition."⁵⁶ However, it seems that despite his interest in language, intersubjectivity or social dimension of cognition, Stępień always preferred – to use Ingarden's terminology – the category of "an individually existing cognizing subject" rather than "the subject which is an element of a certain community of cognizing subjects."⁵⁷

⁵² Ibidem, 90.

⁵³ Stępień, *Wstęp do filozofii*, 144, cf. 137.

⁵⁴ Stępień, *O metodzie teorii poznania*, 101-113.

⁵⁵ Ibidem, par. 7, 37-42.

⁵⁶ Stępień, *Wstęp do filozofii*, 171.

⁵⁷ Ingarden, *Wstęp do teorii poznania (II)*, 34.

6. AN OUTLINE OF EPISTEMOLOGY

When completing this presentation of Antoni B. Stępień's epistemology, it is worth noting that whilst outlining his epistemology, he took a position in almost all classical epistemological disputes:⁵⁸

- in the dispute on the types of cognitive activities he sided with epistemological pluralism: many types of cognition exist, in particular many types of direct cognition which is fundamental for any sort of direct cognition⁵⁹;
- in the dispute on the sources of cognition, he sided with moderate apriorism:⁶⁰ an intellectual (*a priori*) substantive knowledge about the world exists (based on so-called purely intellectual perception, intellectual intuition or intellection);
- in the dispute on the supreme authority for assessing cognition, he sided with rationalism: reason, due to its ability to reflect upon itself and to apprehend what is essential, plays a distinguished (organizing, evaluating and controlling) role in cognition;
- in the dispute on the object (limits) of cognition, he sided with realism: we are capable of cognizing a being independent from our consciousness;
- in the dispute on the cognoscibility of truth, he sided with dogmatism: truth is cognizable;
- in the dispute on the nature of truth, he sided with the classical conception of truth: "the truth is the alignment of the (content of the) thought with that to what it refers"⁶¹;

⁵⁸ Cf. Stępień, *Wstęp do filozofii*, chapter III, 115-161. I omit here the aforementioned disputes: on the possibility of knowledge (anti-skepticism), the criterion of truth (*evidentia obiectiva* or objective obviousness – the intuition of experiencing), the structure of knowledge (internalist and apodictic fundamentalism), the existence of synthetically necessary knowledge (indubitability of protocols of experiences as well as statements with primal differentiations or on relations between simple qualities).

⁵⁹ Cf. among others Antoni B. Stępień, "Przypomnienie jako źródło poznania" in *Studia i szkice filozoficzne*, v. I, ed. Arkadiusz Gut (Lublin: RW KUL, 1999), 159-170.

⁶⁰ If we assume a broader notion of experience, we can describe Stępień's position as moderate aposteriorism.

⁶¹ *Ibidem*, 138.

- in the dispute on the status of sensual qualities, he sided with a weakened form of integral realism: sensual qualities are real, though only relational (or potential), properties of physical objects;
- when addressing the problem of universals, he took the position of moderate conceptual realism: the basis for the existence of general names and concepts is the existence of the same sort of properties and classes of objects;
- in the dispute on the basis of scientific knowledge, he took the position of methodological pluralism: there are many types of knowledge.

Certainly some of the points in the set presented above would not satisfy a typical phenomenologist. However, they could be accepted by one, especially in a discussion with representatives of the Thomistic and analytic approach. Stępień, as it was already mentioned, attempted in his considerations to include them all. However, one point in his outline of epistemology has a distinct phenomenological provenance: pluralism of the types of direct cognition. Drawing attention among them to the purely intellectual perception (intellection) allowed him to creatively practice (and to clarify from the epistemological and methodological side) metaphysics, apart from epistemology, whereas emphasizing aesthetic perception allowed him to creatively practice aesthetics, while his focus on introspection – to deal with philosophical psychology.

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Other Minds and Other Bodies: The Phenomenological Idea of Direct Cognition

No, this is but a mask, a decorative snare,
Poor visage lighted by a delicate grimace!
And look! contracted here, in raw and hideous troubles,
The genuine head and the authentic, candid face

(Ch. Baudelaire, "The Mask"¹)

1. MAPPING OF THE PROBLEM

The problem which shall be discussed in this chapter in the context of the milieu gathered around Antoni B. Stępień is the question of cognizing the mental states of other people (the psyche of the other, the other I, other minds or alter ego). The problem of the other "I" concerns the existence of other persons beyond the cognizing subject as well as the possibility of cognizing their mental states. It seems that the point of departure in the considerations concerning this topic, initiated by Stępień and his colleagues, was an attempt to undermine the conviction that cognition of the Other is always indirect, involving either inferencing (cf. argument from analogy), or transposing one's own mental perspective into the horizon of the mind of

¹ Charles Baudelaire, "The Mask", in *Flowers of Evil*, trans. Jacques LeClercq, (Mt Vernon, NY: Peter Pauper Press, 1958).

another subject.² The critique of the argument from analogy itself – which constitutes the essential core of the argumentation developed in the Lublin School – was rather a consequence of that attempt. It is worth noting that phenomenologists also related negatively, though for different reasons, to the theory of imitation and association.³ Therefore, what was crucial in the work that consisted of discussions during seminars rather than notes and publications, was a change of the purpose – from the strengthening of the argument from analogy to indicating that direct cognition of the psyche of another person is possible.⁴ Stępień in his works refers to the phenomenological tradition (Husserl and Scheler) and the critique (which may be found in Ingarden's works) of the argument of cognizing other minds by analogy, which stems from Descartes and was emphatically formulated in the writings of John S. Mill.⁵

Let us start from the problem itself as it is apprehended by phenomenologists. It seems that fundamentally its source is the conviction that knowledge about the psyche of another person is a unique knowledge for which we do not have a separate *sui generis* experience. This would mean that the knowledge about the mental states and experiences of other people is exclusively built upon other types of knowledge or connected with them. In the epistemological layer – which is of particular interest for us here – the following heuristic was used: knowledge about the psyche of another person is a distinct knowledge which at first glance is devoid of its own separate experience and it is formed by means of inferencing based on experiences of a different kind. Thus, it was most often emphasized that knowledge about the psyche of another person generates a problem of justifying convictions about other people in the categories of knowledge acquired by other cognitive channels than those dedicated to cognizing the

² Antoni B. Stępień, "Rodzaje bezpośredniego poznania," *Roczniki Filozoficzne* 19, no. 1 (1971): 95-126; Stanisław Judycki, *Intersubiektywność i czas: Przyczynek do dyskusji nad późną fazą poglądów Edmunda Husserla* (Lublin: RW KUL, 1990), 247-273.

³ Roman Ingarden, "O poznawaniu cudzych stanów psychicznych," in *U podstaw teorii poznania* (Warszawa: PWN, 1971), 414-417.

⁴ Antoni B. Stępień, *Dwa wykłady: Zagadnienie punktu wyjścia w filozofii. Teorie relacji: filozoficzne i logiczne. Przyczynek do zagadnienia stosunku między teorii bytu (przedmiotu) a logiki* (Lublin: TN KUL, 2005).

⁵ Ingarden, "O poznawaniu cudzych stanów psychicznych," 414-417; Max Scheler, *The Nature of Sympathy*, trans. Peter Heath (London, New York: Routledge, 2017); Mieczysław Wallis, *Przeżycie i wartość* (Kraków: Wydawnictwo Literackie, 1968).

psyche of other people.⁶ On the other hand, the conviction that knowledge about oneself, about one's own psyche, was unquestionable, privileged and credible directly and was wide-spread by its nature. Internal experience was dedicated to both of them. This state of affairs was well described by Max Scheler, when he wrote:

It is a fundamental weakness of theories which seek to derive our knowledge of other minds from inferences or processes of empathy, that they have an inveterate tendency to underestimate the difficulty of self-knowledge, just as they overestimate the difficulty of knowing other people.⁷

Admittedly, it was most often stated that the first source of knowledge about the psyche in general is experiencing our own experiences (our psyche), and the second one – the perception of other peoples' behaviors and that of oneself. It was, therefore, stated as follows: although we do not have at our disposal experience the proper object of which – as Aristotle would say – is the psyche of another person, the mental states or the "I" of the other; nonetheless, we are not helpless, because with the help of using source information (e.g. the internal experience of oneself, introspection and internal experience) and the ability to infer we can acquire such knowledge.

It is worth drawing attention to this assumption of the strong basis of one's knowledge about one's own mind, which shall also be a point of reference for phenomenologists. They shall most critically evaluate the acceptance of the so-called epistemological asymmetry which claims that knowledge about one's own mental states has a radically different level of certainty and a radically different source than knowledge about the mental states of others. This asymmetry, articulated by Augustine, became popular in philosophical, but also ordinary thinking.⁸ Let us also remember that at its basis lies a conceptual asymmetry which was probably most clearly formulated and popularized by Descartes:

Of these ideas I have—apart from the one that represents me to myself, about which there can be no difficulty here— one represents God, others bodily and inanimate things, others angels, others animals, and others, finally, other human beings like myself. As regards the ideas

⁶ Cf. Arkadiusz Gut, Przemysław Gut, "Inne umysły," *Roczniki Filozoficzne* 60, no. 4 (2012): 123-145.

⁷ Scheler, *The Nature of Sympathy*, 251.

⁸ John R. Searle, *The Rediscovery of the Mind* (Cambridge, MA: MIT Press, 1992).

that represent other human beings, or animals, or angels, I can easily see that they might have been put together from the ideas I have of myself, and bodily things, and God, even if there were no other human beings, or animals, or angels in the world.⁹

From the conceptual perspective, Descartes's idea of oneself has a different status than the idea of other persons. When I consider the idea of myself (more precisely: my mind), I neither have difficulties in describing its content, nor resolving whether something corresponds to it. In the case of the idea of other people (or more precisely: other minds), I do not have access to its content, nor do I know whether something corresponds to that idea. In other words, I may have – according to Descartes – a fully formulated idea of myself without the idea of “the other.” From the epistemological perspective this assumption was supposed to justify the thought that our access to the minds of other people is immensely limited, and speaking of some form of direct access to them is a typical example of wishful thinking:

From this I would have immediately concluded that I therefore knew the wax by the sight of my eyes, not by the inspection of the mind alone—if I had not happened to glance out of the window at people walking along the street. Using the customary expression, I say that I ‘see’ them, just as I ‘see’ the wax. But what do I actually see other than hats and coats, which could be covering automata? But I judge that they are people. And therefore what I thought I saw with my eyes, I in fact grasp only by the faculty of judging that is in my mind.¹⁰

Descartes clearly implies that our knowledge about other minds is contained in judgements (beliefs) which are inferences derived from a prior validated theory and observation. In Descartes's case, let us add, this is not exclusively the specificity of knowledge about other minds, but of something more – the entirety of knowledge about the external world, excluding the knowledge of God. It is important that Descartes agrees that knowledge about the existence of other minds and their essential states does not have a source or observable character, but a conceptual (amodal) one. Roman Ingarden explains that the sense and consequences of the aforementioned asymmetry may be presented in the following way:

⁹ René Descartes, *Meditations on First Philosophy: With Selections from the Objections and Replies*, trans. Michael Moriarty (Oxford: Oxford University Press, 2008), Med. III, 30-31.

¹⁰ *Ibidem*, 23.

[W]e notice only their (other people's – AG, JKT) bodies and, at that, solely in those of their properties for the perception of which we have a separate sensual organ. That, in turn, which constitutes the properties or mental activities of another human being is inaccessible to our experience, we can only indirectly guess or infer it from other facts, accessible to our experience, but we can never notice it outright.¹¹

Therefore, more generally, in the epistemological layer the following image is outlined: knowledge of the psyche of the other is a distinct knowledge, at first glance it is devoid of its own experience, and formed – as it is often put – with the aid of inferencing based on experiences of a different type. Actually, we are dealing here with a multi-aspectual asymmetry, which consists of the following: (a) that our own mental states are directly given to us, while those of others – indirectly; (b) that there are different conditions of identifying mental states ascribed to oneself and to others: in the former, based on that which is provided to us in internal experience, and in the latter, on the basis of that which is given in external sensual experience; (c) that two different types of justifying the conviction about someone's being in a particular mental state, connected with varying indicators and criteria – in the case of one's mental states justification appeals to inner experience and in the case of other people's mental states – to observation of their behavior; (d) that there are two sorts of modal status in which our mental states are given to us – most often our own mental states are given to us in a modal status of certainty, whereas mental states of other people are surmised with a large portion of uncertainty.¹²

Although phenomenologists, such as Max Scheler or Ingarden, as well as Stępień in his remarks, do not directly cover as a separate epistemological problem the issue described in contemporary literature as the conceptual problem of other minds, they, nonetheless – as we believe – indirectly attempt to also include this problem. Its source is the primacy of the first person perspective, in the sense that the contents of mental notions would have only one, first person criterion of identification, and thus these notions would relate to one (i.e. one's own) case. In other words, extending these notions to others – that is to different cases – would require either adding

¹¹ Ingarden, "O poznawaniu cudzych stanów psychicznych," 410.

¹² Cf. Gut, Gut, "Inne umysły," 123-145; Ingarden, "O poznawaniu cudzych stanów psychicznych," 407-427; Alec Hyslop, *Other Minds* (Dordrecht: Kluwer, 1995).

new conditions of identification of these notions or justifying the similarity of the cases to which these notions are subjected.¹³

Phenomenologists want to show that relating mental concepts to other people must be source-wise connected with the real experience of these people. They believe that mental concepts which we relate to other people are neither devoid, in the language of phenomenology, of their own intuition (*Anschauung*, *naoczność*), nor of their own essence (therefore they are not artificially filled in with borrowed content).¹⁴ Such a framing of the issue is not only supposed to prevent acknowledging in the next step that in the case of cognizing the psyche of the other we do not have any choice but must improve the argument from analogy or empathy, but also to undermine the assumption that with regard to other persons we can use exclusively notions with modality from another cognitive source or radically amodal notions (i.e. constructed exclusively in a definitional way).

Already at the beginning of describing his own concept of cognizing the psyche of the other Stępień writes:

We call this 'alter ego' intuition noticing the psyche of the other. We notice, e.g., the anger of the other, the disorientation of the other – as an individual, pre-existing, current (in short: really existing) object which is the mental state or act assigned to the 'alter-ego,' the Foreign or the Other. That, which is given, in this observation, manifests itself directly ... with a certain intuitiveness. ...

Noticing the psyche of the other – according to this concept – is the informer's "source" (not in Husserl's sense) about other consciousnesses, psyches and persons.¹⁵

Noticing others – as it is forcefully emphasized – is saturated by source content given in the experience of the Other. There is no transfer of one's own case to other ones. Replying to Scheler's question: "In what way and by what means are we first acquainted with the reality of the mental and spiritual center in others generally, apart from a merely discursive knowledge of the other's conscious self and its contents?"¹⁶, it is said that it is

¹³ Cf. Anita Avramides, *Other Minds* (London: Routledge, 2001); Peter Frederic Strawson, "Persons" in *Individuals: An Essay in Descriptive Metaphysics* (London, New York: Routledge, 1987), 87-116.

¹⁴ Scheler, *The Nature of Sympathy*; Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith (London: Routledge, 1981).

¹⁵ Stępień, "Rodzaje bezpośredniego poznania," 109.

¹⁶ Scheler, *The Nature of Sympathy*, 217.

not given in our own experience, not in a form of a general theory, but according to the source. Of course, it is necessary to explain what is this source-ness and directness, but one can clearly notice here an attempt to avoid that which in analytical discussions was described as “private enclosure.” This “private enclosure” is well described by Peter F. Strawson: “[t] here is no sense in the idea of ascribing states of consciousness to oneself, or at all, unless the ascriber already knows how to ascribe at least some states of consciousness to others.”¹⁷ It is emphasized here, that in the attributions of mental states, the subject cannot move “from the case of oneself,” and not only because that will end up as a projection or “transferring” of one’s own mental states into the heads of other people or recognizing what other people think and feel, based on what I myself think (in the epistemic dimension), but also because mental notions would have a first-person identification (in the conceptual dimension). Additionally, if we notice that Strawson’s thought expresses the logical or else conceptual impossibility of having mental concepts without prior knowledge of how it is to be a subject corresponding to a given notion, then it is easier to understand Scheler’s and his followers’ efforts to demonstrate that our access to the others is primal. Consequently, the knowledge of that which is supposed to refer to a particular notion is attained without the support of inferencing. Obviously in this case the strategy of thinking is different – even radically different, as it is based on focusing the discourse on the epistemological level, not conceptual, nevertheless one can also notice this conceptual strain in the phenomenological discourse; phenomenologists believed that one has to construe epistemology based to a lesser extent on introspection, and more on a third-person experience.

2. DIRECT COGNITION

In this situation the issue when we cognize directly becomes crucial, because the later description of cognizing the psyche of the other depends on it. For this reason one must first construe a dichotomy direct–indirect, and in the further sequence one must discern cognition through a sign

¹⁷ Strawson, “Persons,” 106.

(with a sign as an intermediary) from cognition through an expression (in the expression).

In the initial characterization, direct cognition is considered to be “cognition which apprehends its object directly, without an intermediary, without a *medium quod*, as-if in person.”¹⁸ Indirect cognition as such, in turn, apprehends its object via an intermediary: *medium quod* which may be an effect, symptom, effigy or symbol of that object.¹⁹ Indirect cognition may also include judging, reasoning as well as justification connected with it and cognizing via a sign. In turn, when speaking of direct cognition, one most often mentions: external sensual observation, internal sensual observation, internal observation, currently given first-person mental states and cognizing the mental life of another subject. It is worth adding that according to Stępień, in this sort of cognition there may be a so-called *medium quo* intermediary – it is, however, a sort of transparent intermediary, i.e. such a one which does not draw to itself the cognitive attention of the subject. In order to clarify the issue of the difference between intermediaries Stępień writes:

It is enough to explain that “medium quod” is such an intermediary which – in order to function as an intermediary in cognition – must first itself become the object of our cognition; “medium quo,” in turn, functions as an intermediary, without being an object (theme) of the cognizer’s attention or the limit of his intention.²⁰

The concept of a transparent intermediary allows us to interpret the human body as such an intermediary in the cognition of the mental states of others; consequently, the human body becomes the key ingredient of direct cognition.

What then, according to Stępień, excludes the possibility of talking about direct cognition? Certainly, in the cognitive act considered by us, it is excluded by a referral to other cognitive acts – particularly of another kind, and even more so to prior accepted judgments. The directness of cognition is excluded also when we deal with instrumental cognition – nowadays we could say: with the use of, for instance, fMRI which examines the neural reactions of our brains. The directness of cognition becomes questionable also when intellectual factors dominate in the structure of this cognition.

¹⁸ Stępień, “Rodzaje bezpośredniego poznania,” 99.

¹⁹ Antoni B. Stępień, *Wstęp do filozofii* (Lublin: TN KUL, 1995), 116.

²⁰ Stępień, “Rodzaje bezpośredniego poznania,” 100.

Direct cognition cannot be conditioned by intellectual knowledge, a sort of deliberation or realization at the conceptual level. The so-called content filler of this sort of cognition must be the essence provided in a direct mode, and not in a conceptual one. In other words, the act of direct cognition cannot be realized in a schema which in terms of structure would have a propositional form, in a schema in which the attribution would be comprehended as a particular object being subject to a specific concept. What is given cannot be comprehended as subject to particular predicates. Directness of cognition would be questionable also when that what is given in this cognition would be fragmentary, not given in its entirety.

Since the directness of cognition is not annulled by the occurrence of the *quo* intermediary, the key issue is to discern this intermediary from the category of signs which often occur in our cognition and exclude its directness. In his considerations Stępień recognizes the sign as “any object that in any way refers its user to something that is transcendent in relation to the object, which constitutes the *medium* (intermediary) in reaching, sharing or summoning something else (in the broad meaning of the term “referent”).”²¹ In the narrow sense “sign” is an iconic (image) or conventional (language expressions, railway signal) sign. In the Polish literature on the topic it was a subject of vivid discussions. We find a similar definition of the sign (i.e. to Stępień’s definition) in Izydora Dąmbska’s study “O konwencjach semiotycznych” [On semiotic conventions]. In her view “a sign,” most generally put, is “every object which while perceived by somebody, is capable of making present in the face of someone who notices it, other objects with which it remains in a relation of indicating or denoting.”²² She further states that a “sign” is always a product of conventions, culturally and environmentally constructed. According to other authors, one may distinguish conventional and nonconventional signs. The latter category would include signs which are mentioned in Mieczysław Wallis’s remarks concerning “signs” and “symptoms.” He states that “certain physical objects are more or less matched with certain mental objects – ‘correspond to them,’ ‘accompany them,’ ‘follow them.’”²³ Often between the symptom and the object expressed by it, a certain distinct sort of relation occurs which can be comprehended as matching, correspondence and the causal relation. The participation of the sign in cognition excludes the directness of that cognition.

²¹ Stępień, *Wstęp do filozofii*, 161.

²² Izydora Dąmbska, “O konwencjach semiotycznych,” *Studia Semiotyczne* 4 (1973): 44.

²³ Wallis, *Przeżycie i wartość*, 108.

We are now moving on to the crucial issue of why cognizing the psyche of the other person can be treated as direct cognition. Stępień recalls an entire series of indicators which are supposed to prove this, and at the same time, he enumerates the components that are absent from the cognition of the psyche of the other, and which would exclude direct cognition:

What is given in this perception [i.e. of the psyche of the other] directly manifests itself (without any "medium quod") with certain intuition (*Anschauung, naoczność*). The expressing factor (which in this case functions as a medium quo) is a specific state of (behavior of) a living human body: a certain facial expression or gesture. However, this is not the subject of the perceiving consciousness ..., but the expression of the mental life of the other, e.g., sadness or the effort of understanding something visible on someone else's face (at the same time the object of the perception is that manifested sadness, and not the manifestation of sadness per se). Therefore, we are not dealing here with "medium quod," inferencing, referring to some judgments or to the direct cognition of another sort.²⁴

3. COGNITION IN EXPRESSION AND THE HUMAN BODY

In the passage quoted above one can see that according to Stępień the expressive factor – that which functions as the *medium quo* – is a specific behavior of a living body. We shall later return to the issue of the body and embodiment of mental states; what is particularly important for us now is that all that is present in observation, i.e. behavior, gesture or facial expression, is not the theme, i.e. that which we apprehend. In Stępień's view, a behavior or gesture is not a "theme of observation, consciousness (we may even not know what corporeal behavior conditions noticing such and not another state of the psyche of the other person)."²⁵ What is more, "the object of the approach is that manifested sadness, and not the manifestation of sadness per se."²⁶

In this manner Stępień introduces the concept of cognition which is called cognition via expression or in expression. In this sort of cognition,

²⁴ Stępień, "Rodzaje bezpośredniego poznania," 109.

²⁵ Ibidem.

²⁶ Ibidem.

as he stresses further on, “we deal with three sections of the relation of expressing (cognizing in expression) and these are: (a) the expressing factor, (b) the expression and (c) that what is expressed.”²⁷ (By the way, in the same study Stępień also states that “the body is ... an expression (or expressive factor) of someone else’s mental life,”²⁸ as if the elements (a) and (b) listed above were identical). To prevent the risk of construing cognition through an expression or in expression as a sort of cognition through a sign, he underlines that in this sort of observation we are not dealing with *medium quod*, nor with any inferencing or reference to cognition of another sort.

In his book *The Nature of Sympathy*, Scheler, differently than Stępień, does not concentrate on the issue of differentiating the expression from the sign, but on demonstrating the primacy of cognition in the expression. Most of all, Scheler draws attention to the fact that knowledge about the expression (*Ausdruck*) of living creatures is preceded by the knowledge about the inanimate world and that knowledge about the expression has a fundamentally primal character. He also emphasizes that “the primitive, like the child, has no general acquaintance with ‘deadness’ in things: all his experience is presented as one vast field of expression, in which particular expressive unities stand out against the background.”²⁹ Initially in the experience of the Other we have a certain entirety of a *minded body*. The division into that which belongs to the body in the physical sense and that which belongs to the internal world, is secondary and preceded by reflective activity of the cognizing subject.

Incidentally, one can note that Scheler’s remarks about children, that “in the early stages of infancy, our mental pattern corresponds to that which must also be ascribed to the herd,” and that the child from the very beginning reacts differently to various expressive units in the face which are connected with separate mental states, can find their confirmation in current research. Nowadays it is indicated that infants instinctively imitate facial expressions of adults.³⁰ It is also underlined that infants treat the human face and voice in a radically different way than all the other objects and sounds in the world.³¹ The different reaction of the child to the human face and

²⁷ Ibidem.

²⁸ Ibidem.

²⁹ Scheler, *The Nature of Sympathy*, 248.

³⁰ Cf. Alison Gopnik, Andrew N. Meltzoff, *Words, Thoughts, and Theories* (Cambridge: MIT Press, 1996).

³¹ Paul Bloom, *Descartes’ Baby: How the Science of Child Development Explains What Makes Us Human* (New York: Basic Books, 2004).

human voice can be explained by the fact that from the very beginning the child treats them as means of expressing intentions, stances and emotions. A lot of research indicates that the latter (intentions, attitudes, emotions) are, indeed, the essential object of children's interest, although they are not given or visible as clearly as the grimace on a face.³²

In order to more emphatically underline the primacy of cognition in the expression, Scheler recalls Kurt Koffka's assertion that such phenomena as friendliness and unfriendliness (which we sense in the other person) are primary in reference to the physical qualities (the expression of the eyebrows, eyes, etc.) that correspond to them. With regard to that, Scheler writes that "from these facts and others like them, we conclude that 'expression' is indeed the very *first* thing that man apprehends of what lies outside him, and that he only goes to apprehend sensory appearances of any kind, inasmuch and insofar as they can be construed as *expressions* of mind."³³ This obviously will be one of the reasons why the theory of inferencing by analogy, to which we shall move onto next, encounters such an opposition.

Stanisław Judycki in his book *Intersubiektywność i czas* [Intersubjectivity and time], while juxtaposing Scheler's remarks with Edmund Husserl's position, claims that Scheler, in the assertions we cited above, points out an error in Husserl's thinking, for "he considered the sphere of inanimate spatial objects to be a sphere which founds other ontological spheres."³⁴ As we could see, living beings endowed with mental life are a primal reference for Scheler, most probably also in the ontological dimension. Following this trail, Judycki introduces a new thought that according to Scheler, the phenomenon of *expression* is not only primary, but also irreducible. It seems that Judycki accurately notices that Scheler accepted "as a so-called cognitive-eidological assumption – the sphere of expression as the primary sphere presenting itself in the face of the facts of this sphere and only asked about the beginning of the funding of these acts, through which one reaches to a presentation – whether they are prior to the acts presenting other spheres or not."³⁵ There is a clear interpretative suggestion here about giving the mental sphere the priority in the cognition of the other person through the direct indication of expressional sources. Con-

³² Ibidem.

³³ Scheler, *The Nature of Sympathy*, 239.

³⁴ Judycki, *Intersubiektywność i czas*, 261.

³⁵ Ibidem, 262; cf. Edmund Husserl, *Cartesian Meditations*, trans. Doris Cairns (The Hague: Martinus Nijhoff, 1960).

sequently, in this move one can notice an attempt at severing ties with the understanding of the human body in the categories of first of all a physical object, i.e. comprehending it as *Körper*, and not as *Leib-Seele* (we shall return to this issue).

It is worth noting that on account of the primal character of apprehending human psyche in its expression we may not know what sort of corporeal behavior conditions the perception of a given mental state, as argued by Stępień. It is worth citing the key fragment from Scheler's considerations:

[H]ence it is not just isolated experiences that I apprehend in another, but always the individual's mental character *as a whole* in its total expression. ... I can tell from the expressive 'look' of a person whether he is well disposed towards me, long before I can tell what color his eyes may be.³⁶

One can probably say that in general the idea of directness of cognition is linked with the concept of cognition in expression, and in particular with the apprehension of the live human body as an expressive unit. When speaking of cognition in expression, Scheler (and Stępień after him) wants to also say that in relation to the Other, we are not dealing with conceptual knowledge which, in a way, would mediate between my comprehension of someone as experiencing a specific mental state, and my comprehension of his/her state as corresponding to a specific concept. According to phenomenologists, cognition of the psyche of the other is not an attribution of a mental state, a form of predicative knowledge. In this sense, this is an approach which is completely different from the one proposed by the supporters of the analytical tradition, e.g. Strawson (2001). One may also say that the thus defined position of the phenomenologists is akin to what was written by Martin Buber, that if the reference to the other is supposed to be direct, then "between I and You no conceptuality (*keine Begrifflichkeit*), no pre-knowledge (*kein Vorwissen*) nor any phantasy (*keine Phantasie*) can occur."³⁷ The thesis about the primary character of the perception of expressive components of the human psyche may epistemically support assertions on the existential and ontic necessity of the presence of the I among the We, pointing to the fundamental inclination of the I to the other. As Schel-

³⁶ Scheler, *The Nature of Sympathy*, 243-244.

³⁷ Martin Buber, *Das dialogische Prinzip* (Heidelberg: L. Schneider, 1965).

er claims: "not only is the 'I' a member of the 'We', but also... the 'We' is a necessary member of the 'I'."³⁸

Finally, it is worth noting that phenomenologists notice certain limitations to direct cognition. According to Scheler, direct cognition does not cover either thoughts, or desires, or sensual experiences.³⁹ Moreover, a close contact with one's own body prevents the cognition of the mental states of oneself and those of others.⁴⁰ Ingarden, in turn, states that the scope of the cognoscibility of the mental states of the other is changeable and depends, among others, on my relation with that human being, mine and his/her openness – for a human being can conceal his/her states or simulate states which differ from those that he/she actually experiences.⁴¹

4. THE CRITIQUE OF THE ARGUMENT OF COGNITION BY ANALOGY

The theory which became an essential reference point for phenomenologists and in relation to which they formulated objections when elaborating their own approach, claims that cognizing mental states of others' occurs via inferencing *per analogiam*. Although it was present already in the works of Augustine and Descartes, it found its full formulation in Mill's writings:

I conclude that other human beings have feelings like me, because, first, they have bodies like me, which I know, in my own case, to be the antecedent condition of feelings; and because secondly, they exhibit the acts, and other outward signs, which in my own case I know by experience to be caused by feelings. I am conscious in myself of a series of facts connected by a uniform sequence, of which the beginning is modifications of my body, the middle is feelings, the end is outward demeanor. In the case of other human beings I have the evidence of my senses for the first and the last links of the series, but not for the intermediate link. I find, however, the link between the first and last is as regular and constant in those and other cases as it is as regular

³⁸ Scheler, *The Nature of Sympathy*, 230.

³⁹ Adam Węgrzecki, *O poznawaniu drugiego człowieka* (Kraków: Wydawnictwo Naukowe PAX, 1992), 65-73.

⁴⁰ Scheler, *The Nature of Sympathy*, 255.

⁴¹ Ingarden, "O poznawaniu cudzych stanów psychicznych," 424-427.

and constant in those and other cases as it is in mine. In my own case I know that the first link produces the last through the intermediate link, and could not produce it without. Experience, therefore, obliges me to conclude that there must be an intermediate link; which must either be the same in others as myself, or a different one: I must either believe them to be alive, or to be automatons: and by believing them to be alive, that is by supposing the link to be of the same nature as in the case of which I have experience, and which is in all other respects similar, I bring other human beings as phenomena, under the same generalizations which I know by experience to be the true theory of my own existence. ... We know the existence of other beings by generalization from the knowledge of our own: the generalization merely postulates that what experience shows to be a mark of the existence of something within the sphere of our consciousness, may be concluded to be a mark of the same thing beyond that sphere.⁴²

When analyzing this argument, Ingarden indicates that the entire justification begins from the following premise: “we ascertain that the experiences of our own conscious life are causatively conditioned by certain modifications or processes occurring in our body, and at the same time, they invoke within it certain effects.”⁴³ Thus, in Mill’s argument my mental states are taken as a mediating factor responsible for the manifestation of a given behavior. Ingarden does not mention that in that argumentation it is also silently assumed that we ourselves have direct access to them. What is more, Mill assumes that this access indisputably reveals the previously mentioned causative conditionings of my mental states through physical states in my body and physical states by mental states. We know that such causation is not obvious in the light of contemporary research and remains a contentious issue.⁴⁴ However, this issue is not raised by critics of Mill’s arguments for obvious reasons: they themselves assume in some sense the transparency of one’s own mind and the *prima facie* presence of data in this experience which can irrefutably confirm that our mental states are conditioned by our body.

⁴² John Stuart Mill, *An Examination of Sir William Hamilton’s Philosophy* [1865] Sixth Edition (London: Longmans, Green, and co.), 1889, 243-244.

⁴³ Ingarden, “O poznawaniu cudzych stanów psychicznych,” 410.

⁴⁴ Cf. Sydney Shoemaker, *Self-Knowledge and Self-Identity* (Ithaca, NY: Cornell University Press, 1963); Arkadiusz Gut, Robert Mirski, “In Search of a Theory: The Interpretative Challenge of Empirical Findings on Cultural Variance in Mindreading,” *Studies in Logic and Grammar and Rhetoric* 48/61 (2016); John R. Searle, *The Rediscovery of the Mind* (Cambridge, MA: MIT Press, 1992).

The second premise of the discussed argument – according to Ingarden – is the assertion that the bodies of others are similar to mine. Obviously, what he means is the behavior of people (i.e. another person) which is reminiscent of my own behavior. The experience of that similarity, as Mill claims, “obliges me to conclude that there must be an intermediate link; which must either be the same in others as myself, or a different one.” Based on this, Mill reaches a dilemma: “I must either believe them to be alive, or to be automatons.” Obviously, he does not refer here to the argument on the logical possibility of zombies.⁴⁵ Mill rather states hypothetically that: “by believing them to be alive, that is by supposing the link to be of the same nature as in the case of which I have experience, and which is in all other respects similar, I bring other human beings as phenomena, under the same generalizations which I know by experience to be the true theory of my own existence.” The essential issue again is the argument of my own truth, i.e. my experience of mental states as intermediaries causing the functioning of my body. However, there is something more here – Mill’s not too frequently noticed thesis that the generalizations of our own mental states are also true. Mill tells us that I may not only infer that other bodies are connected with mental states, but also identify these mental states as those which I know from my own experience. He as if implicitly accepts the validity of the generalization; i.e. he assumes that if a particular body manifests behavior which is reminiscent of my own body’s behavior, then I can use the same sort of predicate to describe the reasons for both of these phenomena.⁴⁶

The principle of generality provides a basis for introducing a third premise which Ingarden presents as follows: “in the bodies of other people occur physical changes similar to those which in our bodies causally condition our experiences, as well as physical changes similar to those which in us are the result of our experiences.”⁴⁷ The category of generality is applied here and it is claimed that behaviors of others correspond to the same sorts of behaviors that we know from our experience. The type of generalization applied here suggests that Mill operates exclusively with a sort of knowledge based on judgments, propositional knowledge in the

⁴⁵ Jaegwon Kim, *Philosophy of Mind* (London: Routledge, 2011).

⁴⁶ Cf. Gareth Evans, *The Varieties of Reference* (Oxford: Oxford University Press, 1982); Arkadiusz Gut, *O relacji między myślą a językiem: Studium krytyczne stanowisk utożsamiających myśl z językiem* (Lublin: TN KUL, 2009).

⁴⁷ Ingarden, “O poznawaniu cudzych stanów psychicznych,” 410.

following form: if the body manifests a certain behavior, then it is evoked by a certain experience. One may interpret this as an exclusion of other types of knowledge with regard to mental states of other people, and first of all the direct ones, including phenomenally implemented experiences referring to those states. According to Mill, the human being experiences phenomena repeatedly occurring in a certain sequence and this experience of co-occurrence leads him to the idea of a certain connection and enables deriving certain generalizations. These generalizations allow Mill to infer that “the same intermediary component must occur among other people as the one which in our case relies on a particular conscious experience.”⁴⁸

The opponents of Mill’s theory try to show that such a solution defies the power and the weight of experiencing intuitive (*Anschauung*, *naoczność*) phenomena in their thematic concreteness and definiteness, which is fundamental for phenomenological theories.⁴⁹ Stępień states outright that the theory of inferencing by analogy “erroneously assumes that the knowledge about the psyche of the other has a purely mental character and depends solely on having a set of judgements – conclusions from the conducted experiments.”⁵⁰ Ingarden also believes that following the theory of inferencing by analogy, we would have to assume that knowledge about the experiences of other people is non-intuitive (*Anschauung*, *naoczność*).⁵¹ What is important, he emphasizes that in such a case we would have to agree that our thoughts about the mental experiences of other people are “rather indefinite, often unable to precisely define the individual properties of the mental fact.”⁵²

At this point it is worth addressing yet another issue. Phenomenologists object to the suggestion of the proponents of the argument by analogy that the experience of the mental states of others has a radically amodal character. It seems that the critics of the theory of inferencing by analogy believe that it is not so much the directness of the cognition of the other I (although that too), as its individuality that can be defended only if we have an experience of a specific modality. This is, obviously, linked with the idea

⁴⁸ Ibidem.

⁴⁹ Cf. Scheler, *The Nature of Sympathy*; Edith Stein, *On the Problem of Empathy*, trans. Waltraut Stein (Washington, DC: ICS Publications, 1989), 27; Jean-Paul Sartre, *Being and Nothingness*, trans. Hazel E. Barnes (New York: Washington Square Press, 1993).

⁵⁰ Stępień, “Rodzaje bezpośredniego poznania,” 110.

⁵¹ Ingarden, “O poznawaniu cudzych stanów psychicznych,” 412.

⁵² Ibidem, 412-414.

of cognition in expression, as well as – with some form of embodiment of mental states, of which neither Ingarden nor Stępień were aware. This point – as we shall show soon – is well understood by Scheler. It seems that Ingarden and his successors believe that the epistemological idea of cognition through expression is sufficient. Ingarden stated:

[M]eanwhile – regardless of what kind of cognition of the mental facts of others is involved and of its cognitive value – when in our direct relationship with somebody, we learn something, e.g., about his/her feeling, then in a close connection with the perception of his/her body, facial expression etc., there appears the concrete and intuitive phenomenon of the specific quality of the emotion felt by the person with whom we are in contact.⁵³

The experience of the body captured in the category of “expression” is supposed to guarantee the occurrence of the desired intuition (*Anschauung*, *naoczność*) and thus a substantively determined individuality of a given experience. However, let us add that the expression itself is not equated with an experience, because an experience and its expression are treated as two ontic spheres.

Scheler sees the problem we confront when we want to create an alternative for the theory of inferring by analogy in a broader perspective. We already mentioned the crucial aspects of the understanding of the human body. Let us draw attention to some additional issues. Scheler stated that: “[t]he (traditional) argument from analogy is merely an epistemological tailpiece tacked on to one particular system of metaphysics, namely the Cartesian and Lotzean dualism of interacting substances.”⁵⁴ He was convinced that metaphysical theories (the concept of two substances mutually affecting each other or the theory of two separate substances which with the aid of some additional intermediary could affect each other, or else theories of psychophysical parallelism) result on the one hand in underestimating the difficulty of self-perception, and overrating the difficulty of experiencing others, and on the other hand in failure to notice that “[t]his relationship is due to the fact that all changes in the body are accompanied by two other sets of changes: (1) nervous processes in the physical body, (2) changes in the bodily consciousness, which serve to determine which

⁵³ Ibidem, 413.

⁵⁴ Scheler, *The Nature of Sympathy*, 226.

part of the totality of inner life is to enter internal awareness."⁵⁵ Scheler clearly emphasized here that modifications present in the body – contrary to the Cartesian model – should not be comprehended strictly mechanistically, or treated in the way in which they are treated in the non-human world. In his view, they are one-of-a-kind for only in the human body the nervous system and its various modifications lead to generating sensations, and through these sensations further to the occurrence of a psychic experience unique for our species.

By more closely explaining what happens in the body when mental states appear, Scheler notices that “[w]e only pay special attention to an experience of our own in so far as it discharges itself in intended movements, or at least in expressive tendencies.”⁵⁶ On account of that he considers that hitherto one erroneously separated the physical from the mental, suggesting that “the ‘mental’ is what can only be given to ‘one’ person at a time.”⁵⁷ Taking into consideration the connection of sensations with the body itself, Scheler is convinced that “[he]nce an identical sorrow can be keenly felt (though in one’s own individual fashion), but never an identical sensation of pain, for here there are always two separate sensations.”⁵⁸ The embodiment of that experiencing is individual and different in every case. While refining the question of the relation of mental experiences with the human body, Scheler indirectly indicates that Ingarden’s argument which states that, after all, I do not fully know what my face looks like when I am happy or sad – “I do not know, because in general I do not notice it” – is not devised well, and can even be misleading. The problem does not consist in that I only know my face thanks to using a mirror, and therefore I do not see the features of my face in each situation and I cannot observe my bodily reaction, which as “known” I am supposed to use in the second premise when reasoning by analogy; the problem consists in that my manner of experiencing is so individualized that in principle cannot be transposed to other cases. Scheler, therefore, proposes a radical abandonment of this manner of thinking which lay at the foundations of the theory proposed by Mill. Scheler discredits the argument from analogy, trying to show that Mill’s sensualism is completely erroneous, because assuming common sensations at the point of departure leads us astray. Directness and the possibility to

⁵⁵ Ibidem, 255.

⁵⁶ Por. Ibidem, 251; Merleau-Ponty, *Phenomenology of Perception*.

⁵⁷ Scheler, *The Nature of Sympathy*, 255.

⁵⁸ Ibidem.

cognize the psyche of the other is not based on the fact that our bodies, and thus sensations, are similar. Obviously, this approach involves the idea that a perception (no matter of what kind) is not merely a complex of sensual impressions, and therefore the pursuit for the impression of the psyche of the other is a path leading to nowhere. However, having introduced into the discourse the distinction between feeling (which does not engage the body) and experiencing (which engages the body), Scheler stated:

To be sure, we can never experience the same (physically localized) sensory pleasure or pain. These states are confined to the individual in whom they occur, and can only be like one another, never identical. But two people may very well feel the same sorrow; a strictly identical, not just a similar one, even though the experience may be differently colored in each case by differing organic sensations.⁵⁹

Generally speaking, Scheler notices that the fundamental error in the theory of inferring by analogy consists in the assumption that “our own I” is given to us and thus our basic knowledge about the psyche and mental states is based on dependable sources of knowledge. Another error, rarely raised by Stępień and Ingarden, is connected with the understanding of the human body. Scheler believes that the mistake of all sorts of theories of inferencing by analogy is the assumption “that what is primarily given in the case of others is merely the appearance of the body.”⁶⁰ One can see in Scheler’s case the radical break with the Cartesian tradition which treats the human body mechanistically and exclusively as a physical space inside which the mind exists. It should be noted that Scheler’s critique of Mill may result from abandoning this way of thinking. Currently Scheler’s ideas are being developed in the works by Shaun Gallagher, Dan Zahavi and others. In this context it is worth referring to a fragment of Søren Overgaard’s chapter “The Problem of Other Minds” from *The Handbook of Phenomenology and Cognitive Science*:

A useful point of departure for understanding the phenomenologists’ take on the problem of other minds is the observation that there is a sense in which the revisionist responses that we have considered do not take their revision of the Cartesian view far enough (the last step of the neutral monist account excepted). For the aim of the behaviorist

⁵⁹ Ibidem, 325.

⁶⁰ Ibidem, 244.

reduction that they attempt is to show that the phenomena that Cartesians and other conservatives think are essentially different from, and somehow hidden behind, mere physical movements and noises, really are nothing but such movements and noises, or can at least be adequately accounted for in terms of the latter. But that means they accept one half of the Cartesian picture – the picture of the body as a mere *res extensa* – and simply erase or ignore the other half. This, all the major phenomenologists would insist, is not a sufficiently radical revision. For it leaves the reductive revisionists in agreement with the conservatives on the following, crucial point: all we ever really see are the properties of a mere physical object – the body. In contrast to this, all the phenomenologists attempt to articulate what might be called a non-reductive revisionist account; and they do so primarily, though not exclusively, by attempting a radical reinterpretation of the body.⁶¹

However, even if one rejects the theory of the human being which lies at the foundations of Mill's argument, one can appreciate its value in relation to certain situations in everyday life, as it was done by Edith Stein:

Even so, we cannot deny that inferences by analogy do occur in knowledge of foreign experience. It is easily possible for another's expression to remind me of one of my own so that I ascribe to his expression its usual meaning for me. Only then can we assume the comprehension of another "I" with bodily expression as a psychic expression. The inference by analogy replaces the empathy perhaps denied. It does not yield perception but a more or less probable knowledge of the foreign experience.⁶²

5. PHENOMENA: SHAME – WHEN SOMEONE WATCHES ME – CONCLUSION

Arguments for directness of experiencing the psyche of the other gain support in the analyses of the experience of bemusement or shame, when erroneously convinced that we are alone, we realize that in fact we have been observed. Let us try to elaborate on these issues and connect them

⁶¹ Søren Overgaard, "The Problem of Other Minds" in *The Handbook of Phenomenology and Cognitive Science*, eds. Shaun Gallagher and Daniel Schmicking, (Dordrecht: Springer, 2010), 261.

⁶² Stein, *On the Problem of Empathy*, 27.

with the question of the understanding of the the human body and the concept of the embodiment of the human psyche.

Scheler, criticizing other approaches to the issue of cognizing the psyche of the other, claims that when we, for instance, see somebody, we are given something that cannot be reduced to simple observations of something physical:

Thus I do not merely see the other person's eyes, for example; I also see that 'he is looking at me' and even that 'he is looking at me as though he wished to avoid my seeing that he is looking at me'. So too do I perceive that he is only pretending to feel what he does not feel at all, that he is severing the familiar bond between his experience and its natural expression, and is substituting another expressive movement in place of the particular phenomenon implied by his experience.⁶³

The feeling of being observed irrefutably confirms the presence of the other, not as a presence of "something," as Descartes would put it, dressed in a cloak and hat, but as a presence of somebody who observes me and reveals his/her perspective from which he/she gazes at me. Just how the discovery of being seen by another becomes an overbearing reason for recognizing the existence of the other, is clearly described by Sartre in his work *Being and Nothingness*: "'Being-seen-by-the-Other' is the truth of 'seeing-the-Other.'"⁶⁴ It is certainly some attempt to show that knowledge about the presence of others is not a conclusion, as the theory of thinking by analogy claims, nor a projection from my point of view, as it figures in the theory of empathy. The presence of the other is not something proven, but it is something experienced in an existential fashion. However, one must stipulate that it is hard to assess whether the existentiality of this experience completely excludes in the epistemic dimension the moment of implicit inferencing.

Sartre strengthens the interpretation of the experience of being seen through the analysis of another experience – shame. His idea is more or less such that shame is what experience-wise confirms being observed. It is shame that clearly reveals to me the gaze of the Other. This is a sort of experience which, for instance, does not occur in the observation of oneself in the mirror. Shame is being ashamed of oneself, yet in the face of the other, in reference to the other: "the two structures are inseparable"; in ef-

⁶³ Scheler, *The Nature of Sympathy*, 261.

⁶⁴ Sartre, *Being and Nothingness*, 257.

fect, as Sartre stated: "at the same time I need the Other in order to realize fully all the structures of my being. The For-itself refers to the For-others."⁶⁵

In order to say that it is not in any case a theoretical conclusion, but an irremovable data, present in our experience, Sartre adds that "[s]hame is an immediate shudder which runs through me from head to foot without any discursive preparation."⁶⁶ Hence this experience itself is characterized, in his view, by some primacy which in its basic layer is not a result of a deliberate experience or intellectual inclination.

When speaking of a piercing experience or shame which enters my body, Sartre points to the role of the body in the entire process of experience. This fits into Scheler's ontic condition, according to which in the direct cognition of the mental states of others it is important that "my body should be subject to effects whose causes are located in, or proceed from, the other's body."⁶⁷ As Scheler explains, corporeal sensations are crucial in relation to both the cognition of one's own experiences and those of others:

[I]n this respect, therefore, there is, at bottom, no very crucial difference between self-awareness and the perception of mind in others. Such perception occurs, in both cases, only so far as the state of the body is modified in some way and so far as the mental state to be perceived is translated into some sort of expression or other physical modification.⁶⁸

The embodiment of experience on the part of the experiencing and the experienced is, therefore, the assumption of the epistemological theory of cognition based on the lived, expressive body (*Leib*). As Stępień emphasizes, deception when lying is often immediately revealed, due to phenomena present in this experience.⁶⁹ We could add that the epistemological reflection on cognition in expression and its radicalization in Scheler's writings, and partly in those by Sartre, suggest that our mental states are more transparent than we usually think. Let us add that the idea of embodiment in the phenomenological movement was considerably refined in the works of Maurice Merleau-Ponty. The following fragment aptly illustrates this:

If the subject is in a situation, even if he is no more than a possibility of situations, this is because he forces his ipseity into reality only by

⁶⁵ Ibidem, 222.

⁶⁶ Ibidem, 223.

⁶⁷ Scheler, *The Nature of Sympathy*, 249.

⁶⁸ Ibidem, 251.

⁶⁹ Cf. Stępień, "Rodzaje bezpośredniego poznania," 95-126.

actually being a body, and entering the world through that body. In so far as, when I reflect on the essence of subjectivity, I find it bound up with that of the body and that of the world, this is because my existence as subjectivity is merely one with my existence as a body and with the existence of the world, and because the subject that I am, when taken concretely, is inseparable from this body and this world. The ontological world and body which we find at the core of the subject are not the world or body as idea, but on the one hand the world itself contracted into a comprehensive grasp, and on the other the body itself as a knowing-body.⁷⁰

To put it in the broader perspective of the discussions that have taken place, it is worth noting that the reflection on cognition on the lived, expressive body (*Leib*) has become a part of contemporary phenomenological discussions. Overgaard stated in "The Problems of Other Minds," clearly drawing on the phenomenological tradition, that: "another person's body is generally not perceived as a physical thing – as a *Körper*, to use a German expression invoked by some of the phenomenologists. Rather, it is perceived as a lived, expressive, or "animate" body – a *Leib*."⁷¹ Let us return to Sartre's remarks: "although certain complex forms derived from shame can appear on the reflective plane, shame is not originally a phenomenon of reflection."⁷² According to Sartre, in its primal structure "shame is shame of oneself before the Other."⁷³ For Sartre, the pre-reflective character of shame is crucial, because it demonstrates that experiencing the Other is immensely primal – it makes itself felt before we arouse in ourselves acts of reflection, and all the more so of thinking in the format suggested by the theory of analogy (if it indeed assumes consciously controlled thinking). The radicality of the assertion describing the pre-reflective experience of shame, and simultaneously the experience of the Other, was noticed by Stanisław Judycki:

The search for a sphere in which the relation to the Others would be the most primal and would precede the relation subject–object as an intentional-cognitive relation, was most emphatically expressed in French phenomenology, in the theories of Merleau-Ponty and Sartre. Both philosophers – despite differences between them regarding concepts of

⁷⁰ Merleau-Ponty, *Phenomenology of Perception*, 475.

⁷¹ Overgaard, "The Problems of Other Minds," 264.

⁷² Sartre, *Being and Nothingness*, 221.

⁷³ *Ibidem*, 222.

philosophy and concepts of reality – shared the conviction that a truly direct and primal relationship to the Others is located in the realm of pre-reflective consciousness.⁷⁴

The sense of the presence of the other and the experience of shame, by the traditional model, are frequently taken not yet as cognition as such, although in further cognitive activity they constitute an irrefutable testimony of the presence and the existence of Others. Therefore, we think that in the end it is worth relating these issues to the emotional reaction to the other. We believe that the experiential character of cognizing mental experiences underlined, for instance, by Scheler, explains in an even deeper way why, in his view, the encounter with the Other is an embodied experience which founds and enables a direct contact with the Others.

Now, in the final section of our paper we would like to approach the propositions of phenomenologists in a somewhat critical manner. Although their attempt to indicate the possibility of directly cognition of the other's mental states via the body seems to be valuable, which is confirmed by the fact that it finds its continuation in contemporary cognitive science (cf. Gallagher 2008), it is not devoid of flaws, and the critique of Mill's proposal seems to be at times insufficiently justified or undermined by contemporary research.

As far as the latter issue is concerned Stępień enumerates the following arguments in favor of the fallacy of the theory of inferencing by analogy. According to him that theory "does not take into account the fact that during a cognitive contact with others we are not aware of conducting inferences by analogy."⁷⁵ This argument is valid only in so far as the reasonings that we conduct are essentially performed on an explicit level and steered by our mind. In the light of contemporary findings it does not seem to be the case. The theory of inferencing by analogy refers to the so-called ordinary cognitive system, the components of which work spontaneously without control (the existence of such a system is confirmed by contemporary research); therefore, the lack of awareness of such reasonings does not exclude the possibility that the cognitive system is conducting them. Analogically, one must admit that Stępień's argument stating that the knowledge of the psyche of other people occurs among young children "who cannot conduct

⁷⁴ Judycki, *Intersubiektywność i czas*, 259

⁷⁵ Stępień, "Rodzaje bezpośredniego poznania," 110.

an inference by analogy (of a proper type)⁷⁶ is a questionable argument because children, as contemporary developmental research indicates, conduct immensely complicated reasonings on the implicit level.

To do justice to Mill's argument, it is worth noting that the critique presented by the phenomenologists does not prove that we do not apply reasoning from analogy in any situations (it seems that contrary to the intuitions of the phenomenologists, direct cognition and cognition by inferencing do not have to be mutually exclusive). One can also defend Mill's concept, when one notices that its basic purpose is to explain the fact that we know that other people have minds, and not to explain how we can read them. What remains Mill's mistake is the dogmatic assumption that our mental states have agency. Also the conviction that we have an unquestionable and direct access to our own mental states, which is why our knowledge about these states is certain and independent from external factors (such as language or emotional cultural patterns) seems to be false. The second mistake, as we have already mentioned, is repeated by most phenomenologists discussed in this chapter.

Last but not least, Scheler's argument that the individuality of human experience prevents its generalization (postulated in a way by Mill) may be weakened by arguing that people belong to the same species and that their nature shaped in the process of evolution makes them similar to each other to a certain degree, also in how they experience the world.

In reference to the proposals of the phenomenologists, in turn, one can observe that their conviction about the possibility of reading mental states from the body of the other person is weakened by the fact that humans are able to control their body language. It is enough to think of actors whose acting cannot be differentiated from honest behavior. They are able to mask their own actual experiences, or arouse in themselves experiences with which they do not really identify. Not all people have adequate acting skills, but we can assume that everyone to a certain degree makes use of them, protecting for various reasons the privacy of one's own experiences. Hence in many situations, the so-called transparent intermediary in the cognition of the psyche of other people may become an opaque intermediary.

Both Stępień's systematics of the types of indirect cognitions (though this issue could easily be improved) and the idea of a transparent intermediary in direct cognition, about which the cognizing subject does not know, may

⁷⁶ Ibidem.

raise doubts. Either we are dealing with an intermediary, or not – calling it transparent does not solve the problem. The theory of the embodied mind might be a solution, however, neither Stępień nor Ingarden knew it.

It is also worth reflecting upon the consequence of Scheler's, perhaps, accurate observation, that the analysis of the mental state of a child and of primitive peoples demonstrates that initially it is the community which is given in experience, and only then I; initially, the human being lives in others, and then in him/herself. At first the child experiences the feelings and the thoughts of others (although it treats them as its own) because of the language which they have in common.⁷⁷ If that is really the case, then as children we are not ourselves, but we only shape ourselves on the basis of the experience of being other people, i.e. according to this approach our first mental experiences are not ours, but originate from our social surroundings. Deciphering mental states of children from the expressions of their bodies would be problematic in this context.

Also the argument from being observed and experiencing shame can be weakened. First, the feeling of uncertainty and shame that we experience when we become aware that somebody has been observing us without our knowledge seems to mean above all that when we are in the company of other people, we try to control our body language to convey ideas we want to convey, not necessarily the truth. Second, Sartre's remarks on the primacy of the experience of shame seem to be accurate in reference to all emotions. Admittedly, emotions are more primal than thinking or reasoning, they appear very fast – but this does not mean that behind these emotions there are no complex cognitive processes which have been formed in the process of a long-lasting enculturation or evolution. As far as the experience of shame in a social situation is concerned, one should consider the possibility that what we are ashamed of is transmitted in the process of both species and individual development; shame may be a learned experience and culturally specific.

To sum up, perhaps, as Stępień and Ingarden suggest, we actually have a certain capacity to directly decipher mental states of other people. This would include most of all mental states of people close to us, those who are not aware that they are being observed or those who under the influence of very strong stimuli are not able to control their own bodies. This would also apply to children, who do not try to conceal their experiences. Howev-

⁷⁷ Ibidem, 369-372.

er, intuitive experience is certainly not the only way of deciphering mental states of other people. Our knowledge about mental states of others is based, as it seems, mainly on verbal messages that we receive from other people. Without them we would not be able to not know what another person is thinking, dreaming about or what mathematical calculations he/she is conducting. Numerous mental states which people experience thanks to their language skills, could not be communicated in any other way but verbally.

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III

METHODOLOGY OF SCIENCE AND SEMIOTICS

The Categories of Interdisciplinarity and Integration in Relation to Stanisław Kamiński's Analytical-Ordering Schemas

1. INTRODUCTION

The phenomenon which occurs in science under the term of interdisciplinarity is more and more often noticed nowadays and treated as a significant and justified topic. What is more, it is treated as a desired mode of practicing science, despite potential dangers connected with it, such as diletantism, transgressing beyond one's own cognitive competences and methodological mediocrity.¹ Interdisciplinary research is perceived as an important alternative to disciplinary research, enabling one to overcome the shortcomings of the disciplinary approach in the form of an excessive specialization of scientific disciplines, lack of synthesis of knowledge which is being shaped in a narrow framework, i.e. the integration of various disciplinary points of view or else the lack of solutions, of often socially significant problems, the elaboration of which requires going beyond the scope of a single discipline. Interdisciplinary sensitivity is manifested, at least in declarations, by both methodologists and philosophers of science, as well as scientists *per se*, not to mention politicians and decision makers who shape – with their devel-

¹ Robert Frodeman, "Introduction," in *The Oxford Handbook of Interdisciplinarity*, eds. Robert Frodeman, Julie Thomson Klein and Carl Mitcham (Oxford: Oxford University Press, 2010), xxix.

opmental strategies, legal acts and decisions about financing – the reality of science and the social world of the scientific community. Hence a methodologist of science who is “observing” the ever-changing science and trying to understand it, and sometimes also to normatively shape it, cannot miss the presence of interdisciplinarity in the reflection on science and its practice.

The beginnings of the awareness that interdisciplinarity is becoming one of the important categories describing contemporary science, as well as firm foundations for the development of the methodological reflection on interdisciplinarity, can be found in the works of Stanisław Kamiński, a methodologist and philosopher of science, a central figure in the Lublin School of Philosophy and the main architect of its logical and methodological profile. A significant role in this case is played by his comprehensive monograph dedicated to science: *Nauka i metoda: Pojęcie nauki i klasyfikacja nauk* [Science and Method: The Concept of Science and Classification of Sciences]². The awareness of the presence and significance of the topic of interdisciplinarity and integration of knowledge is demonstrated in Kamiński’s work by dedicating a separate paragraph to the issue. This is paragraph no. 4, entitled. “Integracja wiedzy i współpraca naukowo-badawcza” [The integration of knowledge and academic-research cooperation]³ in Chapter Four, “Rozmaitość i jedność nauk [The variety and unity of the sciences].”⁴ In this chapter Kamiński directly introduces analytical and ordering schemas concerning the topic of integration of knowledge and academic-research cooperation as well as ordering the sciences, a topic crucial for the issue of interdisciplinarity.⁵ This chapter is based on earlier

² Stanisław Kamiński, *Nauka i metoda: Pojęcie nauki i klasyfikacja nauk* (Lublin: TN KUL, 1st edition: 1961; 4th edition: 1992). Editions 1-3 were published under the title *Pojęcie nauki i klasyfikacja nauk*. The 4th edition, prepared for print by Andrzej Bronk, was published six years after Kamiński’s death. The bibliography of Kamiński’s works was compiled by Anna Buczek and Tadeusz Szubka in the volume of the *Roczniki Filozoficzne* journal [Annals of Philosophy] from 1987. See also <https://www.kul.pl/ks-prof-dr-hab-stanislaw-kaminski,14285.html> accessed August 15, 2019.

³ Kamiński, *Nauka i metoda*, 275-284.

⁴ Ibidem, 249-284.

⁵ An earlier version of this article entitled “O podstawach unifikacji nauk” was published in the book *Problemy epistemologii pragmatycznej: Materiały z posiedzeń konwersatorium naukoznawczego Polskiej Akademii Nauk* (Wrocław: Ossolineum, 1972), 107-119; its reprint was placed in the third volume of Kamiński’s collected works (*Pisma wybrane*) edited by Urszula Żegleń, *Metoda i język: Studia z semiotyki i metodologii nauk* (Lublin: TN KUL, 1994), 435-448. Kamiński also takes on the topic of the unification of the sciences in a short article “Zagadnienie jedności

resolutions from his monograph, in which Kamiński introduces and develops analytical and ordering schemas concerning science. This particularly refers to Chapter One: “Wieloznaczność terminu nauka” [The ambiguity of the term science], paragraph no. 1 entitled: “Podstawowe typy desygnatów nazwy nauka” [Typical referents of the term science]⁶ and Chapter Three: “Determinacja natury nauki” [Determining the nature of science] (paragraphs 1-3).⁷ Kamiński introduced and developed these schemas during his lectures on the general methodology of science conducted for students of philosophy as well as for all the students at the Catholic University of Lublin. They found their direct continuation in the lectures conducted by his disciples: Rev. Prof. Andrzej Bronk for students of philosophy⁸ and Rev. Prof. Zygmunt Hajduk for students of philosophy of nature.⁹

Contemporary literature covering the topic of interdisciplinarity is diverse with regard to the authors who discuss it. Works on interdisciplinarity are published by representatives of various sciences: methodologists/philosophers of science, scientists practicing particular sciences, e.g. natural and social sciences, as well as the humanities, along with those who practice interdisciplinarity, representatives of educational studies (in the field of didactics and pedagogy), who shape and conduct interdisciplinary programs of studies on various levels or interdisciplinary academic courses, as well as organizers and policy makers of science. For the sake of simplicity I consider texts dedicated to interdisciplinarity as belonging to the methodology of science, in which the characteristic aspect of the comprehension of science is its cognitive (epistemic) aspect, i.e. science is understood as a cognitive activity. Moreover, I recognize that the primary place, (sub-)discipline adequate for taking on the topic of interdisciplinarity is, indeed, the methodology of science, regardless of who practices it: whether methodologists of science, who systematically engage in it *ex professo*, or else other scientists, who conduct a meta-theoretical reflection on their own

nauki u scholastyków,” *Sprawozdania z Prac Naukowych Wydziału Nauk Społecznych PAN*, no. 4 (1961), 46-47.

⁶ Kamiński, *Nauka i metoda*, 11-19.

⁷ *Ibidem*, 183-230.

⁸ A version of these lectures is available on the website of the Catholic University of Lublin: <https://www.kul.pl/ks-prof-dr-hab-andrzej-bronk,1438.html> [accessed July 21, 2019]; this concerns lectures conducted between February and June 2002.

⁹ These lectures became the basis for the textbook by Zygmunt Hajduk, *Ogólna metodologia nauk* (Lublin: RW KUL, 1st edition: 2004; 4th edition: Lublin 2007; 6th edition: Lublin: Wydawnictwo KUL, 2012).

research practice. Methodology of science itself may be a good example of interdisciplinarity.

The article consists of two main parts. In the first part (segments 2–3), I shall outline the understanding of interdisciplinarity present in contemporary methodological literature, whereas in the second part (segment 4) I intend to demonstrate how Kamiński's views on science and integration in science may be applied to interpreting the category of interdisciplinarity. The purpose of the article is to gain better understanding of the category of interdisciplinarity through a detailed explanation of the central category of integration which defines it. I shall attempt to show how to apply Kamiński's analytical-ordering schemas concerning science and integration for an interpretation of the category of interdisciplinarity. Applying Kamiński's analytical-ordering schemas allows one to better understand: (1) what elements are integrated, i.e. what is connected in the case of interdisciplinarity; (2) what units are created as a result of these connections, i.e. what objects are described as "interdisciplinary"; and (3) what shapes these units, what is the integrative element, i.e. what joins interdisciplinary units. This allows us to make one aware of the spectrum of various manners of understanding integration and, consequently, interdisciplinarity. One may ask why Kamiński's views have become here the basis for the analyses of the category of interdisciplinarity. The reason for this is an expanded categorization of the sciences, not limited simply to mono-disciplines and applicable to interdisciplinarily comprehended science as well as the understanding of integration, which Kamiński proposes.

2. INTERDISCIPLINARITY VERSUS MULTIDISCIPLINARITY

In the literature on the topic, there is no established and commonly accepted understanding of the term "interdisciplinarity" nor of the related terms such as "transdisciplinarity," "multidisciplinarity," "pluridisciplinarity," etc.¹⁰ There is basically agreement in reference to interdisciplinarity differ-

¹⁰ Various understandings of these terms are discussed e.g. by Julie Thomson Klein, "A Taxonomy of Interdisciplinarity" in *The Oxford Handbook of Interdisciplinarity*,

ing from “disciplinarity,” yet interdisciplinarity is understood as poldisciplinarity (the properties of which are: integration and synthesis as well as holism), and disciplinarity as monodisciplinarity¹¹ (the properties of which are specialization and expertise, isolationism of perspective and methodological rigor)¹².

“Interdisciplinarity” and the related terms are used as names signifying various implementations of the phenomenon of conducting research (by a particular scientist or a group of scientists) in the realm of multiple scientific disciplines and transgressing beyond one discipline, sometimes beyond science itself. In order to distinguish particular versions of interdisciplinarity and to apprehend their character, attempts have been made to diversify the ways they are called. There are various proposals of designing the meaning of the aforementioned terms.¹³ I assume in this article a broad use of the term “interdisciplinarity.” I use it as a collective name describing various types of poldisciplinarity, since what matters is not only distinguishing them and characterizing its various types, but a general holistic presentation of the metatheoretical foundations of interdisciplinarity, i.e. pointing to categories which allow us to construct a conceptual framework describing interdisciplinarity *en bloc*.

The term “interdisciplinarity” is a noun created from the adjective “interdisciplinary,” and adjectives denote the properties of something. Properties are ontologically secondary compared with the primary object in which they are embedded and subjected. These objects are vessels for properties, and that is why the completeness, ordering and subtlety of analyses concerning interdisciplinarity (of science) depend on the accurate, holistic and orderly

eds. Robert Frodeman, Julie Thomson Klein and Carl Mitcham (Oxford: Oxford University Press, 2010), 15-30.

¹¹ Angelique Chettiparamb, *Interdisciplinarity: A Literature Review, The Interdisciplinary Teaching and Learning Group, Subject Centre for Languages, Linguistics and Area Studies, School of Humanities* (Southampton: University of Southampton, 2007), accessed January 2, 2015. <https://www.llas.ac.uk/resources/3219>.

¹² Frodeman, “Introduction,” xxxii-xxxv.

¹³ E.g. Allen F. Repko, *Interdisciplinary Research: Process and Theory* (Los Angeles: Sage Publications, 2008), 11-15; Willy Østreng, *Science without Boundaries: Interdisciplinarity in Research, Society and Politics* (Lanham: University Press of America, 2010), 26-33; Mario Bunge, *Emergence and Convergence. Qualitative Novelty and the Unity of Knowledge* (Toronto: University of Toronto Press, 2003); see also Robert Poczobut, “Interdyscyplinarność i pojęcia pokrewne” in *Interdyscyplinarnie o interdyscyplinarności: Między ideą a praktyką*, eds. Adam Chmielewski, Maria Dudzikowa and Adam Grobler (Kraków: Impuls, 2012), 39-61.

characteristic of its vessels. Categories concerning a comprehensive, extensional characteristic of the term “science,” presented by Kamiński, play a significant role in the characteristic of interdisciplinarity, i.e. types of referents of the term science as well as configurations of referents based on proposed criteria of the autonomy of science (particular disciplines), which simultaneously serve as criteria of their ordering and factors of the integration of science. These criteria assume a characteristic of the nature of science through the indication of the determinants of its methodological status. The analytical-ordering schemas introduced by Kamiński seem to be a good basis for the analyses of the phenomenon of interdisciplinarity in science. A question arises, to what degree categories worked out as an example of disciplinarily practiced science may be used in reference to science practiced in an interdisciplinary fashion?¹⁴ The answer to that is that Kamiński’s categories and schemas which characterize science do not solely serve the description of monodisciplines, but they were elaborated with the ambition to encompass science relatively holistically, in the perspective of the issue of its unification, i.e. demonstrating its unity, despite its (factual) diversity.

Therefore, interdisciplinarity is a property of science (or some of its fragments) comprehended functionally, as inquiries (research procedures), or productively, as the knowledge acquired as a result of these procedures. The adjective “interdisciplinary” (“multidisciplinary”) appears in the literature e.g. in the expressions: interdisciplinary studies, interdisciplinary research, interdisciplinary inquiry, interdisciplinary field, interdisciplinary knowledge, interdisciplinary problem, interdisciplinary problem solving, interdisciplinary concept, interdisciplinary program, interdisciplinary education/learning, interdisciplinary approach etc.¹⁵ It is referred both to science comprehended as research and as didactics (teaching)¹⁶ as well as to the administration of science.¹⁷

The preliminary analysis of various definitions of interdisciplinarity and the main referents of the term “science,” to which interdisciplinarity is attributed (i.e. interdisciplinary research or interdisciplinary knowledge), re-

¹⁴ Frodeman, *Introduction*, xxxv-xxxvi.

¹⁵ For instance, Frodeman, *Introduction*; Repko, *Interdisciplinary Research*.

¹⁶ The differentiation of science as research and as didactics occurs in Kamiński’s works in the form of a distinction between science “with a revealing nature (objectively creative)” and “non-revealing science (formative)” (Kamiński, *Nauka i metoda*, 14, 16-18).

¹⁷ Frodeman, *Introduction*, xxxvii.

veals the semantic elements constitutive for the understanding of the term “interdisciplinarity.”¹⁸ Among them are: (1) (mono-)disciplinarity, i.e. the existence of disciplines or specialized domains of knowledge which represent a “disciplinary perspective” or “point of view”; (2) integration of disciplinary elements, understood as a form of synthesis; (3) interaction between scientific disciplines or their elements; (4) more complete (integrated, synthesizing, holistic, systemic) knowledge/understanding or their development as a purpose of interdisciplinarity. All of these factors that constitute interdisciplinarity are crucial; however, a central role among them is played by integration (synthesis), because it collectively represents interdisciplinarity, object-oriented, cognitive and formal relations within the framework of science, both at the level of scientific actions and their results.

3. INTEGRATION IN SCIENCE VERSUS INTERDISCIPLINARITY

What is integration connected with interdisciplinarity in science about? Integration is a sort of synthesis, the formation of a certain (superior) whole out of a set of elements (parts).¹⁹ Integration may be a sort of ordering, that is why the notions of the relation and structure are important in this case as well as the criteria of discerning and ordering. Since integrated elements originate from various disciplines, interdisciplinarity depends on monodisciplinarity and it assumes its existence. Interdisciplinary syntheses are created from elements of particular disciplines, and not in separation in relation to them: without disciplinary knowledge they are not possible.²⁰

The crucial questions that one must address while analyzing the notion of interdisciplinary integration are: 1) what sort of elements are subject to integration; 2) what integrative relations are considered; 3) what plays the function of the element combining the components into a whole; 4) what

¹⁸ For instance, Repko, *Interdisciplinary Research*, 12; Klein, *A Taxonomy of Interdisciplinarity*, 17.

¹⁹ Repko, *Interdisciplinary Research*, 122-123, 344 and 351.

²⁰ See Moti Nissanni, “Ten Cheers for Interdisciplinarity: The Case for Interdisciplinary Knowledge and Research,” *The Social Science Journal* 34, no. 2 (1997): 201-216 and 203.

sort of whole ultimately emerges. Depending on each of these factors, we are dealing with different types of integration, and what follows – with interdisciplinarity emerging as a result of them. It is expected that a whole emerging as a result of integration should be characterized by a certain uniformity and coherence. Interdisciplinarity of cognition consists in combining elements from various disciplines; however, not every integration is interdisciplinary. Interdisciplinary integration is characterized by connecting elements of science which belong to various disciplines and also by the fact that as a result of it a whole is formed, which cannot be assigned to any monodiscipline and which goes beyond it. Integration may consist in the creation of wholes from elements (parts) through the discovery of a merging factor: common concepts, problems, theses, assumptions etc., or in the creation of wholes through a simple summing up of the elements. In the first case we are dealing with (in the categories of set theory) an intersection of two sets or the creation of a superior set, and in the second case – with a union of sets (assertions). Moreover, integration can consist in the use of elements going beyond integrated disciplines, taken from more general disciplines (e.g. ontology) or those which are meta-theoretical (e.g. logic).

The systematic and theoretical elaboration of the notion of integration appearing in the context of interdisciplinarity in science requires, as I signaled, references to the categorizations and classifications relating to science itself: types of referents of the term “science” (elements of science), relations between them, and also the criteria of differentiation, characterizing and ordering of the sciences. In Kamiński’s works one can find all these elements and an outright reflection on integration itself and academic-research cooperation. That is why they constitute a convenient point of departure for the analysis of interdisciplinarity. In the further part of the chapter I shall relate to Kamiński’s notion of integration as well as its categorization and ordering considering science, as well as their references to the topic of integration and interdisciplinarity. Kamiński’s analytical-ordering schemas which can be used to characterize the phenomenon of integration and interdisciplinarity in science are:

- the extensional description of the term “science”: types of referents of the term “science”;
- the characterization of the nature of science through the indication of its elements: determinants of its methodological status and its institutional-social status;
- factors in the integration of the sciences;

- criteria of the autonomy of science and simultaneously criteria of their classification.

4. THE FOUNDATIONS OF THE INTEGRATION AND INTERDISCIPLINARITY OF SCIENCE AND THEIR UNDERSTANDING ACCORDING TO STANISŁAW KAMIŃSKI

Kamiński conducts his reflections on the integration and unity of science in the context and tendency opposite to that phenomenon: the specialization and differentiation of the sciences. Both the tendency towards specialization and the tendency to integration of sciences generate the need for interdisciplinarity. Both of them have their sources in multilateral factors: in the diversity of reality *per se* (ontological factor), in the fragmentariness and aspectiveness of cognition and scientific knowledge (epistemological factor), in the internal differentiation of science (methodological factor) and historical circumstances of practicing it (cultural-social factor), as well as its alterability (historical factor).

Kamiński considers the urge for specialization as a more spontaneous and natural tendency in the history of science. It is manifested in the emergence of ever so numerous and separate scientific disciplines and subdisciplines, which supply specialized knowledge as well as detailed and precise cognitive results, but they do not form any integrated whole by themselves. The undesirable effects of specialization are balanced and should be balanced by an opposite tendency: integration and/or unification of science, which is, however, contrary to specialization – a process which is and should be supervised and formulated intentionally.²¹

²¹ Kamiński, *Nauka i metoda*, 249, 275-276. Similar ideas concerning the phenomena of specialization and integration of the sciences, called divergence and convergence, can be found in Bunge, *Emergence and Convergence*, 268-284.

4.1. INTEGRATION, UNIFICATION, UNITY OF SCIENCE, INTERDISCIPLINARITY: TERMINOLOGY

In order to describe the process and tendency opposite to specialization, Kamiński uses the terms: *integracja* [integration] (*zespalenie* [merging]) and *unifikacja* [unification], as well as *jedność nauki* [unity of science]. He uses the term *interdyscyplinarność* [interdisciplinarity] sporadically in expressions *badania interdyscyplinarne* [interdisciplinary research], *interdyscyplinarna synteza* [interdisciplinary synthesis], *język interdyscyplinarny* [interdisciplinary language] and *nauki interdyscyplinarne* [interdisciplinary sciences]. In order to understand his ways of using these terms, one must take into account the context which serves for him as a point of departure. On the one hand, it is shaped by the subject matter of the unity of science and unification, taken on by logical empiricists, pursuing universal (formal) criteria for the rationality of science, which ultimately lead to the reduction of the notion of science to the ideal of mathematical natural sciences (physics). On the other hand, it is delineated by pursuit, opposite in relation to neo-positivism, to maintain and methodologically legitimize the pluralism of the sciences and scientific disciplines, including the scientificity of the humanities, philosophy and theology as well as the indication that with such a pluralism and differentiation science constitutes a unity, fulfilling general standards of rationality.

Although Kamiński does not clearly distinguish integration and unification, nevertheless in the light of his methodological stance which acknowledged methodological pluralism and justified specificity of the particular types of sciences unification is not understood as a reduction, as was desired by the (neo-)positivists. The concept of unification as reduction is nowadays often rejected and replaced by an ever so commonly accepted idea of the non-homogeneity of science.²² It seems that non-homogeneity is another name for the pluralism of science, expressed traditionally in the perception and acceptance of the methodological diversity of the sciences, i.e. indeed their specialization. That is why I place the non-homogeneity of science rather on the side of the tendency to specialize science, and I perceive the tendency to integrate the sciences as one which has various realizations: the (neo)positivistic one, in the form of a concept of unification-reduction of science (reductionism), and the contemporarily emphasized, expressed in

²² Poczobut, "Interdyscyplinarność i pojęcia pokrewne," 40.

the notion of interdisciplinarity. Interdisciplinary integration differs from the unification-reduction to the effect that it preserves elements specific of the particular sciences, and not – like unification-reduction – eliminates them. At first glance, it may seem that factors of integration treated as factors of unification are the same, and this in fact may be the case. However, they are used differently when considering the unification of science, and differently in the integration characteristic for the interdisciplinarity of science. What matters is the purpose that drives them: in the case of unification, it is about demonstrating the unity of science, and in the case of integration connected with interdisciplinarity, it is about research which allows us to resolve a so-called interdisciplinary problems.²³

Although Kamiński does not outright introduce a definition of unification and integration nor the unity of science, one may attempt to clarify these terms. Unification or integration of science should be understood as a process (sequence of actions) or its result, whereas unity of science as the result of unification/integration, i.e. the designed or actual state acquired as a result of these processes. Interdisciplinarity, in turn, may be connected with the process of integration, e.g. interdisciplinary research, as well as with the results of such a process, e.g. interdisciplinary synthesis.

Unity and integration in science may assume various forms. Kamiński²⁴ distinguishes the homogeneity and uniformity of science. In the case of homogeneity, the case is that particular disciplines fulfill the same criteria of scientificity, especially with regard to the type of language and method (formal integration). In the case of uniformity, the purpose is to merge the sciences and their contents in order to achieve a coherent system of knowledge, formulated by common principles – general assumptions and tasks as well as partially integrated content (substantive integration). Kamiński, in the context of discerning between homogeneity and uniformity, introduces his own notion of integration, defining it as an intermediary sort of unity of science – between the homogeneity and the uniformity – which emerges predominantly as a result of the permeation of the sciences thanks to boundary disciplines.²⁵ Integration understood this way, combining the formal and substantive elements, is closest to what today is considered the

²³ Cf. Jordi Cat, “The Unity of Science” in *Stanford Encyclopedia of Philosophy* (2017), accessed January 5, 2019. <https://plato.stanford.edu/entries/scientific-unity/>.

²⁴ Kamiński, *Nauka i metoda*, 275.

²⁵ *Ibidem*, 275.

integration of the sciences which manifests itself in the form of interdisciplinarity.

Kamiński distinguishes several aspects of the process of integration (merging):

Merging science occurs: 1° to a varying degree – dependent on whether one reaches organic unity in the form of a single system (as e.g. Comte wanted), or else only to harmonize content (e.g. the encyclopedists); 2° on various stages of practicing science – depending on whether it is e.g. only in planning and organizing research cooperation, or in the research process itself, either in synthesizing scientific results or in education; 3° to a varying extent – depending on whether in reference to all the sciences or only a select few; 4° at various levels (horizontally, when disciplines are combined at the same level of systematics or at the same level of research, or else vertically, when the disciplines are merged at various levels or stages of science-formative procedure).²⁶

If one takes a closer look at the aspects of the process of integrating science, indicated by Kamiński, one can notice that what is assumed as the characterization of the integration of science, is the categorization of science itself, expressed in the systematization and characterization of its results (system of knowledge or loose arrangement), stages of practicing it (planning and organizing research, carrying out research, systematizing results, teaching) and typologies (“systematics”) of the sciences. Kamiński introduces these elements, which are assumed when explaining the concept of the integration of science, as an extensional characterization of the term “science” and typology („taxonomy”) of the sciences.²⁷ I shall limit myself to describing the types of referents of the term “science,” and I shall omit the topic of the typology of the sciences, because it is not entire science which is integrated within interdisciplinarity, but their selected elements or fragments. That is why – I believe – typologies of the sciences have a secondary character in this case. However, one should point out, that the classifications of the sciences, assumed at a given period and area, constitute a point of reference for interdisciplinarity and integration to the effect that they categorize science, distinguishing within it separate units in the form

²⁶ Ibidem, 276.

²⁷ He dedicates two diachronically ordered paragraphs of chapter IV: 2 to this issue. See “Podziały nauk u dawnych autorów [Divisions of science of other authors]” in Kamiński, *Nauka i metoda*, 257-268 ii 3. “Współczesne uporządkowania nauk” in ibidem, 268-275.

of scientific disciplines and types of sciences, the elements or entireties of which are supposed to be combined.

4.2. INTEGRATED ELEMENTS AND UNITS WHICH EMERGE AS A RESULT OF INTEGRATION: TYPES OF REFERENTS OF THE TERM SCIENCE

The point of departure for the understanding of integration is the typology of the ways of understanding science by indicating the main referents of the term "science" (presenting a extensional characteristic of the term). This enables determining how such an understood science can undergo integration and, simultaneously, what wholes can emerge according to this understanding, and in connection with that, to what should one attribute interdisciplinarity (to what objects). "[O]n account of what moments of meaning are ... prioritized" Kamiński²⁸ distinguishes three main types of referents of the term "science": 1) "some elements of a particular form of knowledge" – formal elements of knowledge – science as a form of cognition/knowledge; 2) "knowledge *per se*," that is science as knowledge; and 3) "knowledge together with the entire system of cultural reality" – science as a domain of culture:

- I. Some formal elements of a certain sort of knowledge:
 1. Language as a formal aspect of the scientific system.
 2. Method as a way of scientific inquiry and systematizing.
 3. Institution as a certain organizational form of practicing science.
- II. Cognition of a particular sort:
 - A. Of a revelatory nature (objectively creative).
 1. Inherent or transitive cognitive activity – scientific research.
 2. The cognitive result (product) of this activity:
 - a) subjective (internal),
 - 1) state of mind – repository of inventively acquired scientific knowledge,
 - 2) mental skill – a discovered skill of scientific work,
 - b) objective (external) – system of discovered scientific truths, scientific theory.
 - B. Of a non-revelatory (educating) character.

²⁸ Kamiński, *Nauka i metoda*, 11-18.

1. Object of learning or teaching, or otherwise instructive:
 - a) cognitive content (e.g. information, discipline, views, doctrines, system of religious beliefs or moral prescriptions),
 - b) cognitive aspect of an action that we learn or teach (e.g. learning how to drive, apprenticeship), or cognitive aspect of something that instructs (e.g. a hint, the moral of a story, a warning).
 2. Process of learning or teaching (e.g. studies, education, lessons, training).
 3. The result of learning or teaching (e.g. body of knowledge, erudition, skills, art, craftsmanship).
- III. The domain of culture which encompasses as its main component creative cognition, systematically acquired, rationally justified, expressed in an informative language and self-improving.²⁹

Although Kamiński first mentions the understanding of science as a form of cognition, from the point of view of the ontology of the objects called science that are integrated within the interdisciplinary manner of practicing it science understood as knowledge and its constitutive elements play a predominant role, because most of all it is them, which, being ontologically primary, are subject to integration. I shall not discuss all of the types of referents of the term “science” indicated by Kamiński, but only those which, with an understanding of science as a revelatory and creative activity, are connected with the acquisition of new, objectivized knowledge and show us the manner they can be used in the context of integration and interdisciplinarity.

Science understood as knowledge may be comprehended in a functional manner – as a cognitive action called research (revelatory), science understood as research) or as learning/teaching (non-revelatory, science understood as didactics), or as a product, a result of these activities in the form of variously understood knowledge (revelatory or non-revelatory). Research procedures consist in various cognitive activities common for all sciences: concept formation, defining, ordering, posing questions or drawing conclusions, or else activities specific for particular types of science or scientific disciplines, specialized to a varying degree: observation, humanistic interpretation, explanation, building models or empirical verification. The products of cognitive activities are primarily the verbalized results of research in the form of terminology, assertions, questions, hypotheses, more

²⁹ Ibidem, 14.

or less orderly sets of statements, scientific theories, paradigms, research traditions etc.³⁰ Each of the aforementioned referents of the term “science” may be an element subject to integration and may constitute an integrated entity within the framework of interdisciplinarily practiced science. For example, various cognitive activities attributed to different sciences or types of sciences, or theorems from the scope of various disciplines may be integrated, thus shaping interdisciplinary methods or systems of statements.

Integrated elements or entities which emerge as a result of integration are sometimes also considered to be referents of the term “science” called by Kamiński elements of forms of knowledge, i.e. a method (form of research activity), a language (form of acquired knowledge) or an institutional form of practicing science (form of science as a domain of culture). We are then dealing with an interdisciplinary form of knowledge as an interdisciplinary method, interdisciplinary language or interdisciplinary institution.

Other types of referents of the term “science,” which are not described here in detail, but were indicated by Kamiński, also provide an efficient analytical framework for integration and interdisciplinarity; nonetheless, they concern science in its non-cognitive aspects, which I omit, retaining the methodological perspective. They may constitute a basis for analyses of interdisciplinarity by educational scholars and scholars in science studies who deal with the institutional-organizational dimension of science.

Ultimately, as a result of integration, new disciplines may emerge, however, such a result remains in opposition to interdisciplinary thinking, in the sense that ultimately one achieves at that point (at least at the terminological level) scientific discipline, i.e. a monodisciplinary whole. Indeed, as a result of interdisciplinary research new disciplines (so-called boundary ones) emerge, but more often entities comprehended as fragments of a science (e.g. sets of theses) are achieved, which are interdisciplinary and not (mono-)disciplinary. Perhaps, in this case, thinking about science in the categories of substantial entities, as (mono-)disciplines are, is not adequate in this case, but rather thinking in the categories of research projects, which resolves certain problems or interdisciplinary units, such as sets of assertions (conceptions) or complex research (actions), becomes more appropriate.

³⁰ Ibidem, 17-18.

4.3. GENERAL FOUNDATIONS, PRINCIPLES AND EXTERNAL FACTORS OF THE INTEGRATION OF SCIENCES

Among the foundations of integration/unification Kamiński mentions most of all philosophical foundations in the form of the ontology of the objects of science, theories of valuable cognition and the typology of knowledge. He also acknowledges the significance of methodological and organizational conditions, which facilitate integration.³¹ Among the general factors which condition the integration of the sciences or else postulate it, he enumerates those which are situated outside of science (external factors) or are inherent for it (internal factors). They are sometimes treated in a descriptive way (how science is or was practiced), and sometimes in a normative manner (how it should be practiced). This distinction assumes the variously designed and implemented demarcation between science and that what remains outside of it, and is based on a methodological-epistemological notion of science as a specific sort of cognition which assumes a specific methodological form. Kamiński considers the external integrative factors to be the one examined world (ontological factor), the same nature of human cognitive powers (epistemological factor), common conditions for research (cultural-social factor) and a theoretical and methodological approach of scholars (social-methodological factor³²). One may have some doubts as to why the factor of a methodological character is treated as external, and not internal, which illustrates a certain arbitrariness of the distinction described.

An ontological factor of integration may be the object of science (investigated object), holistically understood as reality or its holistically comprehended fragment, in its full endowment and abundance of aspects (e.g. culture) – material object, as opposed to the formal object, understood as an object comprehended from a specific aspect, with the aid of specific tools e.g. conceptual ones.³³ The formal object is mentioned by Kamiński as one of the methodological indicators of the nature and specificity of a particular science (scientific discipline), e.g. physics (tendency to specialization).

³¹ Ibidem, 275-276.

³² Ibidem, 276-277.

³³ Ibidem, 276, 187-188. See also the entry s.v. "Przedmiot" [Object] in *Mały słownik terminów i pojęć filozoficznych dla studiujących filozofię chrześcijańską*, eds. Antoni Podsiad and Zbigniew Więckowski (Warszawa: PAX, 1983).

On the background of his understanding of a scientific discipline, Andrzej Bronk defines the domain of interdisciplinary studies in the following way:

The domain of interdisciplinary studies includes sciences which deal with the same material object, but examine it from various points of view (they have different formal objects). The domain of multidisciplinary studies consists of sciences which differ as far as the material and formal objects are concerned, but they are interested in investigating a selected fragment of the world (e.g. some historical or geographical area).³⁴

Ontological assumptions of a unifying and integrative nature are constituted, according to Kamiński, by theses about the world as a uniform whole, as a hierarchic system of beings which are mutually connected, about the world with a specific structure in which one can differentiate its layers (nonorganic, organic, mental), domains (nature, culture), spheres (microcosm, cosmos, macrocosm), its various ontic states, aspects and developmental forms, which despite all that, form an orderly whole. A strongly integrative role is played by the assumption of the harmony of reality and the steady course of events.³⁵ Although Kamiński essentially points to the integrative potential of the most general ontological assumptions, an analogical integrative function can be played by theoretical assumptions with a lower level of generality, e.g. the assumption accepted in cognitive science that mental processes consist in the reception and processing of information.³⁶ Contemporary discussions on interdisciplinarity seem to be more interested in such local integrations that encompass certain elements from selected sciences, than in global ones, concerning the entirety of all of science, which interested Kamiński.³⁷

The epistemological integrative factor consists in the (otherwise contentious) thesis of the unity of the nature of human cognitive powers, the assumption that it is governed by uniform laws as well as the conviction about the universal, cognitive interests, common for all of humankind, which are particularly inclined at acquiring a uniform image of the world (interdisci-

³⁴ Andrzej Bronk, "Czy pedagogika jest nauką autonomiczną?" in *W trosce o integralne wychowanie*, eds. Marian Nowak, Tomasz Ożóg and Alina Rynio (Lublin: Wydawnictwo KUL, 2003), 72, footnote 78.

³⁵ Kamiński, *Nauka i metoda*, 276.

³⁶ Poczobut, "Interdyscyplinarność i pojęcia pokrewne," 44.

³⁷ *Interdyscyplinarnie o interdyscyplinarności: Między ideą a praktyką*, eds. Adam Chmielewski, Maria Dudzikowa and Adam Grobler (Kraków: Impuls, 2012).

plinary synthesis, worldview) and its transmission (didactics), as well as the sufficiently unified cognitive results (synthesis), indispensable for organizing life. Kamiński also perceives the cultural-social factor as one that potentially integrates the sciences, although one can also comprehend it as an element that differentiates and specifies various sorts of cognition, which is particularly visible in the practice of the humanities or philosophy, relativized to a particular tradition and its classics. Similar conditions for the practice of the sciences, identical institutions and analogical work conditions may be a unifying factor.³⁸ Additionally, a methodological and theoretical stance of scholars may be an external integrative factor, especially the self-awareness and criticism of a scholar towards his/her own research.

4.4. INTERNAL LOGICAL-METHODOLOGICAL CRITERIA OF INTEGRATING THE SCIENCES

4.4.1. FORMAL AND NON-FORMAL FACTORS FOR THE INTEGRATION OF SCIENCES AND THE DETERMINANTS OF THE METHODOLOGICAL STATUS OF SCIENCE

Kamiński differentiates external logical-methodological factors from the external factors merging the sciences. Among them he distinguishes two types: formal and non-formal. The first ones, i.e. the method, language and interpropositional structure of scientific knowledge, have a structural-methodological character and are the basis for the homogeneity of the sciences. The second ones, i.e. the genetical connections between the sciences, the history and purpose of science, are rather linked with the content of knowledge and they mainly contribute to assuring its uniformity.³⁹ However, Kamiński does not consider the non-formal foundations of the unity of science, taken separately, as a sufficiently strong a tool for integration, for only treated together can they constitute its strong foundation.⁴⁰

The aforementioned integrative factors are useful as theoretical tools not only in the context of the description of integration, but they also create an analytical-ordering schema which allows Kamiński to characterize the methodological status of science as a whole as well as of the particu-

³⁸ Kamiński, *Nauka i metoda*, p. 277.

³⁹ *Ibidem*, 277.

⁴⁰ *Ibidem*, 279-280.

lar sciences; they also have a broad application to extract and describe the sciences and their types. The same factors also function as criteria which order the sciences⁴¹ and indicate their methodological autonomy in relation to other types of sciences or their types. The initial place, where Kamiński systematically introduces and enumerates integrative factors is the topic of the nature of science, i.e. its methodological status.⁴² Collecting them under the name of the methodological status of science is not typical for Kamiński, who did not as such use the term “methodological status of science,” but this notion appears throughout his book *Nauka i metoda* [Science and Method]. Nonetheless, the term “methodological status of science” has been used by Kamiński’s disciples and the proponents of his conception of science.⁴³ This is a good term to render why science as a whole is science from a methodological point of view, and it also allows us to characterize particular types of knowledge, specific sciences or research projects.

The methodological status of science is defined by its determinants (of the nature of science), i.e. the object of science, its goal (functions), its set of problems, method, structure of the acquired research results, the language of science, its origins and history.⁴⁴ These determinants constitute the basis for the formal and non-formal cognitive characterization of science, and at the same time, they are criteria ordering the sciences, used in various contexts to examine and describe them. They have a twofold character: they can serve both as criteria for differentiating the sciences as well as criteria which integrate them.

⁴¹ See Kamiński’s internal criteria of ordering of the sciences (Kamiński, *Nauka i metoda*, 253-257).

⁴² This relates to a large part of chapter III. “Determinacja natury nauki” [Determining the nature of science] in Kamiński, *Nauka i metoda*, 183-230.

⁴³ For instance this term is used by A. Bronk to characterize educational studies, see “Czy pedagogika jest nauką autonomiczną?”; see also Monika Walczak, “Między dyscypliną a badaniami interdyscyplinarnymi: uwagi o metodologicznym statusie kulturoznawstwa,” *Roczniki Kulturoznawcze* 1, no. 1 (2010): 7-41.

⁴⁴ Kamiński states: “Science may be described in various ways: either by indicating its formal object and purpose, or by differentiating its subject matter, or else, by describing its logical structure and language. However, these shall not be the most diagnostic indicators. A crucial verifier of scientificity which by the way has enormous didactic value and broad utility, turns out to be a method of practicing science” (Kamiński, *Nauka i metoda*, 200).

4.4.2. OBJECT OF RESEARCH

The first of the determinants of the methodological status of science, i.e. its object,⁴⁵ refers to what a particular science investigates. In Kamiński's view, the object of science belongs to the ontological, external factors integrating the sciences, and not to internal factors, although obviously the object characterizes the nature of science as a form of cognition. Defining a realm of reality which a particular science deals with remains in multiple relations with decisions concerning the remaining determinants of the nature of science, in particular research problems, goal and method. They are also conditioned by ontological and methodological assumptions which concern that what is considered possible to be scientifically explored, and what is assumed to be a part of reality.

When one takes into consideration a scientific system, then its object shall simply be everything which is denoted by constant expressions (and represented by variables) occurring in the theses of this system. The direct object of a scientific theory is a model of a particular class of concrete objects idealized from a certain aspect (according to some) or a system of alleged objects and states of affairs (according to others). Yet events, states of affairs and structures (substantial or not) are rather a derivative object of science. The characteristic of the latter is strictly connected with a philosophical theory. At this point what differs most are the determinants of the object of science.⁴⁶

Kamiński discerns the object of science into the material and formal object as well as the object at the point of departure and the final point of research. The object of inquiry, as an integrative factor in interdisciplinary research, may merge research from various disciplines, e.g. in such a way that interdisciplinary studies may consist of a combination of (mono-)disciplinary inquiries dealing with the same material object (e.g. culture), but from a variety of aspects (e.g. from a historical and systematic aspect, from the linguistic aspect as well as the understanding of culture as a tool for exercising power). Such a connection may provide a more complete and more adequate image of the investigated reality (object at the final point), as is the case in cognitive science, which by integrating various disciplines

⁴⁵ Kamiński, *Nauka i metoda*, 184-192.

⁴⁶ *Ibidem*, 187-188.

intends to provide a holistic explanation of the mind that takes into consideration various levels of the cognitive system.⁴⁷

The levels taken into consideration in this case, constitute its separate aspects, which require connection within interdisciplinary research. Fragmentary formal objects may be that what in interdisciplinary research is subject to integration as well as that what emerges as a result of integration. Since the determination of the object of research has a linguistic character, an important role of the integrative factor in connection to the object of science is played by concepts and terms which signify the objects in question, and also the definitions, theses and theories which characterize them. At this point, the object of research permeates the integrative factor, i.e. language.

4.4.3. RESEARCH GOAL

The next determinant of the methodological status of science is the research goal⁴⁸ understood as that what one wants to accomplish while conducting research (the intended goal), or that what one actually achieves (the accomplished goal). According to Kamiński, the goal of scientific cognition may be understood as: motives which incline a human being to acquire scientific knowledge (the object-oriented goal); the objective result to which a research procedure is headed (object-oriented goal); or, finally, as that what scientific cognition is supposed to ultimately serve, i.e. functions which science plays in the human life as well as the use of scientific results ("fruits of science"). Although Kamiński differentiates these goals, he nonetheless claims that they are strictly connected with each other and sometimes they even constitute one reality, that is simply analyzed from various points of view.⁴⁹ He considers the object-oriented goal of science to be the most important factor with regard to the integration of the sciences and its unifying function; he calls it the internal or theoretical goal.⁵⁰ The object-oriented goal (*finis operis*, goal of action) is the goal of science itself as a manner of cognizing the world and acquiring knowledge about it. This goal com-

⁴⁷ Poczobut, "Interdyscyplinarność i pojęcia pokrewne," 48.

⁴⁸ Kamiński, *Nauka i metoda*, 192-200. I elaborate on the goal of science in Kamiński's perspective in the article: Monika Walczak, "Stanisława S. Kamińskiego poglądy na cel nauki," *Zagadnienia Naukoznawstwa* 3 (2011): 391-405.

⁴⁹ Kamiński, *Nauka i metoda*, 192, 198.

⁵⁰ *Ibidem*, 279.

prises first of all: 1) ordering description; 2) humanistic explanation or interpretation; 3) justification of evaluative statements or norms of action.⁵¹

The sequence and hierarchization of object-oriented goals of science demonstrates how one can integrate various modes of research on account of the purposes which they mutually assume and complement: evaluation and norm-formation assumes interpretation and explanation, and these, in turn, assume a description. The same purposes posed in various (mono) disciplinary inquiries can integrate research, formulating a new whole. Moreover, in many descriptions of interdisciplinary research it is stressed that they are generated by the need to resolve problems of the contemporary world, e.g., global warming, which signifies that the factor constituting such research may be the so-called “fruits of science.”

4.4.4. RESEARCH METHOD

An important determinant of science is the scientific method.⁵² Indicating a research method of a particular science is an answer to the question of how one conducts or should conduct research within it. Despite difficulties connected with the notion of the scientific method and the multiple ways of implementing it in the particular sciences and types of sciences,⁵³ the method remains to be – also in the discussions dedicated to the interdisciplinary practice of science – one of the main factors characterizing and integrating the sciences as well as particular inquiries.⁵⁴ It constitutes the shape assumed by various research activities, turning them into planned, orderly, consciously performed and repetitive (systematic). Traditionally this method was attributed the improvement of practiced activities through making them more efficient and economical.⁵⁵ The method provides a pattern for scientific procedure which does not mean that this pattern is rigid, defined for ever after, universal for all the sciences. The scientific method

⁵¹ Ibidem, 198.

⁵² Ibidem, 200-214.

⁵³ More on the topic, see: Andrzej Bronk, “Metoda naukowa,” *Nauka* 1 (2006): 47-64; Andrzej Bronk, Monika Walczak, “Metoda naukowa,” in *Metodologia nauk vol. 1 (Dydaktyka Filozofii)*, eds. Stanisław Janeczek, Monika Walczak and Anna Starościc (Lublin: Wydawnictwo KUL, 2019): 189-154.

⁵⁴ E.g. Repko, *Interdisciplinary Research*, 200-212.

⁵⁵ Tadeusz Kotarbiński, “O pojęciu metody” in *Elementy teorii poznania, logiki formalnej i metodologii nauk* (Wrocław–Warszawa–Kraków: Ossolineum, 1961), 524-535.

is linked with the resolution of problems. One can understand it in a functional (orderly set of activities on which the practice of science is based) or regulatory manner (a set of rules which indicates what actions should be taken and in what order) as well as an array of assumptions accepted as a framework or guidelines for research, when they determine the formal object and goal of research.⁵⁶

Kamiński considers the scientific method as the fundamental formal factor of the unity of science, and thus as a factor which can integrate the sciences (research) within interdisciplinary research. He shows how “the sciences use combinations of elementary methods, the selection and configuration of which are modified depending on the various types of scientific research”⁵⁷; hence, it would seem that according to him a more adequate claim would be that this is “an alternative array of permissible modes of scientific procedure” that constitutes a reservoir of possible methods-factors integrating research, and not methods as greater parts characterizing particular scientific disciplines or types of sciences, such as the inductive or deductive method.⁵⁸ Applying the methods of one set of disciplines to objects of research or else to accomplishing goals characteristic of other ones is connected in a substantial way with interdisciplinarity. For example, within the PERSEUS interdisciplinary program, which examines the efficiency of persuasive communication, the realization of the tasks assumed in the project requires going beyond the methods available in the philosophical or psychological theory of persuasion in the direction of formal methods.⁵⁹

4.4.5. RESEARCH PROBLEMS

Since the initial and directive stage of the research process is posing problems, and the entire research process may be treated as a process of solving a research problem, the research problems constitute a subsequent essential determinant of the methodological status of science.⁶⁰ Kamiński

⁵⁶ Kamiński, *Nauka i metoda*, 202.

⁵⁷ Ibidem, 277.

⁵⁸ Ibidem, 278.

⁵⁹ Katarzyna Budzyńska, Kamila Dębowska-Kozłowska, Magdalena Kacprzak, Maria Załęska, “Interdyscyplinarność w badaniach nad argumentacją i perswazją” in *Interdyscyplinarnie o interdyscyplinarności: Między ideą a praktyką*, eds. Adam Chmielewski, Maria Dudzikowa and Adam Grobler (Kraków: Impuls, 2012), 157-161.

⁶⁰ Kamiński, *Nauka i metoda*, 202-203.

does not elaborate in detail about the issue of research problems as one of the determinants of science and as a factor integrating or unifying the sciences, but in his lecture on the general methodology of science, the logic of questions occupied a substantial place, and posing questions was considered to be one of the fundamental cognitive activities.⁶¹

A research problem can be understood in a variety of ways. From the perspective of the usefulness for a description of a research process, one can characterize it as the role of the question, and the process of resolving a problem – as the pursuit of an answer to the question posed.⁶² The question in this case is understood as a verbalized formulation of a certain problem. In this approach the set of problems in a science may be understood as a set of questions which are posed within it and which one tries to address. The set of problems is what constitutes the main cognitive problem, the solution of which is undertaken by a scholar or research team, as well as specific subproblems that have to be posed and resolved in order to solve the main problem. Formulating problems as questions, their clear enumeration, ordering and subsequent hierarchization, is a good research tool, enabling the planning and control of the research process itself. The answer to the main question constitutes a research thesis (hypothesis), which a scholar poses and the truth (cognitive value) of which one should be able to justify.

Research problems can constitute an important integrative factor in interdisciplinary research, among others because the existence of so-called interdisciplinary problems is mentioned as one of the fundamental reasons for transgressing boundaries of scientific disciplines and the practice of interdisciplinarity, drawing attention to the fact that interdisciplinarity allows us to resolve questions which are unsolvable within particular disciplines. The existence of such problems may point to a distinct type of limitations for particular disciplines and research conducted within them. This also provides an answer to the question why the need for interdisciplinarity exists

⁶¹ The presence of this subject matter is documented by lectures on the general methodology of science conducted by Andrzej Bronk (see <http://www.kul.pl/wyklady-audio,12136.html>, grudzień 2004) and Hajduk, *Ogólna metodologia nauk*, 57-59) on the basis of Kamiński's lectures.

⁶² On the significance of posing problems in research, see Monika Walczak, "O różnicy między tematem a problemem badawczym" in *Veritas in caritate: Księga pamiątkowa ku czci Księdza Profesora Andrzeja Szostka MIC*, eds. Marcin Tkaczyk, Marzena Krupa and Krzysztof Jaworski (Lublin: Wydawnictwo KUL, 2016), 497-502.

at all.⁶³ An illustration of such interdisciplinary problems is provided e.g. by cognitive science which searches for answers to questions combining various levels of research characteristic for disciplinary research in the field of physical chemistry, molecular biology, sociobiology, neuropsychology, neuroinformatics, or cognitive social neuroscience.⁶⁴

4.4.6. THE INTERPROPOSITIONAL STRUCTURE OF SCIENTIFIC KNOWLEDGE

Another formal factor integrating or unifying science may be the interpropositional structure of scientific knowledge, i.e. the logical structure that results of research assume.⁶⁵ Disciplines may rather constitute one kind of science because they are syntactic models of logic and due to that they have a common structure.⁶⁶ Despite the weight of this integrative factor – for the deductive system is considered to be a model for the ordering, systematization and synthesis of knowledge – Kamiński expresses objections in reference to the possibility of guaranteeing homogeneity for the entirety of scientific knowledge.⁶⁷ There are significant differences with regard to the theoretical sophistication of scientific disciplines, not to mention few features common for the logical structures of all scientific theories. It is also difficult to guarantee the homogeneity of science, because hierarchic subjugation of general principles and assumptions of the particular sciences to the principles of the more general sciences is in practice very difficult to carry out.⁶⁸

This factor is not easily implemented when one treats the integration of science in a global manner; however, it may be applied within interdisciplinary research with a more limited scope. A crucial element which locally

⁶³ Repko, *Interdisciplinary Research*, 28-31.

⁶⁴ Poczobut, "Interdyscyplinarność i pojęcia pokrewne," 49.

⁶⁵ Kamiński, *Nauka i metoda*, 214-225.

⁶⁶ The degree of complexity of linguistic structures systematizing knowledge varies which indicates, among others, a possible differentiation between a conception and a theory, see: Monika Walczak, "Pojęcie, koncepcja, teoria: Rozgraniczenia terminologiczne," in *Mysli o języku, nauce i wartościach*, eds. Anna Brożek, Alicja Chybińska, Mariusz Grygianiec and Marcin Tkaczyk, Second series (Warszawa: Wydawnictwo Naukowe Semper, 2016), 477-483.

⁶⁷ Kamiński states: "The logic of the structure of knowledge seems to be a barely operative and non-universal criterion of scientificity, and in consequence – it does not sufficiently guarantee the homogeneity of science" (Kamiński, *Nauka i metoda*, 278).

⁶⁸ Kamiński, *Nauka i metoda*, 278.

enables its implementation is the development of nonclassical logics and formal ontology. An example may be research on Argument Interchange Format: AIF, which is a model of argumentation as well as AIF+ expanding the AIF model by a dialogical context of argumentation. It constitutes an attempt to devise a standardized language which could be used by various argumentative techniques to overcome the problem of the lack of mutual compatibility between informatic tools resulting from designing them on the basis of various models of argumentation.⁶⁹

4.4.7. SCIENTIFIC LANGUAGE

The unifying function of the logical structure of science is strictly connected with the role which is played by a subsequent determinant of the methodological status of science – the scientific language – and also with the method of justifying scientific statements. However, language, as an integrative and unifying factor which is comprised of a particular conceptual apparatus and rules of usage, especially the rules of recognizing statements as true, similarly to the logical structure of scientific knowledge, does not in Kamiński's view guarantee the homogeneity of science. Previous attempts at the implementation of the postulate of the unification of science, proposed by philosophers, limited the scope of the term "science" to too large an extent to consider them successful (Leibniz, Condillac and the neo-positivists). Due to the abundance of described and explained aspects of reality as well as diversity of types of science, it is difficult to construe a (single) language of science which would simultaneously be universal and characterized by a high degree of clarity. For the same reason one cannot construct it through the reduction of the language of all scientific disciplines to the language of one sort of science, e.g. physics.⁷⁰

Nevertheless, objections with regard to the possibility of construing a universal language as a factor unifying sciences does not rule out the possibility of using language, and especially a selected conceptual apparatus or rules of acknowledging statements to be true, as factors locally integrating various scientific disciplines. An integrative function may be played by particular notions, e.g. the category of culture in cultural studies or the

⁶⁹ Budzyńska, Dębowska-Kozłowska, Kacprzak, Załęska, *Interdyscyplinarność w badaniach*, 159-160.

⁷⁰ Kamiński, *Nauka i metoda*, 278.

category of representation in cognitive science. The interdisciplinary character of a notion is based on the fact that it connects various aspects of objects investigated within particular disciplines, or that it allows us to find a common aspect for objects which from the point of view of particular disciplines are divergent (formal) objects and treat them as one (material) object.

An integrative role may be well fulfilled by notions demonstrating a significant degree of generality, i.e. with a sufficiently large extension making it possible to distinguish subsets which designate sets of their referents addressed by particular scientific disciplines. The integrative function is best fulfilled by the most general notions which cover the broadest scope of objects bearing common properties. On the other hand, such a role is also assigned to ambiguous notions (which is typical e.g. for basic concepts within the humanities). They are suitable for the integrative role because they are definable in many ways and their meaning is constantly debated. They draw attention to the complex character of reality and they render it in such a way, as it is perceived in daily life, i.e. in a holistic manner.⁷¹

4.4.8. THE ORIGINS AND HISTORY OF SCIENCE

On the boundaries of the determinants of the methodological status of science and its institutional-social status are the origins and history of science.⁷² The answer to the question of how a particular science emerged and how it developed is important to understand it. The history of science may play a role of a factor integrating and unifying the sciences, overcom-

⁷¹ I discuss a specific case of such an integrative notion in Monika Walczak, "Interdyscyplinarny charakter kulturoznawczego pojęcia kultury," *Człowiek i Społeczeństwo* 39 (2015): 135-152.

⁷² The institutional-social status of science, contrary to its methodological status, is designated by such determinants as: nomenclature of the discipline or domain of science; founders, classics, main figures; research communities, academic milieus, schools, traditions; genesis/history/dynamicity (intersecting with determinants of methodological status); institutions (departments, institutes, schools, universities, research centers, scientific associations, conferences); legal regulations as well as the social prestige which a particular science enjoys (the conscious reception of science) (cf. Tadeusz Kotarbiński, *Elementy teorii poznania, logiki formalnej i metodologii nauk* [Wrocław: Ossolineum, 1990], 334-335). The notion of the institutional-social status of science seems to order well factors connected with the characterization of science as a domain of culture and social institution.

ing the tendency to specialize and autonomize as well as providing a point of reference for the cooperation and dialogue between the sciences. The history of science plays an essential role especially in the context of the sciences, the development of which consists not in new conceptions overcoming old ones, but in the continuous undertaking of constant questions in a changing historical context or else in the consideration of an array of possible questions which emerge in the process of the development of the sciences throughout history (in philosophy or in the humanities). Understanding the undertaken problems or notions depends then on a good knowledge of their history.

Kamiński mentions the genetic connections between the sciences and their origin “from a common stem” among the non-formal factors unifying scientific disciplines:

The bond connecting thus created disciplines is not easily broken, especially if one does not consider in the research effort the origins of the investigated issues. On account of that, for the sake of the unification of the sciences it is important to be aware of the emergence, development and interdisciplinary connections within the subject matter on which one is working. Also the history of the sciences contributes to the integration of knowledge.⁷³

4.4.9. SYSTEMS OF UNIVERSAL KNOWLEDGE AS A FACTOR INTEGRATING THE SCIENCES

Kamiński treats systems of universal knowledge – philosophy (especially metaphysics/ontology and epistemology) as well as formal sciences (“formal-praxeological types of knowledge”: methodology of science, logic, theory of action) – as an internal non-formal factor of integration and uniformity (substantive coherence) of science. They are either clearly connected with particular disciplines or in a concealed manner. Philosophical theorems (ontological and epistemological), as well as rules or acts of inferencing, occur within particular disciplines in the form of assumptions or rules of conduct accepted in these sciences. The reflection on their presence in

⁷³ Kamiński, *Nauka i metoda*, 278-279. By referring to another schema used by Kamiński, i.e. the distinction between the genesis, structure and function, one can differentiate 3 types of integration/unification: genetic, structural and functional, on account of that what constitutes an integrating/unifying factor.

science may unveil potential bases for the integration of the sciences and contribute to it. Mutual interest, stimuli and control between more general and particular sciences act for the sake of the integration of the sciences.⁷⁴

Specific disciplines also play or may play an integrative role, e.g. in mathematics – set theory and abstract geometry, in biology – molecular biology, or else a science which is attributed priority and representativeness (e.g. physics of the twentieth century). A similar role can be played by a general idea which becomes a factor combining cognition and directing the notions of numerous scientific disciplines. Kamiński provides the following examples of such ideas which are central for various currents: historicism, sociology, biologism, psychologism and physicalism or mechanicism, evolutionism, determinism, functionalism, holism, structuralism etc.⁷⁵ He does not write, however, that a paradigm may be such a unifying factor, but these currents may indeed be interpreted as paradigms of practicing science.

4.4.10. MUTUAL COMPLEMENTARITY OF THE SCIENCES

Yet another factor of integration and the unification of the sciences is revealed in the context of ordering the sciences and dividing them into disciplines, namely their potential complementarity (mutual complementation), occurring in various aspects and forms. Kamiński draws special attention to the complementarity of the objects of the sciences, for the objects of sciences which complement each other are “general and particular, substantively real and formal, qualitative and quantitative, essentialist and existentialist, even creating a whole hierarchy of entities, when a formal object of one discipline becomes the material object of a subjected discipline.”⁷⁶

Kamiński notes that the sciences are complementary in the aspect of their purposes which due to mutual connections may formulate hierarchic relations: theoretical (basic) goals may be connected with practical applications and implementations of the results of research in industry (applied research); in this way sociography, sociology and social policy complement each other. The sciences complement each other also on account of frag-

⁷⁴ Ibidem, 279.

⁷⁵ Ibidem, 279-280.

⁷⁶ Ibidem, 280.

mentariness of the types of cognition: “scientific as well as metatheoretical, historical and systematic, deductive, inductive, analytical, synthetic, descriptive, explanatory and constructive investigations” are mutually complementary.⁷⁷ As it seems, one may add to these aspects of the complementarity of the sciences and research, also other determinants of the methodological status of science, e.g. complementary methods or research problems.

5. CONCLUDING REMARKS

Kamiński’s analytical-ordering schemas concerning science create multi-aspectual foundations on which one can develop a theoretical problems of interdisciplinarity aiming at achieving a holistic and methodological approach. They present a spectrum of possible sorts of understanding of interdisciplinarity from the point of view of integrated elements, wholes, as well as factors integrating science in its interdisciplinarity. Such a proposal of a holistic, methodological approach to analyzing and interpreting science practiced interdisciplinarily does not appear in the available literature. The methodological description of science presented by Kamiński stands out in relation to contemporary texts concerning the integration of the sciences and interdisciplinarity, emphasizing the development of a general conceptual framework in which the unification, integration and interdisciplinarity in science are characterized, and it is not limited to *case studies*.

If we assume that the main notion needed to define interdisciplinarity is integration, then in Kamiński’s thought we can find a characterization of integration in science in its fundamental aspects: integrated elements, integrating factors as well as units created as a result of integration. A basis for the reflection on integrated elements and units which emerge as a result of the integration is provided by an extensional description of the term “science” (types of referents of the term “science”), and the lists and configurations of factors and criteria integrating the sciences: the ordering and the characterization of the determinants of the methodological status of science. The specificity of integrative as well as unifying factors and criteria consists in the fact that the same criteria – depending on the way they

⁷⁷ Ibidem, 280.

are applied – both unify and differentiate the sciences, especially when one looks at the internal criteria of autonomy and ordering of the sciences (object, subject matter, purpose, method, structure, language, history).

Kamiński treats determinants of the methodological status (nature) of science in a distinct manner, as a criterion of scientificity; hence he notices the need to unify that which is, for instance, the object of science or the logical structure of scientific knowledge, because they can then serve as criteria of scientificity, i.e. distinguishing science from that what is not science. Greater attention needs to be drawn to the differentiation between the notion of integration, in the way it functions in the context of the problem of interdisciplinarity, and the notion of the unification of science, just as Kamiński used it. Despite the fact that the same factors may serve as tools for integration and unification, they are nonetheless used differently, for a different purpose. The (declared) purpose of interdisciplinary research seems to be solving so-called interdisciplinary problems, and the purpose of unification – such a standardization of science that would meet the same criteria of scientificity. The idea of universality and the global integration of science is important for the notion of unification, whereas for the notion of interdisciplinarity: the idea of local integration. What is more, the integrative factors in both cases are not subject to change: what changes is only the scope of their influence.

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Stanisław Kamiński's Concept of Definition in the Context of Contemporary Theories of Definition

Professor Stanisław Kamiński (1919-1986) – logician, semiotician, methodologist, epistemologist and philosopher of science – specialized in the topic of definitions.¹ He devised a history of theories of definitions including, among others, the views of Thomas Hobbes, John Locke, Gottfried Wilhelm Leibniz or Joseph Diez Gergonne, a French mathematician and logician who lived at the turn of the eighteenth and nineteenth centuries. Kamiński's publications – especially articles and a monograph dedicated to Gergonne – fit into a trend of his times, at a global and national level, concerning historic-systematic inquiries on definitions. On account of that, I concentrate on the question what place Kamiński's views on the topic of definitions hold compared with other scholars.²

¹ An earlier version of this article entitled "Stanisława Kamińskiego koncepcja definicji i jej recepcja" [Stanisław Kamiński's conception of definition and its reception] was presented during a conference *Ksiądz Profesor Stanisław Kamiński (1919-1986), Osoba – czasy – idee* [Reverend Professor Kamiński (1919-1986): The Person, the Times and the Concepts] held at the John Paul II Catholic University of Lublin on December 19, 2011.

² I refer to and develop the research included in my prior publications on definitions, among others: Robert Kublikowski, *Definicje i rozwój wiedzy: Od Arystotelesa do Putnama* (Lublin: TN KUL, 2013); Robert Kublikowski, "Definicje i rozwój wiedzy: Główne idee," *Summarium* 44/64 (2015): 57-69; Robert Kublikowski, "Definitions and the Growth of Knowledge: The Main Ideas," *Summarium* 45/65 (2016): 45-57; Robert Kublikowski, "Is Kazimierz Ajdukiewicz's Concept of a Real Definition Still

The first part of the article, based on Kamiński's works, consists of an overview of ancient, medieval and early modern perspectives on definitions. The second part focuses on Karl Popper's critique of a real essential definition. The third part is dedicated to Hilary Putnam's contribution to the theory of definition in relation to his theory of meaning (reference), and the fourth part concerns the stipulative, lexical and persuasive definitions.

1. THEORY OF DEFINITION: FROM ANTIQUITY TO MODERNITY

It is commonly believed that Aristotle is the precursor of the theory of definition.³ In antiquity the thing was treated as the primary object of defining (real definition – definition of a thing) and the word played a secondary role (nominal definition – definition of a word). The task of the real essential definition is determining which things belong to the defined set (*definiendum*), singled out by presenting within the *definiens* the nearest kind and a specific feature. Thus comprehended definition was attributed the function of characterizing essential qualities of things (Socrates, Plato, Aristotle – methodological essentialism) or at least the function of succinctly describing a thing by enumerating its criterial or diagnostic properties (Cicero). According to Aristotle, a definition of a thing is a result of a sensu-

Important?" *Axioms* 21, no. 3/5 (2016): 1-7; Robert Kublikowski, "Definicje w logice nieformalnej," in *Logika*, part II: *Kultura logiczna*, eds. Stanisław Janeczek, Marcin Tkaczyk and Anna Starościc (Lublin: Wydawnictwo KUL, 2018), 205-220.

³ In my discussion of ancient, medieval and early modern theory of definition I made use of the following works by Stanisław Kamiński: s.v. "Definicja" in *Leksykon filozofii klasycznej*, ed. Józef Herbut (Lublin: TN KUL, 1997), 102-104; Stanisław Kamiński, "Rola definicji w systemie scholastycznej metafizyki," in *Z teorii i metodologii metafizyki*, ed. Mieczysław A. Krąpiec, Stanisław Kamiński (Lublin: RW KUL, 1994), 341-354; Stanisław Kamiński, "Hobbesa teoria definicji" in *Metoda i język: Studia z semiotyki i metodologii nauk*, ed. Urszula Żegleń (Lublin: TN KUL, 1994), 27-50; Stanisław Kamiński, "Rola Locke'a i Condillaca w dziejach teorii definicji" in *Metoda i język: Studia z semiotyki i metodologii nauk*, ed. Urszula Żegleń (Lublin: TN KUL, 1994), 51-75; Stanisław Kamiński, "Gergonne'a teoria definicji" in *Metoda i język: Studia z semiotyki i metodologii nauk*, ed. Urszula Żegleń (Lublin: TN KUL, 1994), 77-197; Stanisław Kamiński, *Nauka i metoda: Pojęcie nauki i klasyfikacja nauk*, ed. Andrzej Bronk (Lublin: TN KUL, 1992).

al-intellectual process of cognizing things, in which the method of induction (Aristotelian *epagoge*) and intellectual intuition were used.⁴

The study of Truth is in one sense difficult, in another easy. This is shown by the fact that whereas no one person can obtain an adequate grasp of it, we cannot all fail in the attempt; each thinker makes some statement about the natural world, and as an individual contributes little or nothing to the inquiry; but a combination of all conjectures results in something considerable.⁵

Aristotle's ambiguous opinion on the function of the definition of a thing in accordance with his conception of scientific cognition can be interpreted in a radical or moderate way. According to a radical interpretation, Aristotle's theory of science, i.e. theory of scientific knowledge (epistemology), is maximalistic, absolutist (finalistic) and certistic. The purpose of absolute (perfect) scientific cognition is the acquisition of radically comprehended scientific knowledge (*epistéme*), that is true and completely certain beliefs. Such form of cognition would be ascertained in an ultimate fashion. In other words, if scientific convictions are justified by way of a formally correct syllogism, with the use of true and entirely certain premises, then such convictions belong to the irrefutably comprehended *epistéme*. However, the premises used – as Aristotle believed – were indeed real, classical, essential definitions.⁶

However – according to Tadeusz Kwiatkowski⁷ – Aristotle's position on the theory of scientific knowledge may be understood in a moderate way and one can acknowledge that apart from *doxa*, he distinguished *epistéme*, which he in turn divided into factual and idealized cognition. However, he did not consider idealized scientific cognition as something actually fulfillable – even via a long-lasting and arduous cognitive process – but as an exemplary sort of knowledge to which the human cognition is persistently approximated. Aristotelian epistemology, therefore, may be interpreted as descriptive or normative.⁸

⁴ Kublikowski, *Definicje i rozwój wiedzy: Od Arystotelesa do Putnama*, p. 213.

⁵ Aristotle, *Metaphysics*, vol. I, Book II, I, p. 85, trans. by Hugh Tredennick, Loeb Classical Library 271 (Cambridge, MA: Harvard University Press, 1933).

⁶ Kublikowski, *Definicje i rozwój wiedzy*, 213-214.

⁷ Tadeusz Kwiatkowski, *Poznanie naukowe u Arystotelesa: Niektóre poglądy teoretyczne* (Warszawa: PWN, 1969), 26 ff., 139-140.

⁸ Kublikowski, *Definicje i rozwój wiedzy*, 214.

Apart from the real, essential definition, Aristotle distinguished the nominal definition, the function of which was the explanation of the meaning of words (Euclid). With the development of logic – especially the medieval logic of language – awareness matured that the preferred definitions of things and the definitions of words are linguistic-cognitive formulas. However, the definition of a thing and the definition of a word differ with regard to their objects, i.e. with regard to what that definition refers to, thus its cognitive function. Similarly to Aristotle, medieval philosophers traditionally continued to discern definitions of a thing and of a word, but gradually they turned their interest to definitions of a word. Theory of definition was developed through the clarification of the division of the definition of things into an essential definition (as in the case of Aristotle) and the descriptive one (non-essential) – mentioned already by Cicero – which was supposed to perform a function of ascertaining and expressing characteristic properties of a particular thing. With the increasing interest in the definition of a word (in antiquity: the role of definitions in Euclidean geometry, in the Middle Ages: definitions examined within logic of terms, and in modernity: the increasingly important role of definition in mathematics) there was a growing conviction that the Aristotelian concept of the definition of things was controversial.⁹

In early modern times Thomas Hobbes – as was stressed by Kamiński – criticized the concept of the essential real definition. However, this critique was more radical in theory than in practice. For Hobbes expressed the accepted definitions of a word – comprehended as abbreviations – in the same way as definitions of thing (nowadays such a type of defining is called a definition in an objective stylization in which the *definiendum* and *definiens* appear in formal supposition). He enhanced the theory of definition with a stipulative definition, introducing a new expression (abbreviation) into the language; a precisification, which clarifies the meaning of an imprecise expression; a lexical definition, which presents the current understanding of a given expression.¹⁰ Blaise Pascal emphasized the function of abbreviation performed by the definition more distinctly than Hobbes.¹¹

Gottfried Leibniz – in opposition to Hobbes – distinguished the role of the definition in the mathematical and non-mathematical sciences. In the

⁹ Ibidem, 214-215.

¹⁰ Kamiński, "Hobbesa teoria definicji," 27-50; Kublikowski, *Definicje i rozwój wiedzy*, 215.

¹¹ Kamiński, "Hobbesa teoria definicji," 48.

first ones, all assumptions are reduced to definitions and the principle of identity, and in the non-mathematical sciences – to definitions, the principle of identity and the empirical data.¹²

According to Kamiński John Locke and Étienne Bonnot de Condillac enriched the general theory of definition by a new approach, because they included the psychological aspect and the empirical component of formulating definitions. That is Locke drew attention to the non-formal conditions of the correctness (adequacy) of definitions in the natural sciences. Apart from that this theory of definition was connected with the theory of language. By introducing these innovations, they influenced later theoreticians of definition.¹³

Pascal – in the discussed issue of essentialism in the theory of definition – preferred definitions of words to definitions of things. Definitions of a word were used in geometry and geometry was exemplary for the sciences. Antoine Arnauld and Pierre Nicole accepted a traditional division into definitions of things and words. Locke hesitated whether cognizing essential properties of things and, as a result, obtaining real essential definitions was possible, and his position remained ambiguous. Leibniz, Immanuel Kant, Gergonne¹⁴ and John S. Mill, in turn, mentioned real definitions succinctly, considering them to be uncertain, incomplete and undergoing improvement.¹⁵

2. POPPER'S CRITICISM OF DEFINITIONS

Karl R. Popper,¹⁶ as an anti-essentialist and anti-definitionist, mainly put into question the cognitive function of the Aristotelian real, essential defi-

¹² Ibidem, 46-47.

¹³ Kamiński, "Rola Locke'a i Condillaca w dziejach teorii definicji," 54 ff.

¹⁴ Gergonne was an important theoretician of definition. He introduced the notion of an implicit definition which can be interpreted as a contextual definition or an axiomatic definition. Kamiński sided rather with the latter understanding (Kamiński, "Gergonne'a teoria definicji," 77-197).

¹⁵ Kamiński, "Hobbesa teoria definicji," 27-50; Kamiński, "Rola Locke'a i Condillaca w dziejach teorii definicji," 54-75; Kamiński, "Gergonne'a teoria definicji," 77-197; Kublikowski, *Definicje i rozwój wiedzy*, 215.

¹⁶ This part is based on the following works of Karl R. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London: Routledge, 2002); Karl R. Popper,

nition as well as the attempt of using it in the empirical sciences. Popper called such definitions essentialist ones. Aristotle believed that intellectual intuition plays a justifying role in the formulation of real, essential definitions. Popper, in turn, by claiming that intuition is useful in obtaining and testing "fallible research hypotheses,"¹⁷ he recognized only the heuristic function of intuition. For it seems that there is no scientific possibility of a convincing justification of the hypothesis that things have essential qualities. This is why Popper critically suspended his position on the existence, cognoscibility as well as the verbal and definitional expressibility of essential qualities of empirical objects and due to that he suspended the judgment with regard to the usefulness of the real, essential definition in the procedure of scientific explanation. This position is called methodological anti-essentialism or modified essentialism. Nonetheless, Popper acknowledged that the real definition – but not the essential one – plays a useful role of abbreviation through the usage of a short name instead of a long description of an exemplar, representing a group of empirical objects. Such a real definition is with regard to its form identical with the nominal definition in its formal supposition, i.e. the definition in its object-oriented stylization. The difference occurs with respect to the cognitive role of such definitions. In the case of a real definition its function is the verbal description of the objects and not only the verbal characterization of the words as it is in the case of

Knowledge and the Mind-Body Problem: In Defence of Interactionism, ed. M.A. Notturmo (London: Routledge, 1994); Karl R. Popper, *Objective Knowledge: An Evolutionary Approach* (Oxford: Clarendon Press, 1979); Karl R. Popper, *The Logic of Scientific Discovery* (London: Routledge, 2002); Karl R. Popper, *The Open Society and Its Enemies* (London: Routledge, 2002); Karl R. Popper, *Unended Quest: An Intellectual Autobiography* (London: Routledge, 2002).

¹⁷ "By 'fallibilism' I mean here the view, or the acceptance of the fact, that we may err, and that the quest for certainty (or even the quest for high probability) is a mistaken quest. But this does not imply that the quest for truth is mistaken. On the contrary, the idea of error implies that of truth as the standard of which we may fall short. It implies that, though we may seek for truth, and though we may even find truth (as I believe we do in very many cases), we can never be quite certain that we have found it. There is always a possibility of error." (Karl R. Popper, *The Open Society and Its Enemies* (London: Routledge, 2002), 574). According to Popper "the fallibility of our knowledge – or the thesis that all knowledge is guesswork, though some consists of guesses which have been most severely tested – must not be cited in support of skepticism or relativism. From the fact that we can err, and that a criterion of truth which might save us from error does not exist, it does not follow that the choice between theories is arbitrary, or non-rational: that we cannot learn, or get nearer to the truth: that our knowledge cannot grow" (ibidem, 573-574).

a nominal definition. The description of objects and the characterization of the meaning of words, by which cognized objects are designated, are, nonetheless, linked with each other.¹⁸

[T]he extensions of these two concepts largely overlap, which means that many formulations which are nominal definitions of certain words in terms of a vocabulary are at the same time real definitions of certain objects, and conversely. Nevertheless the concepts of nominal definition and real definition are different ones.¹⁹

3. THEORY OF DEFINITION AND PUTNAM'S THEORY OF MEANING

When reflecting on a definition, especially a real definition, it is worth applying Hillary Putnam's causal-historical-sociolinguistic theory of reference.²⁰ The function of the real definition's *definiendum* is to designate something or someone. In other words, the *definiendum* is used as an expression which has a relatively constant reference to an object. Putnam's theory – which is an attempt to guarantee the empirical meaning of (scientific) terms – can be summarized in the following way: on the basis of an observation, names are introduced into language, including natural-kind terms, that is such ones which refer to observed empirical objects that

¹⁸ Kublikowski, *Definicje i rozwój wiedzy*, 216.

¹⁹ Kazimierz Ajdukiewicz, *Pragmatic Logic* in vol. 62 *Synthese Library*, trans. Olgierd Wojtasiewicz (Dordrecht, The Netherlands: D. Reidel Publishing Company, 1974), 57-58.

²⁰ This part is based on H. Putnam's publications: Hilary Putnam, *Mathematics, Matter and Method. Philosophical Papers*, vol. 1 (Cambridge: Cambridge University Press, 1979); Hilary Putnam, *Mind, Language and Reality. Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975); Hilary Putnam, *Realism and Reason. Philosophical Papers*, vol. 3 (Cambridge: Cambridge University Press, 1983); Hilary Putnam, *Realism with a Human Face*, ed. James Conant (Cambridge, MA-London: Harvard University Press, 1990); Hilary Putnam, *Reason, Truth and History* (Cambridge: Cambridge University Press, 1984); Hilary Putnam, *Representation and Reality* (Cambridge, MA-London: A Bradford Book – The MIT Press, 1988); Hilary Putnam, *The Many Faces of Realism* (Chicago: Open Court, 1987); Hilary Putnam, *Words and Life*, ed. James Conant (Cambridge, MA-London: Harvard University Press, 1994).

formulate specific kinds (classes) in nature. Such a procedure of designating occurs by an introductory event. Useful methods for introducing natural-kind terms into language are ostensive definitions²¹ and descriptions (descriptive definitions).²² The initial use of a natural-kind term – by pointing out a given object – sets up a causal-historical chain connecting the use of a given term in the introductory event with any future use of a given term. For this reason, according to the presented theory, the natural-kind term retains a stable natural-kind reference. The meaning of the natural-kind term is established not only by a causal-historical sequence of a particular term's use in reference to a particular object (classes of objects). A component of meaning is also the intention of users of a particular natural-kind term (the first user and the subsequent ones). For their intention is to speak about the same objects, e.g. exemplars of lemons, however, the particular exemplars of lemons belong to the scope of the same natural kind word "lemon."²³ The intention of preserving a reference in a historical sequence of uses allows efficient application of terms in a way which guarantees their reference, although no one defined description is associated with any term by all users of the language.²⁴

Empirically acquired descriptions as well as the scientific theoretical definitions of investigated objects constructed on their basis are accurate and comprehensive only in approximation: some of them are not accurate, and others are more or less accurate.²⁵ Regular users of the language may

²¹ Janina Kotarbińska, "Tak zwana definicja deiktyczna" in *Fragmety filozoficzne II: Księga pamiątkowa ku uczczeniu czterdziestolecia pracy nauczycielskiej w Uniwersytecie Warszawskim profesora Tadeusza Kotarbińskiego* (Warszawa: PWN, 1959), 44-74.

²² "There are two obvious ways of telling someone what one means by a natural-kind term such as 'water' or 'tiger' or 'lemon.' One can give him a so-called ostensive definition – 'this (liquid) is water'; 'this (animal) is a tiger'; 'this (fruit) is a lemon'; where the parentheses are meant to indicate that the 'markers' *liquid, animal, fruit*, may be either explicit or implicit. Or one can give him a *description*. In the latter case the description one gives typically consists of one or more markers together with a *stereotype ... a standardized description of features of the kind that are typical* [emphasis R.K.], or 'normal', or at any rate stereotypical." (Hilary Putnam, "The Meaning of 'Meaning,'" *Mind, Language and Reality. Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975), 229-230).

²³ Kublikowski, *Definicje i rozwój wiedzy*, 216-217.

²⁴ Hilary Putnam, "Models and Reality," *Realism and Reason. Philosophical Papers*, vol. 3 (Cambridge: Cambridge University Press, 1983), 17.

²⁵ Putnam noticed that "no one in practice is going to be in a position to give a definite description of a physical magnitude," although he adds: "[a]s long as one is in

consult their own descriptions (descriptive definitions) of objects with official descriptions used by experts. Hence the meaning of the natural-kind term is established within a linguistic community in which there is a division of linguistic-cognitive roles. Apart from that, the components of the meaning of the natural kind word – such as “gold,” “water,” “acid,” “a lemon,” “a tiger” etc. – is its syntactic characterizer (a mass or an concrete noun), semantic characterizer (a natural kind) and an extension.²⁶ Taking into consideration all these components changes, in a modifying way, the causal-historical theory of reference into a causal-historical-sociolinguistic theory.²⁷

By applying Putnam's theory of reference of natural-kind terms, one can underline to problems connected with the traditional theory of definitions, especially of real definitions. First of all, it does not explain sufficiently how the *definiendum* and *definiens* (description) refer to the objects defined. Putnam's causal-historical-sociolinguistic, in turn, allows us to better solve this problem. Secondly, the real definition is problematic also for the reason that the ostensibly introduced general term – an exemplary natural-kind term “lemon” etc. – may become bound with an exemplar which is not representative for the defined class of objects, e.g. a degenerated, putrid exemplar of a lemon is taken into consideration. In such a case, the fixed definition would not in fact relate to regular lemons, but to degenerated ones.²⁸

Putnam's theory of reference to natural-kind terms is related with Putnam's essentialism: the essence of a thing is a scientifically useful significant quality (or qualities) on which all other properties of a class of objects or phenomena are dependent. The cognitive discovery of such essential qualities is useful in the procedure of explaining particular ways of behavior

a position to give a definite description (or even a misdescription), one is in a position to introduce the term; and the chain from there on is something about which much more definite statements can be made.” (“Explanation and Reference” in Hilary Putnam, *Mind, Language and Reality. Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975), 204).

²⁶ One can use the term “lemon,” which denotes the natural-kind lemon, if he has: “(1) ... implicit knowledge of such facts as the fact that ‘lemon’ is a concrete noun, that it is the ‘name of a fruit,’ etc. – information given by classifying the word under certain natural syntactic and semantic ‘markers.’ ... (2) He associates the word with a certain ‘stereotype’ – yellow color, tart taste, thick peel, etc. (3) He uses the word to refer to a certain natural kind – say, a natural kind of fruit whose *most essential feature* [emphasis R.K.], from a biologist's point of view, might be a certain kind of DNA.” (ibidem, 204).

²⁷ Kublikowski, *Definicje i rozwój wiedzy*, 217-218.

²⁸ Ibidem, 221.

of an investigated object or event. Putnam, nevertheless, distinguished the relative essence of the objects of a particular class which partially depends on the covert structure of empirical objects, and partially on the human cognitive points of view, needs and interests. As one can notice – this is not Aristotelian essentialism. Putnam’s theory of reference of natural-kind terms applied to the theory of definition helps in comprehending the specificity of the Aristotelian concept of a real essential definition which delineates the genus (*definiendum*) through settling in the *definiens* an appropriate closest kind and specific property (essential qualities of a thing). The Aristotelian name of species-class which formulates the *definiendum* is not equivalent with Putnam’s natural-kind term. Putnam, however, did not write explicitly nor did he expose the idea of species-classes constituting (closest) kinds. Neither did he take clear position on the hierarchization of all objects into inferior (species) and superior (kinds) classes, but only mentioned the names of biological species as examples of natural-kind terms. However, he comprehended a “natural-kind term” more broadly than the “name of a biological genus.” Natural-kind terms are also names of the elements or of acids.²⁹

Putnam, similarly to Popper, put into question the category of intellectual intuition as one that justifies cognizing referents of natural-kind terms. And yet, he argued for the existence and cognoscibility of essential properties and natural kinds by referring to the presence of descriptions (stereotypes) related to natural-kind terms in language. Such descriptions are ways of understanding of cognized objects. Such descriptions are fixed as official in a particular linguistic community. If no such descriptions (or most of them) were accurate, then linguistic communication would not occur at all. However, a relatively effective and efficient communication occurs indeed thanks to such descriptions (descriptive definitions). Hence – by power of the logical rule *modus tollendo tollens* – at least some descriptions of this sort (descriptive definitions) are accurate. One can also put forward another argument for the existence of natural kinds, namely, by pointing out the claim – which has been noted in the history of science – about the undeniable cognitive progress in science caused, among others, by the acceptance of the assumption of the existence of natural-kinds (Putnam, Richard

²⁹ Ibidem, 218-219.

Boyd³⁰, Hilary Kornblith³¹). Accepting of such an assumption is useful in the procedure of a relatively accurate scientific explanation of past facts and of foreseeing the future.³²

A difference occurs between the traditional and contemporary concept of definition.³³ Based on the texts of contemporary philosophers, such as Popper, Putnam or Anil Gupta,³⁴ one can ascertain that definitions are useful on account of their linguistic-cognitive functions, although these are not traditionally understood real essential definitions – settled once and for all, unchangeable (uncorrectable) – but fallibilistically comprehended definitions undergoing gradual revisions³⁵ and alterations (corrections) under the influence of additional empirical data. The concept of definition presented here is conditioned by the twentieth century fallibilistic – in contrast to certistic – philosophy (epistemology) of science.³⁶ The change of a view on science, especially on the empirical sciences, is connected with the changes of the concept of the method and scientific knowledge, and in connection with a change of the concept of the method of the (real) definition. According to a universally accepted epistemological, antifundamentalist fallibilism, particular convictions and empirical theories can be revised, changed, i.e. modified, and even falsified. That is why also definitions, including real definitions – co-shaping scientific empirical theories – may be subject to revision and change. An example of that is, for instance, the revision of the

³⁰ Richard Boyd, "Realism, Anti-foundationalism and the Enthusiasm for Natural Kinds," *Philosophical Studies* 61, nos. 1-2 (1991): 127-148.

³¹ Hilary Kornblith, *Inductive Inference and its Natural Ground: An Essay in Naturalistic Epistemology* (Cambridge, MA–London: Bradford Book, MIT Press, 1993).

³² Kublikowski, *Definicje i rozwój wiedzy*, 219.

³³ Tadeusz Czeżowski, "O tradycyjnych rozróżnieniach wśród definicji" in *Filozofia na rozdrożu (Analizy metodologiczne)* (Warszawa: PWN, 1965), 19-28; Maria Kokoszyńska, "Z teorii definicji," *Ruch Filozoficzny* 31, no. 1 (1973): 33-37.

³⁴ Anil Gupta, Nuel Belnap, *The Revision Theory of Truth* (Cambridge, MA: MIT Press, 1993).

³⁵ "If even 'definitions' turn out to be revisable in principle – and not in the trivial sense that arbitrary revision of our use of noises is always possible – then one might feel inclined to say that there is no statement which a rational man must hold immune from revision." (Hilary Putnam, "The Analytic and the Synthetic" in *Mind, Language and Reality. Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975), 54).

³⁶ Human cognition is marked by a risk of error. Certainty is a cognitive ideal (Witold Marciszewski, *Logic from a Rhetorical Point of View* (Berlin: Walter de Gruyter, 1994), 186).

definition of the chemical element,³⁷ of acid³⁸ etc. which occurred in the history of chemistry. The reason for revision is that in a given period of the development of science, not all information concerning investigated objects and their qualities, including qualities recognized as essential is accessible. Hence the new data acquired “forces out” correction of scientific definitions. Accepted definitions are considered to be accurate (true) and useful in the context of the current state of empirical knowledge. However, the acceptance of a particular definition is carried out from a fallibilistic position: prior definitions were formulated and recognized as correct with the state of knowledge at the time. Subsequently they were subject to revision under the influence of newly acquired empirical knowledge. Fallibilism suggests assuming a critical, cautious conviction that a similar case may be with current and future definitions. Under the influence of new data, hitherto scientific empirical theories and the definitions co-creating them concerning the empirical world may be revised, may turn out to be false and shall be altered. That is why one should not consider them to be absolute, ultimate – all the time and everywhere in force – entirely certain and unchangeable. In a traditional concept such objects as gold, water, lemon, tiger etc. are defined by presenting a description expressing the conjunction of properties of the considered objects in the *definiens*. Accordingly, the definition of an exemplary lemon would look as follows: lemon is a fruit of a yellow color, tart taste, specific type of DNA (from a biological point of view) etc. Putnam’s objection to such a sort of description is that it is not exhaustive, but, at most, only in approximation exhaustive and accurate. Hence such a definition cannot be considered simultaneously real and complete, i.e. settled in a conclusive manner. Such a formula is not completed, and its *definiens* specifies the *definiendum* only in part. The solution of this difficulty is treating this sort of definition as a partial one³⁹ in a broad sense. Such a revisable and correctable real definition is adapted to the current,

³⁷ Marian Przełęcki, “Logiczna analiza rozwoju pojęcia pierwiastka chemicznego,” *Studia Filozoficzne* 1 (1957): 169-178.

³⁸ Tadeusz Pawłowski, *Z metodologii nauk przyrodniczych* (Warszawa: PWN, 1959); Tadeusz Pawłowski, *Tworzenie pojęć w naukach humanistycznych* (Warszawa: PWN, 1986).

³⁹ It is worth distinguishing (a) partial definitions in the narrow sense, or else conditional, reductive definitions used for the characterization of dispositional (theoretical) terms with the use of observational terms, and (b) broadly understood partial definitions, in which the *definiens* only partially describes the *definiendum*. Such partial definitions are contrary to complete definitions.

though changeable state of empirical research concerning a specific domain. According to the suggested scientific concept, theoretical real definitions are not complete definitions, but only partial in a broad sense of the expression "partial definition." This is so, because discovering qualities of empirical objects is a difficult, perhaps perpetual, process. Apart from that it is not possible to cognize empirical reality in a completely accurate and exhaustive way. The results of new empirical research lead to the change of prior theories containing definitions. Hitherto definitions are supplemented by newly discovered properties of investigated objects of a particular class; corrected, and even rejected, when they are completely erroneous.⁴⁰

4. THEORY OF THE STIPULATIVE, LEXICAL AND PERSUASIVE DEFINITION

The function of the real, stipulative definition⁴¹ is introducing a specific expression (*definiendum*) to a language. If such a *definiendum* is a general term, or, more precisely, a natural-kind term, then it has a reference to an object. Simultaneously such a *definiendum* is a notational abbreviation: convenient, useful and relatively arbitrary with respect to a graphical shape. *Definiendum* is convenient because it is shorter than an expanded *definiens*, constituted by – exhaustive and approximately accurate – the up-to-date scientific description acquired as a result of empirical research. (Such a view on definitions was called by Popper "defining from right to left"). Moreover, a definition comprehended in such a way is cognitively useful because, as an element of a theory, it enables to explain investigated phenomena which could not be explained with the hitherto level of empirical knowledge. The *definiendum* of such a definition is arbitrary with regard to its (graphical or phonetical) shape. One may use a shape,

⁴⁰ Kublikowski, *Definicje i rozwój wiedzy*, 219-222.

⁴¹ Kazimierz Ajdukiewicz, "Definicja" (1928) in *Język i poznanie*, vol. 1 (Warszawa: PWN, 1985), 44-61; Kazimierz Ajdukiewicz, "Definicja" (1936), 243-248; Kazimierz Ajdukiewicz, "On Definitions," *Dialectics and Humanism* 11, no. 2-3 (1984), 236-256; Kazimierz Ajdukiewicz, *Pragmatic Logic in Synthese Library* 62, trans. Olgierd Wojtasiewicz (Dordrecht, The Netherlands: D. Reidel Publishing Company, 1974); Kazimierz Ajdukiewicz, "Three Concepts of Definition," *Logique et Analyse* 1 (1958), 114-126; Kazimierz Ajdukiewicz, *Zarys logiki*, Warszawa: PZWS, 1960.

e.g. “a lemon”, to refer to such objects which are traditionally called lemons in English, but one can refer to them using a name “ABC.” However, an exemplary definition of the natural-kind term “lemon” essentially is not arbitrary because it is based on experience, on current, reliable, biological knowledge about the class of objects which are traditionally designated by the term “lemon.”⁴²

After introducing a brief *definiendum* by means of a real, stipulative definition, one can use an acquired definition as a report on the up-to-date state of empirical research in a particular domain (Popper: “defining from left to right”). However, one must take into account that thus comprehended real analytic sentence, co-creating an empirical scientific theory is fallible, and therefore, it may be subject to revisions and changes in the context of subsequent research and empirical discoveries. The introduced natural-kind terms are only notational – syntactic, and not semantic – abbreviations of the most reliable scientific descriptions. In other words, definitions of this type are not analytical sentences, i.e. such sentences in which semantic equivalence (univocity) occurs between the *definiendum* and the *definiens*. Natural-kind terms introduced into language are not semantically synonymous with acquired scientific descriptions.⁴³ Such descriptions are fallible, exhaustive and accurate only to a limited degree. Therefore, entire scopes of particular natural-kind terms remain unknown. Their meaning (and scope) is modified as a result of empirical research.⁴⁴ The fact that real definitions undergo revisions and changes – modifications or repudiations – can lead to an accusation that such definitions are in fact nominal, persuasive definitions, i.e. depending on the current social context: current cognitive needs

⁴² Kublikowski, *Definicje i rozwój wiedzy*, 222-223.

⁴³ It is worth noting that “most terms *cannot* be defined – or, at least, cannot be defined if by a ‘definition’ one means something that is fixed once and for all, something that absolutely captures the meaning of the term... Even if a term is originally introduced into science via an explicitly formulated definition, the status of the resulting truth is not forever a privileged one, as it would have to be if the term were simply a synonym for the *definiens*” (Hilary Putnam, *Representation and Reality* (Cambridge, MA–London: A Bradford Book, The MIT Press, 1988), 9).

⁴⁴ “It is beyond question that scientists use terms as if the associated criteria were not *necessary and sufficient conditions*, but rather *approximately* correct characterizations of some world of theory-independent entities, and that they talk as if later theories in a mature science were, in general, *better* descriptions of the *same* entities that earlier theories referred to.” (Hilary Putnam, “The Meaning of ‘Meaning,’” *Mind, Language and Reality. Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975), 237).

and practical interests (Edward Schiappa⁴⁵). Rebutting such an accusation one must state that real definitions are formed on the basis of the most up-to-date, reliable empirical knowledge on a given topic, and the revisions of the definitions are conditioned by the fact that human knowledge is aspec- tual and erroneous, in accordance with the fallibilistic conception of science, including methods (definitions) and scientific knowledge.⁴⁶

CONCLUSION

Kamiński in his inquiries on definitions focused on the history of the theory of definition. He highlighted the issue of defining the essence of a thing (the real essential definition), initiated in antiquity by Aristotle and continued by medieval logicians and philosophers. The notion of real essential definition was questioned, however, in early modern period by Locke and Pascal. Kamiński stressed that a critical approach to real essential definitions and the preference for nominal definitions gained significance in the early modern times. The topic of essential definitions is significant also nowadays: in metaphysics (natural kinds), philosophy of language (the meaning of natural-kind terms, truth, assertion and definition) or philosophy of science, or, more exactly, in ontology and the epistemology of science (essentialism vs anti-essentialism). Another issue – up to date in the theory of definition practiced in analytical philosophy – is the revision of a (real) definition, its fallibility and research on the persuasive definition in the context of broadly understood communication.

Kamiński concentrated on early modern theories of definition, where Hobbes introduced the notion of a stipulative definition, precisification and the lexical definition which played a significant role. Locke and Condillac included an empirical element in defining, stressing the significance of the non-formal condition of the correctness (adequacy) of definitions in the natural sciences. Kamiński dedicated most attention to Gergonne's views, expressed in his monograph *Gergonne'a teoria definicji* [Gergonne's theory of definition]; Gergonne is considered to be the creator of the implicit

⁴⁵ Edward Schiappa, *Defining Reality: Definitions and the Politics of Meaning* (Carbondale–Edwardsville: Southern Illinois University Press, 2003).

⁴⁶ Kublikowski, *Definicje i rozwój wiedzy*, 223.

definition, i.e. the axiomatic definition, significant both in the theory and practice of definition.

Kamiński conducted his inquiries in the context of the achievements of international and Polish philosophy,⁴⁷ especially of the views of the Lvov-Warsaw School (among others: Tadeusz Kotarbiński, Tadeusz Czeżowski, Kazimierz Ajdukiewicz, Maria Ossowska, Janina Kotarbińska, Alfred Tarski, Józef M. Bocheński, Izydora Dąbska, Andrzej Mostowski, and Roman Suszko).⁴⁸ And this is a message for contemporary scholars,⁴⁹ to avoid the hermetic enclosure in their own community – if such a community exists – and to take under consideration a broad scope of perspectives.

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⁴⁷ Leon Koj (Catholic University of Lublin, Maria Curie-Skłodowska University and University of Zielona Góra) dealt with the topic of definitions in, among others: Leon Koj, "Walter Dubislav i Kazimierz Ajdukiewicz o definicji" in *Studia z filozofii polskiej*, vol. 2, eds. Marek Rembierz and Krzysztof Śleziński (Bielsko-Biała-Kraków: Scriptum, 2007), 7-19. Witold Marciszewski (Catholic University of Lublin, University of Białystok) intensively carried on Kamiński's interest in definitions, e.g. in Witold Marciszewski, "Logika z retorycznego punktu widzenia", *Znak – Język – Rzeczywistość* (Warszawa: PTS Zakład Semiotyki Logicznej Uniwersytetu Warszawskiego, 1991) and Witold Marciszewski, *Logic from a Rhetorical Point of View* (Berlin-New York: Walter de Gruyter, 1994).

⁴⁸ Tadeusz Czeżowski in his article "O tradycyjnych rozróżnieniach wśród definicji" [On the traditional distinctions among definitions] included in the collection *Filozofia na rozdrożu (Analizy metodologiczne)* [Philosophy at the crossroads (Methodological analyses)] (Warszawa: PWN, 1965), referred to Kamiński's works on the history of the dispute on the functions (purposes) of the real and nominal definitions. He also referred to Kamiński's observations concerning Gergonne's theory of definition, namely, that the main object of the latter's inquiries was the implicit axiomatic definition.

⁴⁹ Andrzej Bronk, Kamiński's disciple, encouraged me to continue research on definitions, exploring such aspects as: a pro-definitional position (definitionism) and essentialism vs anti-essentialism, knowledge-gaining role and the truthfulness of definitions etc. (see my PhD diss. entitled "Definicja realna i jej funkcje" [Real definition and its functions], Catholic University of Lublin Archive, Lublin 2007).

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IV

PHILOSOPHY
OF NATURE
AND NATURAL SCIENCES

The Dispute on the Existence of Philosophy of Nature¹

1. INTRODUCTORY REMARKS

Contention is a natural state of affairs in philosophy, because this domain of knowledge is by default very controversial. All of the essential elements of philosophy – its object, problems, methods, goals – can be variously understood and resolved (sometimes in a contradictory fashion); the state has perpetuated throughout its history and nothing seems to indicate that this will ever change. In some radical meta-philosophical approaches this unique state, especially when it is compared with other types of theoretical knowledge, is diagnosed as “the end of philosophy” or else it is denied the status of theoretical reasonableness (rationality). However, in the mainstream of meta-philosophical views the dispute concerns the style of philosophizing (e.g. in realistic philosophy), which would fulfil the criteria of rationality adequate to this sort of knowledge, and, therefore, not as much the problem

¹ I dedicate this chapter to two philosophers of nature from Lublin, Rev. Zygmunt Hajduk and Rev. Józef Turek. The former taught me at philosophy lectures that in philosophy, including philosophy of nature, nothing is as easy as it may seem from reading philosophical textbooks, while the latter, showed me how in research practice philosophizing on nature is a journey along a “steep cliff” of philosophical and scientific dogmatism.

“if”, but rather the issue “how” to guarantee valuable knowledge. Within such a narrow range of possibilities to philosophize there is a discipline with respect to which there is an on-going dispute, spanning since the early modernity and which overall is considered to be an example of a discipline “to be liquidated.” The dispute on the concept of philosophy of nature – which is the topic of this chapter – may be treated as an exemplary example of a meta-philosophical controversy which assumes a radical form when one ascertains the senselessness of philosophy of nature (its existence is rejected according to the criteria of relevance or topicality of knowledge), or moderate, when one ascertains its contentious methodological-epistemological status lacking philosophical methods, goals and relations with other types of knowledge (the particular sciences, theology, worldview). The latter type of dispute dominated in the Lublin School of Philosophy which concentrated mainly on the problem of the autonomy of philosophy of nature in relation to the natural sciences and metaphysics. The central matter which was supposed to identify the conflicting parties of the dispute on the epistemological-methodological status of philosophy of nature is the issue of its autonomy: with regard to metaphysics or else the natural sciences.

From the perspective of the twenty-first century, the unique character of the dispute within the Lublin School of Philosophy on the autonomy of philosophy of nature has clearly faded. The process dedicated to the naturalization of many philosophical disciplines (philosophy of the mind, aesthetics, ethics, philosophy of religion, epistemology) made the dispute on the limits of expansion of the natural sciences into the realms traditionally attributed to philosophy to become quite ordinary. The natural sciences have become a full-fledged “player” in philosophical discussions without defining the initial methodological conditions for including scientific results into the philosophical discourse. This process of naturalization occurs in a favorable anti-metaphysical environment, characterized by the lack of trust in maximalist and systemic philosophy as well as preferring minimalist styles of philosophizing² in which one perceives the tasks of philosophy in an erudite summarizing and ordering of that which was discovered by the natural science or else in meta-scientific inquiries. From this perspective the rank of the dispute on the existence of philosophy of nature may be underappreci-

² “The mood of contemporary philosophy still does not favor, to put it mildly, the practice of maximalistically comprehended philosophy with systemic ambitions.” Andrzej Bronk, “Filozofia i nauka: Problem demarkacji,” *Roczniki Filozoficzne* 43, no. 1 (1995), 493.

ated, and the very object of the dispute may be considered anachronistic. However, if one takes into account philosophical fashions and the cultural background, then the problems of the possibility of a philosophical cognition of nature and of the “two-fold entanglement” of philosophy of nature in dependencies on metaphysics and the natural sciences, and, consequently, the loss of autonomy, become intriguing and controversial.

In this chapter I shall present the dispute on the concept of philosophy of nature,³ focused on the substantial elements of the methodological-epistemological status, the resolution of which decides about the possibility of the existence of an autonomous philosophy of nature and a philosophical cognition of nature. These analyses were part of four monographs, which from a historical and meta-philosophical perspective constitute substantial points of reference for the attempt of understanding the phenomenon of a existence of philosophy of nature.⁴ These are the works by Kazimierz Kłósak, Stanisław Mazierski, Zygmunt Hajduk and Józef Turek.⁵ The selected authors are representatives of various philosophical generations and various philosophical specializations: Kłósak and Mazierski were Thomists who during their studies in Belgium discovered the possibility of renewing Thomism (so-called Louvain Thomism); Hajduk is a methodologist and philosopher of science, whereas Turek was a cosmologist. The selected monographs are a result of their long-lasting studies and include texts that were published earlier. Therefore they can be treated as a sort of crowning and summary of their long-standing research. The essential parts of Kłósak’s and Mazierski’s monographs were shaped during the period of intensive development of Neo-Positivism, while the two other authors wrote their works in the post-Popper era.

In this chapter I will concentrate on the general characterization of the fundamental dispute concerning the existence of philosophy of nature as

³ I assume the following terminology: I use the term “philosophy of nature” interchangeably with “philosophical cosmology.” Cf. remarks on the names of these disciplines in Zygmunt Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa. Meta-kosmologia* (Lublin: TN KUL, 2004), 9-12.

⁴ Since this chapter does not have a historical character, I do not mention many sources in the bibliography, selecting only those which enable comprehending the framework of the dispute.

⁵ Stanisław Mazierski, *Prolegomena do filozofii przyrody inspiracji arystotelesowsko-tomistycznej* (Lublin: TN KUL, 1969); Kazimierz Kłósak, *Z teorii i metodologii filozofii przyrody* (Poznań: Księgarnia św. Wojciecha, 1980); Zygmunt Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa*; Józef Turek, *Filozoficzne interpretacje faktów naukowych*, (Lublin: RW KUL, 2009).

well as on its variation discussed within the Lublin School of Philosophy. In the general perspective one can place these views between the anachronism (outdatedness) of this form of natural-philosophical knowledge and its topicality. A cluster of positions close to the evaluative azimuth of philosophy of nature's topicality is internally diverse which is revealed in various concepts of philosophy of nature's epistemological-methodological status. This discussion will focus on the category of autonomy of philosophy of nature.

2. PHILOSOPHY OF NATURE: BETWEEN ANACHRONISM AND TOPICALITY

The essential controversy with philosophy of nature is the following: does a philosophical cognition of the natural world exist? Is philosophy of nature possible as a rational cognitive discipline? Can one sensibly formulate philosophical theories of nature? If we assume a positive reply, then a next question arises, concerning its topicality. One draws attention to its topicality, pointing to tasks which it can carry out, e.g. taking on problems going beyond the capabilities of scientific methods; introducing philosophical ideas to science in the form of assumptions; critical discussion on philosophical assumptions in science; synthetic summarizing of the state of scientific knowledge in the form of the image of the world.⁶

Hajduk distinguishes two forms of controversies relating to philosophy of nature: a radical and a weak version. In its radical version the controversy assumes a metaphilosophical position questioning the existence of philosophy of nature, because one considers it to be an outdated and obsolete discipline, and the only unquestionable issue is the problem of its existence. Representatives of positivism, neo-positivism and Anglo-American philos-

⁶ It is symptomatic that the term "philosophy of nature" is not included in the *Catholic Encyclopedia* (Pol. *Encyklopedia katolicka*), *Encyclopedia of Philosophy* (neither in the 1967 edition by Paul Edwards nor in the 2nd edition from 2005 by Donald Borchert), *Internet Encyclopedia of Philosophy* or the *Stanford Encyclopedia of Philosophy*. In the latter there are entries concerning historical versions of philosophy of nature, e.g. Aristotelian, Arabic, Islamic, Renaissance, and in a similar way philosophy of nature is described in philosophical encyclopedias. The entry "philosophy of nature" is included in volume 8 of *The Universal Encyclopedia of Philosophy* (Pol. *Powszechna encyklopedia filozofii*).

ophy expressed such opinions.⁷ They claim that philosophy of nature does not constitute a standard realm of philosophical investigations; its range of topics from the periods of its glory – antiquity and the Middle Ages – became distributed among the modern natural sciences, without retaining specific methods and problems for philosophy of nature. In the historical perspective apart from the aforementioned stages of its history, the term “philosophy of nature” was still reserved for a specific and isolated philosophical currents, e.g. Hegel’s, Fichte’s, Schelling’s and Goethe’s *Naturphilosophie*, the renewed scholastic doctrine and philosophical theories inspired by A. N. Whitehead. In this current of controversies, one does not deny the existence of philosophy of science (philosophy of natural sciences),⁸ the object of which are the natural sciences, and not nature as such.⁹ Generally speaking, the object of philosophy of nature was distributed among the natural sciences and philosophy of science; therefore, the problem of the existence of this discipline has a negative resolution due to the lack of an object (a substantial and topical subject matter). The existence of philosophy of nature is rejected as a dated sort of research, because substantive results of research in the natural sciences are acquired only due to the use of scientific methods. This position was also supported by the modern conception of nature (the new conception of matter as a substance) which implied metaphysical dualism (matter and spirit, mind) and a correspond-

⁷ Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa*, 13.

⁸ It is emphasized that since the mid-nineteenth century philosophy of nature has not been practiced in a continuous manner, because nature has been already investigated only by the natural sciences (mainly physics), and the object of the philosophy of nature became science itself. Philosophy of science (philosophy of the natural sciences) and the natural sciences thus replaced philosophy of nature. Cf. *ibidem*, 23.

⁹ The topicality of philosophy of nature is questioned on account of the change in its object: the object of philosophy of nature is not nature, but science. Philosophy of science replaced philosophy of nature. It is puzzling why in the case of one philosophical discipline the issue of its controversial status is raised. In a general sense all of philosophy (and its disciplines) is controversial and this is treated as default state. Why is not there so much discussion about the controversial character of ontology, epistemology or ethics? The first available response could be more less the following: The subject matter of philosophy of nature largely overlaps with the subject matter of the natural sciences which take credit for greater cognitive accomplishments, whereas philosophical disciplines which have a smaller common ground with the particular sciences, do not engage with them into clear cognitive conflicts. The rapid progress not only of the natural sciences, but also theories dedicated to them, led, first of all, to absorption of meta-scientific topics which were addressed by philosophy of nature, and secondly, the ontological issues were also consumed within thus understood philosophy of science.

ing division of cognitive competences: the natural sciences examine matter while philosophy examines the realm of the spirit and mind.

In the weak version, the controversy concerning the existence of philosophy of nature takes on the form of a dispute about the status of this discipline. It is generally assumed that there are substantive philosophical problems in this realm which are to be "taken care of," but their set is determined by the results of the abundantly developing natural sciences and the crisis of the maximalist philosophical systems. These limitations do not have only a methodological and epistemological character, but they constitute a significant part of the cultural environment within which topical philosophical questions are formulated. In short, philosophy of nature should take into consideration the results of the natural sciences as well as of meta-scientific and meta-philosophical inquiries.

The contemporary debate on the topicality of philosophy of nature assumes two forms: (1) the problem of the possibility of philosophy of nature is treated as a case of an issue of the possibilities of philosophical cognition of nature (cf. R. Ingarden), or (2) one argumentatively resolves the issue of valuable theories of philosophy of nature and describes the criteria of evaluating such theories.¹⁰ For instance, Rev. Michał Heller points to two general methodological principles which should be taken into consideration so that one could speak of a valuable philosophical theory. These are: respecting the results of the natural sciences in the domain a philosophical theory refers to, and not ignoring the methodological rules worked out by the contemporary philosophy of science, e.g. excluding philosophical premises from the context of justifying natural science theories.¹¹ A substantive supplement to methodological analyses (the possibility of the existence of philosophy of nature) is the list of purely philosophical problems which have been raised from the very beginning of philosophy of nature and are still being raised, e.g. the rationality of nature, the dispute on the substance, the problem of time and space, determinism–indeterminism, nature, origins and evolution of life, the general conception of the Universe, the manner in which nature exists, the relation of the world to God, the values of the natural world.¹²

¹⁰ Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa*, 16.

¹¹ The theories of A.N. Whitehead and K. Popper are treated as examples of valuable theories of philosophy of nature. Cf. Michał Heller, *Filozofia świata. Wybrane zagadnienia i kierunki filozofii przyrody* (Kraków: Znak, 1992), 173.

¹² *Ibidem*, 174–186.

The topicality of philosophy of nature may be justified multilaterally. The main idea assumed in such procedures legitimizing philosophy of nature relates to ascertaining the actual existence of problems which are not taken on in the natural sciences or in their philosophical theories (philosophy of science, methodology of science). The set of such problems is treated as tasks, functions and goals of philosophy of nature, and looking at them from the perspective of social interests, they are comprehended as needs which adequately specialized disciplines of knowledge (in this case – philosophy of nature) should properly take on and resolve. Generally speaking, this refers to a concept which one can verbalize in the following way: between scientific theories and theories of science there is a place for philosophy of nature.

Without mentioning for the time being the complex discussion on the epistemological-methodological status of philosophy of nature which adequately modifies the potential scope and structure of the subject matter of philosophy of nature, one can formulate a shortlist of problems most frequently mentioned in the literature on the topic, assembled schematically into three sub-catalogs:

1° In the context of natural sciences

The subject matter of philosophy of nature formulated in the context of natural sciences and their philosophical theories (philosophy of science) is fairly rich and diverse, among others, due to the abundance of the context itself. They consist of object oriented scientific theories (formulated within numerous natural science disciplines); history of science (broadly put: humanistic theories of science); methodology of particular scientific disciplines; philosophy of science (of particular disciplines, e.g. philosophy of biology, physics, chemistry, nanobiology, ecology etc.); popularization of science as well as reception of science in culture. In such an abundant and multi-dimensional context of object-focused and meta-objective knowledge the following philosophical problems are apparent: philosophical assumptions of the natural sciences; philosophical implications of dominant scientific theories¹³; unsolvable remnant problems from the realm of the philo-

¹³ Philosophical implications of specific theories are introduced within a complex procedure of philosophical interpretation. Among the most frequently mentioned practical difficulties of this sort of interpretation one must mention the lack of a simultaneous

sophical context; a critical discussion on the assumptions in science; initial conceptual elaboration of new scientific research domains (philosophy of nature as science at the beginning).

2° In the context of worldview

The need for a holistic and global orientation on the entirety of human knowledge is being carried out also in the context of science and philosophy. This means that specific convictions on the topic of the world, the place of the human being in nature, the sense and purpose of the world and human life which constitute every worldview, are generated on the basis of scientific and philosophical knowledge. An array of convictions relating to nature is usually constructed on the foundation of scientific theories which have abundant worldview implications (e.g. theory of evolution, cosmological theories, quantum mechanics). However, this requires adequate philosophical interpretations (due to the formal character of a theory or the technical character of the scientific jargon incomprehensible for laypeople). This is carried out within philosophy of nature. A classic example of a natural science theory with a real-world impact on the world-view is the theory of biological evolution which is (might be) the main source of convictions on ontological, anthropological and axiological issues. In connection with a holistic view of the world, philosophy of nature is attributed a function of synthesizing scientific knowledge or formulating the image of the world. The notion of the image of the world is used here in the sense of the cultural background of a particular epoch shaped by science. The scientific element of the image of the world may be understood as the "averaging" of individual images of the world by the scholars of a particular epoch; it includes many initial philosophical assumptions and is formulated on the basis of a particular cosmological context (currently that is the standard cosmological model). Norbert M. Wildiers uses this term in a similar sense; for him the image of the world is the sum of aspects which were unveiled

competence in philosophy and in science: if its interpreters are natural scientists, then they are usually accused of practicing naïve philosophy; if philosophers interpret natural science theories, they are accused of understanding science superficially. On a methodological level, the largest difficulty is generated by the application of an adequate methodology enabling proper transition from science to philosophy which figures in the literature on the topic as "philosophical interpretations of scientific facts." Cf. Turek, *Filozoficzne interpretacje faktów naukowych*.

in our comprehension of the world, self-understanding and influence on our actions.¹⁴

3° In the context of contemporary existential challenges¹⁵

In the context of the ecological crisis and the crisis of the scientific and technical civilization, the relation between the human being and the environment, the human being's place in nature, becomes a central issue, therefore, an essentially existential problem. The outline of the new experience of nature may be described through the indication of the discovery of its subsequent aspects which were either on the boundaries of cognition, or appeared only in the twentieth century. Among the distinct phenomena which delineate the horizon of the current interest in nature one may include:

- a) The transcendental approach: nature investigated not as an ahistorical object in itself, without the inclusion of human intervention, but as "nature for us," a historical, socially constituted object. Therefore, questions arise, what plants, animals or landscapes mean for human beings.¹⁶ Alternatively to classically oriented philosophy of nature (Aristotelian current) as well as philosophy of natural sciences, the topic of nature and natural sciences is posed in the context of the crisis of the natural environment. Issues concerning the ethical, practical and aesthetic stances of the human being connected with historically changeable conceptions of nature come to the forefront. This point of view may be treated as complementary to classical perspectives on nature, because the historically changeable schemas of comprehending nature in itself are anyway connected with the assumption of the adequate stance of the human being in relation to nature (cf. the frequently given example of modern natural sciences and philosophy of nature). Moreover, nature as the environment for human life is currently perceived as an

¹⁴ N. Max Wildiers, *The Theologian and His Universe: Theology and Cosmology from the Middle Ages to the Present*, trans. Paul Dunphy (New York: Seabury, 1982), 176-179.

¹⁵ This group of problems may be treated as an element of a worldview context. However, it was distinguished mainly on account of the fact that factors which are discussed here have influenced in a unique way the renewed posing of the problem of nature in the twentieth and twenty-first century.

¹⁶ Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa*, 46; Gernot Böhme, *Für eine ökologische Naturästhetik* (Berlin: Suhrkamp, 1989), 13-17.

area where the ecological crisis which sheds new light on the problem of nature.

- b) The pragmatic perspective: action-focused knowledge about nature is pursued (“that which should be”), i.e. what should be done with nature on account of our knowledge about it and the human being. Philosophical inquiries, therefore, concentrate not on ontological descriptions and explanations of various classes of beings and processes from the domain of the material world, but with the inclusion of theoretical knowledge about nature practical solutions with respect to human activity in the natural world are pursued, e.g. how one can humanize devastated landscapes, design the surroundings (the environment) that are friendly for the human being and nature (gardens, parks, cities). Here the theoretical moment of inquiries is clearly coupled with the practical one, e.g. a theoretical justification of specific normative indications for human actions in the natural environment are teleological conceptions of nature.
- c) Concentration on the mesocosm, i.e. on this part of nature with which the human being enters into relations of physiological exchange and that he or she socially establishes. In other words, the object of the transcendental and pragmatic perspective of the practical philosophy of nature is the human’s natural environment, its ecological niche. Nature comprehended from that point of view is a historical and social product. The domain of inquiries on nature is limited to “terrestrial” nature, to orders of magnitude, which are comparable with human ones, to nature, which is important for the human being. Ecological crisis, technical reproduction of nature, artificial nature, the human body – these are some of the problems of “intermediate dimensions” of nature.

The aforementioned aspects of the existential context did not constitute the main core of philosophy of nature subject matter, but nowadays the ecological crisis and the possibilities of transforming nature (and the human being) inspired a new perspective of research on nature which succinctly can be described as practical philosophy of nature.

To summarize the general characterization of the controversy related to the existence of philosophy of nature, one may say, that we have found ourselves in the meta-physical dispute focused around the temporal axis described as “between anachronism and topicality.” From a historical perspective nobody questions the existence of such a phenomenon as philosophy of nature (e.g. Ionian philosophy of nature, Aristotelian philosophy of nature or romantic philosophy of nature). However, its existence is denied

in a normative sense: currently (at present) philosophy of nature does not fulfil the standards of rational object focused knowledge and the standards are established according to the paradigm of the natural sciences. It is usually from the methodological and epistemological point of view that philosophy of nature is denied topicality: it is a sort of knowledge about nature which had its historical successes, but currently (i.e. in the modern era) this function is performed by the natural sciences. The other side participating in the controversy points to the circumstances which bring philosophy of nature up to date: this topicality is not illusive which is justified on many levels, among others, epistemological and methodological, theoretical, practical, historical and systematic. However, one must note that although the topicality of philosophy of nature is not obvious the problem of philosophy of nature's topicality itself ceased to be in the center of philosophical discussions, mainly due to extra-cognitive reasons.

3. STATUS OF PHILOSOPHY OF NATURE: BETWEEN AUTONOMY AND OPENNESS

In the Lublin School of Philosophy and its broader surroundings, the controversy connected with the existence of philosophy of nature did not occur in a radical form, i.e. that of questioning the existence of the philosophical knowledge about nature. The controversy with philosophy of nature was rather expressed in the lack of its generally accepted epistemological and methodological status, and the dispute concerned especially the issue of the autonomous existence of philosophy of nature, independent from the natural sciences and metaphysics. In reference to this issue, one can assemble a map of controversial points which differentiated meta-philosophical positions: from negating philosophy of nature's autonomy (it is a secondarily extracted part of general, particular or applied metaphysics) to affirmative positions which in various ways justify such a qualification. Therefore, we are dealing with various concepts of philosophy of nature within the Lublin School of Philosophy.

As it was figuratively expressed by Rev. Heller in a panel discussion organized to commemorate forty years of philosophy of nature at the Faculty of Philosophy at the Catholic University of Lublin:

[Philosophy of nature] was placed between two giants and was stifled by these two giants from both sides. On the one hand, one must remember that this was a period when positivism still dominated, the standards of philosophizing about science were still defined by the works of the followers of the Vienna Circle.... On the other hand, there was enormous pressure, not only locally, resulting from the fact that Aristotelian-Thomistic philosophy which – contrary to positivism – was maximalist was treated as “compulsory” philosophy at Church universities.¹⁷

Maneuvering between philosophical giants has inevitably left a clear stamp on the postulated conceptions of philosophy of nature. The influence of positivism (and its philosophical continuations) and the concepts worked out within the Lvov-Warsaw School were clearly visible within the scope of the concept of science, scientific rationality, scientific methods, possibilities of metaphysics. The influence of the second philosophical giant was essential, because it was within the Aristotelian-Thomistic system (further: A-T) that an attempt was made to introduce new elements to the system under the motto of “openness” of philosophy towards other types of knowledge, assuming, however, that standard meta-philosophical characteristics of the Aristotelian-Thomistic system – ontological realism, epistemological realism, epistemological fundamentalism, autonomy of philosophical cognition, pro-philosophical demarcationism – are maintained.¹⁸

The problem of the autonomy of philosophy of nature was considered within several complementary aspects and was determined by traditional meta-philosophical questions: what is the material and formal object of the extracted discipline, what are its distinct (separate) and general methods, what are the purposes and functions of the discipline, what is the relation of philosophy of nature towards other philosophical disciplines (metaphysics, philosophy of science, epistemology) as well as towards the natural sciences. Replies to these questions together form various conceptions of philosophy of nature,¹⁹ in which the autonomy, separateness, independence

¹⁷ “Nauka – filozofia nauki – filozofia przyrody. (Dyskusja panelowa),” *Roczniki Filozoficzne* 46, no. 3 (1998): 93.

¹⁸ Cf. Bronk, *Filozofia i nauka*, 187.

¹⁹ The significant feature of meta-philosophical discussions on philosophy of nature, noticeable mainly in the inquiries of Hajduk and Turek, is the application of the results of contemporary research in the domain of philosophy and methodology of science. philosophy of nature as a philosophical discipline may be investigated with the use of similar meta-scientific means as the natural sciences. Earlier discussions (Kłósak, Mazierski, Krapić) rather made use of tools devised on the basis of me-

or their lack are defined in a relative manner. The schematic image of the space of controversy in the issue of philosophy of nature can be centered around epistemological-methodological autonomy, with two objections.²⁰ First, the register of the most frequently occurring meta-philosophical contexts in which the problem of this autonomy occurs, is broader. One may distinguish other types of autonomy which appear in the described controversy of philosophy of nature, e.g. intra-systemic autonomy (philosophy of nature versus other philosophical disciplines, e.g. metaphysics, methodology of science, philosophy of the natural sciences), autonomy in relation to other types of scientific knowledge (natural and formal sciences, the humanities) and extra-scientific (worldview, ideology, religion). Epistemological and methodological autonomy presented below is constitutive for the status of philosophy of nature; the remaining types of autonomy may be reduced to these basic ones. Second, contents characterizing particular types of autonomy mutually overlap, sometimes they repeat themselves, and the reason for such and not another attribution is the historicity of their formulations (they appear in the aforementioned philosophical conceptions in a similar form).

3.1. EPISTEMOLOGICAL AUTONOMY OF PHILOSOPHY OF NATURE

In generally terms, the Lublin School of Philosophy takes a clear position of anti-scientistic pro-philosophical demarcationism and on this base it

ta-philosophical research. One may justly assume that contemporary meta-philosophical disciplines lean towards disputes resembling those within the methodology and philosophy of science. philosophy of nature is considered one of the disciplines of scientific knowledge and as such may be evaluated and reconstructed. Then the discussion on the epistemological and methodological status of philosophy of nature does not assume a traditional form of reconstruction: the relation of philosophy of nature to metaphysics, the material and formal object of philosophy of nature, relation to the natural sciences, but they make use of a conceptual network of meta-scientific disciplines, e.g. problems, stages of resolving problems (Z. Hajduk).

²⁰ Generally, the problem of the autonomy of philosophical discipline can be also presented in a different way. For one can speak of interdependence between disciplines or the lack of it. One then, indirectly, obtains a description of the autonomy of some scientific discipline. Remarks on the types of dependencies between disciplines may be found in Antoni Stępień, *Zagadnienie punktu wyjścia w filozofii* [The Problem of the Point of Departure in philosophy] (Lublin: TN KUL, 2005), 80-81. The following types of dependencies are distinguished there: genetic, heuristic, objective-structural, methodological, epistemological.

defends philosophy from an essential dependence from the results of the particular sciences,²¹ be it in the point of departure or as an element of the process of resolving philosophical problems. As Stanisław Kamiński writes:

[P]hilosophical knowledge does not constitute only some transitional developmental stage of science, or else a pre-scientific or post-scientific one, but a separate kind of cognition, both with regard to its object as well as the tasks posed by life. Consequently, it has also a separate method.²²

The question about the distinction of the object of inquiries is most of all about the specificity of the formal object of philosophy of nature, which is “the material world as a whole (the universe) and the essence of the most general properties of bodies falling under the senses.”²³ According to Kłósak:

[The formal object] of inquiries within this discipline is the type of being specific to nature or else – to put it differently – the real being narrowed down to descriptions which are adequate for everything that is a part of nature. We could also say that from the existentialist perspective the object of inquiries of philosophy of nature is the aspect of being something really existing within the type of beingness attributed to nature.²⁴

Apart from that object there are such metaphysical issues, as for instance the issue of the first efficient cause of the entire cosmos and the ultimate final cause of the universe or the problem of the human intellectual soul.²⁵

²¹ This term is preferred in the Lublin School of Philosophy. While speaking of philosophy of nature, I treat the term “particular sciences” as synonymous to “natural sciences.”

²² Stanisław Kamiński, *Nauka i metoda: Pojęcie nauki i klasyfikacji nauk* (Lublin: TN KUL, 1992), 308.

²³ Mazierski, *Prolegomena do filozofii przyrody*, 125.

²⁴ Kłósak, *Z teorii i metodologii filozofii przyrody*, 105.

²⁵ Cf. an array of entries from the *Encyclopedia of Philosophy of Nature* [Pol. *Encyklopedia filozofii przyrody*, ed. Zenon Roskal, (Lublin: WKUL, 2016)]: atom, purpose, time, determinism, spirit, soul, energetism, ether, evolution, philosophy of nature, cosmos, matter, cosmological model, vacuum, space, cause, natural world, nature, movement, principle, phenomenon, complexity, life, the elements. The editor justified the choice of entries in the following way: “These entries are *sui generis* attractors, around which the subject matter of philosophy of nature is focused.” Ibidem, 6. Such

Essentially the thesis about the autonomy of philosophical cognition in its general formulation did not provoke controversies. The principle of epistemological homogeneity, stating the adequacy of cognitive means and purposes, was universally accepted in the milieu of the Lublin School of Philosophy. Differences in views were revealed in the issue whether adequately interpreted and selected data of natural (particular) sciences may be included to the so-called point of departure of philosophical cognition. Therefore, in the context of philosophy of nature a problem was posed, whether and to what degree one may use the results of the natural sciences in philosophy. According to the concept of strict autonomy of philosophical cognition, represented, for instance, by Mieczysław A. Krąpiec, Kamiński or Antoni B. Stępień, results of particular sciences do not enter in any significant way (and should not enter) into the cognitive perspective of philosophy and they do not play a crucial role in the process of philosophizing (point of departure, formulating philosophical problems and solving them). This, of course, does not determine – in their opinion – the redundancy of science in the context of philosophy, but its role is secondary. Such a position was described by critics as epistemological isolationism. Philosophers of nature – among others, Mazierski, Kłósak, Hajduk and Turek – by accepting the importance of the principle of epistemological homogeneity, indicate the conditions of opening of philosophy of nature to the results of natural sciences, mainly at the stage of determining the point of departure. Including at the point of departure of philosophy of nature, apart from data of ordinary and pre-scientific experience, also data of scientific experience is supposed to ensure a more abundant set of information about nature. Certain limiting conditions are rendered on this data, the fulfillment of which guarantees the preservation of the same cognitive (philosophical) platform. Among these conditions are: (1) minimizing or controlling the theoretical factor in the accepted scientific facts at the point of departure (there are no “naked” facts: neither ascertained in ordinary, nor in scientific experience); (2) an adequate choice of scientific facts, because not all of them are crucial for philosophy of nature, e.g. the botanical characterization of a specific species of flowers, but these which have a general and fundamental character, e.g. the fact of biological evolution; (3) philosophizing the scientific facts, i.e. a philosophical interpretation that unifies the conceptual appa-

entries as “information,” “energy” and “reason” were also planned, but, unfortunately, they were not written.

tus of philosophy of nature. Generally speaking, this is about the need for conceptualization, theorization and philosophizing of data of the point of departure, so that one could talk about the preservation of the principle of epistemological homogeneity. As a result we receive a point of departure for philosophy of nature which contains the data which are unquestionable and constitute the basis also of extra-philosophical cognition (e.g. scientific), and within it we consider objects, the features of which appear in every material phenomenon.²⁶

As one can see, the methodological construct usually called the “point of departure” of philosophy of nature (generally – of science) assembles in itself various substantive strains. They relate to the apprehension and inclusion of distinctions between the ordinary, pre-scientific and scientific experience of connections between data of experience (the aforementioned types) and the conceptual apparatus, language, theory as well as between conceptions of scientific, philosophical and ordinary facts. Positions in the aforementioned issues are accompanied by fundamentalist resolutions regarding the purposes of philosophizing, its possibilities and limitations. Within philosophy of nature it is usually accepted that introducing at the point of departure scientific data which have – in accordance with the nature of science – a hypothetical and assumptive character, weakens the possibility of implementing a fundamentalist program.

3.2. METHODOLOGICAL AUTONOMY OF PHILOSOPHY OF NATURE

The crucial problem called on to be resolved in the issue of methodological autonomy boils down to the question whether there are specific methods applied in philosophy of nature, whether apart from universal and simple scientific and philosophical methods, such as conceptualization, abstraction, interpretation and description and complex ones, such as clarification, explanation and justification, there are methods used mainly in philosophy of nature. Responses to this question within philosophy of nature varied. The common element of various positions was underlining the importance of the rank of the method of physical abstraction, thanks to which one can single out in nature such objects as beings (variable, temporal, spatial) as well as to determine the essence of quantitative and quali-

²⁶ Hajduk, *Filozofia przyrody. Filozofia przyrodoznawstwa*, 134.

tative properties. Therefore, it is applied to determine the object of philosophy of nature, interpretation of ordinary and scientific experience as well as to create general concepts. Kłósak, taking into consideration the limited capabilities of physical abstraction, points to the method of ontological test implications of a reductive type, which is a method that consists in investigating whether theses concerning the fundamental structure of bodies are not ontological test implications of the most general formulations about nature undertaken in the perspective of scientific and ordinary cognition.²⁷ Applying the aforementioned methods, treated as specific for philosophy of nature, depends on the earlier (logical) operations substantively determining the point of departure, which are collectively described as a “philosophical interpretation.” It is supposed to ensure the retention of the principle of epistemological homogeneity in the situation of opening philosophy of nature to results of the natural sciences which are expressed in other conceptual schemas than philosophical data. Rev. Turek claims that the key problem to solve for every methodologist of philosophy of nature is a mechanism of philosophical interpretation of data of ordinary experience (principles, rules, stages of philosophizing) and most of all of scientific experience. The basic epistemological-methodological principle is that of epistemological-methodological homogeneity, already mentioned several times in this chapter, which imposes specific restrictions on methods of philosophizing, points of departure, data to be explained etc. possible to apply. Philosophical procedures respecting the principle of homogeneity guarantee, among others, internal consistency, identity, uniformity and autonomy of philosophy and the particular sciences. According to this principle such cognitive activities and science-formative procedures as conceptualization, formulating judgments, defining, inferring, explaining, justifying and falsifying philosophical theses belong to the same cognitive platform.²⁸ This requires from basic structures of knowledge – conceptual apparatus, theses, laws, theories – to have a uniform and logically consistent character, because:

Philosophical ... explanation of scientific facts in its essence does not relate in a direct and simple way to these facts, as the basic requirements of correct explanation would be then transgressed together with the principle of epistemological-methodological homogeneity, mentioned a number of times, which is a direct consequence of the assumed cog-

²⁷ Kłósak, *Z teorii i metodologii filozofii przyrody*, 150.

²⁸ Turek, *Filozoficzne interpretacje faktów naukowych*, 10.

nitive autonomy and separateness of both of these domains of human knowledge.²⁹

All of the philosophers from the Lublin School of Philosophy mentioned above took on the problem of philosophical interpretation as an essential element constituting the point of departure of philosophy (including philosophy of nature). Within the theory of philosophy of nature many proposals of mechanisms of philosophical interpretation (not always called an “interpretation”) of scientific facts were formulated. Attempts to formulate a theory of philosophical interpretation were concentrated on them, motivated mainly by the intention to retain philosophy of nature’s autonomy and by “openness” to the natural sciences. Turek presented a systematic conception of philosophical interpretation and an overview which arranged historically and summarized the discussion on other conceptions. He wrote:

The issue with the most general understanding of these interpretations is not only about assigning philosophical perspectives, dimensions and relations to these [scientific – Z.W.] facts, but also to include possible influences and applications of scientific accomplishments in philosophical considerations.³⁰

The main idea of this concept may be expressed in the following way: cognitive procedures constituting the philosophical interpretation are not attributed exclusively to the “interpretans,” but some of them are also connected with the interpreted element (scientific facts). Therefore, the point is that it is not necessary to have some sort of philosophical position that precedes the entire interpretation process in the light of which an interpretation of scientific facts is performed; on the other hand, one takes into consideration the possible influence of particular sciences on philosophy which consists in, among others, clarifying and specifying the philosophical language or justifying certain philosophical theses with scientific data. “Therefore, one must know the sciences in order to notice and extract from their context the more or less clear philosophical subject matter and express it in the form of adequate theses, called philosophical facts.”³¹ Turek in his methodological declarations refers to so-called direct research practice, not clarifying precisely what it is supposed to mean. He probably

²⁹ Ibidem, 89.

³⁰ Ibidem, 99.

³¹ Ibidem, 102.

expressed in different words that to which Rev. Heller, quoted above, had drawn attention before, namely that a meta-philosophical subject matter (FP), especially its methodological part, should be considered on the basis of a genuine research experience in an object-focused problem area (in this case cosmological subject matter), and not projected as-if “top-down.”

4. CONCLUSION OR A “LANDSCAPE AFTER THE DISPUTE”

The problem of the autonomy of philosophy of nature was considered in the context of mutual relations of the natural sciences and philosophy and was expressed in the question: how to bring together ideas of autonomous philosophy (methodologically and epistemologically independent from science) and at the same time open to the particular sciences? The proposed resolutions encompassed, among others, a formulation of legitimate conditions of transitioning from scientific to philosophical knowledge (so-called scientific philosophy or scientific philosophy). A discussion on these (meta-objective) questions dominated strictly philosophical (object-focused) research in the area of philosophy of nature. When summarizing this discussion Heller notices:

How to practice philosophy of nature? It is an important, and yet a dangerous question. In the 1960s Rev. Kazimierz Kłósak started a discussion on this topic which lasted more than a decade, and in that period the entire progress in the philosophy of nature was practically stopped within the milieu of Polish Christian thinkers: no one practiced philosophy of nature, because all of them wondered how to do that. ... This is a normal and, as I believe, a healthy sequence: first, practicing a particular branch of knowledge, which, of course, is always accompanied by a certain methodological reflection, and only later a more systematic treatment of a meta-scientific theory. Reversing this order might be a sign of a crisis or pathology.³²

The younger generation of philosophers of nature that matured in the shadow of this dispute, officially accepted the meta-philosophical postulates

³² Michał Heller, *Nauka i wyobraźnia* (Kraków: Znak, 1995), 150.

of philosophy of nature, but in their academic practice one could not notice their applications (Włodzimierz Sedlak, Stanisław Zięba, Marian Wnuk, Józef Zon, Turek, H. Piersa). Object-focused issues were taken on, which rather fitted into such disciplines as the history of philosophy of nature, philosophy of biology, philosophy of bioelectronics, philosophy of cosmology, philosophy of physics, or philosophy of ecology. One may risk posing a hypothesis that they are closer to a style of research in the spirit of "philosophy in science" than Kłósak's and Mazierski's meta-philosophical canons. Insofar as the masters considered themselves Thomists with ambitions to renew Thomism, inasmuch their disciples practiced philosophy without "-isms." Meta-objective problems in the works of the disciples are still raised as a kind of introduction to object-focused inquiries. Nevertheless, usually it is carried out in the form of a methodological declaration, but referring to particularistic ways of comprehending relations between philosophy and the particular sciences rather than to a holistic systemic conception of philosophy of nature (Zon, Wnuk, Rev. Dariusz Dąbek, Rev. Jacek Golbiak, Zenon Roskal, Justyna Herda, Zuzanna Kieroń, Andrzej Zykubek).³³ One rather lists, according to this typology: maximalist philosophy, minimalistic philosophy, tendencies to conduct research within the latter. Issues that dominate are from the fields of methodology and philosophy of science (philosophy of biology, philosophy of chemistry, philosophy of cosmology, philosophy of physics), regional ontologies (e.g. ontology of the quantum world or the subcellular level), and not ontologies encompassing the entirety of nature (ontology of nature). The meta-objective subject matter of philosophy of nature – in practice – is raised mainly in the fields of methodology and philosophy of science (a clear influence of Rev. Hajduk) and treated multifacetedly: non-restrictively, non-demarcationalistically and non-maximalistically. The contemporary withdrawal from maximalistically practiced philosophy signifies also a withdrawal from maximalistically comprehended philosophy of nature. The epistemological and methodological qualities of the natural sciences become also qualities of philosophy of nature, i.e. it is not a finalistic and ahypothetical form of cognition, and from the episte-

³³ Cf. Zygmunt Hajduk, "Filozofia przyrody w Katolickim Uniwersytecie Lubelskim," *Roczniki Filozoficzne* 46, no. 3 (1998): 31. Hajduk points out that until 1998, about 30 doctoral dissertations completed at the Division of the Philosophy of Nature and Environmental Protection Studies at the Catholic University of Lublin concerned mainly methodological issues related to philosophy of nature and the natural sciences. The MA theses – on the contrary – concerned mainly object-focused issues (c. 350 theses), but on environmental protection topics.

mological perspective – the category of truth is not posed in a radical way. Rather new methodological categories of describing philosophy of nature are preferred, such as interdisciplinary knowledge,³⁴ hypotheses, images of the world,³⁵ experimental philosophy.³⁶ This shift of emphasis from meta-philosophical subject matter of philosophy of nature to meta-scientific and object-focused issues are accompanied by certain symptomatic organizational initiatives on the institutional platform of philosophy of nature. On the initiative of philosophers of nature from the Catholic University of Lublin a Division of the Philosophy of Nature and Natural Sciences in the Polish Philosophical Association was founded. And thus the traditional name was preserved (“philosophy of nature”) and it was connected with “the philosophy of natural sciences” (by the way, it is worth mentioning that this also used to be the name of a department at the Faculty of Philosophy at the Catholic University of Lublin – Department of Philosophy of Nature and Natural Sciences). The activities of these institutions indirectly demonstrate that there is a place for philosophy of nature between scientific theories and theories of science,

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³⁴ In the contemporary methodological approach, the problem of the conception of philosophy of nature may be formulated as an issue of interdisciplinarity. Perhaps, within this approach one can formulate more clearly basic difficulties which philosophy of nature confronts, e.g. how many disciplines may be effectively included into a philosophical project?

³⁵ One should also admit that interpreting results of natural sciences in the form of philosophical images of the world was not connected with any systematic and maximalistically understood ontology (metaphysics). Occasionally emergentist and processualist concepts appeared, but without cognitive postulates characteristic of maximalist philosophy. The point was rather construing ontologies implied by concrete scientific theories or domains of knowledge, e.g. ontology of the microcosm.

³⁶ Currently experimental philosophy is being developed mainly in the domain of research on the language and morality, but there are also certain attempts of philosophers of nature at constructing experimental metaphysics (T. Pabjan).

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- Hajduk, Zygmunt. *Filozofia przyrody: Filozofia przyrodoznawstwa. Metakosmologia* [Philosophy of Nature: Philosophy of the Natural Sciences. Metacosmology]. Lublin: TN KUL, 2004.
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Stanisław Mazierski's Views on Causality in Comparison with Other Selected Conceptions of Causality

Looking for the nature of causality was one of the main objectives of early modern philosophy,¹ although also in purely physical research it occurred in the question: in what way can one material body affect another? The philosophical inquiries into the problem of causality focused on the attempts to address the question on 1) the ontic status of the objects within a causal relation and 2) its properties. The issue in dispute was whether they are entities (individual substances), states of being or changes of the states of being (events), or else processes (sequences of events) and how one can characterize the cause-and-effect relation itself. These questions were appended by others which continuously remained open, despite the fact that well justified answers to two fundamental questions had emerged. The problem was 1) whether the properties of a causal relation (necessity, anti-symmetry, transitivity) refer in an equal degree to all ontological categories, but also 2) whether

¹ Cf. Steven Nadler, *Causation in Early Modern Philosophy: Cartesianism, Occasionalism, and Preestablished Harmony* (University Park, PA: Pennsylvania State University Press, 1993), 1. Indeed, it is sometimes claimed that this is the predominant and basic problem of all of philosophy. Albert Lang, *Das Kausalproblem*, vol. 1: *Geschichte Des Kausalproblems* (Köln: J.P. Bachem, 1904), 1. Victor F. Lenzen (1890-1975) noticed that the concept of causation was correlated with the law of three stages (theological, metaphysical, scientific), an idea developed by August Comte. Victor Lenzen, *Causality in Natural Sciences* (Springfield: Charles C. Thomas, 1954), 9-10.

causative relations occurring for individual objects can be generalized to the relations occurring between classes (types) of objects.

The form of this causative bond – as it was believed – is determined by the principle of causality (law of causation, principle of causative conditioning), but it also renders the essence of causative conditioning. The multitude and diversity of formulations of this principle stemmed from the fact that various aspects of the causative bond were brought to the forefront. The concepts on the principle of causality from the perspective of essentialist ontologies which stressed the natural articulation of the world into various categories of beings (substances) mutually affecting each other, have put emphasis on the genetic aspect of the causal bond: a cause (univocally and/or necessarily) generates an effect. At a later stage, as a result of progress within science and the strengthening of phenomenalist ontologies, the prognostic aspect was brought to the foreground: the knowledge of the cause allows (determines) cognizing the effect.

Within early modern philosophy, under the influence of the argumentation presented by Hume, a view was questioned, in accordance with which, every entity brought into existence must have an efficient cause. It was recognized that this thesis is neither intuitively nor demonstratively validated. Consequently, the metaphysical (ontological) interpretation of the principle of causality which stressed the genetic aspect of a causal bond was questioned. The epistemological interpretation of the principle of causality which perceived the essence of a causal bond in the prognostic aspect, strengthened by Laplace's clarification of the principle, consolidated the role of the principle of causality in science, although in a form reduced to the schema of foreseeing. Nonetheless, with the fall of mechanical philosophy, the discovery of the phenomenon of radioactivity as well as the development of new physical theories, such as quantum mechanics, the epistemological interpretation of the principle of causality was also brought into question. It found itself in the center of intensive considerations of philosophers when it was challenged by prominent physicists. With the development of nuclear physics, it became clear that traditional formulations of the principle of causality were inadequate, because there are phenomena (e.g. the emission of alpha particles from the nuclei of radioactive elements) which – as it was believed – do not have a cause.² A bigger problem, however, was coordinat-

² According to Jan von Plato, the Dutch physicist Hendrik Anthony Kramers (1894-1952) and the Dutch physicist Helge Holst (1871-1944) were the first to draw attention to radioactive decay as a an example of the failure of the principle of causality

ing the principle of causality with Heisenberg's uncertainty principle. At the microscopic level, on the ontic foundation of natural reality, indeterminism ruled, which – according to the ancient philosophical tradition – was considered to be incompatible with materialist philosophy. Therefore, the crisis of the principle of causality was a challenge both for Neo-Thomism which used this principle in its proofs for the existence of God, based on efficient causation, and materialistic philosophy, where determinism was the *sine qua non* condition of its existence. However, in the case of materialism it was easier to remove the contradiction for the price of cognitive relativism. For instance, Stefan Amsterdamski (1929-2005) claimed:

[T]he materialist position does not at all require for us to reject *a priori* the conception which claims that at least some objective natural regularities may have the character of statistical relations, not univocal ones. ... the opinion, according to which determinism is a position that is coherent with the most general assumptions of materialist philosophy, currently does not have to be treated as undoubtedly correct ... [because] ... the content of materialism evolves historically along with the development of knowledge about nature.³

Nevertheless, in Neo-Thomistic philosophy the relativistic position was not acceptable. This was the case with so-called Louvain Neo-Thomism as well as existential Thomism. However, only within Louvain (Neo-)Thomism which put emphasis on the dispute with contemporary philosophical currents, and especially with contemporary natural science theories, did its representatives take on the problem of the significance of the principle of causality. The representatives of existential Neo-Thomism active within the Lublin School of Philosophy used the principle of onticity (reason of being) which they tried to distinguish from the principle of sufficient reason.⁴

(H. A. Kramers, Helge Holst, *Das Atom und die Bohrsche Theorie Seines Baues* (Berlin: Springer, 1925), 139). Cf. also Jan von Plato, "Theory and Experiment in the Study of Brownian Motion and Radioactivity" in *Philosophy and the Many Faces of Science*, ed. Dionysios Anapolitanos et al. (New York: Rowman, 1997), 152. This point of view was popularized by George Gamow (1904-1968) in his works on quantum mechanics. Cf. George Gamow, "Zur Quantentheorie des Atom Kernes," *Zeitschrift für Physik* 51 (1928): 204-212.

³ Stefan Amsterdamski, Zdzisław Augustynek and Waław Mejbbaum, *Prawo, konieczność, prawdopodobieństwo* (Warszawa: Książka i Wiedza, 1964), 77-78.

⁴ "This principle has nothing in common with the principle of sufficient reason formulated and comprehended by Leibniz." Mieczysław A. Krąpiec, *Metafizyka. Zarys teorii bytu*, (Lublin: TN KUL, 1978), 65.

According to Mieczysław Krąpiec (1921–2008) the principle of the reason of being was formulated already by Saint Thomas Aquinas, but it was supposed to refer not only to the functioning of the efficient cause, but also to other factors (material, formal and final) which really affect a specific being. The principle of the reason of being was supposed to show the rationality (intelligibility) of being, and thus juxtapose it to various forms of irrationalism. The essence of the reason of being, revealed from the perspective of cognition, may be captured in the assertion: “everything that exists is cognitively comprehensible as justified or justifiable.”⁵ A negative formulation of this principle states that “the reason of being is that without which a given being is not what it is.”⁶

Among the philosophers active within the Lublin School of Philosophy, there were also representatives of Louvain Neo-Thomism. Following the program of this philosophy, they engaged in the discussion on the principle of causality. This principle was defended by the representatives of the School not only on the grounds of metaphysics, but also physics (sic!). Already at the end of the 1940s Kazimierz Kłósak (1911–1982) attempted to rehabilitate the principle of causality on the grounds of quantum mechanics, but the scholar who dedicated most attention to the problem was Stanisław Mazierski (1915–1993), a philosopher of nature connected with the Lublin School of Philosophy.

The purpose of this article is to present Mazierski’s perspective on the principle of causality as well as his engagement in the establishment of the ontological interpretation of the principle of causality in quantum mechanics. Mazierski’s argumentation for the principle of causality shall be presented against the background of other, mainly Polish, philosophers who were contemporary to him. Due to the limited scope of this paper, the comparative analysis shall be limited only to selected philosophers, who in that period intensely dealt with the issue, preparing and publishing works on causality that influenced Mazierski’s concepts.⁷ In the first part of the article I shall present the formulations and interpretations of the principle of causality discussed in Mazierski’s publications and I shall also outline his position on the validity of the principle of causality in the microcosm. In the second part I shall discuss the accomplishments of those philosophers

⁵ Ibidem, 165.

⁶ Ibidem.

⁷ This concerns Dorda’s monograph which came out many years after his death, but it was written during Mazierski’s academic career and familiar to him.

to whom Mazierski referred directly in his works, in an affirmative or critical manner, as well as I shall outline solutions to the problem of causality which were not explored by Mazierski, although they offer an interesting perspective on the relations between determinism and indeterminism.

1. MAZIERSKI'S PHYSICAL AND METAPHYSICAL PRINCIPLE OF CAUSALITY

The topic of causality is what began and concluded Mazierski's academic career. "Uogólnienie pojęcia przyczynowości" [Generalization of the concept of causality]⁸ is one of Mazierski's first articles. Mazierski deals in it with the issue of the principle of causality and outlines initial solutions to this problem. His last article, "Zakres stosowalności fizycznej zasady przyczynowości" [The scope of the applicability of the physical principle of causality],⁹ is also dedicated to the principle of causality.

In the published version of his doctorate Mazierski presents two formulations of the physical principle of causality. According to the first formulation which he equates with the Neo-Thomist approach, "this principle states as follows: in the material reality, the course of affairs is determined in such a way that the same cause in the same circumstances invokes always and necessarily the same effect."¹⁰ The other formulation of the phys-

⁸ Stanisław Mazierski, "Uogólnienie pojęcia przyczynowości," *Roczniki Filozoficzne* 5, no. 4 (1957): 153-171.

⁹ Stanisław Mazierski, "Zakres stosowalności fizycznej zasady przyczynowości," *Studia Philosophiae Christianae* 28, no. 2 (1992):77-93.

¹⁰ Stanisław Mazierski, *Pojęcie konieczności w filozofii św. Tomasza z Akwinu* (Lublin: TN KUL, 1958), 97. This formulation is identical with the formulation of the physical principle of causality presented by Kłósak who claims that he took the name for this principle from Josef de Vries (1898-1989). Cf. Kazimierz Kłósak, "Metafizyczna i fizyczna zasada przyczynowości wobec relacji niedokładności W. Heisenberga," *Roczniki Filozoficzne* 1 (1948), 198. One can assume that de Vries discerns two versions (metaphysical and physical) of the principle of causality on account of the fact that the assertion according to which the contingent being must have a cause in another being, transcends the object and the principle of causality and principle of contradiction are immanent. Josef de Vries, *Denken und Sein* (Freiburg im Breisgau: Herder, 1937), 112-114. Cf. Bernard Lonergan, Elizabeth Morelli and Mark Morelli, *Understanding and Being: The Halifax Lectures on Insight*, vol. 5 (Toronto: University of Toronto Press, 1990), 158.

ical principle of causality, accepted in the natural sciences, is, according to him, the following: "if a state of a material system is given in the current moment, then the states of this system are thereby given in the future and in the past."¹¹ Apart from the physical principle of causality Mazierski, following Kłósak, distinguishes also the so-called metaphysical principle of causality which – in his view – was inspired by numerous passages from Aquinas's works. Mazierski presents six such formulations, but he only further analyzes two statements by Aquinas (1. *Omne quo movetur ab alio movetur*; 2. *Omnis effectus habet causa*). Ultimately, he accepts only one formulation of the metaphysical principle of causality: "the contingent being, if it exists at all, exists due to its efficient cause."¹² According to Mazierski, the metaphysical principle of causality expresses only those ontic relations which are abstract (*causalitas abstracta*), contrary to the physical principle of causality, "expressing causal relations in a specific material reality (*causalitas concreta*)."¹³

Mazierski links the genetic aspect of the principle of causality with the metaphysical principle of causality, whereas the prognostic aspect – with its physical version. He owes the distinguishing of the metaphysical and physical principle of causality to earlier publications by, mainly German, scholastic scholars, especially Josef de Vries (1898-1989), Josef Geyser¹⁴ (1869-1948), Alois Gatterer¹⁵ (1886-1953), Heimo (Heinrich Moritz) Dolch¹⁶ (1912-1984),

¹¹ Ibidem. This formulation is also identical with the formulation of the metaphysical principle of causality presented by Kłósak. According to Kłósak, among the Neo-Scholastic authors who presented formulations of the metaphysical and physical principle of causation are: Désiré Mercier (1851-1926), Jacques Maritain (1882-1973) and Josef de Vries. See Kłósak, "Metafizyczna i fizyczna zasada przyczynowości," 198.

¹² Mazierski, *Pojęcie konieczności*, 98.

¹³ Ibidem, 86.

¹⁴ This renowned representative of German Neo-Scholastics distinguishes two versions of the principle of causality which he calls, respectively, the general principle of causality (or the general law of causality [*das allgemeine Kausalgesetz*]) and the causal law of nature (or a specific causative law). The first one states that nothing emerges without a cause and the other that the relation between the cause and effect in nature is strictly regulated (*streng regelmässiges Verhältnis*). See Geyser, *Eine Hauptprobleme der Metaphysik*, p. 76.

¹⁵ It is worth noting that this Austrian Jesuit contributed substantially to the development of astrophysics, especially stellar spectroscopy. Cf. Augustín Udías, *Jesuit Contribution to Science. A History* (Heidelberg: Springer, 2015), p. 153.

¹⁶ Heinrich Moritz Dolch had his PhD supervised by Werner Heisenberg (1901-1976). Dolch defended his post-doctoral dissertation [Habilitation] at the Faculty of Catholic Theology at the University of Münster, on the physical and theological aspects of the

but also – indirectly – Kazimierz Kłósak. Mazierski, however, went even further in his demarcationist strategy, distinguishing two versions of the physical principle of causality which he called the Neo-Thomistic and the naturalistic physical principle of causality respectively. This distinction allowed him to more precisely render the relations between the metaphysical and the physical principle of causality.

Mazierski distinguishes as many as four aspects which can be used to analyze these relations: 1) formal (logical); 2) psychological; 3) epistemological and 4) methodological. He mostly focuses on the first and last of these aspects. By demonstrating that there exist discrepancies in the positions on the logical relations between the metaphysical and the physical principle of causality, he claims that the differences stem from the fact that some philosophers equate the physical principle (of causality) applied in early modern physics with the (physical) principle of causality formulated in Thomistic cosmology. In his view, the physical principle of causality which functions in (Neo-)Thomistic cosmology has a richer content than the physical principle of causality in its naturalistic formulation and that is why it cannot be equated with the physical principle of causality which functions in early modern physics. He claims that the Neo-Thomistic formulation of the principle of causality is structurally connected with Thomas Aquinas's philosophical system, and the physical principle of causality formulated on the grounds of physics has neither a methodological nor an epistemological connection with this system.

While investigating what may be the logical relations between the metaphysical and physical (in its naturalist formulation) principle of causality, Mazierski lists numerous differences which must lead to the conclusion that the physical principle of causality cannot be inferentially derived from the metaphysical principle of causality: 1) the physical principle of causality treats causes and effects as physical quantities – within the metaphysical principle, causation does not refer to quantitative aspects; 2) the causal relation in the physical principle of causality is comprehended as a space-time relationship – in the metaphysical perspective only the general dependency in existence and action occurs as well as in the natural course of affairs; 3) only repetitive causative relations are covered by the physical

problem of causality Mazierski wrote a review of that book (Stanisław Mazierski, "[Review]: Helmo Dolch, "Kausalität im Verständnis des Theologen und der Begründer neuzeitlicher Physik, Freiburg im Breisgau 1954," *Collectanea Theologica* 28, no. 1 (1957): 198-210).

principle of causality – the metaphysical principle of causality disregards the constancy and regularity of causal relations; 4) the physical principle of causality omits the category of substance – this category is indispensable for the metaphysical principle; 5) the physical principle of causality speaks of the univocity of the causal relation – the metaphysical principle omits this property; 6) physical causality assumes the continuity of the cause and effect – in metaphysical causality this property is omitted; 7) the physical principle of causality assumes the homogeneity of the effect and cause – the metaphysical principle does not take such homogeneity into account; 8) the physical principle of causality is a basis on which hypotheses are posed, it creates theories and formulates scientific laws postulating determinism of natural phenomena – the metaphysical principle of causality is abstracted from thus understood determinism; 9) the physical principle of causality is applied only to empirically confirmable natural phenomena – the metaphysical principle of causality shows the way out from the “tight ring of empiria.” Nonetheless, these differences do not prove the thesis that one cannot derive the physical principle of causality from the metaphysical principle, for such a possibility occurs only when we use a Neo-Thomistic formulation of the physical principle of causality. Such a formulation grants the possibility to ascertain not only methodological connections between these principles, but also epistemological connections. If the physical principle of causality is formulated on the grounds of a Neo-Thomistic conceptual apparatus, a path to the structural connection of both of these principles opens up:

The physical principle, however, does not result directly from the metaphysical principle itself. Nevertheless, indirectly on the basis of metaphysical analysis, the principle of causality in its known formulation – the being in motion moves because of another being and in its detailed formulation: the being in its potential state is transformed into its current state only due to the being in the act – one can indicate that within these formulations the thesis on the definite sequence of the same effects after the same causes is implicitly contained.¹⁷

Stanisław Mazierski due to his subsequent studies, but most of all as a result of new analyses dedicated to this problem, published in the 1960s, articulated as many as five formulations of the (physical) principle of causality, of which only two express the ontological aspect. The two subsequent

¹⁷ Mazierski, *Pojęcie konieczności*, 102.

formulations demonstrate the epistemological character of this principle while the fifth and last definition has a methodological character. Mazierski analyzes the principle of (physical) causality in the context of the problem of (the principle of) determinism. He claims that "the principle of determinism is a specific form of the principle of causality, concerning isolated systems,"¹⁸ and "the principle of causality is nothing else than the principle of (unequivocal) determinism, enabling an accurate prediction of phenomena."¹⁹ In his view the physical principle of causality has an exceptionally ontological character in the formulations clarified by Stefan Amsterdamski. In accordance with these formulations of the principle of causality: 1) "Everything that occurs, is externally conditioned by efficient causes or internally by the mutual effects of parts of a system (self-determination)"; 2) "the same causes are accompanied by the same effects." The ontological character is granted to the principle of causality only by the apposition that "in the material reality the course of events is determined in such a way that the same causes in the same conditions always have, out of physical necessity, the same effects."²⁰

Apart from the formulations of the principle of causality which have an ontological character, Mazierski presents two more that have an epistemological and prognostic character: 1) "If the state of an isolated physical system is known in the present moment St_0 as well as the laws which govern it, one can univocally designate the states of this system in the future, that is the states: St_1, St_2, St_3 are possible to be determined"; 2) "Processes in nature are carried out in such a way that the state of the isolated physical system subject to effects at instance t_1 determines univocally the state of this system at instance t_2 ."²¹ The fifth formulation of the physical principle of causality is supposed to have, according to Mazierski, a methodological character, because it is treated as a "methodological rule which prescribes to search for regularities in nature, and not as a general assertion describing relations between events and processes."²² Such versions of the physical principle of causality can be found also in his last monograph dedicated

¹⁸ Mazierski, *Elementy kosmologii filozoficznej i przyrodniczej* (Poznań: Księgarnia św. Wojciecha, 1972), 280.

¹⁹ Ibidem.

²⁰ Mazierski, *Elementy kosmologii*, 285.

²¹ Ibidem.

²² Ibidem.

to the laws of nature, in which the problem of causality was explicitly addressed.²³

Mazierski's position on the applicability of the principle of causality in quantum mechanics was clarified at a fairly early stage. In his monograph dedicated to determinism and indeterminism, he states:

Quantum mechanics undermined the determinism of classical physics, but it did not abolish physical causality and it did not hinder causality in a philosophical sense. Since determinism is closely connected to causality, it seemed that negating the schema of univocal prediction entails negating causality in the microcosm. However, this is not the case. The fact that the deterministic picture of the world is not able to encompass within it quantum phenomena, does not negate the causality of these phenomena and the possibility to foresee, but it imposes the need to modify the notion of causality, namely generalizing it and recognizing the mathematically defined ambiguous prediction. Within the microcosm we are not capable of univocally predicting the course of the phenomenon itself, but we can univocally define the probability of the course of the phenomenon. In classical physics the concern was such a sort of reality that it was enough to know the initial state of the system and the laws ruling it, in order to designate the state of the system in the future, whereas in nuclear physics the capability to determine the subsequent state of the system depends on the knowledge of initial and final conditions. This fact points to the fundamental difference between classical physics and quantum physics.

The presumption that microphysical phenomena are as if not causally dependent at all, is a consequence of a specific unilateral interpretation of quantum mechanics which eliminates the category of causality from quantum phenomena, considering them to be objectively indeterministic, purely random.²⁴

In his last article Mazierski upheld his earlier views on the topic of the principle of causality, claiming that:

It is not necessary to combine univocal prediction and continuity of processes with the notion of causality. A modified conception of causalism extends the principle of causality also onto microphysical phenomena

²³ Stanisław Mazierski, *Prawa przyrody: Studium metodologiczne* (Lublin: RW KUL, 1993), 67-68.

²⁴ Stanisław Mazierski, *Determinizm i indeterminizm w aspekcie fizykalnym i filozoficznym* (Lublin: TN KUL, 1961), 121.

and enables using it not only in Newtonian mechanics, but also quantum mechanics.²⁵

According to Mazierski, the extension of the principle of causality to the microcosm is possible, because "whenever causative relations occur, the transfer of energy from one system to another or else in-between the elements of the system occurs as well."²⁶ Mazierski links this fact with the doctrine of determinism. Nonetheless, it seems that it should be linked solely with causalism.

2. FORMULATIONS OF THE PRINCIPLE OF CAUSALITY BY OTHER PHILOSOPHERS

The topic of causality was dealt with throughout the whole history of philosophy, but it was particularly investigated at the turn of the nineteenth and twentieth centuries as well as in mid-twentieth century. The development of statistic mechanics, but especially achievements of quantum mechanics led to the situation where determinism was differentiated from causality (causalism). One of the first scholars to introduce this distinction was Max Born (1882–1970), who postulated that determinism should be understood as a possibility to foresee (prognosis and postgnosis) future (or past) events (phenomena) on the basis of the laws of nature (science). According to Born, the general theory of relativity has a deterministic structure, yet quantum mechanics is not deterministic, but causal (causative). Born distinguished causalism (causality) from determinism. He defined causalism as a doctrine which emphasizes the fact that generating beings of a specific category (entity, phenomenon, event) is properly connected through laws with beings of the same or another category. When clarifying this definition, he added that if causality refers to singular events, then 1) the cause must precede the effect or at least be simultaneous in relation to it; 2) the cause and effect must remain in spatial contact (adjoin) or else they must be connected with each other by a sequence of additional elements in contact with each other. Paradoxically, according to this point of view, even Newtonian mechanics

²⁵ Stanisław Mazierski, "Zakres stosowalności fizycznej zasady przyczynowości," *Studia Philosophiae Christianae* 28, no. 2 (1992): 92.

²⁶ *Ibidem*, 91–92.

does not have a causal structure, because the principle *actio in distans* is in place there, but quantum mechanics has it, because it does not assume such a principle.²⁷ In place of the so-called statistical determinism (probabilistic forecasting) Born suggested the introduction of statistical causalism (probabilistic events).²⁸ However, this proposition was not favored by those philosophers who wanted to rehabilitate the principle of causality in quantum mechanics.²⁹ Mazierski did not make use of this suggestion either.

Among Polish philosophers who dealt with the topic of causality one should mention first of all Stanisław Kobyłecki (1864–1939) and Władysław M. Kozłowski (1858–1935) as well as those belonging to the subsequent generation, though publishing at a similar time, philosophers like: Jan Łukasiewicz (1878–1956), Władysław Horodyski (1885–1920), Zygmunt Zawirski (1882–1948), Joachim Metallmann (1889–1942) and Bolesław Gawecki (1889–1984). From this generation only Gawecki, who took on the topic of the principle of causality still before World War I, defending his doctoral dissertation entitled *Kauzalizm i funkcjonalizm w fizyce* [Causalism and functionalism in physics] (1914), established contact with the generation to which Stanisław Mazierski belonged.

Gawecki's main monograph on causality was published towards the end of the 1960s and it contained some of the results achieved by Mazierski. Mazierski's works were also referenced by Władysław Krajewski (1919–2006) and Jan Dorda (1891–1971). All of these philosophers – to a varying degree – made use of the findings made by earlier generations, but the new problems that appeared after the emergence of quantum mechanics caused that Mazierski's results can only be related to the works of those philosophers who took on the issue of indeterminism of the microscopic world. One of the philosophers who dealt with this topic was Władysław Krajewski.

In his perspective the principle of causality identified with the thesis: "every event has its cause,"³⁰ differs from the so-called univocal causal

²⁷ Max Born, *Natural Philosophy of Cause and Chance* (Oxford: Clarendon Press, 1949), 9.

²⁸ Cf. Zenon Roskal, *Nowożytna koncepcja przyczynowości*, in *Metafizyka*, part 2: *Zarys teorii bytu*, eds. Stanisław Janeczek, Anna Starościc (Lublin: Wydawnictwo KUL, 2017), 381.

²⁹ One of these physicists and at the same time, philosophers, who dealt with the problem of causality and referred to Born's proposition was Czesław Białobrzeski (1878–1953).

³⁰ Ingarden was convinced that such formulations should be clarified. In his view, this thesis should sound in the following way – albo: as follows: "Every event in the world

determinism which is equivalent with the so-called physical principle of causality. According to Krajewski, one should also introduce the principle of statistical causal determinism, according to which "identical causes (in identical circumstances) have an effect with an identical degree of probability."³¹ One can see that the principle of causality can be understood in a variety of ways.

The most in-depth analyses dedicated to the (metaphysical) principle of causality are those by Jan Karol Dorda who presents the concept of the principle of causality based on scholastic textbooks on ontology and theodicy. Dorda distinguished as many as seven formulations of this principle which draw – in his opinion – from the scholastic definition of the concept of the cause: *causa est, quod influit esse in aliquid*. He explains that *esse* in this definition is understood as an extramental being (reality), but also as a quality, quantity, relation or any property attributable to real entities. With such an understanding of the term "being" the metaphysical principle of causality claims that: (1) "The being indifferent as far as its existence or nonexistence is concerned, if it exists, relies in its existence on a being free from indifference with regard to existence."³² (2) "The being, the essence of which does not comprise of existence, if it exists, then it depends on a being, the essence of which comprises of existence."³³ (3) "The being, the existence of which is contingent, i.e. unnecessary, if it exists, then it depends on the necessary being."³⁴ (4) "The being which has the beginning of its existence, relies in its existence on a being which has not been begot in any way."³⁵ (5) "The being variable in certain property, depends with

has its direct (directly or indirectly) or indirect immediate cause." See Roman Ingarden, *Über die kausale Struktur der realen Welt. Der Streit um die Existenz der Welt*, v. III, (Tübingen: Max Niemeyer, 1974), 151. However, this clarification is redundant, as Bunge already brought to attention (Mario Bunge, *Causality. The Place of the Causal Principle in Modern Science*, Cambridge (MA: Harvard University Press 1959), 68-71).

³¹ Władysław Krajewski, *Związek przyczynowy* (Warszawa: PWN, 1967), 242.

³² Jan Dorda, *Studium o przyczynowości sprawczej z zastosowaniami w kosmologii i w teodycei* (Kraków: Wyższa Szkoła Filozoficzno-Pedagogiczna "Ignatianum," 2001), 194.

³³ Ibidem.

³⁴ Ibidem, 195. Dorda explains the notion of necessity, writing that not assigning this property to a particular being leads to the contradiction of its consecutive properties.

³⁵ Dorda claims that one must differentiate the *in fieri* dependency from the *in facto esse* dependency. "In *fieri*, i.e. in the emergence of the being, certain (material) components of which are assumed as already pre-existing, the cause does not have to be a beginningless being, as long as it is in *in actu essendi*. However, this will not

regard to possessing it on an invariable being, and in its *fieri* on the being which at least currently possesses this property.³⁶ (6) "The being limited to the degree of its existence depends on the unlimited being."³⁷ (7) "The being which is in potentiality is lead to the actualization of this potentiality by the actual being."³⁸

We encounter a unique concept of the principle of causality in the works of the philosopher Mario Bunge. In his view a correct formulation of the principle of causality must include three elements: 1) conditioning; 2) the existential precedence of the cause in relation to the effect; and 3) non-exceptionality.³⁹ According to this approach, the principle of causality (or the causative principle) should be understood as the law of causative conditioning which claims that "the same causes always lead to the same effects."⁴⁰ The principle of causality, according to Bunge, does not refer to individual events, but to sets (classes) of them. According to him it reads: "Every event belonging to a certain class C invokes an event belonging to a certain class E."⁴¹ This is a clarification of the popular formulation of the principle of causality in the form of a thesis that identical causes in similar conditions have identical effects. Bunge calls this thesis the principle of causality, and the second one, included usually in the definition of this principle, according to which every event has its cause, was called by him the thesis of causal determinism or causalism. Such a formulation of the principle of causality is not typical for the philosophy of causality, but it highlights the link between this principle and causation. What makes Bunge's proposition very attractive is not only the generalization of the principle of causality to the so-called principle of determination (correct generation), but most of all the unification of the genetical and prognostic aspect. The fusion of these strains occurs not only on a broader basis of determination, but also in a narrower principle of causality which

be a reason which maintains an effect *in facto esse*, therefore, it is not a complete cause; e.g. the sculptor is not a cause of a sculpture *in facto esse*, but only *in fieri*, the ability to preserve a provided form of a sculpture (*in facto esse*) is derived from the properties of the material it is made of." Ibidem.

³⁶ Ibidem.

³⁷ Ibidem.

³⁸ Ibidem.

³⁹ Cf. Bunge, *Causality*, 58. This monograph was greatly cherished by Mazierski, which is confirmed by numerous references to this book, also in his later articles.

⁴⁰ Ibidem, 13.

⁴¹ Cf. ibidem, 66.

encompasses the genetic principle and principle of correctness. The first of these principles states that "nothing comes from nothing and does not turn into nothing,"⁴² whereas the second one states that "nothing happens in an unconditioned, unrestricted manner, which is not subject to regularities."⁴³

Thus formulated principle of causality allows Bunge to distinguish causal determinism (causalism) from the principle of causality which only establishes the form of the causal bond. Causalism, according to this approach, is a philosophical doctrine which holds up the universal validity of the principle of causality. Bunge, separating the principle of causality from causal determinism, defends its (limited) validity in science for the price of rejecting causalism which he treats as a primitive, approximate and unilateral doctrine.

3. CONCLUSION

Philosophical analyses of the principle of causality led Stanisław Mazierski to the conviction that it embraces not only philosophy (metaphysics), but also physics (quantum mechanics). Such a position became possible when the notion of determinism assumed additional meanings, which, however, were incompatible with intuitions linked in the philosophical tradition with this concept. A better solution, compatible with the spirit of Aristotelian philosophy, was relativizing the concept of causation through the introduction of the concept of unequivocal causation. Thanks to that solution one could preserve the validity of the principle of causality in a version stressing the genetic aspect of the causal bond. In the solution accepted by Mazierski emphasis was put on the prognostic aspect of the principle of causality. The genetic aspect was also taken into consideration, but as secondary. It appeared only when Mazierski, while arguing for a dynamic character of the causative bond, assumed that causative effecting consisted in transferring energy from the cause to the effect. Therefore Mazierski sided with the transference theory of causation which was being intensely developed in the second half of the twentieth century within materialist philosophy.

⁴² Ibidem, 425.

⁴³ Ibidem, 426.

Nonetheless, Mazierski's main achievement was discerning two versions (Neo-Thomistic and naturalist) of the physical principle of causality and precise rendering the relations which occur between these formulations.

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Between Theoretical Biology and Biophilosophy: Włodzimierz Sedlak as a Scientific Poacher

INTRODUCTORY REMARKS

The objective of this article is to present an outline of the philosophical views of Rev. Włodzimierz Sedlak, a professor of theoretical biology at the Section of Philosophy of Nature at the Faculty of Christian Philosophy at the Catholic University of Lublin. The presence of such an article in a volume dedicated to the Lublin School of Philosophy may seem controversial, since even Sedlak did not consider himself to be a philosopher, but rather a naturalist. Indeed, most of his works belong to the natural sciences: paleontology, geology, bioelectronics, paleobiochemistry, theoretical biology, etc. Nevertheless, as a philosophizing naturalist, he repeatedly dealt with topics which concerned the essence and nature of life, the origin and evolution of life, anthropogenesis, etc., that is, issues which have belonged since the dawn of time to philosophy. One can, therefore, at least consider him to be a representative of philosophy of nature, i.e. that part of contemporary philosophy which constitutes the context of the Lublin School of Philosophy – a school of existential Thomism oriented in an anti-scientistic manner at metaphysical, anthropological and ethical problems from a historical perspective.

The title of this article may also require justification. It is known that the history of science provides many examples of researchers who had great and creative contributions to domains that are rather distant from

his primary academic field. One may call such a researcher “a scientific poacher.”¹ This was true in the case of Włodzimierz Sedlak who described the beginnings of his scientific career, from the perspective of a retiring professor, in the following way: “an unknown man, from an unknown intellectual milieu takes on an obscure problem at too late a time with a complete lack of means.”²

In Poland Sedlak was rather considered to be the creator of “Polish bioelectronics” rather than a philosopher of animate nature, combining philosophical reflection on nature and its phenomena with the achievements of contemporary natural sciences. What is more, he did not share the conviction of existential Thomists on the cognitive value of the metaphysics of nature as an autonomous field of inquiry, independent from the natural sciences, but neither did he conduct with them any direct disputes.

1. MOST IMPORTANT FACTS FROM THE LIFE OF REV. WŁODZIMIERZ SEDLAK (31 X 1911 – 17 II 1993)³

Sedlak was born in Sosnowiec in a mining family. He graduated from a mathematical-naturalist gymnasium in Skarżysko-Kamienna in 1930, and he was ordained after philosophical-theological studies at the Seminary in

¹ A similar epithet was used in relation to oneself by one of the creators of bioelectronics, Albert Szent-Györgyi (1893-1986) – who received the Nobel Prize in 1937 for discovering and describing the chemical structure of vitamin C (Albert Szent-Györgyi, “Sixty years of poaching in science,” *Proceedings of International Symposium on Wave Therapeutics Interaction of Non-Ionizing Electromagnetic Radiation with Living Systems*, May 19-20, 1979 (Versailles, Paris: Z.W. Wolkowski, 1983), 7-13.). In its ordinary understanding, poaching is a crime consisting in the killing, capturing, pursuing of wild animals or fishing without permission, in a forbidden way or in a forbidden place. Scientific poaching, similarly, tends to be punished by ostracism from a bureaucratic scientific community.

² Włodzimierz Sedlak, “Obrachunek z czasem i materia,” *Roczniki Filozoficzne* 30, no. 3 (1982): 5-25.

³ See e.g. Marian Wnuk, s.v. “Sedlak Włodzimierz” in *Encyklopedia katolicka*, vol. 17 (Lublin: TN KUL, 2012), col. 1338-1340; Marian Wnuk, s.v. “Sedlak Włodzimierz” in *Encyklopedia filozofii polskiej*, vol. 2 (Lublin: PTTA, 2011), 512-514; Marian Wnuk, s.v. “Sedlak Włodzimierz” in *Powszechna encyklopedia filozofii*, vol. 10 (Lublin: PTTA, 2009), 389-391; M. Wnuk and J. Zon. “Książdz Profesor Włodzimierz Sedlak (31 X 1911 – 17 II 1993),” *Studia Sandomierskie. Filozofia – Teologia – Historia* vol. 6 (1990-1996)

Sandomierz in 1935. He worked as a prefect in Ćmielów (1935–1939) and Sienno near Ilża (1939–1948), in Lublin (1948–1952) and in Radom (1952–1960). He studied at the Faculty of Mathematics and Natural Sciences at Marie Curie-Skłodowska University (1946–1950) where he got two MAs (formally in philosophy and specifically from cultural anthropology and pedagogy) as well as a PhD in mathematical and natural sciences (1951) on the basis of his dissertation *Zmienność organizmu jako podstawa biologiczna wychowania* [Variability of the Organism as the Biological Basis for Upbringing], supervised by Professor Mieczysław Ziemnowicz. However, he had to wait for the confirmation of his doctorate by the communist authorities till as late as 1960. Only then (i.e. since 1 November 1960) Rev. Sedlak, PhD, was employed at the Faculty of Christian Philosophy at the Catholic University of Lublin⁴ as an assistant professor at the Department of Philosophy of Animate Nature (the dean at the time was Fr Mieczysław A. Krąpiec, and the rector – Rev. Marian Rechowicz). Sedlak was forty-nine at the time, therefore, his entry into the academic community was not only late, but also atypical. The places where he lived and worked (Sosnowiec, Skarżysko-Kamienna, Suchedniów, Sandomierz, Ćmielów, Sienno, Lublin, Radom) were not centers of world science at all. Sedlak was employed at the Catholic University of Lublin between 1960–1982, commuting to didac-

[published in 1999], 408–433, 438; Marian Wnuk, “Ks. Włodzimierz Sedlak – biografia naukowa,” *Roczniki Filozoficzne* 43, no. 3 (1995), 13–36; Szczepan Witold Ślaga, “Pamięci księdza profesora Włodzimierza Sedlaka (1911–1993),” *Studia Philosophiae Christianae* 30 (1994), no. 1: 193–196. A very interesting source of information on the social context of Rev. Sedlak’s work at the Catholic University of Lublin are his memoirs edited by Joanna Kalisz-Półtorak and published by Continuo Publishing House, especially volumes V–VIII (see bibliography), as well as his autobiographical book (W. Sedlak, *Życie jest światłem* (Warszawa: IW PAX, 1985)). On the centennial of his birth a book was published which contained numerous anecdotes, reports and opinions concerning various aspects of his activities (Ryszard Sowa (ed.), *Ksiądz profesor Włodzimierz Sedlak “...sercem Skarżyszczanin” – W 100-lecie urodzin*, (Skarżysko-Kamienna: Powiatowa i Miejska Biblioteka Publiczna im. ks. prof. Włodzimierza Sedlaka i PiS Agencja Wydawniczo-Poligraficzna, 2011)).

⁴ In 1957, with the permission of the Ministry of Higher Education, philosophical studies at the Faculty were divided into four specializations: theoretical philosophy, practical philosophy, philosophy with psychology and philosophy of nature. Rev. Sedlak was employed at the philosophy of nature specialization (Czesław Strzeszewski and Edmund Leszczuk, “Kronika Wydziału Filozofii Chrześcijańskiej 1946–1968” in *Księga jubileuszowa 50-lecia Katolickiego Uniwersytetu Lubelskiego*, eds. Stefan Kunowski et al. [Lublin: TN KUL, 1969], pp. 167–201; Stanisław Mazierski, “Z dziejów Specjalizacji Filozofii Przyrody na Katolickim Uniwersytecie Lubelskim,” *Roczniki Filozoficzne* 16, no. 3 [1968]: 5–14).

tic classes from Radom, where he lived at the time and worked as a “scientific cottage industry laborer.” Those years were on the whole a rather stable period in the existence of the University in the People’s Republic of Poland,⁵ as the only Catholic university at the time “from Berlin to Seoul,” when the so-called Lublin School of Philosophy was already active therein.

In 1966 at his home Faculty, Rev. Sedlak received his post-doctoral degree on the basis of his dissertation entitled *Możliwość odtworzenia początków ewolucji organicznej na podstawie komponenta krzemowego* [The possibility of reproducing the beginnings of organic evolution based on a silicon component], which was classified as a work in theoretical biology.⁶ He received the title of university professor in 1974 and full professor in 1980. In the years 1970–1982 he was the Chair of the Division and Depart-

⁵ Within its activities aimed against the Catholic Church, the communist secret police conducted actions against Rev. Sedlak who was under surveillance since the end of World War II. Initially those actions had the so-called “ewid” category, in which he was classified as “figurant” [figurehead], i.e. a person in reference to whom concealed actions of the communist secret police were conducted; later he also had a TEOK (Teczka Ewidencji Operacyjnej na Księdza) [Evidence File for a Priest] set up for him. For example, in September 1959 the Radom headquarters of the secret police received the following information from a secret informer, pseudonym “D”: “regarding Rev. Sedlak from Radom – among priests he is considered to be a scientist, and it is said that the word ‘God’ is very rarely used in his sermons, and he never concludes them with an ‘amen.’ He does not want people to say: ‘God bless you.’ He is dedicated to science which is proved by the fact that he graduated from a secular university as valedictorian with a PhD and currently he works academically as a biologist” (citation from: Marek Jedynek, “Ks. prof. Włodzimierz Sedlak w świetle dokumentów SB,” *Z Dziejów Regionu i Miasta. Rocznik Oddziału PTH w Skarżysku-Kamiennej* vol. 3 (2012): 109-120).

⁶ The aforementioned *Kronika* takes note that in the 1967/1968 academic year Rev. W. Sedlak was the Chair at the Department of General Biology (in which Rev. Andrzej Czyżewski was employed as a senior assistant and Rev. Bernard Hałaczek as an assistant) as well as the Chair of the Department of Biology. That year Sedlak taught the following courses at the Philosophy of Nature Section: Biological foundations of philosophy of animate nature (course lecture: 1 hour a week for 2 semesters for the third year); Selected issues from the biological foundations of philosophy of animate nature (a monograph lecture, 2 hours a week for 2 semesters for the fourth year) as well as a Seminar on the biological foundations of philosophy of animate nature (2 hours a week for 2 semesters for the fourth and fifth years). See Strzeszewski and Leszczuk, *Kronika Wydziału Filozofii Chrześcijańskiej 1946-1968, 167-201.* Incidentally, I look with envy at such a low amount of obligatory teaching in comparison with the current situation when an academic is supposed to conduct many more classes, including courses in various fields; what is more these courses change from year to year and from semester to semester.

ment of Theoretical Biology and after retiring, for the next nine years, its curator. He supervised five doctoral dissertations and forty-five MA theses.

Rev. Włodzimierz Sedlak's oeuvre includes various works: scientific ones (5 books, 90 articles, 44 papers, 20 other items), popular-science ones (6 books, 1 textbook) and journalistic ones (5 books containing sermons or religious teachings, 2 books which are essays on theological and world-view issues, 4 autobiographical books, 8 volumes of memoirs as well as numerous press articles and interviews). He left a great body of unpublished works, including research notes from his field work in the Holy Cross (Świętokrzyskie) Mountains, academic lectures, notes from religious teachings and sermons, copies of letters to various people etc.

2. WŁODZIMIERZ SEDLAK'S SELECTED RESEARCH INTERESTS⁷

Already in the 1950s, i.e. even before he became a university teacher and professional scientist, Sedlak participated in research on the history of material culture in the Holy Cross Mountains, especially concerning ancient ironworks. At the time he was interested in the geological development of these mountains (especially the formation of the Łysogóry Stone Run); he discovered pyrite on the Łysa Góra peak⁸ and devised an electro-ionic method of differentiating the Earth's mass.

Rev. Sedlak's inquiries of unknown domains of reality turned out to be atypical. He tried to venture where one does not encounter typical "scientific tourists." Hence such a great variety of fields of interest and attempts

⁷ Many bibliographic overviews of Sedlak's writings and of works dedicated to him and his oeuvre have been published. The relatively newest overview prepared by Ewa Lewicka and Marta Boszczyk contains a list of 723 entries, encompassing not only Sedlak's own works, but also critical literature containing, e.g., lists of doctoral dissertations as well as MA and BA theses dedicated to Sedlak and his writings. (Ewa Lewicka and Marta Boszczyk. *Włodzimierz Sedlak – bibliografia podmiotowo-przedmiotowa* (Kielce: Pedagogiczna Biblioteka Wojewódzka w Kielcach, 2011)). Sedlak's input into various fields of scientific inquiry became the topic of at least several dozen publications. This article refers to only some of them – the most representative ones.

⁸ Włodzimierz Sedlak, "Piryt na Łysej Górze," *Przegląd Geologiczny* 6, no. 6 (1958): 276-277.

at finding something original to discover. Sedlak's scientific interests were very broad and ambitious. His creative scientific (and writing) passion encompassed numerous disciplines: cultural anthropology, pedagogy, history of material culture, archeology, geology, paleontology,⁹ protobiology,¹⁰ theoretical and evolutionary biology,¹¹ bioelectronics,¹² paleobiochemistry, paleobiophysics, natural anthropology¹³ as well as, what shall be discussed later on, philosophy of nature and philosophy of science. He also wrote texts which concerned cosmology and theology. Within these disciplines he proposed numerous original ideas, concepts, hypotheses, theories and models. It is not possible to enumerate all of them, but the most important ones are: the silicide theory, the electromagnetic theory of life, the theory of bioplasma, the *Homo electronicus* conception, the electronic model of life phenomena, the concept of the quantum stitch of life (the chemical-electronical coupling). Some theoretical propositions were innovative and iconoclastic in relation to the so-called Orthodox science, yet most of them were more of an array of hypotheses and visions than complete resolutions

⁹ It is worth noting that for several decades Sedlak worked in the summer months in the Holy Cross Mountains. He collected at least 3300 fossils there, mainly from the breccias of quartz sandstones from the Precambrian period. This enormous effort shows Sedlak was not only a theoretical biologist using speculative methods, but he also had a long practice as a typical natural scientist, who in his case made his own discoveries of relics of life, although he did not have his own adequately equipped laboratory.

¹⁰ See e.g. Jerzy Rapała, *Teorie mineralnych początków życia: Studium filozoficzno-przyrodnicze* (Lublin: Wydawnictwo KUL, 2016); Szczepan Witold Ślaga, "Bioelektroniczny model abiogenezy," in *Perspektywy bioelektroniki*, eds. Józef Zon and Marian Wnuk (Lublin: RW KUL, 1984), 13-26; Marian Wnuk, "Włodzimierz Sedlak wobec zagadnienia genezy życia: Od biochemii krzemu poprzez bioelektronikę do teologii światła," *Roczniki Filozoficzne* 53, no. 1 (2005): 309-320; idem, "Kontrowersje wokół 'krzemowych' początków życia," in *Filozoficzne i naukowo-przyrodnicze elementy obrazu świata*, vol. 8: *Współczesne kontrowersje wokół początków Wszechświata i początków życia*, eds. Anna Lemańska and Adam Świeżyński (Warszawa: Wyd. UKSW, 2010), 154-169.

¹¹ See e.g. Ryszard Piękoś, "Krzemowe tło życia," *Roczniki Filozoficzne* 30, no. 3 (1982): 27-46; Ryszard Piękoś, "Silicydalna teoria życia profesora Sedlaka," *Biuletyn Kwartalny Radomskiego TN* 23, no. 3-4 (1986): 121-132.

¹² See e.g. Marian Wnuk and Józef Zon, "Wkład Włodzimierza Sedlaka w powstawanie bioelektroniki," *Biuletyn Kwartalny Radomskiego TN* 23, nos. 3-4 (1986): 88-103.

¹³ Joanna Kalisz, "Droga do kwantowej antropologii: Rozwój myśli antropologicznej u prof. Włodzimierza Sedlaka," *Biuletyn Kwartalny Radomskiego TN* 18, nos. 2-4 (1981): 17-20; Joanna Kalisz, "Miejsce ewolucji człowieka w bioelektronicznej wizji życia," *Roczniki Filozoficzne* 30, no. 3 (1982): 67-79.

ready to be applied. The reasons were simple: incredibly meager empirical confirmations and the difficulty of developing adequate research methods.

Sedlak considered himself to be a biologist-theoretician, the task of whom is to conduct broad syntheses of knowledge and inspire fundamental inquiries on the nature of life. In particular the bioelectronic trend within theoretical biology resulted most abundantly with new horizons and resolutions sought after by Sedlak. His bioelectronic concepts took into consideration theories and empirical results coming from a number of natural sciences. He proposed his ideas and hypotheses, applying the method of reinterpreting various observations and results of experiments. By making bold extrapolations, he reached original approaches and concepts concerning the fundamental mechanisms of life processes, origins and evolution of life, nature of consciousness and even "paranormal phenomena." In other words, the uniqueness of Sedlak's scientific activity consisted in making attempts to re-evaluate the accepted body of data from the body of the life sciences, not succumbing to the commonly accepted views on the nature of life and proposing his own solutions based on pre-existing, though very meager, data.

3. REV. WŁODZIMIERZ SEDLAK'S PHILOSOPHICAL VIEWS

Rev. Professor Sedlak on multiple occasions repeated that he was not a philosopher, and he even thanked God that he became a theoretical biologist, and not a philosopher.¹⁴ What was the reason for this stance or aversion towards philosophy or some philosophers – is rather mysterious. No doubt, already during his studies in the Seminary he encountered theistic classical philosophy and during his studies at Maria Curie-Skłodowska University he had to take courses in dialectical materialism, and thus he became familiar with different approaches to philosophy. Did he already consider scientific knowledge as more valuable at that time? If so, he probably sided with a specific axiology, i.e. some philosophical orientation. What sort of attributes of knowledge could have caused that? It is worth noting

¹⁴ I heard about this on numerous occasions during his lectures and private conversations in the years 1973-1993.

that in the middle of the twentieth century in so-called orthodox science, within which Sedlak's views were shaped, a Newtonian canon of science dominated, although some of its dogmas – materialism,¹⁵ mechanical philosophy,¹⁶ reductionism¹⁷ and objectivism¹⁸ – turned out to be erroneous or questionable. When comparing Sedlak with some Nobel laureates,¹⁹ Henryk Skolimowski claims that Sedlak in his works also questioned the four aforementioned dogmas, although he notices that the so-called scientific orthodoxy responded to Sedlak's works "as if the Newtonian canon was still of value and as if it was the best among the existing scientific paradigms."²⁰

Nevertheless, Sedlak, similarly to many natural scientists, did not avoid philosophizing about the world of nature. And the results of such reflections may be situated in the broadly understood philosophy of nature, i.e. such a domain which could refer to the results of particular empirical sciences and relate them either to traditional philosophical questions or to the philosophy of science dealing with the analysis of methods and language of the empirical sciences. One can directly ascribe to the philosophy of nature²¹

¹⁵ *Substantia prima* is matter. A conviction, dominant in scientific milieus, that the world is material in its ultimate structure lead to arrogance in relation to other ontological options.

¹⁶ The dominant conviction among naturalists about the highest cognitive value of the laws of physics (mechanics).

¹⁷ All analyzed phenomena might be reduced to physical and chemical phenomena.

¹⁸ The world should be investigated independently from the human being and his/her mind, as if the human being did not exist, and the results of such research should be written down in the language of "purely scientific disciplines" (i.e. physics, chemistry, mathematics). This conviction was connected with an axiological choice that considered all other research as of little worth or worthless.

¹⁹ Those are: Linnus Pauling, Francis Crick, Brian Josephson, Peter Medawar, John Eccles and Jacques Monod.

²⁰ Henryk Skolimowski, "Alchemia umysłu: Włodzimierz Sedlak na tle niektórych noblistów," in *Teoretyczne podstawy przyrodoznawstwa. Bioelektroniczna koncepcja Włodzimierza Sedlaka*, eds. Maria Z. Pulinowa, Sławomir Pytel, (Sosnowiec: PTG, 2006), 31-58.

²¹ See the following works Włodzimierz Sedlak, "Relatywistyczne pojęcie czasu według Einsteina," *Roczniki Filozoficzne* 6, no. 3 (1958): 119-146 and 172-173; Włodzimierz Sedlak, "Hilemorfizm a fizykalna budowa atomu," *Roczniki Teologiczno-Kanoniczne* 8, no. 3 (1961): 18-19; Włodzimierz Sedlak, "Z filozoficznej problematyki elementarnej przestrzeni elektromagnetycznej" in *Sprawozdania z Czynności Wydawniczej i Posiedzeń Naukowych oraz Kronika Towarzystwa Naukowego KUL (za okres od 1 stycznia 1963 r. do 31 grudnia 1964 r.)*, no. 14 (Lublin: TN KUL, 1965), 85-87; Włodzimierz Sedlak, "Filozoficzna problematyka elektromagnetycznej przestrzeni," *Roczniki Filozoficzne* 14, no. 3 (1966): 27-52; Włodzimierz Sedlak, "Wstęp do elektromagnetycznej teorii życia," *Roczniki Filozoficzne* 18, no. 3 (1970):

or the philosophy of science²² only a dozen or so of his publications.²³ However, there are many more of his theoretical works (mainly on the bioelectronic current in theoretical biology), in which traditional philosophical topics are present. The fact of the presence of such currents tends to be called "philosophy in science." In the case of Sedlak, only a small part of his creative accomplishments were discovered and analyzed to a limited degree. After all, each natural theory implies some sort of ontological vision of reality.

Just a few years after Sedlak published his first works on bioelectronics, Zdzisław Woźniak presented probably the first methodological analysis of this domain. In his view, Sedlak's bioelectronics, as a method of investigating life phenomena, covers the following procedures: "1. Departing from the data of experience provided by various biological disciplines; 2. Referring to physical theories, among which one searches for a model for biological systems; 3. Posing typically bioelectronical hypotheses." He also claimed that "the bioelectronic method may be placed in the group of anti-inductive, deductive-hypothetical methods with a certain reservation, because Sedlak does not mention anywhere the issue of testing hypotheses."²⁴

101-126; Włodzimierz Sedlak, "Bioplazma – nowy stan materii" in *Bioplazma. Materiały I Konferencji poświęconej bioplazmie*, ed. Włodzimierz Sedlak, (Lublin: RW KUL, 1976), 13-30; Włodzimierz Sedlak, "Życie jest światłem: Bioelektronika i możliwości nowej antropologii," *Studia Filozoficzne* no. 10/155 (1978): 91-104; Włodzimierz Sedlak, "Natura ludzkiej świadomości w świetle bioelektroniki," *Roczniki Filozoficzne* 31, no. 3 (1983): 83-91.

²² See the following works by Włodzimierz Sedlak, "Filozofia przyrody ożywionej i nauki biologiczne. Postulaty metodologiczne," *Zeszyty Naukowe KUL* 19, no. 2 /74 (1976): 70-72; Włodzimierz Sedlak, "Bioplazma jako podstawowa metoda sondażu życia," *Roczniki Filozoficzne* 27, no. 3 (1979): 103-123; Włodzimierz Sedlak, "Eksperyment i synteza w biologii," *Biuletyn Kwartalny Radomskiego TN* v. 18, nos. 2-4 (1981), pp. 51-60; "Myślenie, planowanie i działanie w nauce na przykładzie biologii współczesnej," *Studia Filozoficzne* nos. 7-8/188-189 (1981): 87-96; Włodzimierz Sedlak, "Rational thinking, planning and activity in natural sciences," *Dialectics and Humanism* 8, no. 4 (1981): 59-70; Włodzimierz Sedlak, "Nauka i myślenie," *Roczniki Filozoficzne* 31, no. 3 (1983): 197-204; Włodzimierz Sedlak, "Teoria i teoretyzowanie w biologii," *Zeszyty Naukowe Stowarzyszenia PAX* nos. 6-7/40-41 (1983): 49-56; Włodzimierz Sedlak, "Wejście w nieznanne rejony życia," *Roczniki Filozoficzne* 37-38/1989-1990, no. 3:207-216.

²³ Although he published about thirty articles in the journal *Roczniki Filozoficzne* [Annals of Philosophy], most of them must be rather included as belonging to theoretical and evolutionary biology, and not to philosophy.

²⁴ Z. Woźniak, "Metodologiczna charakterystyka bioelektroniki" in *Bioelektronika: Materiały I Krajowego Sympozjum. KUL, 14-15 maja 1975*, ed. Włodzimierz Sedlak

An attempt at a philosophical analysis of the bioelectronic concept of life was conducted by Rev. Stanisław Zięba²⁵ who drew attention, among other things, to four issues: (1) the scope and competence of bioelectronics in explaining the nature of life; (2) the cognitive values of the bioelectronic model; (3) the boundaries of life; and (4) definition of life. Zięba claims that Sedlak aims at attaining a unitary theory of reality, because his research strategy is a reductionist position, based on a monistic ontology, a model which “deciphers only that what is common for inanimate and animate nature, at a plasma level, beyond the scope of its biological level.”²⁶ Moreover, Sedlak’s position on the issue of the existence (or nonexistence) of the qualitative difference between the abiotic and the living system is not uniform.

The methodological immaturity of bioelectronics, especially the lack of presenting the ways of how to test his incredibly bold bioelectronic hypotheses, was later a reason for multiple critiques in relation to Sedlak’s theoretical concepts, including the accusation of their pseudo-scientificity.²⁷ Nonetheless, Sedlak expanded his concepts into new realms of scientific poaching and he was not overly concerned about the arguments of his critics. He aroused great interest among journalists and organizers of scientific conferences.²⁸ Numerous papers and dissertations were written in reference to or on the topic of his works. Below I shall discuss three doctoral dissertations devoted to philosophical analyses of his conceptions and theories.

(Lublin: TN KUL, 1979), 55-68. This is the summary of his MA thesis written under the supervision of Stanisław Kamiński at the Faculty of Christian Philosophy at the Catholic University of Lublin (Lublin 1975).

²⁵ Stanisław Zięba, “Analiza filozoficzna bioelektronicznej koncepcji życia,” *Roczniki Filozoficzne* 30, no. 3 (1982): 81-95.

²⁶ *Ibidem*, 91.

²⁷ Czesław Nowiński, “Bioelektronika i filozofia,” *Studia Filozoficzne*, no. 10/155 (1978): 103-110; Barbara Pogonowska, “Próba klasyfikacji biologicznych koncepcji paranaukowych” in *Filozofia i biologia: Inspiracje teoretyczne*, eds. Krzysztof Łastowski and Jan Strzałko (Warszawa: PWN, 1982), 207-213; Kazimierz Szewczyk, “Elektroniczny świat profesora Sedlaka,” *Studia Filozoficzne* nos. 11-12 (1983), 267-282; Kazimierz Szewczyk, “Od wizji do pseudonauki,” *Studia Filozoficzne*, nos. 7/248 (1986): 141-150; Józef Zon, “Zarzuty pseudonaukowości wobec Włodzimierza Sedlaka koncepcji bioplazmy,” *Roczniki Filozoficzne* 46 (1998), no. 3: 211-240; Józef Zon, Marian Wnuk, “Kryteria demarkacji między nauką, para- i pseudonauką na przykładzie kontrowersji wokół bioplazmy” in *Pogranicze nauki: Protonauka – paranauka – pseudonauka*, ed. Józef Zon (Lublin: Wyd. KUL, 2009), 355-364.

²⁸ The main sponsor of scientific meetings dedicated to Sedlak’s works was the PAX Society.

Stefan Kajta was the author of the first monograph which holistically reconstructed and presented Sedlak's views on the nature of life. He carried out a comprehensive assessment of the scientific and philosophical values in Sedlak's works.²⁹ Sedlak's approach to the essence of life is interdisciplinary and holistic-systemic as well as antithetical to mechanistic partial approaches, which impede the cognition of the entirety of the phenomenon of life. Kajta, thanks to his immanent analysis and an enormous exegetic-hermeneutic effort, penetrated the vague language of Sedlak's numerous publications, replete with numerous neologisms and metaphors. He rightly stressed the cognitive weight of the concept of the so-called domination bioelectronics, i.e. that organic life has not only a chemical (assumed in view of the so-called biochemical model which had been "in force" so far), but also an electric, wave, quantum nature. Sedlak's new approach to the phenomenon of life originated from the analysis of the quantum foundations of biological processes, in which electrons, protons, photons, etc. are engaged. Kajta, just like Sedlak, assumes that bioelectronics is a theory which plays an explanatory function and a specific method for examining life. At an epistemological-methodological level, Kajta compared the possibilities of cognizing life processes within "biochemical" and "bioelectronic" models. He treated the bioelectronic model collectively, as a category of such models as: the electronical (semi-conductive), electromagnetic and plasma models which relate to Sedlak's various theoretical models: "electrostasis," "bioplasma," or "electromagnetic nature of life."

Through analyzing various notions of the essence of life, Kajta suggests that the bioelectronic definition of life³⁰ does not indicate what is the essence

²⁹ Stefan Kajta, "Włodzimierza Sedlaka kwantowa teoria życia" in *Z zagadnień filozofii przyrodoznawstwa i filozofii przyrody*, v. 12, eds. Mieczysław Lubański and Szczepan Witold Ślaga (Warszawa: ATK, 1991), 11-283. This is a published version of Kajta's doctoral dissertation, prepared under the supervision of Rev. prof. Szczepan Ślaga, defended on the 28th of January 1987 at the Faculty of Christian Philosophy of the Catholic Theological Academy in Warsaw.

³⁰ He reconstructs it in the following form: "Organic life in the light of the quantum theory of life is a structural-functional system where the protein substrate with electronic properties of coupled (synchronized) photons and phonons of the processes of chemical metabolism with electronic ones in an intermolecular space, consequently creating the so-called 'electronic stitch of life.' The essence of life in its quantum foundations is indeed expressed in the coupling of these processes ('quantum stitch'), i.e. most generally speaking, electromagnetics: in electrons, photons and phonons. Breaking this coupling ('stitch') is equivalent to quantum death, the consequence of which is biological death" (ibidem, 240-241).

of life, because it is apprehended only from the empiriological, phenomenal point of view that reflects the current state of knowledge within the natural sciences; therefore, it is relative and subject to modifications.³¹ Kajta covers the following interconnected topics from the quantum theory of life: (1) the duration of organic life in time and the temporal structure of the biosystem; (2) variability and identity in the ontogenetic development; (3) mortality of individuals; (4) immortality in the energetic sense in the phylogenetic development (life as a continuous process) as well as after the death of the individual, i.e. the human being; (5) the connection between the issue of the energetic immortality of life (the energetic character of the internal and external bioinformation) with the problem of materiality; (6) indeterminism and determinism occurring in the relation between the biosystem and the external environment. He also analyzes reductionist and antireductionist aspects of the quantum theory of life as well as makes attempts to assess both the formal and cognitive value of that theory.

Kajta did not draw any specific ontological assumptions or implications from Sedlak's works on nature. In spite of this, as the renowned philosopher of nature, Szczepan Ślaga, makes the assessment:

Rev. Kajta in a convincing manner justified the novelty of the quantum theory of life and its complementarity in relation to hitherto existing explanations by referring to its heuristic-explanatory and pragmatic qualities (among others in medicine, psychology, anthropology and environmental protection studies). In accordance with the current state of methodology of the natural sciences, he presented the legitimacy of operating with empirically unverifiable terms in order to obtain a compact theory.³²

Elżbieta Struzik discussed Sedlak's anthropological views in her doctoral dissertation.³³ She included a broad bioelectrical context. Quantum anthropology formulated on the basis of Sedlak's quantum theory of life delineates a new conception of the human being: *Homo electronicus*. It

³¹ Ibidem, 207.

³² Szczepan Witold Ślaga, "Wstęp," *Z zagadnień filozofii przyrodoznawstwa i filozofii przyrody* vol. 12: 7-9.

³³ Elżbieta Struzik. *Antropologia filozoficzna Włodzimierza Sedlaka*, doctoral diss. written under the supervision of Prof. Józef Bańka, University of Silesia, Katowice 1997, 475.

covers fundamental questions: What is a human being? What is life? What is consciousness? Struzik stresses that:

The value of Włodzimierz Sedlak's quantum anthropology is demonstrating a path of cognitive conduct unknown in anthropology. The value of quantum anthropology consists in opening new perspectives in the field of anthropology: natural, philosophical and theological.³⁴

Struzik also attempted to outline metaphysical subject matter in Sedlak's thought.³⁵

Nevertheless, it was Katarzyna Kosowska-Hańderek who elaborated Sedlak's concept of metaphysics of light to the fullest extent.³⁶ In her dissertation she focused on the historical-philosophical-cultural concepts, the substantively related relations "life–light," putting forward the thesis that Sedlak's concept was a continuation of the so-called metaphysics of light, known in the history of philosophy. According to Kosowska-Hańderek, Sedlak's bioelectronics and theology of light constitute the culmination of hitherto philosophical considerations on the metaphysics of light.

Sedlak's conception of bioplasma, as a novel state of matter, was the subject of very detailed and comprehensive analyses conducted by Józef Zon,³⁷ both as a natural science and philosophical theory, in particular in the context of ontology, epistemology and methodology. This concept reflects such philosophical views as mechanical philosophy, reductionism and probably also monism.

³⁴ Ibidem, 452. See also: Elżbieta Struzik, "Od bioelektroniki do antropologii – rozwój problematyki antropologicznej w twórczości Włodzimierza Sedlaka," *Folia Philosophica* 20 (2002): 141–160.

³⁵ Elżbieta Struzik, "Bioelektroniczna metafizyka światła Włodzimierza Sedlaka," *Folia Philosophica* 14 (1996): 91–125. See also chapter IV in her doctoral dissertation.

³⁶ Katarzyna Kosowska-Hańderek, *Metafizyczna koncepcja światła Włodzimierza Sedlaka (1991–1993)* (Wrocław: Wyd. Uniwersytetu Wrocławskiego 2003). The supervisor of the dissertation was Prof. Józef Kosian (2002).

³⁷ Józef Zon, *Bioplasma oraz plazma fizyczna w układach żywych. Studium przyrodnicze i filozoficzne* (Lublin: RW KUL, 2000); Józef Zon, "Redukcjonizm ontologiczny w biologii na przykładzie Włodzimierza Sedlaka koncepcji elektroniki życia (bioelektroniki)" in *Wokół redukcjonizmu fizycznego: Filozoficzne dylematy humanistów i przyrodznawców*, ed. Zdzisław Błaszczak and Antoni Szczuciński (Poznań: Oficyna Wydawnicza Batik, 2017), 43–49.

CONCLUDING REMARKS

Włodzimierz Sedlak's philosophical views do not constitute a consistent philosophical system: they are rather a generalization of the results of the natural sciences together with their layer of implications and philosophical consequences. Philosophical aspects mainly refer to the foundations of the biological sciences. Among his proponents, Sedlak was considered to be the Polish Teilhard de Chardin. Most of Sedlak's works in many aspects transgressed the hitherto paradigm of life sciences. The manner in which he presented his ideas and their justifications usually did not fit the standard schemas of scientific publications. They provoked controversies and radically contrasting evaluations. Sedlak's cognitive interests were comprehensive and disproportionate with regard to the possibility of their intersubjective presentation and confirmation. Although his works include elements of the philosophy of nature, he did not consider himself to be a philosopher, but a biologist-theoretician, whose purpose was to perform a synthesis and to inspire fundamental inquiries on the nature of life. He evaded any open declarations and taking on any concrete philosophical position. It seems that one can attribute radical ontological reductionism to his concepts. However, on account of his concept of the electromagnetic nature of life, one can consider him to be a representative of the metaphysics of light, which has a Neoplatonic origin.

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